

**2014 Update**

# **Town of Blacksburg 2012**

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John Bush  
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Updated October 14, 2014

## Acknowledgments for 2012 Update

Thanks are due to the many citizens of Blacksburg, only some of whom are listed here, who contributed to the 2012 update to *Blacksburg 2046*. It was the support and fine assistance of the hundreds of project participants that made the plan what it is -- a reflection of the community's desires and hopes, with strategic steps to achieve that future.

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Blacksburg Citizens Institute  
12<sup>th</sup> Grade Students and Teachers, *Blacksburg High School*,  
8<sup>th</sup> Grade Students and Teachers, *Blacksburg Middle School*,  
Cranwell International Center, *Virginia Tech*  
Kim Kirk, *Housing & Neighborhood Services*

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Downtown Blacksburg, Inc.  
Downtown Revitalization Committee  
Greenway/Bikeway/Sidewalk Corridor Committee  
Historic/Design Review Board

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December 11, 2012

The Town of Blacksburg is a sustainable community of natural beauty, diversity, civic pride, technological innovation, and educational leadership.

*Blacksburg 2046*, Blacksburg's Comprehensive Plan, addresses the major strengths of Blacksburg, as well as the issues we would like to address as we grow. The Comprehensive Plan is amended and updated annually, and revised every five years pursuant to Virginia State Code. This revision represents the dedication and contributions of Karen Drake, the Town's Comprehensive Planner, and the members of the Long Range Planning Committee, appointed by the Planning Commission. The Long Range Planning Committee has met bi-weekly during 2012 to discuss, revise, and polish the Plan, noting which of the goals and objectives identified in prior plans have been accomplished, which need to be revised or updated, and what new goals or strategies for achieving them need to be implemented. We thank them for their dedication.

As mentioned, the Comprehensive Plan is mandated by State Code. But in Blacksburg, we take our Plan and the process very seriously. We go beyond the minimal requirements, work to seek active input, and incorporate these words into our future planning.

The Comprehensive Plan reviews growth and development issues, first through town-wide categories, such as Sustainability or Transportation, and second through Land Use which includes future land uses for specific areas of Town in addition to issues unique to certain lifestyle-defined areas of Town. The Comprehensive Plan is the first and the last item to be studied before any development project is undertaken. It is not only our guide for land use decisions but it also continues to be a comprehensive reference on the Town and the blueprint for community programs, public and private sector initiatives, and investments in facilities and infrastructure.

Many individuals and organizations have contributed to the development of this Comprehensive Plan, which sets goals to be achieved by the community of Blacksburg by the year 2046. We have made a pointed effort to revise this plan to make it more user-friendly and more accessible. The 2012 plan has been structured with the needs in mind of both the users and those who will implement the various strategies. We hope this guide will serve well to assist the community in moving toward the future.

The Town Council thanks all the citizens who have contributed to this revision of our Comprehensive Plan, *Blacksburg 2046*, our community's guide to development and our vision for our future.

Sincerely,



Ron Rordam, Mayor



## **BLACKSBURG'S COMPREHENSIVE PLANNING PROCESS**

Section § [15.2-2223](#) of the Virginia State Code states that *the local planning commission shall prepare and recommend a Comprehensive Plan for the physical development of the territory within its jurisdiction, and every governing body shall adopt a Comprehensive Plan for the territory under its jurisdiction.*

While the Town of Blacksburg had adopted previous comprehensive plans, the current format of *Blacksburg 2046* originated in 1996, detailing a 50-year vision for the Town of Blacksburg. The Town is currently working towards achieving this vision. The 50-year vision of the comprehensive plan is intended to remain focused on the year 2046 until the 25-year mid-point in 2021. At that time, a vision should be developed for the next 50 years.

### **Five-Year Review**

Section §[15.2-2230](#) states that *at least once every five years the Comprehensive Plan shall be reviewed by the local planning commission to determine whether it is advisable to amend the plan.*

The first mandatory five-year review and update of *Blacksburg 2046* was completed in 2001, the second was in 2006 and officially adopted in 2007. The 2012 update is the third mandatory five-year review and update and is also the fifteen-year review of a 50-year vision for the Town of Blacksburg.

This review provides an opportunity to assess changes in the community and to update background data and action strategies. The following is an outline of the general process to be followed by the Planning Commission and Town staff when conducting the five-year review of the plan:

- Gather current population, income, employment, and other data to assess trends and compare with projections.
- Update existing land use maps and background data to reflect current information, revising projections and targets as appropriate.
- Compile progress reports from the adopted plan for the past five years and assess progress towards implementation of the long term 50-year vision, goals, and objectives in the adopted Comprehensive Plan.
- Host a series of community conversations and public input meetings to reaffirm or adjust the long-term vision and to address any new issues that have arisen over the past five years.
- Update goals, policies, and objectives; include new items that have emerged as a result of the review process, new regulations or requirements.
- Review and revise all text and the Future Land Use Map Series in an open meeting process that allows public input.
- Prepare a recommended plan for review by the Planning Commission and adoption by Town Council after a formal public hearing process.

## Annual Review

In addition to the required five-year review, the Town of Blacksburg has instituted an annual amendment review process that allows the Town's Comprehensive Plan to be a long-term vision guiding development within the Town that reflects current trends and developments. The annual review process and implementation plan by Town staff consists of the following steps:

- Review and report progress towards the implementation of the *Blacksburg 2046* Comprehensive Plan objectives and policies.
- Update pertinent data and internal maintenance of plan, for example, the Blacksburg Administrative Manual.
- Reflect new issues that have occurred per Town Council direction or new state legislative requirements.

Citizens may request amendments to the Comprehensive Plan during the annual review. Staff will publicly advertise when amendment applications are being accepted for review, generally at the beginning of the calendar year. Council always retains the ability to initiate amendments to the Comprehensive Plan at any time.

Applicants should meet with Planning Department staff before submittal of an amendment request to review the proposed text or map amendment or a reclassification of a Future Land Use designation reclassification. In order for a private amendment to be approved, the applicant must first demonstrate that:

- A. The amendment will effectively aid in the implementation of goals, objectives and policies of the Comprehensive Plan.

Additionally the applicant must prove that one or more of the following criteria have been met:

- B.1. The request must be a creative idea or concept that will benefit the community and that was unforeseen during the planning process for the Comprehensive Plan.
- B.2. The subject property or concept is misinterpreted in the Comprehensive Plan.
- B.3. Conditions have changed substantially since the last Comprehensive Plan update, necessitating a change, (e.g., significant changes in surrounding land use or economic conditions).

Amendment applications are considered based on the preceding qualifications. All amendment applications are forwarded to the Long Range Planning Committee for review and recommendation to the Planning Commission. The Planning Commission will conduct a public hearing on the application and provide its recommendation to Town Council. All amendments will be heard by Town Council in a public hearing.

A summary of changes to the 2012 Comprehensive Plan Update, as well as future annual amendment details, can be found in the *Blacksburg Administrative Manual*.

## **How We All Use the Comprehensive Plan**

There are multiple audiences who refer to the Town's Comprehensive Plan via the Town's website. Additionally, students research copies available at the Blacksburg Public Library or Virginia Tech's library to learn about the Town and the planning process. Listed below are some of the ways in which the Town staff, committees, and elected officials use the Comprehensive Plan, as well as ways citizens, businesses, and developers can use the plan.

### **For the Town, the Comprehensive Plan is a guide to:**

- Town decision making
- Capital Improvement Projects planning
- Review development applications

### **For the Community, the Comprehensive Plan is a guide to:**

- Learn about the Town
- Learn how to become involved in Town committees and activities
- Research for the purchase of a home, business or property
- Illustrate the long-term land use pattern for the Town
- Understand the basis for Town review of development proposals
- Reference during public hearings on development applications
- Assist developers with project design

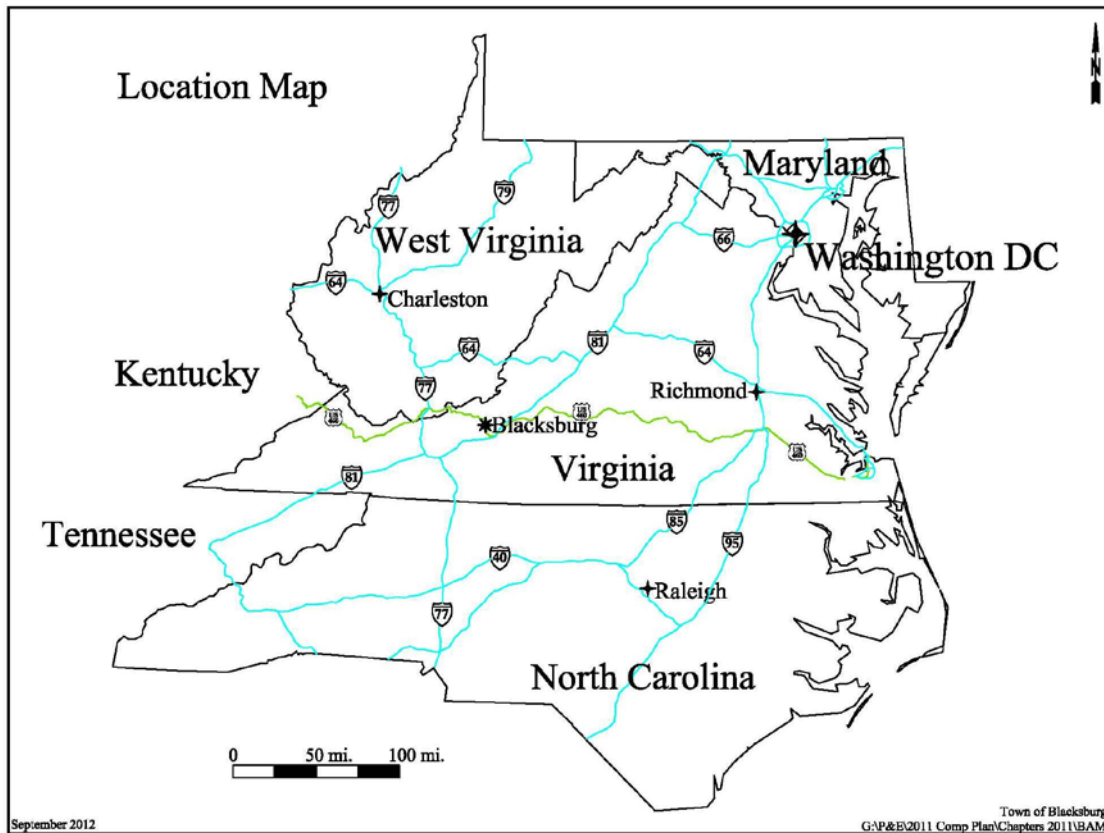
## **Blacksburg Administrative Manual**

To help bridge the gap between *Blacksburg 2046*, a more static document, and the dynamic world it functions in today, the Blacksburg Administrative Manual was established. The *Blacksburg Administrative Manual* is an extension of the Comprehensive Plan containing demographics, land use statistics, supplemental maps, and survey results. The information contained within the Blacksburg Administrative Manual supports the policies found within *Blacksburg 2046*, and provides additional information for administering those policies. The data and policy implementation status found in the Administrative Manual is updated by staff on an annual basis.

# PORTRAIT OF BLACKSBURG

## *Yesterday, Today and Tomorrow*

The Town of Blacksburg began as a tiny village on the Virginia frontier. Designed on a gridded street pattern, the original Sixteen Squares formed the core of future urban development that exists today. From this humble beginning, the Town has evolved into a complex urban environment, while also preserving its rural character. Blacksburg has become a center for education, economic development, arts and culture, and recreation in Southwest Virginia, with regional, state, national, and international connections.



## OVERVIEW

The Portrait of Blacksburg first briefly summarizes the history of the Town, **Yesterday**, to provide a context to illustrate how far the Town has grown to **Today**. **Tomorrow's Demographic Trends** and **Land Use Planning Implications for Blacksburg** document the emerging trends that should be monitored closely for future impacts on the Town. **Blacksburg's Vision** outlines the core values and principles of the Town. This chapter concludes with a discussion of how the following policy chapters in the Comprehensive Plan will help in **Achieving the Vision of Blacksburg**.

## **YESTERDAY**

In 1798, William Black gave 38 acres of his land along the old Cherokee and Shawnee trail to establish the village of Blacksburg. The plan arranged the village in a four-by-four grid, creating sixteen blocks. Community buildings were placed strategically throughout the grid. This layout became known as the “Sixteen Squares” and is the foundation on which Blacksburg continues to grow.

Blacksburg also has a long history as a place of higher education. The 1854 preparatory school, the Olin and Preston Institute, became one of Virginia's land-grant colleges, Virginia Agricultural and Mechanical College, in 1872, and ultimately developed into Virginia Polytechnic Institute and State University. Commonly referred to today as Virginia Tech, the state's largest research university “offers 215 undergraduate and graduate degree programs and manages a research portfolio of nearly \$400 million” (University Overview, 2011-12). The presence of a nationally top-ranked university has shaped how the Town has developed.

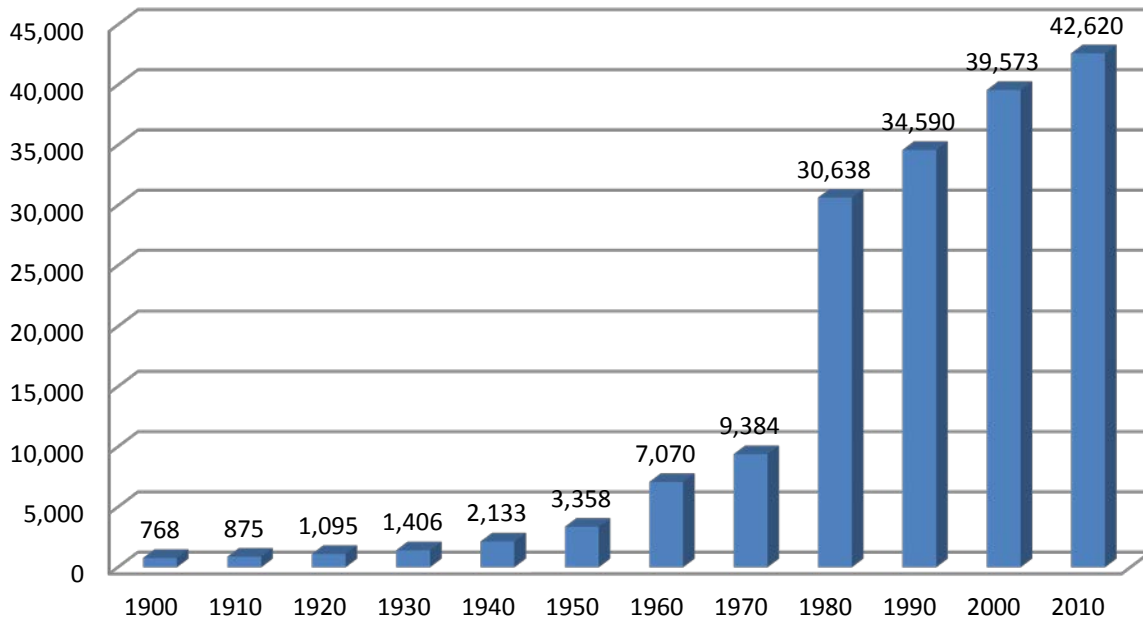
## **TODAY**

The Town of Blacksburg has grown to its present day size of 19.7 square miles and is one of the largest towns in Virginia. According to the 2010 Census, Blacksburg's population includes 42,620 residents, and the daytime population expands to approximately 50,000 people. The 2010 Census population for the Town includes residents, plus Virginia Tech students living on-campus and off-campus.

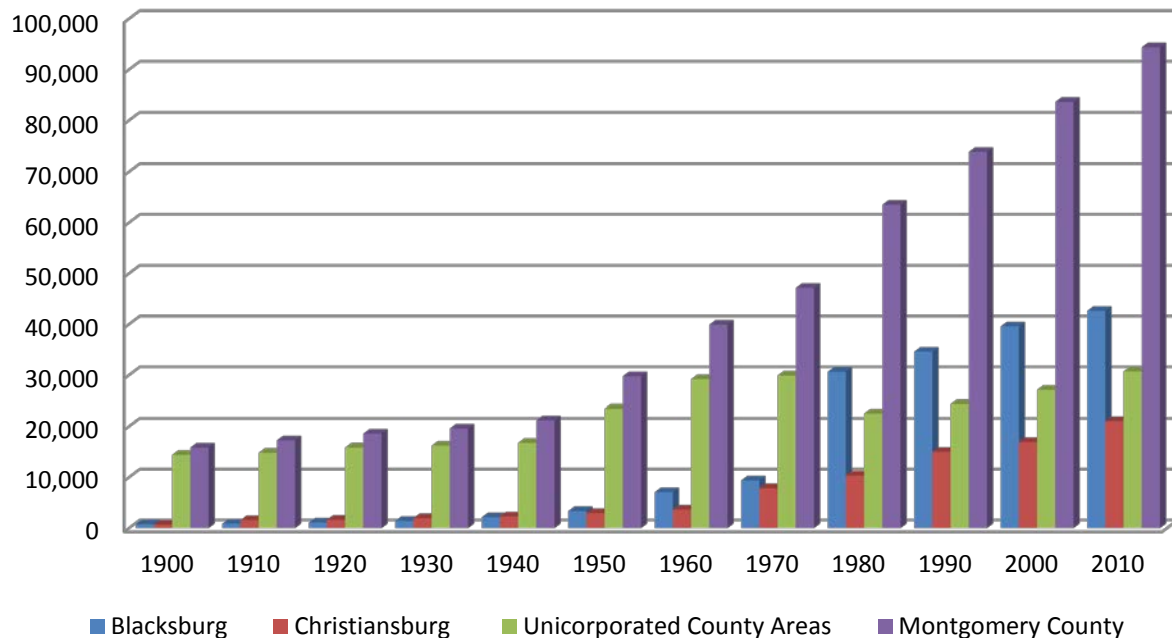
As a university town, the growth of Blacksburg has corresponded to the growth of Virginia Tech. As of 2012, Virginia Tech has a total enrollment of nearly 31,000 undergraduate and graduate students. There are approximately 28,000 students studying at the 2,600-acre campus located within the Town of Blacksburg. Approximately 9,000 students reside in the campus dorms, with the remaining 19,000 students living primarily in the Town of Blacksburg. Many other students live outside Town limits and commute from the Town of Christiansburg, Montgomery County and surrounding areas in the New River Valley and Roanoke Valley.

The two graphs on the next page detail how the Town and surrounding Montgomery County population has grown. Significant population increases occurred in the 1970s when the Town's boundary lines were adjusted and student enrollment at Virginia Tech rapidly increased. In the subsequent four decades, the Town has experienced steady population growth. Sustained population growth in Blacksburg is expected to continue, and one of the goals of the Comprehensive Plan is to manage the future development and population growth in a manner consistent with the Town's character and vision. Further information is detailed in the Urban Development Areas found in the *Future Land Use Chapter* and the *Blacksburg Administrative Manual*.

## Population Growth in Blacksburg 2010 Census



## Population Growth in Montgomery County 2010 Census



## **TOMORROW**

There are many emerging population trends and shifts that will impact the nation, the state, and the Town. Demographic trends include the aging population, changes from the traditional single-family household to increasing numbers of single-person households, and changes to ethnic and minority compositions. These emerging trends are documented in the 2010 Census and will likely be more pronounced in the next ten to twenty years based upon the 2020 and 2030 Census results. The 2020 Census results will confirm specific demographic trends in Blacksburg that can be used in 2021 when the 25-year midpoint review of *Blacksburg 2046* is scheduled. Part of each five-year update of the plan is to identify the planning implications that need to be addressed to achieve the Town's vision. Below is an overview of demographic trends and correlated planning implications. *Complete Census information can be found at [www.census.gov](http://www.census.gov) with specific 2010 Census results for the Town found in the Blacksburg Administrative Manual.*

## **DEMOGRAPHIC TRENDS**

The face of America as a whole is changing. These changes will affect housing, transportation, social services, schools, and the economy, all of which have land use implications that will challenge localities in the future. The six trends detailed on the following pages are based on national demographic trends for the United States. These trends may not always apply directly to the Town or impact the Town in the same manner as other localities. Because Blacksburg is home to a major university, the Town of Blacksburg has a disproportionate number of young adults between the ages of 19-24, with a median age of 22. The Town has a different racial mix than many other localities in southwest Virginia due to undergraduate and international student populations living in Town. According to the 2010 US Census, the Town remains predominantly white, with a smaller than average number of blacks as compared to state and national averages. Asians now comprise the largest minority population in Town. *Further demographic details can be found in the Blacksburg Administrative Manual.*

The Town's demographic mix influences the Town's land use patterns and Town decision making to meet the needs of residents. Detailed below are six demographic trends to watch in upcoming US Census periods. By monitoring these six emerging trends at the local and national levels, the Town can be better prepared to implement the vision of the Comprehensive Plan.

- A. America is aging and the composition of households is changing in the 21<sup>st</sup> Century:
  - By 2030, one in 5 Americans will be over the age of 65
  - By 2035, the US birth rate is estimated to drop from 1% to .25%
  - By 2050, life expectancy is estimated to increase to 82.6 years, up from 76.0 years in 1993
  - By 2025, the number of single person households is estimated to equal the number of family households
  - By 2050, it is estimated the overwhelming majority of households will be single person households

*Source: US Census Bureau*
- B. Population loss in rural areas is a national trend as people move to more urbanized localities. The rural population is declining due to natural decrease and young adults leaving for economic opportunities elsewhere.
  - While this trend does not directly affect Blacksburg and Montgomery County, it could affect the New River Valley. Pulaski County's population declined



between 2000 and 2010. It is a trend to monitor in the future to ensure the New River Valley remains a competitive economic region with a stable workforce.

*Source: US Census*

C. The traditional American Family dynamics are changing:

- Marriage rates among young adults ages 25-34 are declining
- The percentage of children born out of wedlock is increasing

1960	5.3%
1970	10.7%
1980	18.4%
1990	28.0%
2000	23.2%
2009	41.0%

*Source: National Center for Health Studies*

D. Multi-generational households are increasing and reversing the decades long trend of shrinking household size:

- Boomerang children are high school and college students who return to live at home after graduation due to unemployment or underemployment. They often have less purchasing power to rent or purchase their own homes.
- Aging family members who are no longer able to care for themselves or afford the high cost of health care are moving in with family members.

*Source: Ad Age Magazine, US Census*

E. The racial composition of Americans is changing. The diversity amongst minorities and the number of minorities comprising the total population is increasing. This is not due to immigration, but is due to differential birth rates among races. In the future, it is estimated that there will no longer be a majority race in the United States.

- By 2035, it is estimated that minorities will comprise half of all children in the US
- By 2050, it is estimated that the nation's population of children is expected to be 62% minorities
- By 2050, it is predicted the US total population will look very different than it does today:
  - Percentage of Whites expected to decline from 64% to 46%
  - Percentage of Hispanics expected to increase from 15% to 30%
  - Percentage of Asians expected to increase to 10%

*Source: US Census*

F. The workforce is changing:

- There are expected shortages in the workforce as the baby boom generation retires in the next decade.
- Percentage of population in the "working ages" of 18-64 is projected to decline from 63% in 2008 to 57 % in 2050.
- The working-age population is projected to become more diverse as the population becomes more diverse and will be comprised of 50% minorities by 2039.

*Source: Brookings Institution, US Census*

- G. There are growing generational changes in society, with different preferences in lifestyles, jobs, housing, technology and communication by age group. There has been considerable research identifying and classifying these different generational groups, and one such classification is provided below. While there are differences in all aspects of life for each generation, the impact of the growing and pronounced technology and communication gaps between old and young generations will have a tremendous effect on how communities function.

**Greatest Generation                      1901-1924**

- 2012: 88 years or older
- Experienced Great Depression and fought in World War II
- Saw growth in industry and manufacturing with phones and radios
- Parents of Baby Boomers

**Silent/Chosen Generation              1923-1945**

- 2012: 66 to 87 years old
- Postwar generation grew up during suburbanization, emergence of “traditional American family” and single-family homes with televisions
- Era of highways, suburbs, and new construction not downtown

**Baby Boom Generation                  1946-1964**

- 2012: 47 to 65 years old
- Lived through Vietnam
- Are in today’s leadership positions but retiring soon
- Rise of information technology and the knowledge economy
- Parents of Generation Y

**Generation X                              1965-1981**

- 2012: 30 to 46 years old
- Moving into leadership and decision-making positions
- Traditional family begins to change, rising divorce rates, women joining workforce, emergence of daycare centers
- Emergence of creative class
- Inception of home computers and cell phones

**Generation Y                              1982-1995**

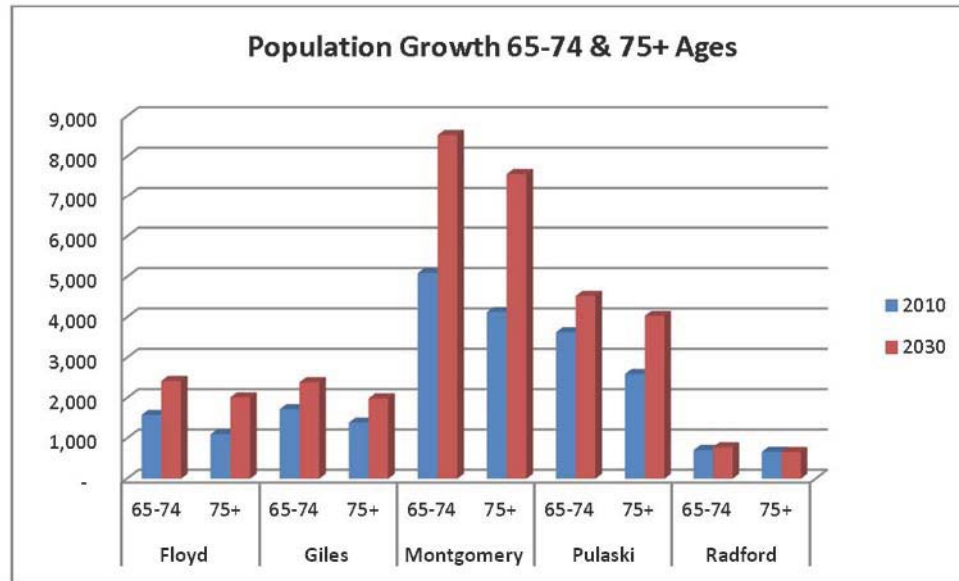
- 2012: 16 to 29 years old
- Emerging workforce and young professionals and students in high school and college today
- Tech savvy growing up with instant communication, email, texting, instant message, etc.
- Generation Y is a larger population group than Generation X, with the potential to impact society and culture similar to the Baby Boom Generation
- Often prefer the urban lifestyle; place matters, not just the job

**Generation Z****1996-Today**

- 2012: 15 years and younger today
- Smaller population group due to declining national birth rates
- Living through the Great Recession, 9/11, Katrina and Sandy
- Tech savvy at an early age: smart phones, iPads, MP3 players
- Rise of social media: Facebook, Twitter, Skype
- Children of youngest baby boomers, plus Gen X and Y

**PLANNING IMPLICATIONS FOR BLACKSBURG**

1. The Town's population is diversifying age-wise. The Town of Blacksburg has historically been a university town with undergraduate students comprising the majority of the population. The number of permanent residents has been increasing in Town over the past decades and is expected to continue to increase. Blacksburg has been recognized nationally as a good place to raise children. University towns are popular places for young professional graduates who desire urban lifestyles with easy access to cultural amenities such as restaurants and commercial services. The University has indicated a desire to increase its graduate research programs. No significant increases in campus student enrollment are planned. Due to changes in technology, there is the ability to teach more classes online. These population shifts may transition the Town towards a community with more equal representation of all age groups, which, in turn, will drive housing, transportation, and retail demands.
2. The Town's retirement population, included in Montgomery County's population, is increasing, as detailed in the next chart. Not only are there an increasing number of retirees already living in Town, there are more people retiring to Blacksburg. In general, university towns are popular places to retire, and Blacksburg has been nationally ranked as such a place.
  - The growing retiree population could spark additional needs for educational programs and outreach to this group.
  - Housing demands for people to age in place will influence market demands for new housing styles with universal access, preferably located within walking distance of services.
  - Transit demands will increase as more people are no longer able to drive themselves. To better serve the community, Blacksburg Transit will need to expand from a student-focused route system to a complete residential neighborhood route system with connections to the rest of the New River Valley and the Roanoke Valley.
  - The economic tax base could be restricted as citizens living on fixed incomes seek property tax relief. This could affect the County and the Town's ability to raise the necessary capital to maintain and expand utilities and infrastructure.



3. Blacksburg's current housing stock will need to diversify and expand to meet the new market demands of the changing household dynamics. This raises the following questions:

- If children are getting married at a later date and/or having children out of wedlock, what are the new housing market demands?
- Will single-family households with children want to live or be able to afford to purchase a traditional family home located in the suburbs?
- Will preferences for renting or purchasing a home change?
- Will preferences for smaller houses emerge?
- Will there be a balance of available housing stock and housing demands, or will there be an imbalance in existing inventory?

The undergraduate student market has driven much of the housing market in Blacksburg, often to the exclusion of other market segments. With the shift in housing styles, demand and location, there are secondary associated impacts on the planning and usage of local schools, daycares, and parks that must be addressed.

4. Economic Development strategies will need to be expanded to address the retention of a talented workforce. This raises the following questions:

- What is needed to keep talented graduates from local high schools in the area and encourage them to pursue work in the skilled trades and service industries?
- What is needed to retain college graduates in the area instead of relocating to another state or country?
- What is needed to encourage and support entrepreneurial ventures?

5. Development strategies will need to be expanded to address the needs of a more racial and ethnically diverse Town. As the nation's racial mix becomes more diverse, the Town's population will continue to diversify, including the general student body at Virginia Tech. The international population, in particular the Asian community, has an increasing presence. Increasing diversity will bring unique cultural values as well as economic and housing preferences that will reshape the community.

6. Communication styles will need to be expanded and changed to reach all generations. Information about the Town of Blacksburg needs to be marketed and communicated in different manners including public meetings, direct mail, newspaper, the internet, social media, interactive webinars, and by future technologies.
7. The character of the Town is a strong recruitment tool. The Town's quality of life is one of its greatest assets and is a strong commodity that needs to be capitalized upon to support economic development and the desired quality of life in Town. The Town of Blacksburg needs to carefully monitor and market this commodity as a recruiting tool, especially during the next 10-20 years as society, workplace values, and attitudes change and generations transition in and out of the workforce. Many young professionals first select places they wish to live and then find job opportunities that are increasingly mobile.

## **BLACKSBURG'S VISION OF 2046**

Blacksburg is much more than population statistics, historical dates, and demographic data. Blacksburg is an attractive and thriving community renowned for quality of life, natural beauty, civic pride, and educational leadership. The citizens of Blacksburg respect and maintain certain key community values to achieve a quality of life so one can "live, work, shop and play" within the Town of Blacksburg. The following values of Blacksburg are reflected throughout the Comprehensive Plan:

- A "whole life community" with varied housing opportunities within neighborhoods, employment opportunities, a good public education system, medical services, and retail opportunities.
- An intellectual and culturally stimulating environment with ethnic and international diversity that is centered in the heart of Blacksburg's Downtown but connected to the world through telecommunications.
- Economic development with an emphasis on Downtown, mixed-use developments, and high-tech industrial opportunities throughout Town.
- Environmental stewardship that includes resource protection of natural surroundings, open space, watersheds, and viewsheds, made possible in part by alternative transportation options.
- Open government, with strong citizen involvement and open meetings of governing bodies and advisory committees.
- A sense of regionalism and connections to Virginia Tech, Montgomery County, the New River Valley, and beyond.

These community values have resulted in national recognition. In 2011, Blacksburg was named by *Bloomberg Businessweek* as one of the best places in the United States to raise children. In 2012, *Livability.com* named Blacksburg as one of Top 10 U.S. College Towns to live. Blacksburg has also been ranked among the nation's best places to live by *Blue Ridge Country Magazine*, *50 Best Small Southern Towns*, and *Retirement Places Rated*. *Outside Magazine* ranked Blacksburg a top-10 "dream town" for outdoor enthusiasts because of its proximity to the Appalachian Trail and the George Washington and Jefferson National Forests. Regionally, the Blacksburg-Christiansburg-Radford Metropolitan Statistical Area has been named to *Forbe's* 2012 list of ten "Best Small Cities for Jobs."

These values illustrate what is important to the community today and represent aspirations for the Town tomorrow. There are emerging demographic trends that are impacting and changing American society. These trends of tomorrow are detailed further on the following pages, as well as the land use planning implications of each trend for Blacksburg. The challenge for the Town of Blacksburg as the year 2046 approaches is how to monitor, prepare, and work best with the changing society and technological advances to achieve the Blacksburg that is envisioned for the future.

### **ACHIEVING BLACKSBURG'S VISION OF 2046**

The Town is trying to meet the needs of citizens today and plan for a sustainable community tomorrow. In the context of changing demographics, economy, and technology, Blacksburg faces the same challenges as other communities across America. These challenges include addressing development and redevelopment, providing infrastructure, protecting the environment, keeping historical resources, and growing cultural amenities. All of these elements are in the chapters of the Comprehensive Plan. Balancing the competing priorities in the Comprehensive Plan is key to achieving the quality of life desired by citizens in this 50-year vision.

In the chapters that follow, detailed descriptions of the various aspects of the Town of Blacksburg are presented, from roads to buildings to green spaces and parks, from historical treasures to affordable housing, from water and sewer lines to the latest in information technology. Many issues have ramifications outside the Town's borders. Communication and cooperation between the Town and adjoining jurisdictions, especially Virginia Tech, Montgomery County and the Town of Christiansburg, are important aspects of governmental and other civic activities. This Comprehensive Plan includes goals for the various aspects of Town government and activity, including chapter-specific goals, objectives, and policies that support the Town's mission and values.

Also supporting the Town's mission is the *Blacksburg Administrative Manual*. This separate document, adopted in conjunction with *Blacksburg 2046*, supports the goals and objectives of the Comprehensive Plan. The *Blacksburg Administrative Manual* contains valuable Town statistics, historical data, public participation results and plan implementation.

# A SUSTAINABLE COMMUNITY

*The Economy, the Environment and the People*

## SUSTAINABILITY GOAL

The Town of Blacksburg's sustainability goal is a community that balances economic vitality, environmental stewardship, and the well being of citizens to provide a high quality of life for current and future generations. The Town of Blacksburg is dedicated to enhancing sustainability in its operations and policies. The Town also works in partnership with the community to promote sustainable practices throughout Blacksburg. To emphasize the Town's commitment to sustainability, each chapter of the Comprehensive Plan contains a specific Sustainability Goal related to that chapter's content.

### Citizen Involvement

There are multiple Council-appointed sustainability related committees that involve citizen participation: Environmental Management Systems (EMS) Oversight Committee, the Agricultural and Forestal District (AFD) Advisory Committee, and Planning Commission. Additionally, the Climate Action & Community Sustainability Working Group is largely made up of community stakeholders with support from key Town staff. Citizens may also support community sustainability efforts by serving on boards and committees throughout the New River Valley: the Community Foundation, New River Valley Land Trust, League of Women Voters, New River Valley Homebuilders Association, and the YMCA at Virginia Tech, among others. The Town partners with several non-profit organizations in which citizens can participate, such as Sustainable Blacksburg and Friends of the Blacksburg Farmers Market. Citizens are encouraged to participate in the Blacksburg Citizens Institute to learn more about Town operations in general.

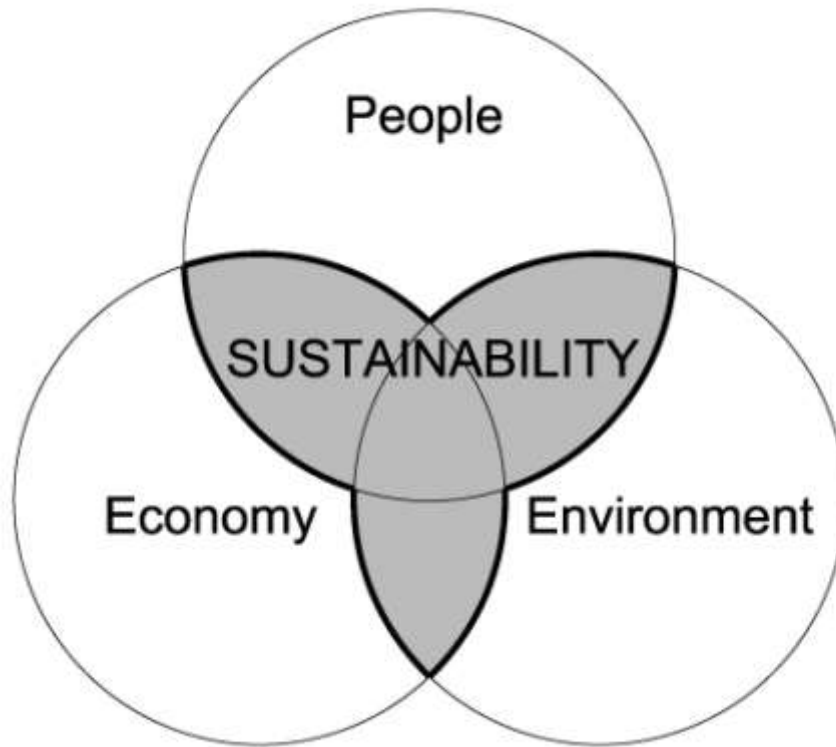
## OVERVIEW

There are many definitions of sustainability, which make it an often misunderstood concept. The lack of a clear definition frequently results in challenges to implementing sustainability initiatives. In recent years, there has been a great deal of misinformation about the concept of a sustainable community, which has generated fears that sustainability efforts will erode citizens' personal choices.

Blacksburg's vision of sustainability is about ensuring options for citizens in how they choose to live their lives and provide for future generations. Sustainability was first defined by the World Commission on Environment and Development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs." The American Planning Association has described a sustainable community as "an urban, suburban or rural community that has more housing and transportation choices, is closer to jobs, shops or schools, is more energy independent and helps protect clean air and water."

Many people also tend to think that sustainability is synonymous only with environmental endeavors. In reality, true community sustainability is found at the intersection of economic sustainability, environmental sustainability and social sustainability. To truly have a sustainable community, all three elements must be balanced as depicted in the diagram on the following page.





Many sustainability issues extend beyond jurisdictional boundaries, and regional collaboration is often the best way to effectively address such issues. The Town of Blacksburg is committed to working locally to meet the needs of our citizens and regionally to enhance sustainability and to provide a livable future for all.

An example of the Town's involvement in a regional sustainability effort is its support of the New River Valley Livability Initiative. The planning phase of the Livability Initiative, completed in January of 2014, was guided by a consortium of regional non-profits, businesses, local governments, and universities led by the New River Planning District Commission, with the goal to improve the housing, transportation, energy, agricultural systems, public health, natural resources, internet access, economic and workforce development, and cultural assets throughout the New River Valley. As the planning phase concluded, the Community Foundation of the NRV stepped in to offer new leadership on the project and continue building capacity and partnerships around key implementation strategies. The Livability Initiative continues to be a platform for residents within the New River Valley to shape and guide the factors that will impact the future quality of life within their community and the New River Valley as a whole.  
[www.nrvlivability.org](http://www.nrvlivability.org)

Locally, the Town's sustainability efforts focus on the topic areas of economic sustainability, environmental sustainability and social sustainability. While many of the principles of each component of sustainability are intertwined, they are discussed separately on the following pages for ease of comprehension and organization.

## **ECONOMIC SUSTAINABILITY**

Blacksburg's vision of economic sustainability includes a fiscally responsive government and good stewardship of taxpayer dollars, both of which promote a viable and resilient business climate for private sector investment and developments.

As of 2012, the Town of Blacksburg had an operating budget of approximately \$41 million. The Town's revenue is derived from multiple sources, such as business licenses and permits, plus taxes on real estate, local sales, telecommunications, meals, and lodgings. Having diversified revenue sources and major employers, such as the University, that are less impacted by economic downturns has helped the Town weather recent economic recessions without compromising Town services. The Town adheres to the adopted "Town of Blacksburg Principles of Sound Financial Management" policy statement that articulates financial guidelines. This has resulted in the Town winning the Distinguished Budget Presentation Award from the Government Finance Officers Association every year since 1982 and supports the Town's November 2011 AA bond rating by Standard & Poor's.

The Town views itself as a responsible steward of taxpayer dollars. Town projects are thoughtfully designed and engineered to minimize both the construction and operating cost of buildings and equipment. The Town seeks grant funding opportunities and public/private partnership agreements to minimize the total cost of a project to the taxpayer. Additional sustainable building standards, such as the Town's commitment to green building practices for its municipal facilities, are detailed in the Public Safety and Community Facilities Chapter.

All of the above factors contribute to an open and stable economic arena that strategically positions the Town for existing private businesses to grow their current operations and to also attract new business development opportunities that enhance the Town's quality of life. Major corporations have located in Blacksburg along Main Street, in the Blacksburg Industrial Park and in the Corporate Research Center. The Town also recognizes the value that local and regional small, independent businesses bring to the community, and supports them through such organizations as Friends of the Blacksburg Farmers Market and Downtown Blacksburg, Inc. *For additional information, please refer to the Jobs & Housing Chapter.*

## **ENVIRONMENTAL SUSTAINABILITY**

Blacksburg's vision of environmental sustainability is implemented through the Environmental Management Program (EMP) and other Town policy initiatives detailed below.

### **Environmental Management Program**

The Environmental Management Program (EMP) is a comprehensive initiative implemented to promote sustainability and environmental awareness, educate employees and residents, and move the community toward actions that will create a more sustainable region. Goals are accomplished through partnerships with citizens, businesses, non-profit organizations, and local universities. The EMP includes a broad range of environmental objectives encompassing regulatory compliance, environmental policies, the Environmental Management System, and sustainability issues. Citizen and employee participation and feedback are critical to the success of this program. The Town's EMP was established in 2002 and has evolved over the years to ensure continuous improvement, responsiveness to citizen priorities, and foster a spirit of innovation.

The Environmental Management Systems (EMS) Oversight Committee, comprising citizens, a Town Council representative, and Town staff, provides oversight for the EMP. In addition, the

Climate Action and Community Sustainability working group provides input and guidance on the climate action planning process, which is expected to be completed in early 2015. This working group, whose members were selected by the Town Manager and the Town's Sustainability Manager, comprises key stakeholders representing a cross section of the community, including Town Council, representatives from the commercial, industrial, housing, energy, transportation, water & wastewater sectors, Virginia Tech researchers and faculty, Town Staff, Sustainable Blacksburg, and the community at large. Due to the efforts of this working group, the Town has developed a community-wide baseline energy and greenhouse gas inventory, which can be viewed on the Town website. Strengthening the Town's official commitment to climate protection, Town Council adopted a community-wide emissions reduction target of 2% per year below the baseline year 2000, which will enable the Town to reach its larger emissions reduction target of 80% below 1990 levels by 2050. The mitigation measures outlined in the emerging Climate Action Plan will become key focus areas for the EMP in the years to come.

Policies that support the EMP and the Town's broader sustainability goals include Green Fleet and Alternative Work Schedule Programs that promote the purchase of fuel-efficient, low-emission vehicles and encourage driving habits that reduce vehicle miles traveled, thus saving fuel and reducing emissions. In addition, a policy establishing the U.S. Green Building Council LEED green building rating system certification as a requirement for new construction and major renovations of Town-owned facilities over 5,000 square feet promotes reduced energy use, employee thermal comfort, and indoor air quality. For additional information, please refer to the *Public Safety and Community Facilities Chapter*. The Environmental Management Systems (EMS) Oversight Committee goals and sustainable Town Administrative Directives are included in the *Blacksburg Administrative Manual*.

The Town also works closely with the business community to promote environmental awareness and sustainability on a number of initiatives. One example is the Electronics Recycling Partnership, a combined effort utilizing Sustainable Blacksburg volunteers, a collection site managed by the YMCA Thrift store, and staff support from the Public Works department.

### **E3**

The Town government is designated as an Exemplary Environmental Enterprise (E3) by the Virginia Department of Environmental Quality's "Virginia Environmental Excellence Program." E3 is a facility or community with a fully implemented environmental management system and pollution prevention program that has demonstrated performance of environmental stewardship. Further details may be found at <http://www.deq.state.va.us/veep/>. An example of the E3 certification in action and the Town leading by example is the renovation of the Blacksburg Motor Company building, which utilized historic tax preservation credits to finance the Platinum LEED certification of the building.

### **U.S. Mayor's Climate Protection Agreement**

The Town became a signatory to the U.S. Mayor's Climate Protection Agreement in 2006, and shortly thereafter, Town Council adopted a resolution to reduce carbon dioxide emissions, conserve energy, and increase environmental awareness in government operations and the community.

## **Urban Forestry**

Another ongoing sustainability initiative is the Town's urban forestry program. Blacksburg has been designated a Tree City USA community each year since 1990, which speaks to the Town's commitment to urban forest growth and preservation. The urban forestry program plans for the establishment, protection, and management of trees for the purpose of improving the urban environment. According to 2008 spatial data collected by the Virginia Department of Forestry, Blacksburg has 30.2 percent tree canopy coverage. The Town has established a goal to increase total tree canopy coverage by 5 percent by 2019. The Town has ordinances in place requiring new developments to plant street trees and parking lot trees and to provide buffer vegetation between varying land uses. The Town has also established a goal to plant two trees on public property for each tree that must be removed, and a municipal tree nursery was established in 2007 to provide cost-effective nursery stock for this effort. The community also participates in urban forestry initiatives such as the Community Arbor Day Celebration.

## **Dark Skies**

The Town has a history of supporting dark sky regulations and programming, which is an often neglected but key quality of rural and natural environments. Through the zoning regulations, development review process and Town-owned facilities, the Town seeks to balance nighttime visibility and security needs while protecting the natural environment and animal habitats.

## **SOCIAL SUSTAINABILITY-PEOPLE**

To achieve Blacksburg's vision to succeed as a sustainable community, the health and well being of people in the community must be equally addressed with the other two components of sustainability: the economy and the environment. One goal in a sustainable community is that the community is inclusive and strives to meet the needs of the urban and rural residents, the young and the old, the poor and the rich, the healthy and the disabled, Virginia Tech students and permanent residents. All of the people who comprise the Blacksburg community should be treated equally in their rights, such as voting, freedom of speech and security. All citizens should also have opportunities for jobs, housing, education and health care. Town policies and programs should support equal access and help citizens connect with the resources they need to better their lives. Many of the services available and utilized by Town residents, such as the court system, public schools, public health, and social services, are provided by Montgomery County and the Commonwealth of Virginia.

This type of social equity includes respecting others' choices and embracing the diverse community in Blacksburg. It also includes citizen participation in the community. Citizens help strengthen the fabric of the Blacksburg community by participating in its government, schools, volunteer emergency services, civic groups, and religious organizations. Citizen participation increases the quality of government planning and policies. This type of capacity-building typically benefits both the community and the individual.

## **A SUSTAINABLE COMMUNITY**

### **Objectives and Policies**

- S.1. Encourage all Authorities in which the Town is a participating member to be environmentally sensitive and continue to participate in DEQ's VEEP Program.
- S.2. Design new public facilities and renovate existing public facilities to meet U.S. Green Building Council LEED building rating system standards. Facilities shall also meet current best management practices that provide for efficient and cost-effective operations over the expected life of the facilities.
- S.3. As part of the development review process, consider how well the proposed application supports the Town's community commitment to sustainability.
- S.4. Implement and promote the Town of Blacksburg's Environmental Management Program.
- Educate Town staff and the community about best management practices
  - Record goals and accomplishments with accurate reporting to regulatory agencies such as DEQ and voluntary programs such as the Tree City USA program
  - Create opportunities for citizen involvement, such as the Environmental Management Systems (EMS) Oversight Committee and the Climate Action & Community Sustainability Working Group, to integrate sustainability policies throughout the Town
- S.5. Promote environmental education and awareness to citizens and businesses by supporting events and initiatives such as Sustainability Week, the Electronics Recycling Partnership, Blacksburg Farmers Market, Solarize Blacksburg etc.
- S.6. Promote, protect and enhance the Town's urban forests through Town initiatives and in the development review process.
- Increase the total tree canopy coverage by 5% by 2019
  - Identify potential planting areas on all town properties and increase the public property urban tree canopy by 10% by 2019
  - Increase the remaining community urban tree canopy to 40% (not including areas zoned agriculture, airport, or Virginia Tech campus) as recommended by the Virginia Department of Forestry
  - Minimize site disturbance to protect existing tree canopy, native vegetation, and pervious surfaces to encourage open space
  - Continue work and improvements to receive the annual "Tree City" recognition from the National Arbor Day Foundation
- S.7. Support dark sky regulations and programming.
- Establish a policy to require downward directed lighting on all new outdoor lighting fixtures to limit upward glare
  - Seek funding to retrofit old lighting and review and amend the Town Code to require retrofit of lighting in redevelopment projects
  - Ensure safety considerations in lighting design, consulting with other communities and universities for safe solutions

- Partner with Montgomery County, Virginia Tech, VDOT, and other agencies and localities in the effort to reduce light pollution
- S.8. Support implementation of the New River Valley Livability Initiative coordinated by a partnership between the Community Foundation of the New River Valley and the NRV Planning District Commission as well as other regional sustainability efforts.
- S.9. Educate and encourage residents and private businesses when constructing or renovating homes and buildings to be more energy efficient and meet Earthcraft or U.S. Green Building Council LEED building rating system standards.
- S.10. Continue regulatory amendments to promote sustainable neighborhood development practices for private development.

# ENVIRONMENT

## *Preserving Blacksburg's Abundant Natural Resources*

### GOAL

Retain the beauty, functions, and values of the natural and rural environments that characterize Blacksburg.

#### **Sustainability Goal**

The Town works in partnership with the community to preserve and protect the environment, including rural and urban areas of Blacksburg that contribute to Blacksburg's quality of life.

#### **Citizen Involvement**

There are several Council-appointed committees that address environmental concerns and involve citizen participation, such as the Agricultural and Forestal District (AFD) Advisory Committee or Planning Commission. Many citizens have expressed their willingness to take steps to maintain open space on their properties through privately held conservation easements or participation in the Town's AFD Program. Citizens are encouraged to participate in the Blacksburg Citizens Institute to learn more about Town operations in general.

### OVERVIEW

The beautiful natural environment of the region, including the mountains, valleys, agricultural land, and water resources, contribute to Blacksburg's character and quality of life. Town residents have access to surrounding natural areas, including the Jefferson National Forest, the New River and the Virginia Tech campus, all of which contribute to the quality of life in Town.

This chapter highlights the natural resources found within the Town and surrounding areas including: land resources (open space, agriculture and greenways), geologic features (karst, topography, minerals and radon), watershed resources (flooding hazards, stormwater, and groundwater), air quality and energy.

### LAND RESOURCES

#### **Open Space**

There are a number of open space areas and agricultural lands within the Town limits.

Open space planning in this region began with the development of a document entitled *Open Space Planning, an Initiative for Our Future*, dated 1994. Primary themes identified in the Open Space Initiative include:

- ◆ Conservation of Farmland
- ◆ Protection of Water Resources
- ◆ Protection of Scenic Views
- ◆ Preservation of Historic Sites and Structures
- ◆ Preservation of Rural Community and Landscape
- ◆ Identification of Recreational Locations





Open space in the Town of Blacksburg can be categorized in the following ways:

- (1) Privately-owned open space associated with a farm or a home that is usually not open to public access or has very limited public access. This includes conservation easements.
- (2) Common open space land in a development that is reserved for use by that development's residents.
- (3) Undeveloped recreational property publicly owned by the Town that includes open space land intended for passive recreational use by the entire community or where active future recreational amenities are planned.
- (4) Developed recreational property publicly owned by the Town that includes land currently used for active recreational activity by the entire community or intended for future active recreational uses.

All four types of open space are important and each contributes to the overall quality of life in Blacksburg. Open spaces also help to preserve and protect natural features such as groundwater recharge areas, steep slopes, and wildlife habitats. Also of significant value to the community are ridgelines, hilltops, and lands identified in the Greenway Master Plan, lands adjacent to existing public parks and existing preserved open space or the Creek Valley Overlay.

The protection of open space will play an important role in guiding the future sustainability of our community. Natural amenities are a growing factor in the decision-making process for younger workers and retirees as they decide where to live. Open space, viewsheds, and sensitivity to ongoing agriculture operations should be elements reviewed as part of the development proposals. It is important to involve all citizens in the discussion of open space as a part of rural and urban lifestyles.

### **Agriculture**

Agricultural lands provide economic value and contribute to the unique character of the Town. According to the soil suitability map found in the *Blacksburg Administrative Manual*, approximately one-sixth of the land within the Town boundaries is classified as prime agricultural land, and one-third is well-suited for agriculture. Over the years, large tracts of farmland have become less common as the economic challenges of family farming have increased. Another challenge in supporting this land use, and its associated economic and aesthetic characteristics, is the realization that land suitable for agricultural use is also suitable for urban development; however, there are ways to support farming within the Town and the region.

There is an ever-increasing understanding of the value of local food production and the importance of access to local healthy foods. While the amount of local farmland within the Town limits may not be large, the Town has another role to play in supporting agriculture. As the Town becomes more urban, the Town government, Virginia Tech, private restaurateurs and citizens will collectively become a major market that can increase demand for locally grown foods and products, plus agritourism services. This places the Town and citizens in a position to support organizations and businesses such as the Blacksburg Farmers Market, the Hale-YMCA Community gardens, Community Supported Agricultural (CSA) programs, neighborhood gardens, and restaurants serving locally grown food. The Town can also support regional efforts to improve processing and transportation facilities for agricultural products.

By working regionally, the Town can support existing regional farms and vineyards by helping to protect key agricultural lands. This can be done by working with local organizations coordinating voluntary conservation easements of adjacent properties located on the Town/County jurisdictional lines. This protects cohesive tracts of agricultural lands. This same approach can be utilized by continuing with the County and Town's Agricultural and Forestal District (AFD) designation. AFDs were established to conserve, to protect, and to encourage the development and improvement of the Commonwealth's agricultural and forestal lands for the production of food and other agricultural and forestal products. The districts are also designed to conserve and protect these lands as valued natural and ecological resources that provide essential open space for watershed protection, for wildlife habitat, and for aesthetic purposes. Please refer to the Town's official Zoning District map for current locations of AFDs.

### **Greenways**







Greenways are linear stretches of open space that can include recreational, cultural, and natural areas such as parks, trails, and other "green" spaces. The development and use of the greenway system in Blacksburg is an outgrowth of community interest in conservation of natural resources, recreation opportunities, and viable alternatives to motorized transportation. Greenways are part of Blacksburg's green infrastructure, providing natural buffer areas to improve water, soil and air quality, serving as wildlife habitat and corridors, reducing the impacts of flooding, and adding aesthetic and viewshed protection. Greenways typically follow natural or manmade features such as streams, railways, or roads, and they are used for transportation, recreation, education, and environmental protection.

Conservation benefits are also derived from the preservation of greenway corridors by maintaining the integrity of scenic vistas and watersheds, protecting water quality in streams and aquifers, and preserving natural habitats and wildlife. These corridors are essential community features that foster the sense of environmental stewardship within the community. Greenways can help promote economic development and tourism, plus increase the beauty of neighborhoods as well as the value of surrounding properties. Some greenways have trails that supplement the Town's formally maintained system, Paths to the Future, which is discussed further in the *Transportation Chapter*.


# Permanent Open Space



Jefferson National Forest

-  Jefferson National Forest
-  Town Open Space  
(Includes Undeveloped and Developed Recreational)
-  Private or Common Open Space
-  University Open Space
-  County Open Space
-  Creek Valley Overlay

0 .5 mi. 1 mi.



## GEOLOGIC FEATURES

### Karst

Blacksburg's geologic features include karst terrain. Karst areas are underlain by soluble carbonate rock, such as limestone or dolomite, which is susceptible to dissolution. This can result in sinkholes, caves, and underground streams, which may pose potential hazards for development. Although most of the Town overlies soluble carbonate bedrock, the degree of karst development is generally low. There are no sinking streams, and most sinkholes are broad, shallow, and stable. The following map, Geologic Features, identifies eight karst areas with the most significant sinkhole development that are the main areas of concern from a development perspective. Development on and around sensitive karst terrain will have a negative impact on the region's groundwater resources. Locations of individual sinkholes from a variety of data sources should be maintained and considered during development, but the majority of protection and monitoring efforts should concentrate on the eight karst areas. These features may pose ground-stability problems for construction and are potential avenues for groundwater contamination. Natural drainage patterns around sinkholes should be maintained to prevent increasing runoff or flooding. As detailed in the Natural Heritage program coordinated by the Virginia Department of Conservation and Recreation, the Town is also traversed by several inactive geologic faults, which may present another area vulnerability to groundwater pollution.



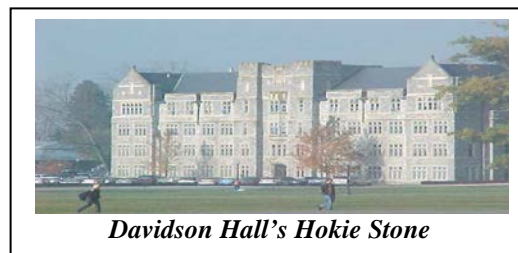
*Steep Slopes*

### Topography

Despite its location in the mountains, much of Blacksburg's land is relatively flat. The older, settled parts of Town have slopes of 5% or less and may lie within natural floodplains. Approximately 90% percent of the remaining area has between 5% and 15% slopes. Throughout the Toms Creek Basin watershed and east of Town down to the Ellett Valley, slopes often exceed 15%. Additionally, there are some steeply sloping lands along the sides of Brush Mountain. These steep slopes add to the visual character of the community. However, development on these slopes can result in erosion, landslides, increased peak stormwater flows, siltation, and sedimentation. This topography also lends itself to the construction of more environmentally sensitive clusters or large lot developments, as well as to additional open space dedications.

### Minerals

Mineral resources are mined in and around Blacksburg. A prominent quarry lies at the corporate limits near Highland Circle and provides the university with Hokie Stone. A former sandstone quarry lies east of Ellett Road just inside the Town's corporate limits.



*Davidson Hall's Hokie Stone*

### Radon

Geologic conditions in the region produce radon at a higher than average rate for the state. Radon is a heavier than air, colorless, odorless gas that occurs naturally. It comes from the natural (radioactive) breakdown of uranium in soil, rock, and water. It can occur in any type of building and build up to dangerous levels if not remediated. The U.S. EPA and the Surgeon General recommend testing all homes below the third floor for radon.

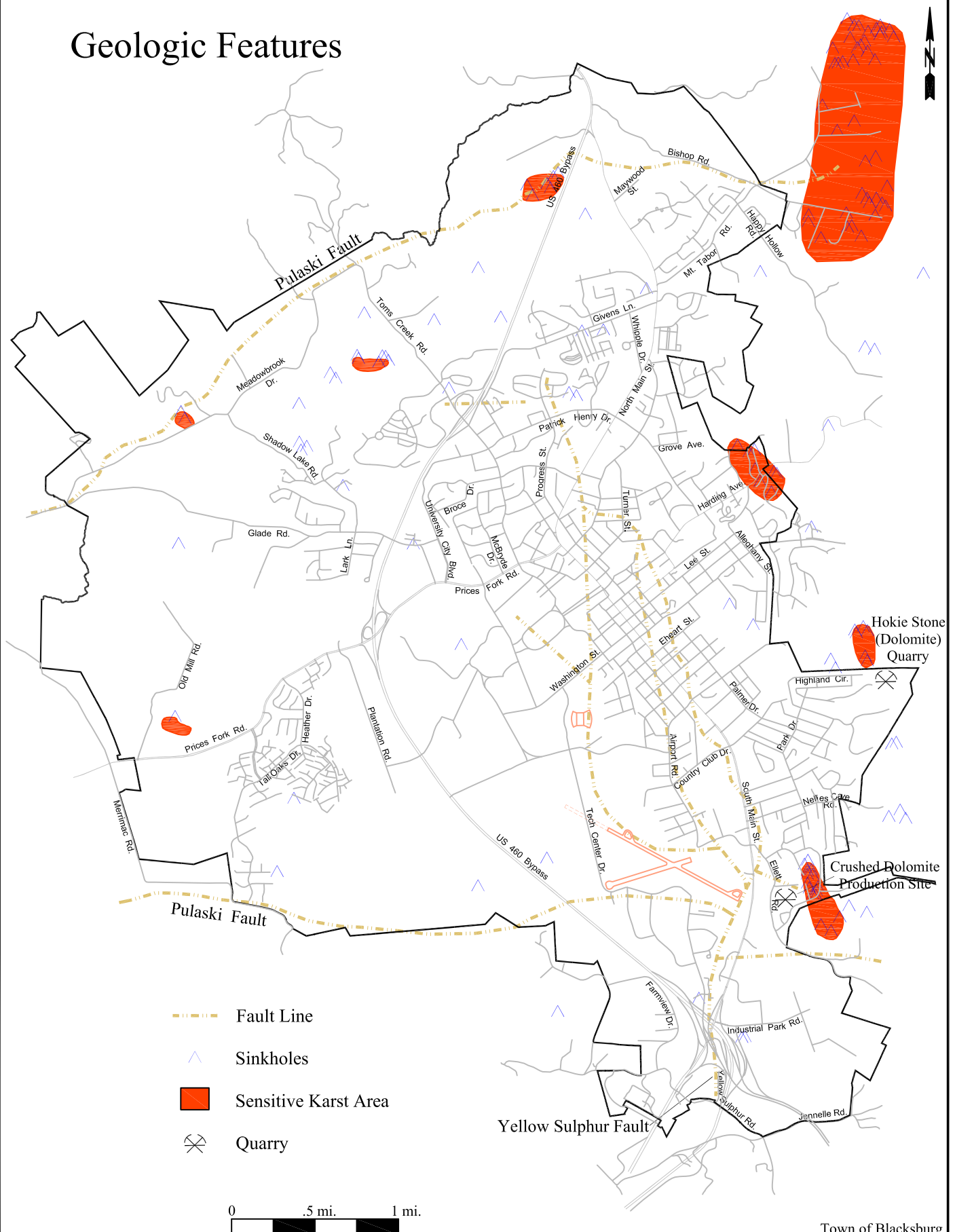
## **Hazard Mitigation**

The federal Disaster Mitigation Act of 2000, as amended, requires that local governments develop and adopt natural hazard mitigation plans in order to receive certain Federal Emergency Management Agency (FEMA) federal assistance. FEMA describes hazard mitigation as “sustained actions taken to reduce or eliminate long-term risk from hazards and their effects.” Events, both nationally and locally, in the past decade have shifted some of the focus of natural hazard mitigation to include mitigation of human-caused hazards.

The 2011 update to the New River Valley Hazard Mitigation Plan is a revision to the region’s original plan, adopted and approved by FEMA in May 2005. This plan must be updated every five years. The Town of Blacksburg adopted the updated plan in December 2011.

In the 2011 update, new data and analysis have improved the hazard identification related to geological features and risk assessment used to determine mitigation strategies regionally and locally. The plan focuses primarily on natural hazards just discussed, such as karst, landslides and rockfalls associated with steep slopes. Hazards can also include other natural events such as earthquakes, flooding and drought. A copy of the adopted 2011 Hazard Mitigation Plan can be found at [www.nrvpdc.org](http://www.nrvpdc.org).

# Geologic Features

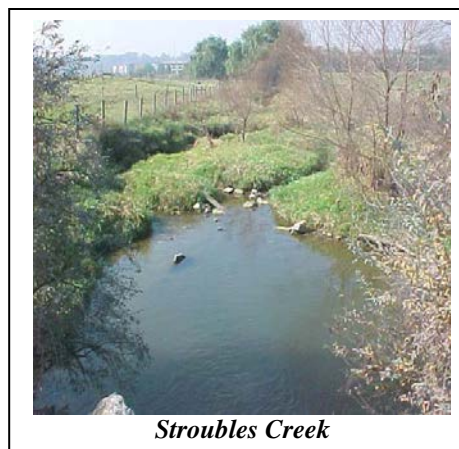




## **WATER RESOURCES**

### **Watersheds**

Located on the eastern continental divide, water in Blacksburg drains either eastward towards the Roanoke River and the Atlantic Ocean, or westward to the New River and eventually the Mississippi River and the Gulf of Mexico. Blacksburg is located in the headwater areas and thus the Town receives little surface runoff from outside its boundaries. The headwaters of five watersheds begin within Town limits: Toms Creek, Upper Stroubles Creek, Slate Branch of Stroubles Creek, Dry Run of the Northfork Roanoke River, and Wilson Creek of the Northfork Roanoke River. These watersheds are the source of water for several streams located in Town: Toms Creek, Stroubles Creek, Slate Branch, Cedar Run, Wilson Creek, and Dry Run. These stream systems recharge the region's aquifer through sinkholes and other pervious areas and discharge at springs and creek beds. Several natural watershed features, such as wetlands, ephemeral stream channels, and water impoundments, are located throughout the Town.



*Stroubles Creek*

Whether as groundwater or surface water, these natural water quality assets are protected through the Virginia Water Protection Permit Program that is administered jointly by the Virginia Department of Environmental Quality (DEQ) and the U.S. Army Corps of Engineers (COE). Problems that can result from poor protection of watershed assets include excessive stormwater runoff and flooding, increased non-point source pollution, habitat destruction, and impairment of stream water quality.

The Town of Blacksburg owns and operates a Municipal Separate Storm Sewer System (MS4), which releases stormwater to our local creeks and waterways. Therefore, the Town must obtain a National Pollutant Discharge Elimination System (NPDES) permit and maintain a stormwater management program. Adherence to the permit conditions and the plan is regulated by the Virginia Department of Conservation and Recreation (DCR). Recent additions to the NPDES permit require that the Town actively work towards implementation of programs, evaluations and best management practices to reduce the designated pollutant contribution to a creek's impairment.

Water quality is an issue in several watersheds. Once determined to be impaired, the watershed is scheduled for a Total Maximum Daily Load (TMDL) study. TMDL studies have already been completed for Stroubles Creek, Wilson Creek and the Upper Roanoke watersheds. As of 2012, Toms Creek has also been designated as impaired by the DEQ because of violations to the state's water quality standards. A study is now scheduled to be completed for this watershed. In addition to the TMDL study, the watershed stakeholders must attempt to restore water quality by developing and implementing a strategy that will limit pollutants discharged to impaired creeks. The respective TMDLs and the Town's MS4 together identify major strategies for improvement of stream quality, including measures for stormwater control and education of citizens, contractors and engineers. Additional information on the TMDLs can be found by contacting the Town's Engineering Department or by going to the Town's website.



The MS4 Program Plan was updated in January 2010 and states that the Town is accountable for specific pollutant reductions through the assignment of Waste Load Allocations (WLAs). The Town currently has three stormwater-related WLAs associated with TMDLs. The WLAs are as follows: 211 tons/year sediment to Stroubles Creek, 102 tons/year sediment to Upper Roanoke River watershed, and 3.15E+09 cfu/year bacteria (E coli) to Wilson Creek.

In light of the resources required to address the TMDLs, it is important for the Town to protect the water quality of the remaining streams. Non-point source pollution from agriculture, urbanization and development is the main threat to water quality. The Town's Creek Valley Overlay District attempts to protect the riparian corridors that are susceptible to soil erosion and runoff in Toms Creek and sections of Stroubles Creek and Slate Branch located to the west of the 460 bypass. The Town's Flood Hazard Overlay District discussed below also protects riparian corridors by limiting development activities in areas of the Town that lie in drainage areas of 100 acres or more. The Town is also looking at other approaches to manage watershed assets, including the recommendations of the 2011 Stormwater Management Task Force, which are further detailed in the *Utilities Chapter*.

### **Flooding Hazards**

The Town experiences two types of flooding hazards: flooding along natural floodplains and flooding during severe storm events.

### **Floodplains**

The first type of flooding occurs in natural floodplains running along Toms Creek, Stroubles Creek, and Cedar Run. To mitigate flooding in these areas, the Town complies with the FEMA National Flood Insurance Program by restricting land use in this zone.

The Town has adopted a Creek Valley Overlay District, which includes the entire 100-year flood plain as well as slopes greater than 25% within the floodplain or land within 50 feet of the stream, whichever the greater distance. One-hundred-year floodplains are also protected in the Flood Hazard Overlay area in the remainder of Town. The Creek Valley Overlay and Flood Hazard Overlay districts protect surface water and riparian resources in the Toms Creek Basin watershed and some other areas of Town, though they do not protect all waterways at this time.

The Town's current floodplain policy is to retain floodplains in their natural state, to mitigate flooding, to protect water quality, and to provide for open space and wetland habitats. In addition, the floodplains and stream valleys form the spine of the Town's proposed greenway system, discussed further in the Greenways section of the *Transportation Chapter*. In the more urban areas of Town, site design for new development and redevelopment does not always optimize the protection of the watersheds and riparian buffer areas. Where the natural floodplain no longer exists and reestablishing it would be detrimental to the Town, the current floodplain policy is to avoid restricting the floodway so as to avoid increasing flood levels and to require flood proofing of all spaces below flood level. This is the case in the historic Downtown. While not subject to other Town regulations, Virginia Tech must adhere to the Town's Floodplain Ordinance.

### **Stormwater**

The second type of flooding occurs during severe storm events in urbanized areas, especially in portions of the Stroubles Creek basin in the vicinity of Downtown and the Virginia Tech campus. This flooding is partially attributed to the covering of the floodplain and main creek channel with

building construction, which constrains flow and infiltration. Parts of Stroubles Creek and its tributaries have been covered or piped by development, eliminating their environmental, ecological, and visual amenities, and degrading water quality downstream. Constraining stormwater drainage within this watershed creates a flooding hazard exacerbated by impervious surfaces associated with the continued urban development of the drainage basin. The Town receives little storm runoff from outside the jurisdiction because of its location along the continental divide, making it possible for the Town and Virginia Tech to control runoff impacts within their own storm drainage system and not further impair watersheds downstream.

Older developments in Town met the stormwater management standards at the time of construction, but stormwater management standards have changed significantly over the years. Current stormwater drainage and detention systems constructed in new developments are designed for a statistical storm frequency occurring once every two and ten years. However, larger storms result in yard, street, and sometimes structural flooding. The advantage of a regional management plan for a watershed is that it allows the Town to strategically plan stormwater detention areas to best benefit the watershed on the whole, rather than piece by piece as the land develops. Current watershed mapping and modeling will enable the Town to plan and implement stormwater facilities more efficiently.

### **Stormwater Management Task Force**

As also discussed in the *Utilities Chapter*, in the spring of 2008, Town Council created the Stormwater Management Task Force to study, define, and recommend stormwater management programs and practices to resolve and avoid problems, to improve the water quality in Town streams and waterways, and to ensure the health, safety, and welfare of current and future citizens of Blacksburg. After addressing sediment and erosion control efforts, the Task Force's final recommendations were made to Council in May 2010. The complete report is available on the Town's website and in the Comprehensive Plan objectives and policies detailed in the *Utilities Chapter*.

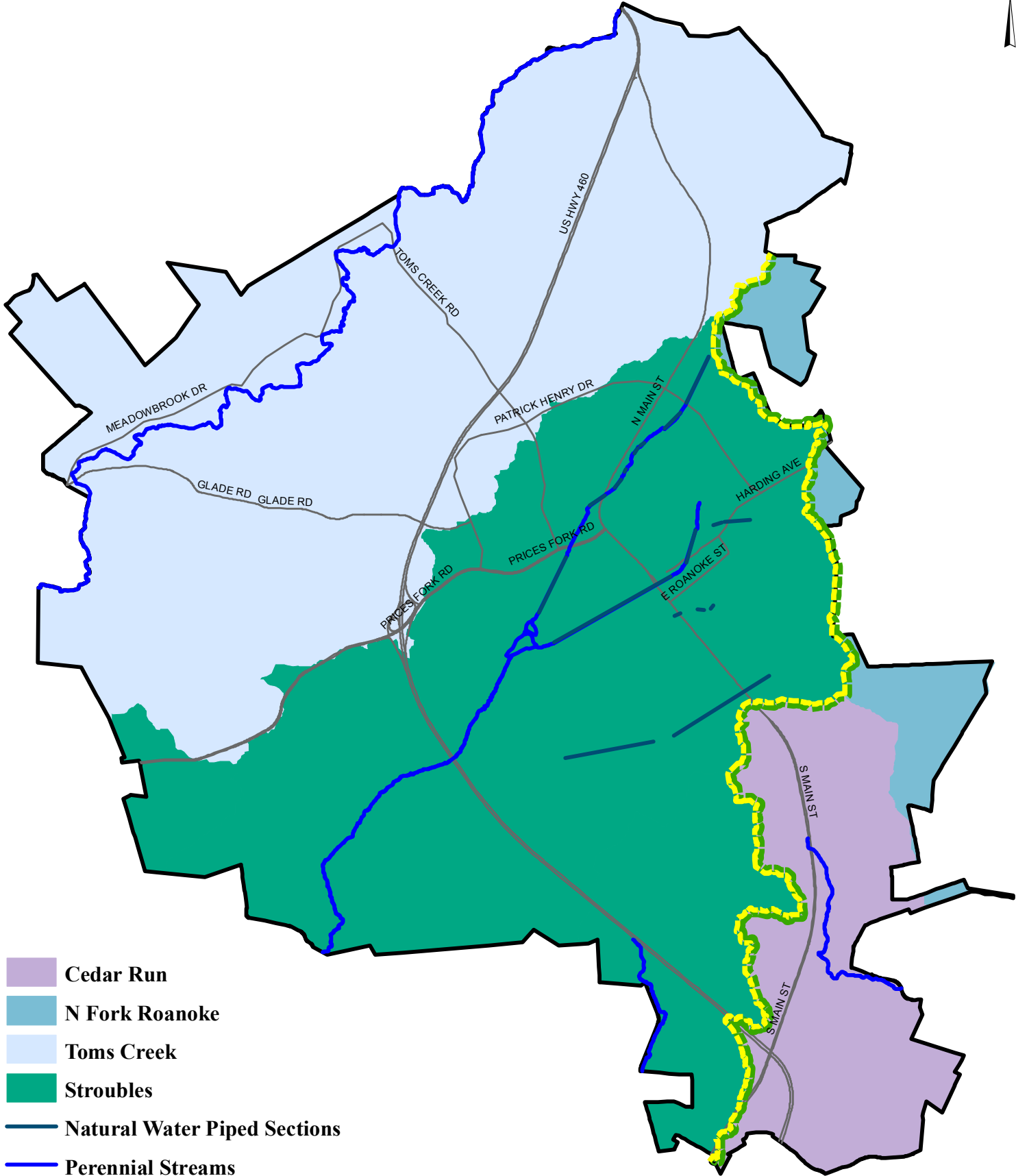
### **Groundwater**

Groundwater is used only minimally as a drinking water source within Town limits, on Old Mill Road and a small section of Bishop Road. The Town does impact regional aquifers, however, through land use activities near recharge areas and karst features.

### **Water Reuse**

Water reuse is becoming an important component of water resources management. While the Town is fortunate to have a reliable water supply, water should not be wasted when it can be reused. Water reuse can include collection of stormwater, reuse of graywater in homes and businesses, and reuse of treated wastewater. Water can be reused for irrigation, vehicle washing, toilet flushing, and industrial purposes. The Town supports water reuse, particularly as a regulatory framework is developed to protect human health and the environment and as public acceptance of this practice grows. Water reuse is consistent with the Town's environmental and sustainability goals.

# Watersheds



- Cedar Run
- N Fork Roanoke
- Toms Creek
- Stroubles
- Natural Water Piped Sections
- Perennial Streams
- Eastern Cont Divide
  - Green - Drains to Roanoke River then to Atlantic Ocean
  - Yellow - Drains to New River then to Gulf of Mexico

0 0.2250.45 0.9 Miles

## AIR QUALITY & ENERGY

Blacksburg's air quality is a major asset to the environment, the health of residents, and the scenic beauty of the Town. Air quality is affected by the type and amount of energy consumption, its production, and resulting air pollutants.

The U.S. EPA establishes air quality standards, which are monitored by the Virginia DEQ. Blacksburg lies in a geographic area that meets or exceeds national ambient air quality standards and is designated as an “air quality attainment area.” It is critical to maintain this designation as localities designated “non-attainment areas” are required to design a plan and take steps to improve air quality.

Air pollutants that do exist include those from the combustion of fossil fuels from stationary and mobile sources, originating not only locally, but also from other areas, including coal-fired boilers, power plants, and motor vehicle emissions. Energy consumption, including Virginia Tech's coal-fired boilers and increased traffic along the Route 460 corridor and in Town, affects Blacksburg's air quality. One way to maintain and enhance Blacksburg's air quality and to conserve resources is to reduce energy use, thus decreasing fuel combustion and air pollutant emissions. Advancement of the community as an energy efficient model will not only lessen energy consumption locally, but will also encourage surrounding communities to conserve, which will lead to a reduction of migratory pollutants.

Transportation accounts for most of the total end use energy consumed by the Town of Blacksburg. The Town can improve its transportation energy efficiency and reduce pollutant emissions with its transit system, a reasonably compact development pattern, and by expanding the greenway, bikeway, and walkway systems.



*Blacksburg Transit Stop*

Energy consumed by buildings, both residential and commercial, accounts for another main portion of energy use in the Town. For power, the Town currently relies on traditional energy sources, such as coal, natural gas and nuclear energy, from a limited number of energy suppliers. To achieve the Town's sustainability goals, alternative energy sources and suppliers are needed and desired.

There are multiple ways to improve the efficiency of both new and existing residential and commercial buildings to provide an opportunity for increased energy efficiency. Virginia's Uniform Statewide Building Code requires new and renovated buildings to be more energy efficient. American Electric Power Company is currently experimenting with demand side management (DSM) programs, designed to reduce customers' energy use through the use of efficiency-improving devices. Virginia Tech Electric Service does not currently utilize DSM. The Town also partners with the Community Alliance for Energy Efficiency (cafe<sup>2</sup>), a non-profit regional energy alliance that focuses on residential energy efficiency. Finally, land use patterns can enhance the usage of natural heating and cooling and reduce residents' transportation energy



*Virginia Tech Power Plant*

needs. Some of the land use patterns and techniques can include planting trees and other landscaping materials, orienting buildings to maximize solar energy efficiency, and reducing trip generation by redeveloping infill sites with a mix of uses or clustering development.

## **ENVIRONMENT**

### **Objectives and Policies**

#### **Natural Resources**

- EN.1. Emphasize collaborative planning and communications between jurisdictions, including the NRVPDC, Virginia Tech, Montgomery and Giles Counties, Christiansburg, and the U.S. Forest Service.
- Provide community access to information about the natural resources and open spaces of Blacksburg
  - Work with NRVPDC and others to identify and preserve the region's "Green Infrastructure" for its environmental and ecosystem functions as well as assets to ecotourism
- EN.2. Work with such programs as the Virginia Natural Heritage program and other data sources to acquire up-to-date information about wildlife habitats, threatened and endangered species, and species of special concern to support environmental protection and to utilize during the development review process.
- EN.3. Conserve, protect and manage networks and corridors of natural vegetation, forested areas, wildlife habitat, and undeveloped steep slopes.
- EN.4. As part of the development review process, ensure that natural resources, including native habitat and threatened and endangered species, are protected.
- EN.5. Promote and educate the public about the value of natural resources.

#### **Land Resources: Open Space, Viewsheds & Greenways**

- EN.6. Protect the region's natural character and scenic views through preservation of open spaces, ridgelines, forests and rural lands.
- EN.7. Work with Montgomery County, the U.S. Forest Service, American Electric Power, public water authorities, telephone companies, and other utilities to protect ridgelines identified as important visual resources from unnecessary clear-cut timbering, utility placement, and other highly visible landscape-marring activities.
- EN.8. As part of the development review process, address the protection of viewsheds. Ensure that subdivision of any land respects adjacent or affected open space features, and plan for connections to open spaces within and outside the subdivision.
- EN.9. Ensure public access to area natural resources, open space, waterways, and views.
- Encourage the provision of greenway linkages from the central greenway along Toms Creek to the rest of the basin and to other areas of Town as properties are developed.

- Develop and maintain financing options, including a land-banking fund, to purchase high priority open spaces (e.g. parks, greenways, dry or wet ponds for stormwater detention, etc.) where dedication through development is unlikely.
- EN.10. Acquire land easements or utilize other conservation measures along the entire length of Toms Creek, Stroubles Creek and Cedar Run to create a large greenway that also serves to enhance the riparian buffer.
- EN.11. Develop a greenway system that protects the biological diversity of plant and animal species, maintains the connections between natural communities, provides wildlife corridors, includes the area's natural and cultural diversity, and preserves linear stretches of open space. Coordinate the greenway system with area stormwater management and maximize opportunities to uncover or daylight channeled and piped urban streams.
- EN.12. Expand environmental functions of greenways such as wildlife corridors and habitats, pervious surfaces and soil preservation, floodplain projection, riparian buffers, stormwater management, and floodplain protection.
- EN.13. Support greenway funding, acquisition, and maintenance.
- Encourage private support and development of greenways
  - Regain a public access or greenway easement as appropriate when the Town disposes of property
  - Support private non-profit entities, such as the New River Land Trust, in acquiring greenways
  - Make use of private, local, state, and federal funding programs
- EN.14. As part of the development review process, the Town will evaluate opportunities and incentives to expand and connect the greenway system to provide a contiguously connected system.
- EN.15. Acquire land and/or scenic trail easements to preserve and reclaim natural floodplains to enhance water quality; protect wildlife habitats and open space; and provide recreational, educational, and alternative transportation opportunities.
- EN.16. Identify and record threatened and endangered species, specimen trees, and other important natural features within greenway corridors, and minimize disturbance during trail design and construction, and/or maintenance.
- EN.17. As part of the development review process, the Town will evaluate a proposed development's impact and proposed mitigation measures for the following:
- Open Space
  - Urban Forest Canopy
  - Viewsheds
  - Mineral Resources
  - Cultural Resources
  - Threatened and Endangered Species
  - Watershed

## **Land Resources: Agriculture**

EN.18. Encourage both private and public efforts to preserve and manage agricultural and open lands through land trusts, open space easements, participation in the Agricultural and Forestal Districts (AFDs) and fee simple acquisition.

EN.19. Increase community engagement and consumer demand for locally grown food.

- Help connect institutional, restaurant, and wholesale opportunities with agricultural producers and food-based entrepreneurs
- Work with regional economic development entities and local governments to give local agriculture a higher priority and more visibility
- Support local food producers by helping to protect agricultural lands and broaden their markets to include such places as the Blacksburg Farmers Market, Community Supported Agriculture programs and suppliers to local restaurants

EN.20. Support regional efforts to advance retention of farmland and economic viability of farming.

## **Geologic Features: Karst & Steep Slopes**

EN.21. Open space is the preferred land use in fragile terrain. As part of the development review process, the Town will:

- Prohibit development on steep slopes exceeding 25%
- Restrict development on karst topography

EN.22. Educate the public about the vulnerability of groundwater in sensitive karst terrain in cooperation with the Virginia Cooperative Extension Service and the Department of Conservation and Recreation's Karst Program.

EN.23. Ensure that development in karst terrain does not impact groundwater or karst environments and ecosystems.

- Protect karst areas and groundwater flows by minimizing surface water, drainage, and structural impacts near sensitive karst areas
- Avoid use of septic systems and discourage use of fertilizers, pesticides, herbicides, and other chemicals in areas of sensitive karst terrain
- Study the area's subsurface relationship between geology and groundwater to aid in developing future protection measures and monitoring techniques
- Identify karst areas that may facilitate contamination of the subsurface

EN.24. Educate the public on radon testing and remediation measures. Ensure all Town properties meet radon testing regulations.

EN.25. Participate in the New River Valley Planning District's Hazard Mitigation Plan.

## **Watershed Resources: Watersheds, Flooding Hazards, Stormwater and Groundwater**

EN.26. Open space is the preferred land use in fragile terrain. As part of the development review process, the Town will:

- Prohibit development in wetlands
- Restrict development in riparian buffer zones
- Restrict development in Creek Valley Overlay

EN.27. Implement the BMPs required in the MS4 Program Plan.

EN.28. Recognize, map, preserve, and restore watershed assets so that surface and groundwater quality and quantity can meet state standards, plus the needs of the human and natural systems in our community. Protect and preserve streams and water quality from further deterioration.

EN.29. Encourage daylighting of streams.

## **Air Quality & Energy**

EN.30. Finalize, adopt and implement the Climate Action Plan that emphasizes lowering energy use, reducing greenhouse gas emissions, and improving air quality.

EN.31. Maintain or improve air quality in the region to be healthy for citizens, wildlife, vegetation, and water resources. Educate citizens, decision-makers, and businesses about air quality impacts and mitigation/removal of such impacts.

EN.32. Limit the negative effects of vehicle traffic on air quality, and set an example for the private sector by using low-emissions, alternatively-fueled vehicles in the Town's municipal fleet and Blacksburg Transit and by encouraging fuel-efficient operation practices and incentives.

EN.33. Support local employers and citizens in establishing and reaching vehicle travel reduction goals to reduce air pollution.

- Consider telecommuting and flex-time policies
- Consider car-pooling and public transit incentives
- Increase access to services online
- Encourage Virginia Tech to limit and reduce vehicular traffic to/from/on-campus

EN.34. Support citizens in establishing and reaching vehicle travel reduction goals to reduce air pollution.

- Request telecommuting and flex time policies from employers
- Car-pool and combine trips
- Walk, bike and use public transit
- Utilize services available online
- Consider vehicle travel costs and impacts when making housing choices

EN.35. Implement appropriate mitigation measures now mandated in non-attainment areas to keep Blacksburg from falling into non-attainment status. Monitor air quality through periodic testing.



EN.36. Limit the negative effects of air pollution from local power producers.

- Work with Virginia Tech to identify less polluting alternatives to the operation of the in-Town, coal-fired boilers for power production
- Encourage Virginia Tech Electric Service (VTES) and American Electric Power (AEP) to implement Demand Side Management programs in Blacksburg
- Encourage VTES and AEP to facilitate citizen and local business participation in power generation through small scale wind and solar facilities
- Encourage AEP to purchase or develop wind, solar, and hydro generated power as part of the local provision of power.
- Encourage AEP to implement smart grid technology
- Encourage AEP to implement time-of-day electricity pricing

EN.37. Amend the Zoning Ordinance to promote wind and solar power where viable.

EN.38. Establish programs and incentives in partnership with the regional energy alliance, Community Alliance for Energy Efficiency (cafe<sup>2</sup>), to reduce energy use in single-family homes, including the use of renewable energy.

EN.39. Establish programs and incentives to reduce energy use in multi-family housing units.

# **JOBS & HOUSING**

*Creating Opportunities for Everyone*

## **GOAL**

Provide for a strong, diverse community with inclusive housing opportunities, a sound fiscal base and a workforce that is competitive internationally, nationally and regionally to maintain a high quality of life in Blacksburg.

### **Sustainability Goal**

Economic sustainability and social sustainability are two of the three major principles in the Town's sustainability vision. All citizens should have opportunities for jobs and access to housing. The Town is committed to being proactive in developing new economic opportunities that complement the quality of life found in Blacksburg while protecting the environment. The Town strives to be a desirable destination for employers and employees by supporting sound economic development, wise land use decisions, work force development, and housing choices that meet the demands of all ages and income levels.

### **Citizen Involvement**

There are multiple Council-appointed committees addressing economic development and housing needs that involve citizen participation: Friends of the Blacksburg Farmers Market, Blacksburg Housing and Community Development Advisory Board, Blacksburg Museum Committee, Blacksburg Partnership, Downtown Blacksburg, Inc., Downtown Revitalization Committee, Historic or Design Review Board, Montgomery-Blacksburg-Christiansburg Development Corporation, Montgomery County Chamber of Commerce, Montgomery County Council on Human Relations, Montgomery Regional Economic Development Commission, New River Valley Agency on Aging, New River Valley Development Corporation, Sixteen Squares, and the Virginia Tech Business Technology Center Advisory Board. Citizens are also encouraged to attend Planning Commission and Town Council public hearings when economic development projects and housing are being discussed. Citizens are encouraged to participate in the Blacksburg Citizens Institute to learn more about Town operations in general.

## **OVERVIEW**

Creating jobs is one goal of economic development, but economic development includes much more. In order to be successful in economic development, a multi-faceted approach by multiple organizations is required. This approach should plan for and create an environment that welcomes and supports businesses, research, and industries that create local job opportunities. Successful economic development includes a diversified housing market for employees at various socioeconomic levels and telecommunications to connect Blacksburg globally.

The chapter begins with a summary of the **Economic Development** components in Town, followed by the Town's **Economic Development Partners** that promote the Town. Then the Town's **Economic Development Master Plan** is reviewed. Discussed next is **Historic Preservation and Broadband Technology**, two important factors contributing to the economic vitality and character of the Town. The chapter closes with a discussion of **Housing** needs and resources within the Town.

## **ECONOMIC DEVELOPMENT**

As a university town in the New River Valley, Blacksburg's economy has been relatively stable and less susceptible to economic downturns due to the presence of Virginia Tech. The proximity of Virginia Tech provides opportunities for research and development businesses, as well as visitors to conferences and athletic and art events. The Town serves a diverse customer base ranging from undergraduate and graduate students, to Virginia Tech Football Game Day visitors, to permanent residents, to employees commuting to Blacksburg.

The Town of Blacksburg has competitive tax and utility rates, plus a low unemployment rate compared to other jurisdictions in the New River Valley. Over the past decade, an already strong employment base in the government and service sectors has grown, providing additional employment opportunities as the manufacturing sector has declined nationwide, including in Montgomery County.

### **Industrial**

One of Blacksburg's primary areas for industry, the Blacksburg Industrial Park, provides quality jobs and access to the interstate for light industrial and manufacturing corporations. As of 2012, there are approximately 75 acres available for development in Blacksburg's industrially zoned land, with limited opportunities elsewhere in Town for industrial development. Based on historical absorption patterns, the Town may have less than a 15-20 year supply of privately owned land capable of supporting industrial development in the Town. However, the nature of manufacturing has changed and this land bank supply may be adequate. Some form of manufacturing will always happen in Town, but the manufacturing industries are often supporting larger manufacturing industries in the New River Valley, such as the Volvo Plant in Dublin or complementing Research and Development businesses in the Corporate Research Center.

### **Research and Development**

Research and Development industries are an increasing component of the Town's economic base. The primary location has been at the Virginia Tech Corporate Research Center (CRC) adjacent to the Virginia Tech Campus. Created in July 1985, its first building was completed in 1988. As of 2012, the research park houses over 140 high-tech companies and research centers that employ over 2,200 people in 27 buildings totaling 956,000 square feet on 120 acres of land. Phase II total build-out is planned to be an additional 18 buildings totaling 870,000 square feet housing 3,000 employees over the next decade. The CRC is a for-profit, wholly-owned, private subsidiary of the Virginia Tech Foundation, and is, therefore, not a state entity and must meet Town Code requirements.

A future location for research and development is the Old Blacksburg Middle School site located in Downtown Blacksburg. The site is designated as a mixed use development area and urban development area. Once constructed in accordance with the approved master plan, the site will become a key anchor contributing to the vibrancy of Downtown Blacksburg. Research and Development businesses may wish to locate Downtown to take advantage of a more urban environment than the campus setting environment of the CRC.

## **Retail**

Blacksburg has one of the highest concentrations of high-income households in the region. Blacksburg also has a “captive” commercial audience in the university students. This population has disposable income that matches the local offerings of many specialty retail shops. Although there is a mix of retailers in Downtown, there is a perception that Downtown is mostly oriented towards university students. The Town is committed to a healthy, active Downtown area that equally serves an increasing permanent resident population, students, and visitors. The Town of Blacksburg is also committed to supporting existing office, commercial, and retail establishments located primarily along North and South Main Street, plus Prices Fork Road and University City Boulevard, which all have high visibility and easy vehicular access.

Blacksburg is part of the Christiansburg/Blacksburg retail market/trade. As regional shopping centers have located in Christiansburg over the past decade, Blacksburg has sought to find its own specialty, niche-marketing approach. While seeking to diversify the Town’s economic base, the Town is committed to supporting the specialty retail stores in Downtown, many of which are independently owned and operated. Providing a wide variety of retail opportunities is part of a sustainable economy. The Blacksburg Farmers Market, located in Market Square Park, complements Downtown retail while furthering the Town’s sustainability efforts. The Farmers Market offers an outlet for locally-grown agricultural products, and it serves as a site for a growing number of special events throughout the year and supports the Town’s commitment to sustainability.

Blacksburg’s Downtown extends from the roundabout at Prices Fork Road and Main Street to the Old Blacksburg Middle School Site. To reinforce the Downtown identity, there have been concentrated streetscape improvements to connect and expand destinations along Main Street, Draper Road, Church Street, Roanoke Street and College Avenue Promenade. These improvements are based upon the Downtown Master plan detailed later in this chapter. Easy access to reach Downtown and a known parking plan are key to attracting people downtown. In addition to diverse retail stores and restaurants, special events and programming will supplement the vibrancy of Downtown. Developing the Old Blacksburg Middle School site is a key element to increasing the vitality of Downtown.

There are several challenges facing Downtown businesses. Several of the buildings Downtown are original buildings that have been renovated over the years but are nearing the end of their life cycle. While some buildings can be renovated, others will encounter problems with building code. Increasingly, young professional residents are seeking downtown residences and need a diversity of services. Restaurants and retail stores not geared exclusively towards the undergraduate student population are an unfulfilled market demand. As this demand is met, it is critical to maintain street level activity by avoiding the conversion of all available space to office or residential units. There needs to be a balance of uses to promote a vibrant Downtown.

The Town is cognizant that the general public’s perception of the health and vitality of Blacksburg’s overall economy is based upon the public’s perception of vacant stores Downtown and underutilized commercial properties, especially on Main Street. To begin addressing development concerns about South Main Street, which serves as a primary entrance corridor to Downtown, the South Main Task Force was formed to generate solutions.

## **Tourism**

Blacksburg has a beautiful natural setting to attract new residents and tourists as well as well-established events and festivals, making it an attractive destination within the New River Valley region and the Roanoke Valley area. Blacksburg has visitor weekends associated with university special and athletic events, which draw people to the Town. The Town aims to continue capitalizing upon the positive economic development and tourism implications of having Atlantic Coast Conference (ACC) university academic and athletic programs in the area. Blacksburg is an authentic university town, a place for nostalgia for thousands of alumni. The Town also has the potential to become a base camp for outdoor enthusiasts who want to take advantage of the great natural resources of the region such as the Blue Ridge Parkway, the New River and the Appalachian Trail. Blacksburg can be the hub of this visitor experience.

## **Arts**

One of the emerging economic drivers within the Town is a growing arts and cultural presence. At the edge of campus abutting Main Street is the Virginia Tech Center for the Performing Arts. The Community Arts Information Office (CAIO) is located on the College Avenue Promenade. St. Luke and Odd Fellows Hall, and the Blacksburg Museum, located in the renovated Black House, promote the cultural history of the Town. Under the auspices of the Blacksburg Partnership, an Arts Collaborative has been formed to promote the arts in Town. Also active is the Blacksburg Regional Art Association comprised of local artists, many of whom participate in the Round the Mountain Artisan Trail. Downtown Blacksburg, Inc. is increasingly sponsoring more special events that highlight the arts in Downtown Blacksburg.

Other ways the Town wishes to continue pursuing economic development strategies are by incorporating Blacksburg Transit vehicles into the Town's Art Initiative, by providing creative branding and marketing opportunities, as well as public transportation to events, and by working on wayfinding signs. Existing signage and other identifiers for visitors are not evident to those unfamiliar with the area.

## **ECONOMIC DEVELOPMENT PARTNERS**

There are a number of different entities that support economic development in the Town. Each has a different mission and a specific area served. All have the overarching goal of supporting and growing the local economy. The mission statements of the various economic development entities are detailed below, starting first with the entities that have a broader regional focus and narrowing to those with a specialized focus.

### **Montgomery County Department of Economic Development**

The Montgomery County Virginia Department of Economic Development (MCDED) is a successful one-stop resource and single point of contact for companies looking for help with their relocation or business expansion plans in Montgomery County-Blacksburg-Christiansburg, Virginia. As part of its mission to ensure the success and growth of the local economy, the MCDED is committed to helping national businesses find a home in the community while also providing services and support to those companies already here. MCDED can provide businesses with vital business tools such as Montgomery County demographics, financing, site selection, and redevelopment services. The MCDED can also act as an intermediary between public/private-sector partners to help business thrive in Montgomery County-Blacksburg-Christiansburg and beyond. [www.yesmontgomeryva.org](http://www.yesmontgomeryva.org)

### **Montgomery County Chamber of Commerce**

The Montgomery County Chamber of Commerce (MCCC) serves Blacksburg, Christiansburg, and Montgomery County. The MCCC was formed in March 2003 when the Blacksburg Regional Chamber of Commerce and the Christiansburg-Montgomery County Chamber of Commerce merged. The Mission of the MCCC is to promote and develop a positive environment for the operation and growth of business in Montgomery County and the New River Valley. Qualified small businesses in Virginia can have a dual membership in both the MCCC and the Virginia Chamber of Commerce to promote local, regional and statewide connections. <http://montgomerycc.org/>

### **The Blacksburg Partnership**

The Blacksburg Partnership is a non-profit, independent economic development organization formed by the Town, business and university communities. The purpose is to bolster the vitality of Blacksburg through projects that attract visitors and retail prospects. Partnership projects include development of property, the revitalization of retail districts, special events and the creation of marketing programs. The Partnership seeks to give action and voice to many recommendations in the Town's master plan. The Partnership focuses on Downtown revitalization, business corridor improvements, and retail and urban economic development. The Partnership will work to revitalize and optimize underused existing commercial properties within Town limits in order to preserve green space and facilitate quality development.

[www.blacksburgpartnership.org](http://www.blacksburgpartnership.org)

### **Downtown Blacksburg, Inc.**

Downtown Blacksburg, Inc. (DBI) welcomes individual citizens, property owners, corporations, and others to be a part of this dynamic group and to become involved in the spirited activities that make Downtown Blacksburg unique. DBI is the primary organization that coordinates downtown programming, events and festivals such as Steppin' Out, Summer Solstice, Winter Lights and many other events throughout the year. DBI has a downtown presence located in the

Center for the Arts Information Office, which is on College Avenue Promenade. [www.downtownblacksburg.com](http://www.downtownblacksburg.com)

### **The Virginia Tech Corporate Research Center**

The Virginia Tech Corporate Research Center (CRC) advances the research mission of Virginia Tech by helping to create relationships between companies at the CRC and Virginia Tech. In 2010, the Corporate Research Center was honored as the Outstanding Research Park by the Association of University Research Parks. The CRC advances the technology transfer mission of Virginia Tech with an incubator program, [VT KnowledgeWorks](http://VT KnowledgeWorks), which helps to create companies. [www.vtcrc.com](http://www.vtcrc.com)

### **Blacksburg Farmers Market**

The Blacksburg Farmers Market is located at the intersection of Draper Road and Roanoke Street in Downtown. Friends of the Farmers Market is a voluntary group of citizens who provide support to the Blacksburg Farmers Market and local community through development, educational programs about benefits of locally grown food and sustainable agriculture, as well as special events that enhance its role as a community gathering place within the region. The Blacksburg Farmers Market helps create a demand for locally grown produce and products that supports the Town's sustainability commitment. [www.blacksburgfarmersmarket.com](http://www.blacksburgfarmersmarket.com)

### **Virginia Tech Montgomery Executive Airport**

Since 1913, the Virginia Tech Montgomery Executive Airport has provided private and corporate aviation services that support the University and Town's economic development strategies. The general aviation airport provides convenience to local business executives and developers who otherwise would have to fly to Roanoke and then drive to Blacksburg. The airport also supports tourism in Town with convenient access for game day fans. The airport is further discussed in the *Transportation Chapter*. [www.vtmea.com](http://www.vtmea.com)

## BLACKSBURG ECONOMIC DEVELOPMENT PLANS

There are a limited number of areas within Town that are currently undeveloped and zoned for economic development opportunities. In order to develop those opportunities, the Town of Blacksburg completed the Economic Development Strategic Plan and the Downtown Master Plan in 2001. The implementation of the two plans has helped develop a diverse economic base in Blacksburg by utilizing the Town's assets, natural environmental amenities and the fact that it is the home of Virginia Tech. The plans contain recommendations in the areas of downtown revitalization, business development and assistance, industrial development, housing, neighborhood enhancement, and quality of life. Recommendations have led to accomplishments such as:

- The creation of the Blacksburg Partnership
- The evolution of Downtown Blacksburg, Inc.
- The construction of Market Square Park
- The construction of the College Avenue Promenade
- The location of the Virginia Tech Center for Performing Arts on Main Street
- Numerous Downtown streetscape improvements, including brick sidewalks.

On July 9, 2013, Town Council accepted the 2013 Economic Development Strategy Update providing a unified plan for the entire Town. This plan capitalizes on the success of the past decade while planning for the next phase of sustainable economic development growth in Blacksburg that efficiently maximizes telecommunication innovations. As the 2013 update plan is implemented, these strategies will also aid in the implementation of the Jobs and Housing Objectives and Policies found at the end of this chapter. Additionally, the Blacksburg Economic Fact Sheet, located in the Blacksburg Administrative Manual, provides a general economic profile of the Town.



## **OTHER FACETS OF ECONOMIC DEVELOPMENT**

In addition to the economic development plans and promoters, there are three other key facets to economic development in Blacksburg. Workforce development, telecommunications infrastructure and historic preservation all contribute to the economic development while also contributing to the quality of life in Blacksburg.

### **Workforce Development**

Population trends for the past twenty years indicate that Montgomery County, including Blacksburg, has been growing faster than the rest of the New River Valley. According to the Virginia Employment Commission, this trend should continue, resulting in steady demand for new housing development, employment, labor, and commercial/industrial development. Employment trends indicate this expansion will most likely be in the service, retail, trade, and government sectors in addition to high-tech industrial employment opportunities. There will be increased demand for workers with solid education and skills. Virginia Tech, Radford University, and New River Community College provide opportunities for education and workforce development. New strategies for workforce development are an expected outcome of the NRVPCD Livability Initiative and should be incorporated as appropriate into the Town's comprehensive plan. As a region, the New River Valley should cultivate both skilled trades and higher education.

### **Telecommunications Infrastructure**

The nature of employment is constantly changing due to new technological innovations. The one constant factor amongst these dynamic innovations is the increasing telecommunications requirements for businesses to reach customers and customers to reach businesses. To be economically competitive and to satisfy local demand for converged services, telecommunication infrastructure, including fiber optics lines, needs to be available to homes and businesses.

The Town also needs to coordinate with Virginia Tech on telecommunication infrastructure development and the rollout of such technology in larger metropolitan areas. Due to Blacksburg's Tier III status (small market size), large incumbent telecommunications companies have traditionally been slower to provide new infrastructure and services here as opposed to Northern Virginia areas that promise higher returns per dollar invested. To date, no commercial announcements, no plans, no requests to the Town, and no projects have begun with developers related to Fiber to the Premises (FTTP) in Blacksburg.

In 2010, Town Council established the goal of providing world-class community telecommunications infrastructure to Blacksburg for the 21st century and beyond. The Town acknowledges that telecommunications infrastructure is a critical utility for quality of life, just as roads, water, sewer, and electricity are. Every home, business, non-profit organization, government, and place of education should have the opportunity to connect affordably, easily, and securely to a locally managed data network. The Town intends to empower citizens and local businesses to be network economy producers, not just consumers of network information and data services. The Town realizes that doing so requires ubiquitous access to gigabit (or higher) broadband infrastructure to support these needed services and capabilities. The Town's goals are to:

1. Provide the infrastructure to enable every Blacksburg home, business, and public or private institution the opportunity to access affordable high speed broadband connections to the Internet, and other networks.
2. Demonstrate, support, and build a non-discriminatory, open-access infrastructure that should, to the maximum feasible extent, be open to all users, service providers, content providers, and application providers and be usable via all standard commercial devices.
3. Facilitate a local broadband marketplace that is as competitive as reasonably possible.
4. Provide stakeholders with the broadband capacity and affordability, plus the local, regional, and national connectivity they need to compete successfully in the global marketplace.

The Town envisions an operational network by 2015 with commitments from community and regional stakeholders with a shared common vision to make gigabit bandwidth available to all citizens of Blacksburg. The increased bandwidth will support telecommuting from home to work as well as make government meetings more accessible to the general public. Both of these opportunities support the Town's sustainability commitment to the economy, the environment and society.

To achieve the goals detailed above, Town Council appointed a Broadband Task Force in May 2011. <http://broadband2015.org/> The Task Force will explore the possibilities of expanding high speed Internet and data service delivery to the citizens and stakeholders of Blacksburg in the following four broad categories: Governance, Business Plan and Financials, Technology, and Outreach and Education. The Task Force recommendations should be considered in the context of the larger regional review of telecommunications infrastructure needs identified in the NRVPCDC's Livability Initiative.

In addition to telecommunication infrastructure as an economic development, policies are needed to provide guidance for the actual implementation of telecommunications infrastructure similar to how policies are developed for more traditional elements such as water and sewer. Standards, priorities and key connection meet points are detailed in the Utilities Chapter. The Town's fiber network should complement other public or private existing fiber networks located within Town on the Virginia Tech Campus or in the Virginia Tech Corporate Research Center.

## Historic Preservation

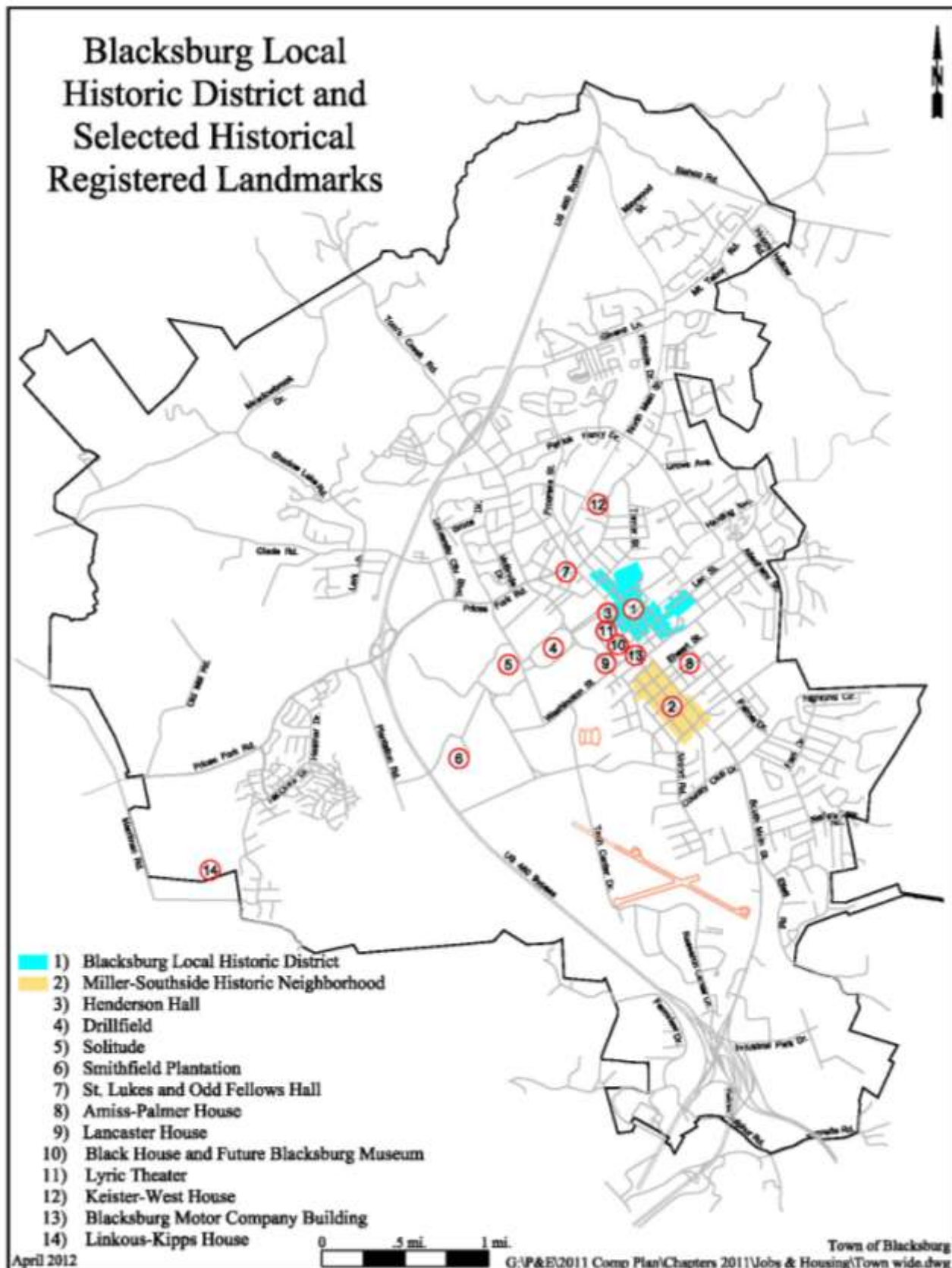
In 1798, William Black donated 38 acres of his land to establish the Town of Blacksburg along one of the main western migration routes. The plan arranged the Town in a four-by-four grid, creating sixteen blocks. Community buildings were placed strategically throughout the grid. This layout became known as the “Sixteen Squares” and is the foundation on which Blacksburg grows. In 1871, the Town became an incorporated part of Montgomery County.



The Town's early beginnings are preserved in the historic buildings of Downtown. The Miller-Southside Neighborhood Historic District and the Blacksburg Historic Overlay District include several nationally registered historic buildings and landmarks. The Blacksburg Historic Overlay District was locally established in 1999 and subsequently amended in 2011. Along with the district, the Historic or Design Review Board and Blacksburg Historic Design Guidelines were also created in 1999. The District protects historic structures, contributes to the architectural integrity of the area, and seeks to educate citizens on proper preservation techniques. Additional information can be found in the following map and at [www.blacksburg.gov](http://www.blacksburg.gov).

Many historic structures and sites are in relatively good condition throughout Blacksburg. However, some structures are threatened by lack of owner maintenance and pressure for redevelopment. State and County policies, procedures, and funding all impact the Town and Virginia Tech's ability to conserve and protect many of these historic structures. The Local Tax Incentive Program provides relief from the Town's real estate tax and encouragement for maintenance and improvements to historic structures. To help reach the Town's goal to conserve and protect significant publicly and privately owned historic structures, landmarks, and properties, the Town of Blacksburg has set an example by successfully renovating the Blacksburg Motor Company Building into office space and the St. Luke and Odd Fellows Hall into a public meeting space with educational information about the historic New Town community. Both of these buildings are on the Virginia Landmarks Register and the National Register of Historic Places.

The Town is also committed to the renovation of the Alexander Black House into the Blacksburg Museum to promote the history of the Town. The Blacksburg Museum and Cultural Foundation is charged with fundraising for this project. A subcommittee of the Foundation, the Sixteen Squares Committee, assisted with a study, *The 16 Squares: the Heart of Blacksburg*, which was endorsed by Town Council in 2008. This study promotes the history and importance of the Sixteen Squares via specific objectives to identify, educate, and preserve the Sixteen Squares. Preserving and promoting the history of Blacksburg contributes to the Town's cultural identity and supports economic vitality in the Town.



# HOUSING

## **The Changing Housing Market**

Blacksburg's housing market is dominated by multi-family housing and converted single-family rental houses for undergraduate students. The remaining market for single-family houses is oriented toward higher-end, expensive housing, leaving few options for affordable starter homes. On average, real estate in Blacksburg is often priced higher than elsewhere in the New River Valley, largely due to demand to be located close to Virginia Tech and the Corporate Research Center. Many groups, such as young professionals, young families, married students, and graduate/professional students are forced to find housing in surrounding localities and commute into Blacksburg. Additionally, the market is often challenging for retirees who wish to downsize and to continue living in Blacksburg. Housing and Neighborhood Services has been addressing the issue of affordable workforce housing in Blacksburg, but there are still opportunities to increase the availability of affordable housing for these population segments and the other demographics discussed earlier in this chapter. Although Blacksburg has high development standards to ensure the quality of development, the affordable housing market is not transitioning rapidly enough to meet changing dynamics of the Town's economic development and growing population.

## **Housing Market Challenges**

Enrollment at Virginia Tech has increased, but the availability of on-campus housing for undergraduate students has remained fairly constant, with approximately 9,000 students housed on-campus. The result is an influx of students inundating the local housing market, sometimes adversely impacting traditional owner-occupied neighborhoods, particularly in lower-income areas, which have housed the service sector workforce of the community. Lifestyle conflicts between students and non-students, particularly in neighborhoods immediately surrounding University areas, can create tension. Student demand for off-campus housing also has inflated the cost of available rental property and land values, eliminating much of the affordable housing stock in Town. Other Town concerns regarding off-campus student housing and rental properties include poor property maintenance, absentee landlords and over-occupancy in dwellings. These challenges plague some areas, contributing to deteriorating housing and property conditions, especially noticeable in the Blacksburg Historic District. Demand for off-campus housing also increases demands for and stresses on parking, streets, and utilities.

There are homes and condos in the Town that have been purchased or constructed with the intent to be used as second homes or game day accommodations. These homes are vacant the majority of time and do not contribute to the vibrancy of the neighborhood and economic vitality of the Town. In some neighborhoods in the Downtown Area, there is a mixture of residential buildings ranging from single-family homes, student-oriented duplexes and small apartment buildings. This varying mixture can be challenging for neighborhood identity and stability. When infill opportunities arise, it is important that new development supports the character of the neighborhood. The preservation of Blacksburg's neighborhoods can be threatened by new structures that, while technically meeting legal requirements, are out of character with those neighborhoods. When there is new development, the Town encourages that it be in scale and character with the rest of the neighborhood. In December 2011, the *Town of Blacksburg Residential Infill Development Guidelines* were completed to address this very issue. The Guidelines are discussed in greater detail in the *Future Land Use Chapter*.

## **Housing Market Opportunities**

To be responsive to changing demographics, a greater variety of housing options is needed in Town. There are a number of market segments based on lifestyle, age and/or income for which there is not a sufficient inventory of suitable homes. Meeting the housing needs of these identified populations is discussed below. The ability for the housing market to respond to these and other emerging segments of the population are important components to diversifying the Town's economic base.

### **Graduate/Professional Students, Married Student Housing and Young Families**

Virginia Tech plans to increase its graduate student body and research staff to help reach the University's goal of becoming a top national research institution. Thus, there are increasing numbers of graduate students, international graduate students, professional students, and post-doctorate researchers living and working in Blacksburg. These groups have different housing needs than undergraduate students. They may have spouses working in the community and young children. Additionally, there are no married student housing options currently provided by Virginia Tech on-campus. In 2011, *Bloomberg Businessweek* named Blacksburg as one of the best places in the United States to raise children, but housing options to rent and purchase starter homes must be available to retain young families in Blacksburg. Since the opening of the US 460 Bypass, many young families, married students, and graduate/professional students are choosing to live in Christiansburg and other surrounding localities where they can find affordable housing options. They commute into Blacksburg, which does not support Blacksburg's sustainability commitment to the environment, the economy, or social equity.

### **Young Professionals**

Increasingly, Virginia Tech graduates desire to remain and work in the New River Valley after graduation. Blacksburg also attracts other young professionals. As employment opportunities in the region increase for young professionals, and, in particular, in the Corporate Research Center, the unmet housing market demand for affordable living opportunities in and around Downtown will also increase. Young professionals often desire affordable housing options based upon their starting salaries, such as condos to purchase or apartments to rent that provide quick access by means other than the car to work, as well as convenient access to restaurants and retail. Young professionals have different housing needs than the undergraduate population and often do not wish to live in undergraduate-oriented housing.

### **Affordable Workforce Housing**

Affordable workforce housing is for individuals or families who have low to moderate incomes (LMI). They earn no more than 80% of the area median income adjusted according to household sizes. There is a known shortage of affordable workforce housing in Blacksburg. However, this population is eligible for federal assistance from the US Department of Housing and Urban Development that is administered by the Town's Housing and Neighborhood Services Office. Further information is detailed on the following page.

### **Workforce Housing to Mid-Range**

Finding workforce housing, especially for those making 80-120% of the area median income is difficult. Those needing workforce housing could include a nurse at the hospital, an administrative worker at Virginia Tech, or an assembly worker in a local industrial plant. This group exceeds 80% of the area median income and is not eligible for housing programs provided by the Housing and Neighborhood Services office detailed further in the next section. This



group works in Blacksburg but can only afford to live in Christiansburg and surrounding areas. Their incomes do not allow purchase of the higher end, single-family housing available in Town. This group finds itself competing for the homes in the same price range as those serving the student rental market in Blacksburg. Thus, there is a shortage of affordable single-family or multifamily homes in Town that can serve as workforce housing. This element of the workforce must then commute to Blacksburg, stretching their limited budgets for gas and not supporting the Town's commitment to sustainability.

### **Senior Housing Options**

In 2011, Blacksburg was ranked as a great place to retire according to *US News and World Report*. Blacksburg is a desirable location for active adults, retirees and senior citizens because of the amenities associated with Virginia Tech, the lower cost of living compared to other major metropolitan areas and the mild climate. However, there is a lack of services and housing options for this segment, including affordable housing options, to serve these growing populations. Universal design living accommodations (entrance, kitchen, living room, bedroom and bathroom) located on a single floor are desirable because they accommodate a variety of ages and physical abilities. Smaller single-floor housing options allow senior citizens to "age in place"; otherwise, renovations and accommodations have to be made within existing homes. They also are suitable for people who wish to downsize from a single-family home. Smaller single-floor, universally designed housing options may be grouped together in an age-restricted community or intermingled throughout Town. Either way, these housing options should be located near public transportation and commercial services. Many retirees are especially interested in Downtown living amenities. As the population continues to age, additional nursing home facilities that provide all levels of medical care will be needed in the New River Valley. To serve the baby boom generation demographic, government and non-profit social service programs and medical services will need to be expanded.

### **Housing and Neighborhood Services**

Blacksburg's Housing and Neighborhood Services (HNS) Division provides community planning, information, resources and financial support for LMI individuals, families, and organizations in a fair and equitable manner. LMI persons live in households that earn no more than 80% of the area median income adjusted according to household sizes. In 2003, the Town was awarded its first major Community Development Block Grant (CDBG) for the Roanoke-Lee Street Comprehensive Community Development Project. In 2004, the Town was designated by the U.S. Department of Housing and Urban Development (HUD) as an entitlement community, eligible to receive federal funding on an annual basis for mostly LMI programs and services.

HUD requires every community receiving CDBG funding on an entitlement basis to complete a Consolidated Plan. The current Blacksburg Consolidated Plan, located at [www.blacksburg.gov](http://www.blacksburg.gov), covers the period from 2012-2016. The Consolidated Plan recommends specific goals and objectives to accomplish over five years to bring needs and resources together in a coordinated strategy utilizing federal funding along with housing data related to Blacksburg and the New River Valley. Affordable housing as defined by HUD is housing for which the occupant is paying no more than 30 percent of his or her gross income for housing costs, including utilities.

The Town has experienced significant population growth during the past 30 years, which is primarily due to the presence of Virginia Tech. The neighborhoods within walking distance of campus and in close proximity to Downtown, such as Bennett Hill/Progress and Kabrich

Crescent, have specifically been impacted. These neighborhoods were the original focus areas to affordable housing opportunities before expanding the focus Town-wide. These neighborhood styles and land use issues are discussed further in the *Future Land Use Chapter*.

In addition to encouraging private developments of affordable workforce housing, the Town seeks to provide affordable housing opportunities integrated into neighborhoods throughout the entire community, utilizing a variety of funding sources. In addition to CDBG funding, Housing and Neighborhood Services works regionally to develop affordable housing options. The New River Valley HOME Consortium is composed of local government representatives from Giles, Montgomery, Floyd, and Pulaski Counties and the Towns therein, as well as the City of Radford. These local governments came together in 2007 to form the NRV HOME Consortium to be eligible for Federal HOME funds. HOME funding is provided by HUD. HOME funding can be used to assist low income homeowners with building or purchasing a new home, or with renovating an existing dilapidated home. The funding can also be utilized to build or renovate rental housing. The HOME Consortium is a successful regional partnership leveraging funds that are then distributed on a rotating schedule to increase affordable housing opportunities throughout the New River Valley.

### **Residential Rental Inspection Program**

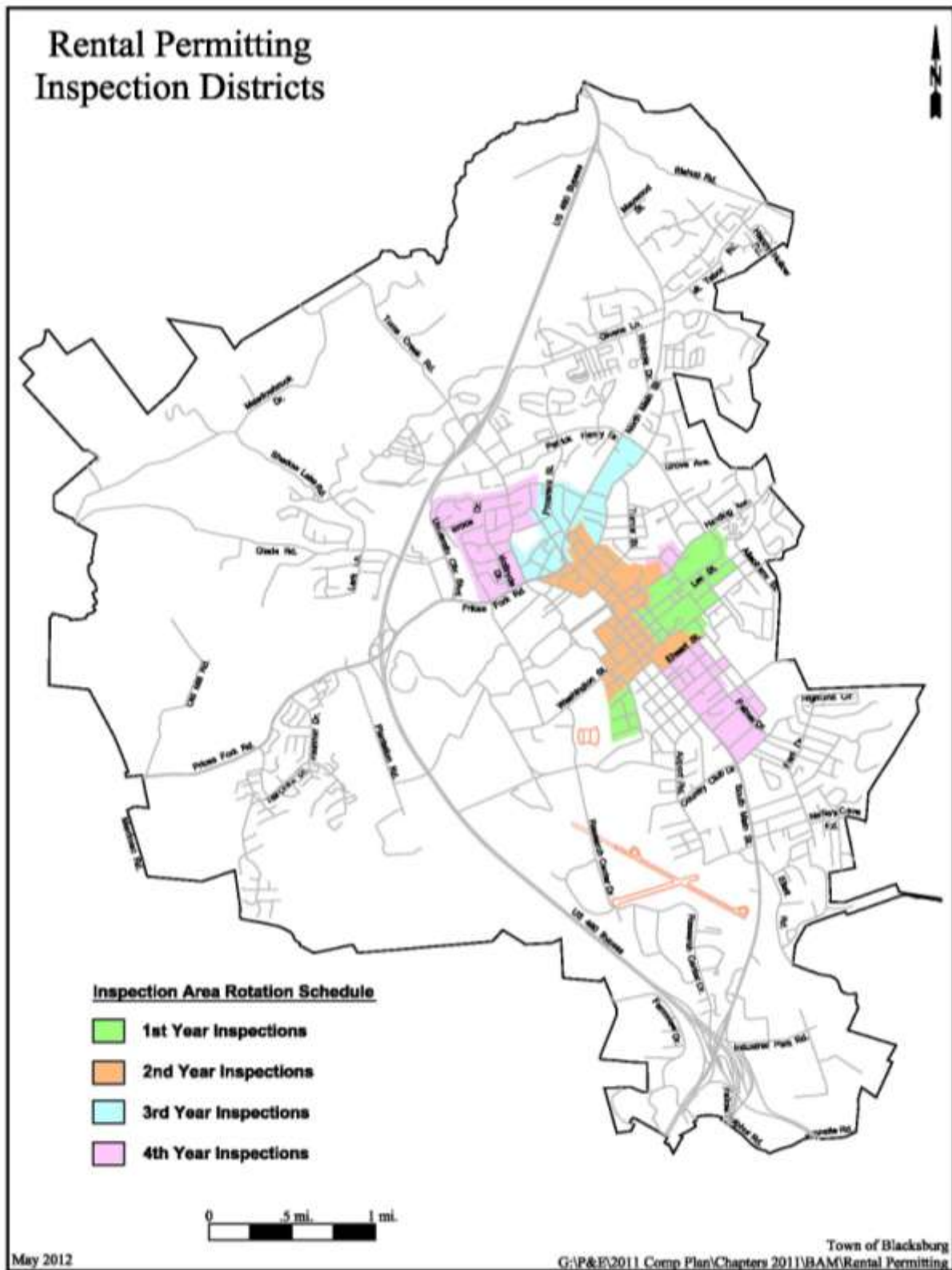
Proper maintenance of a dwelling unit or the property should not depend on whether it is tenant- or owner-occupied. The degradation of one property within a neighborhood can cause a domino effect as adjacent owners and tenants become less inclined to invest their time and money toward the upkeep of their properties.

To maintain safe, decent, and sanitary living conditions for tenants, mostly students, living in older neighborhoods located close to campus, the Town has an established Residential Rental Inspection Program. The objectives of this Program include:

- Protect the public health, safety, and welfare of occupants by improving substandard, unsafe housing
- Enforce the Property Maintenance Code
- Provide for regular inspections of rental properties in the Program
- Improve landlord awareness of occupancy limits set forth in the Town Zoning Ordinance
- Maintain tenant/landlord responsibility to the neighborhood upon conversion of a property to rental use
- Maintain an up-to-date database for contact information on rental properties.

Property that is rented for residential purposes in the Residential Rental Inspection Program areas is inspected by the Town on a rotating, four-year schedule. The rental inspection district areas are depicted on the map on the next page. The Town also responds to requests for inspection for rental units outside of the district. Further details about the Residential Rental Inspection Program are available at [www.blacksburg.gov](http://www.blacksburg.gov) or by contacting the Planning and Building Department.





## Code Enforcement

The Town of Blacksburg is committed to enforcing the Town Code to improve the quality of life within neighborhoods. The primary objectives are to:

- Eliminate code violations that degrade the appearance and quality of life within neighborhoods and affect the public health, safety, or welfare of the occupants
- Address recurring violations in a proactive and timely manner
- Encourage communication between neighbors on individual or mutual concerns as a first approach to problem solving.

The majority of reported issues involve litter and debris, tall grass, inoperable vehicles, housing over-occupancy, incorrectly identified houses, and other nuisances. Code enforcement through Housing and Neighborhood Services focuses on that part of the Town Code regulating tall grass, debris, and inoperable vehicles. These violations are different from Zoning Ordinance violations such as over-occupancy, parking on grass and signage. The Town Code, including the Zoning Ordinance, are regulations enforced Town-wide and are not limited to a particular neighborhood or zoning district. The Town Code can be found at [www.blacksburg.gov](http://www.blacksburg.gov). The Zoning Ordinance is Appendix A of the Town Code.

## Neighborhood Services

The Town seeks to educate residents on code enforcement issues while encouraging citizen involvement in problem solving and making the first contact with their neighbors. Town Code enforcement cannot provide the long-term solution that residents desire without neighbor-to-neighbor communication and involvement. In most cases, violations are resolved more effectively when a neighbor, or neighborhood organization, communicates a concern directly to an individual. Housing and Neighborhood Services provides information and assistance to help resolve neighborhood conflicts. Improving social interaction within neighborhoods, engaging in meaningful dialogues, and encouraging involvement in local government are the main goals. The Town's Housing and Neighborhood Services promotes neighbor-to-neighbor communication through a variety of programs, including the Town-Gown Community Relations Committee and mediation services.



*Glade-Westover Neighborhood*

## **JOBS AND HOUSING**

### **OBJECTIVES AND POLICIES**

#### **Economic Development**

- J&H.1. Recognize and grow economic development as part of a Sustainable Community.
- J&H.2. Support Go Green NRV and other regional sustainable partners to encourage businesses to be sustainable.
- J&H.3. Continue to support local and regional economic development organizations in the marketing of the Town/region and in recruiting and retaining businesses in Blacksburg.
- J&H.4. Implement and monitor implementation of the Town's updated Economic Development Plan. Inform the public and other interested parties about progress in implementation of the plan.
- J&H.5. Expand economic development strategies, content and delivery method to address the changing workforce population.
- J&H.6. Coordinate economic development efforts of the Corporate Research Center, the Arts Initiative and the implementation of the Campus Master Plan.
- J&H.7. Be open to the creation of special service districts or tax increment financing programs as needed to support economic development.
- J&H.8. Welcome new business operators by offering assistance with explaining and facilitating the regulatory review process.
- J&H.9. Use the Virginia Tech/Montgomery Executive Airport as an economic tool to recruit new businesses to the area.
- J&H.10. Develop a Town-wide public art program.
- J&H.11. Maximize the use of Blacksburg Transit in supporting economic development and tourism.
- J&H.12. Expand and market transit locally and regionally in economic development efforts.
- J&H.13. Continue to create task forces and support community interest groups to address economic development issues in specific areas of Town, such as the South Main Street Task Force.
- J&H.14. Conduct corridor area studies for coordinated improvements to South Main Street, North Main Street, and the Montgomery Regional Hospital area.
- J&H.15. Retain and recruit clean businesses/industries that support Blacksburg's sustainability goal.

- J&H.16. Support the build-out of the Blacksburg Industrial Park with industrial and manufacturing uses.
- J&H.17. Encourage the relocation of non-tax-generating uses from prime industrial land to less valuable locations.
- J&H.18. Work with the Montgomery County Department of Economic Development and other regional partners to encourage appropriate siting of industrial businesses.
- J&H.19. Evaluate future funding opportunities and the need of the Community Development Block Grant Façade Program.
- J&H.20. Encourage community broadband build-out and expansion to make Blacksburg a competitive location for companies that need robust technology infrastructure.

### **Downtown**

- J&H.21. Continue Town involvement in and support of the Downtown Revitalization Committee.
- J&H.22. Continue economic incentives in the tourism district.
- J&H.23. Create an arts and cultural district for the Downtown area in which economic incentives will be provided to support the arts and arts-related business.
- J&H.24. Implement and monitor the Town's Downtown Master Plan.
- J&H.25. Support DBI in promoting Downtown businesses and marketing Downtown as a specialty retail destination.
- J&H.26. Support Downtown event planning, and, in particular, coordinate with Virginia Tech, DBI and other entities for programming on the newly-renovated College Avenue Promenade.
- J&H.27. Continue parking education plan and monitoring total public parking availability in the Downtown area.
- J&H.28. Develop a long term strategy for structured parking in the Downtown area. Encourage Virginia Tech to build structured parking on the Donaldson Brown surface parking lot.
- J&H.29. Continue streetscape improvements in Downtown.
  - Finish brick sidewalks and street furniture upgrades in Downtown
  - Plan and construct Progress Street Corridor streetscape improvements
  - Plan and construct Draper Road Corridor streetscape improvements
- J&H.30. Implement Downtown Recycling programs for businesses, residents and pedestrians.
- J&H.31. Support implementation of the Old Blacksburg Middle School Master Plan as an

anchor to the south end of Downtown.

- J&H.32. Keep core government services for citizens in the Downtown, such as municipal government offices, the police department, and the public library.

### **Workforce Development**

- J&H.33. Support Blacksburg's workforce by recruiting and facilitating the availability of needed services, including commercial, medical and other services such as child and adult daycare programs.
- J&H.34. Support community leadership programs, such as the Chamber of Commerce's NRV Leadership program, to cultivate, train, and motivate new leaders and volunteers to assist with non-profits and Town committees' future volunteers.
- J&H.35. Encourage Blacksburg Citizens Institute graduates to volunteer with Town committees and programs.
- J&H.36. Support workforce development as part of the NRV Livability Initiative.
- J&H.37. Market Blacksburg as a place for young professionals to live and work. Survey young professionals currently living in Town as to what jobs and housing opportunities need to be available to attract young professionals.
- J&H.38. Market Blacksburg as a good place to live to high school graduates entering the trade and service industries.

### **Telecommunications**

- J&H.39. Encourage community broadband build-out and expansion to make Blacksburg a competitive location for companies that need robust technology infrastructure.
- J&H.40. Complete the work of the Broadband 2015 Vision Task Force and implement Council-approved recommendations to connect businesses and residences with fiber optic networks and open access infrastructure.
- J&H.41. Work regionally to advance broadband and telecommunications infrastructure in the New River Valley.
- J&H.42. Encourage the completion of the "last mile" of infrastructure to homes, businesses and governments in Blacksburg.
- J&H.43. Establish a clear "dig once" policy to include telecommunication infrastructure during construction of Town projects.

## **Blacksburg Historic District**

- J&H.44. Support and promote the Blacksburg Historic District as both a cultural resource and an economic development tool.
- J&H.45. Educate the public about the value of the Blacksburg Historic District.
- J&H.46. Work with property owners to upgrade and renovate buildings in the Historic District, including adaptive reuse options that support the goals of the Historic District.
- J&H.47. Complete the renovation of the Alexander Black House into the Blacksburg Museum, and maintain all Town-owned buildings in the Historic District.

## **Housing**

- J&H.48. Plan for the housing demands of a changing and diversifying population.
- J&H.49. Continue to provide affordable workforce housing in Blacksburg in accordance with the adopted Consolidated Plan.
- J&H.50. Work with regional partners to promote affordable and sustainable housing in the New River Valley.
- J&H.51. Promote varying types of housing types needed, including:
- Rental or starter homes for purchase by graduate students and young families
  - Young professional housing and services in the Downtown area
  - Workforce Housing for those making 80% to 120% of the area median income
  - Affordable workforce housing options for LMI families making less than 80% of the area median income
  - Housing with universal design features to allow for aging in place
- J&H.52. As the active adult, retiree, and senior citizen population increases, promote varying types of housing needed. For example, provide smaller homes that retirees can downsize to such as townhomes or condos, as well as retirement communities and nursing home facilities.

# PARKS & RECREATION

## *Ensuring Blacksburg's Parks & Recreation Legacy*

### GOAL

Provide parks, public places, and recreational opportunities that give life and vibrancy to our community, successfully merge the natural and the built environments, and highlight environmental stewardship.

### Sustainability Goal

Parks and recreational programs are considered essential sustainable community features in the Town of Blacksburg. These places and programs enhance the social, physical, and psychological well being of citizens by providing them with enjoyable activities and settings in which to spend their leisure time. Parks aid in maintaining the integrity of watersheds and protecting water quality in streams and aquifers. Natural wildlife habitats and open space are also preserved. The economic benefits from preserving these open spaces and offering recreational opportunities include the increased value of surrounding properties and an enhanced quality of life in Blacksburg.

### Citizen Involvement

There are several Council-appointed committees that address Parks & Recreation planning issues and that permit citizen participation: Parks & Recreation Advisory Board and Greenway/Bikeway/Sidewalk Corridor Advisory Committee. Citizens are encouraged to participate in the Blacksburg Citizens Institute to learn more about Town operations in general.

## BLACKSBURG PARKS & RECREATION

Recreational opportunities in Blacksburg are available to citizens of all ages on a year-round basis. The park system consists of more than 500 acres, including 100 acres outside the Town limits. There are many different facilities within the park network: a community park, five neighborhood parks, 20 miles of public and private trails, nine community-wide facilities, and 31 acres of privately-dedicated open space. Activities and facilities available include golf, swimming, tennis, volleyball, picnicking, playgrounds, nature trails, bike trails, athletic fields, dog park and other outdoor opportunities. Indoor activities are centered at the Blacksburg Community Center, built in 1981, and the Aquatic Center, built in 1992.



*Blacksburg Community Center*

The Blacksburg Parks and Recreation Department offers a variety of programs and special holiday events for citizens of all ages: children, teens, adults, senior citizens, and newcomers to the community. The Parks and Recreation Department continues to serve the citizens by constantly providing new and innovative programs as well as high quality facilities and parks. Detailed programming information is available at [www.blacksburg.gov](http://www.blacksburg.gov) and in seasonal Town publications.

## 2008-2028 Parks & Recreation Master Plan

The 2008-2028 Parks & Recreation Master Plan, adopted by Town Council in October 2008, provides a 20-year vision for the Town of Blacksburg's Parks and Recreation facilities and programs. The plan includes assessments and recommendations for all park land, the Community Center, Aquatic Center, Golf Course, a wide range of programs, and future parks, fields, and facility needs for the community. The plan also identifies the top 10 priorities for the Town to focus on over the next 20 years. The Master Plan represents a synthesis of recommendations from previous studies and new research to establish guiding principles regarding quality of life of citizens within a vibrant community that the Town will utilize to implement the plan.

The Parks and Recreation Master Plan will use the existing park classification system to make specific facility and program recommendations for the community and to guide the acquisition and development of all future park facilities. The park classification system, developed by professional park planners, Town recreation staff and citizen input, includes recommended facility standards based on identified Town recreational needs. Specific details of the plan can be found online at [www.blacksburg.gov](http://www.blacksburg.gov).



*Blacksburg Aquatic Center*

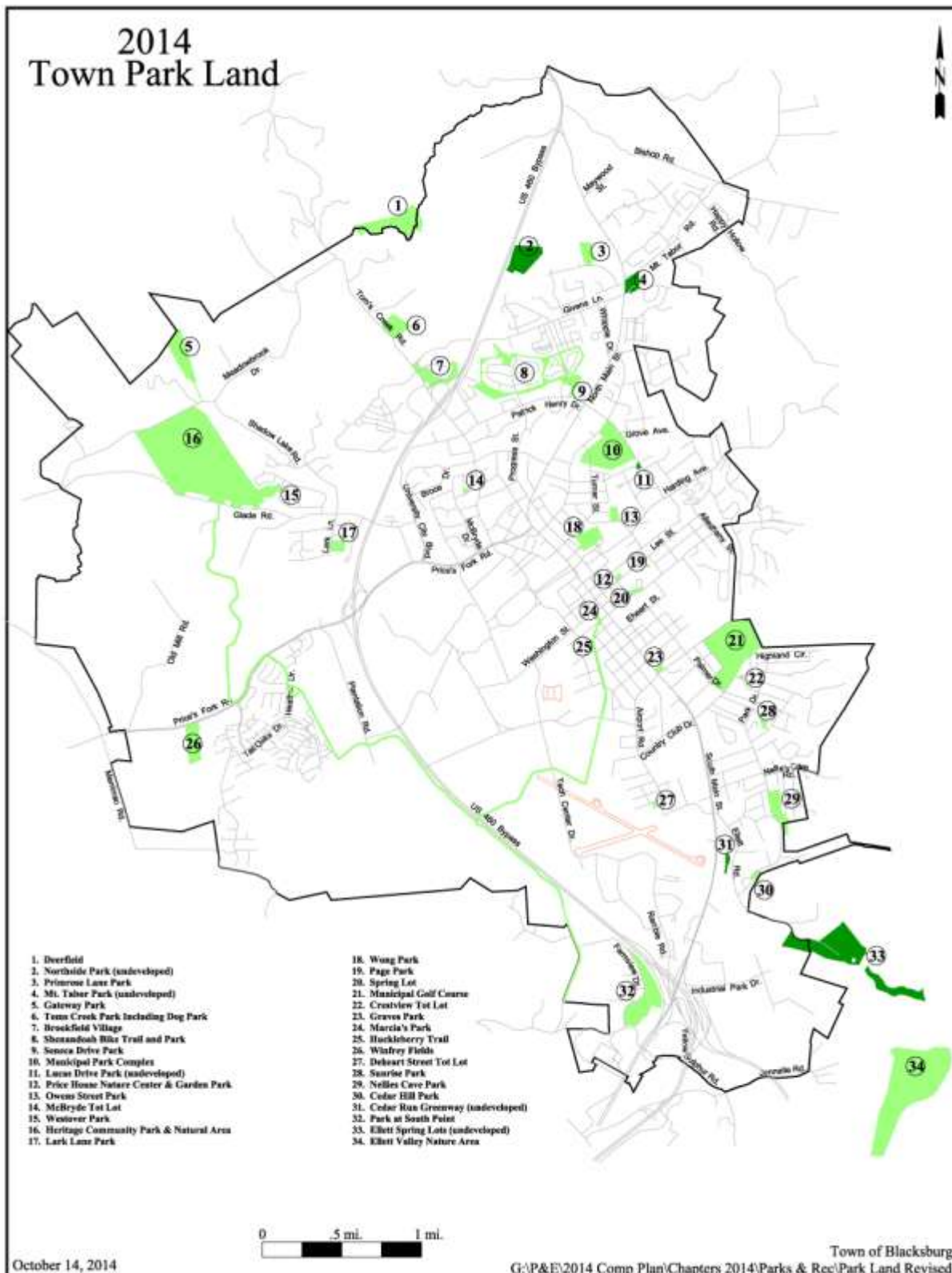
Located on the next page is a map of current Town-owned parks. For further reference, in the *Blacksburg Administrative Manual* are maps illustrating existing regional, district, community and neighborhood park locations and their respective service areas. These maps highlight the areas where future parks are needed in Town.

The limited amount of open space remaining and even more limited public funding restricts the Town's ability to purchase land. The varying topography of parkland further limits potential for acquiring property conducive to active recreation such as athletic fields and associated parking. Even with these limitations, acquiring land for recreational use is a top priority.

While the community has supported the Blacksburg Parks & Recreation Department, there have been increasing demands for additional parks, fields, recreational facilities, and programming for outdoor and year-round indoor activities provided by the Town, or supplemented by recreational opportunities elsewhere in the community. To meet the most pressing demands as of 2011, the Town of Blacksburg conducted a recreational needs assessment. The 2011 assessment recommended an indoor multi-generational recreation center should be constructed. A feasibility study to determine the best size, location, and funding of the recommended indoor recreational center has been completed and is under consideration by Town Council.



# 2014 Town Park Land



## OTHER RECREATIONAL OPPORTUNITIES

### **Paths to the Future**

Complementing Blacksburg Parks & Recreation is the Paths to the Future, which is the Town's master plan showing existing and proposed pedestrian and bicycle routes for greater mobility options within the Town. These linear parks provide a network of off-road, multi-use trails for recreational and commuting opportunities. The comprehensive system is part of the Town's plan for connectivity between schools and parks and provides pedestrian linkages for alternative transportation, environmental, recreational, and educational uses. The Paths to the Future Map is discussed further in the *Transportation Chapter* and *Land Use Chapter*.

### **Virginia Tech**

Many Virginia Tech students are residents of the Town, and they utilize the Blacksburg Parks & Recreation programs and facilities in addition to the recreational facilities on the Virginia Tech campus. An increase in graduate enrollment will have the greatest effect on the Town's recreational programs and facilities, since these students often have families who may use Town facilities and programs. Virginia Tech has numerous recreational facilities that are available only to students, faculty, and staff. These amenities contribute to the high quality of life in the Town but do not directly add to the Town's public recreation system. Virginia Tech's wide range of student athletic competitions provides a multitude of events for sports enthusiasts to view collegiate athletics. These events are not only economic development opportunities for the Town but also contribute to the quality of life in Blacksburg.

### **Surrounding Localities and Other Agencies**

In surrounding jurisdictions, there are a variety of parks and recreation opportunities, which include:

- Montgomery County parks and outdoor pool
- Montgomery County Public Schools athletic fields, gymnasiums, and community space
- Town of Christiansburg parks, recreation center and pools
- U.S. National Forests
- Appalachian Trail
- The New River

Joint-use of facilities with Montgomery County, including schools, parks, and other facilities, has been a success. Kipps Elementary School operates under a contract between the Town and County allowing community use of the facility after school hours. Portions of the facility are programmed for recreational use, including indoor gymnasium space and designated athletic fields and trails. This model should be used for future partnerships of school property between the Town and County.

### **Private Facilities**

A community's private recreational facilities are important for providing additional recreation amenities in the area. Most private facilities are located in multi-family complexes or newer neighborhoods. The Town has required multi-unit residential complexes to provide a specified minimum of open and recreational space for almost two decades. Subdivisions are also required to dedicate at least ten percent of their development area as private recreation space. It is important that these private facilities supplement, not substitute for, public recreation facilities. Additionally, private organizations, such as the YMCA, provide other recreational opportunities that complement Blacksburg recreational program offerings.

## **PARKS & RECREATION**

### **Objectives and Policies**

- PR.1. Ensure Blacksburg's Park and Recreation legacy for future generations by providing a wide variety of high quality parks, recreational services, and special events for residents of all ages. Do so by implementing the Parks and Recreation Master Plan utilizing best management practices to guide the acquisition and development of park facilities and recreational programs.
- PR.2. Preserve, protect, enhance, and restore Blacksburg's natural resources, including its parks. Construct, design, operate and maintain parks, facilities and programs to the greatest and most economical extent possible in an environmentally friendly manner to help protect the dual purpose of the Blacksburg parks. Protect the environment while providing recreational space. (*See also Environment Chapter*)
- PR.3. Create an interconnected regional and local system of trails and walkways. Ensure that recreational facilities and programs are easily accessible by the Blacksburg Transit system, sidewalks, bike lanes, greenways and other pedestrian links. (*See also Transportation Chapter*)
- PR.5. Develop partnerships within the community and region to increase funding sources and sponsorships for recreation facilities, special events, athletic tournaments, and other exhibitions.
- PR.6. Ensure that a well-balanced maintenance program is established and funded for all Town parks, recreational facilities, athletic fields, vehicles, and maintenance equipment, such as signage, lighting and bathrooms.
- PR.7. If the Town disposes of park property, prior to the sale of the property, due consideration shall be given to protecting significant portions of open space on the property with a conservation easement or by other means. If the Town does dispose of park property, recommend using the revenue generated by its sale for either acquisition of land for the Town park system or for the development of an existing park and recreation facility in conformance with the Parks and Recreation Master Plan.

# **PUBLIC SAFETY & COMMUNITY FACILITIES**

*Ensuring a Safe Community & a Town that Works for You*

## **GOAL**

Promote a safe community by providing the highest quality of public safety services and facilities available, with first-class equipment and well-trained personnel who are prepared for a wide variety of emergencies and services and who serve the community in a personable and effective manner. Foster an environment that encourages respect, mutual responsibility, community outreach and cooperation between public safety services and citizens.

### **Sustainability Goal**

Provide public facilities and services that are accessible and responsive to current needs and promote the public health of the community. Protect the environment for future generations by designing new public facilities and renovating existing facilities to meet U.S. Green Building Council rating system standards to provide for efficient and cost-effective operations over the expected life of the facilities. U.S. Green Building Council's rating system, Leadership in Energy and Environmental Design (LEED), provides building owners a framework for implementing green building design, construction, and maintenance.

### **Citizen Involvement**

Citizens can become involved by attending open houses and volunteering with the Blacksburg Volunteer Fire Department and Volunteer Rescue Squad. Citizens are encouraged to participate in the Blacksburg Citizens Institute and Citizens Police Academy to learn more about Town operations.

## **OVERVIEW**

One of the primary concerns of a Town government is the safety of its citizens. The threat of crime, fire, medical emergencies, and natural or man-made disasters calls for emphasis on the facilities and services that provide protection for citizens and their property. Providing suitable, accessible community facilities and services is a principal function of local government and one that affects the quality of life of every citizen. The effectiveness of local government is measured to a great extent by its ability to plan for and finance these facilities adequately.

The Town provides police services for Town residents. The Town and Montgomery County share libraries, fire, and rescue services. The County provides human services, a court system and schools for all County citizens, including Blacksburg residents. Town residents pay both Town and County real estate property taxes, which help fund all of the above amenities and services.

Accordingly, public safety departments within the Town have established mutual aid agreements with Virginia Tech, Montgomery County, and other surrounding jurisdictions to provide a wide range of assistance from large-scale disasters to an individual health emergency (911) call. Blacksburg's emergency services maintain good response times that exceed their targets. Response times will benefit from the recently formed New River Valley Emergency Communications Regional Authority between the Towns of Blacksburg and Christiansburg, Montgomery County, and Virginia Tech. A new center is slated for construction in Christiansburg.

As the community continues to grow, the future types of services requested by citizens will change. Public safety personnel must seek opportunities to obtain a wide variety of training in order to maintain high levels of service. As the community grows, maintaining or improving response times will become more difficult without proper facility and equipment improvements. As existing community facilities age, maintenance becomes more important, and renovations may be required to maintain service levels that meet citizen expectations. Many existing facilities must be retrofitted to meet current building codes, accessibility requirements, and other recommended standards. As demands for services increase, the Town must continue communications and regional cooperation between the Blacksburg Police, Fire, and Rescue Squads, their respective Virginia Tech departments, and regional colleagues. Examples of these collaborative partnerships include the regional firing range located in Montgomery County and the proposed regional 911 center.

## **TOWN-OWNED FACILITIES**

The Town-owned Municipal Building, Blacksburg Motor Company Building, Blacksburg Police Department, and the County-owned Blacksburg Branch of the Montgomery-Floyd Regional Library serve as an anchor for the southwestern corner of Downtown and a central location for citizens to access Town services. The 2009 conversion of the Blacksburg Motor Company Building adjacent to the existing Municipal Building on Main Street was a key priority in the Downtown Master Plan and has helped to address the Town's long-term operational needs. This building reflects environmentally conscious building practices, having received LEED Platinum certification, which is the highest rating a building can receive through the U.S. Green Building Council's rating system. Furthermore, the renovated building provides an attractive main entrance into the Downtown. The Municipal Building and Police Department are now slated for future renovations, with additional space for the Police Department still a long-term need to be addressed. Adequate facilities for storage and maintenance of equipment must also be provided. Upon renovation and restoration of the Alexander Black House, combined with the recently restored St. Lukes and Odd Fellows Hall, these buildings will provide additional Downtown public meeting and gathering space.

### **Blacksburg Police Department**

The Blacksburg Police Department protects the life, individual liberty, and property of all people within the Town. The department maintains a positive relationship with the community and fosters a positive working environment for police employees. The Blacksburg Police Department, which has been nationally accredited since 1993, is a full-service law enforcement agency that serves all areas of the Town. The department is charged with a wide range of law enforcement functions, including crime prevention, Drug Abuse Resistance Education (D.A.R.E.), protection of life and property, location of missing persons, recovery of stolen property, traffic and parking enforcement, and the apprehension of criminal suspects. The Police Department also provides the community with school resource officers, crime prevention specialists, criminal justice-certified law enforcement instructors, Neighborhood Services support, the Citizens Police Academy, Neighborhood Watch, and many other public safety education programs.

The Police Department implements a wide range of techniques to keep the community safe, such as utilizing bike patrol officers in the Downtown area and on the Huckleberry Trail, maintaining a state-certified canine unit program, which provides assistance with drug detection patrols, and

participating in the New River Regional Drug Task Force. As the greenway system continues to develop, the Blacksburg Police Department bicycle patrol program will need to expand in conjunction with the bicycle patrol programs in the Virginia Tech and Christiansburg Police Departments and the Montgomery County Sheriff's Office. There is a direct relationship between increased population and the number, frequency, and type of crimes committed and a need for additional emergency safety resources. As festival events on Town and Virginia Tech properties continue to increase, additional police and safety services at community events will be needed, which may tax the existing limited resources of public safety services. Additional coordination and planning for safety services will be needed to ensure safety during major events and on Virginia Tech home football game days.

Studies are needed to determine the impact of increasing population on police services and whether additional officers are needed to maintain accreditation, which includes safe officer-to-citizen ratios. Recruitment of qualified public safety personnel has become increasingly challenging due to training requirements and regulations. The Blacksburg Police Department seeks to maintain a high level of training and expand training opportunities for public safety personnel.

As of 2011, the Blacksburg Police Department currently operates from one station located at 200 Clay Street. This station is overcrowded with personnel and equipment, while lacking adequate space to house the K-9 unit. Some space may become available when the regional 911 center is constructed and the Town's dispatch center's primary duties are transferred from the Police Station to Christiansburg. However, the Blacksburg dispatch center is under consideration to become the back-up dispatch center location in case of emergencies in Christiansburg. Once the regional 911 center is operational, a space-needs feasibility study should be conducted to determine the best options for providing additional space for the Blacksburg Police Department, either on site at Clay Street or elsewhere in Town.

### **Blacksburg Volunteer Fire Department**

The Blacksburg Volunteer Fire Department protects the Town of Blacksburg, Virginia Tech, and the area of Montgomery County surrounding the Town. The department provides services such as public fire education, inspections, fire prevention, fire suppression, fire investigations, and hazardous materials containment. The Fire Department operates as a volunteer organization with only two career firefighters, which poses a challenge when the department must respond to routine calls during the day when many volunteers are at work or in class. Fortunately, the Fire Department has a core group of community members with years of experience who provide a continuity of service that balances the high turnover rate of student volunteers, who generally leave after two to three years of service.

Blacksburg operates three fire stations. Station 1 is located on Progress Street and is a shared fire and rescue facility. Station 1 is overcrowded with personnel and equipment, and its accessibility is difficult due to narrow roads, traffic congestion, and lack of parking. Station 2 is located across from the Hethwood Shopping Center. The recently completed Station 3 is located on Hubbard Street and also serves as the department's administrative headquarters. Station 3 helps provide faster response times to the south end of Blacksburg, including the Virginia Tech Corporate Research Center, Virginia Tech Montgomery Executive Airport, and the Ellett Valley.

## **Blacksburg Volunteer Rescue Squad**

The mission of the Blacksburg Volunteer Rescue Squad is to provide professional and responsive emergency medical services that enable residents and visitors to enjoy a high quality of life within a planned diverse community. The Rescue Squad has been providing emergency medical and technical rescue services to the Town of Blacksburg and a large portion of Montgomery County since 1950. The Blacksburg Volunteer Rescue Squad is a Virginia non-profit organization separate from the Town, yet services and coordination with the Town are seamless. Not only does the Rescue Squad respond to emergency calls in Town and on the Virginia Tech campus, but it conducts educational demonstrations at local schools and provides support at local sporting events, including Virginia Tech football games. The Rescue Squad maintains state-of-the-art rescue equipment that includes advanced life support ambulances, first response vehicles, heavy duty rescue trucks, a boat with dive rescue equipment, a wilderness search and rescue team with trailer, and a bike team with trailer. As the sole entity tasked with all aspects of technical rescue, the Rescue Squad has established a Heavy Tactical Rescue team that specializes in high angle, confined space, vertical, trench, emergency police operations, and heavy vehicle extrication operations. The Rescue Squad consistently meets the national standards for response times and encourages membership certification.

The Rescue Squad faces many of the same challenges as the Volunteer Fire Department. The Rescue Squad and Fire Department share Station 1, which is well beyond capacity. The growing population on the north end of Town is placing increased demands on fire and rescue services. Additional fire and rescue station(s) on the north end of Town will be needed in the future to meet these increased demands. Additionally, the Rescue Squad must respond to routine calls during the day when many volunteers are at work or in class. To address this issue, the Rescue Squad actively recruits members with daytime availability, such as students, retirees, etc. Fortunately, the Rescue Squad also has a core group of community members with years of experience who provide a continuity of service that balances the high turnover rate of student volunteers.

## **Town of Blacksburg Comprehensive Emergency Management Strategic Plan**

The Town's goal is to have a Comprehensive Emergency Management Strategic Plan that prepares for, responds to, recovers from, and mitigates natural and man-made emergencies and disasters. This comprehensive plan would enhance the Town's capabilities and capacities to prevent and reduce its vulnerability to disasters. Adopting an all-hazards approach to planning, training, and exercising for emergency response and recovery will greatly enhance the Town's overall readiness. Completing the Town's Comprehensive Emergency Management Strategic Plan is an exceedingly complex task, both to draft and implement, and requires coordination, cooperation, communication, and focused efforts from the entire Town and all partnering organizations.

Currently, individual Town departments, Police, Fire, Rescue, Public Works & Transit, have their own respective emergency response management plans. Additionally, the Town participates with the Local Emergency Planning Council, which is coordinated by the State-recognized Montgomery County Emergency Management Department.

Regional communication is an important part of the success of implementing the plan between the Town and its many partners, which include neighboring jurisdictions, State government, citizens, the private sector and non-profit organizations. Using existing and new technologies

will make the emergency management initiatives more efficient and effective. The Town will need to continue its ongoing efforts to provide quality planning, training, and exercise assistance to those agencies and organizations responsible for prevention and emergency response and recovery. This will ensure that the Town's readiness and prevention capabilities are among the best in the nation.

One issue that must be taken into account in all planning efforts is the sustainability of programs and strategies. Efforts will be taken in the implementation of these strategies to ensure that they can be maintained or upgraded as necessary to reflect anticipated changes and concerns associated with the national and statewide requirements and standards.

## **OTHER PUBLIC FACILITIES LOCATED WITHIN TOWN**

### **Public Schools**

Although the Blacksburg public schools are an area of community focus and a gathering place for both adult and youth activities, their location and administration is under the direction of Montgomery County Public Schools (MCPS). While the existing four elementary schools in the Blacksburg Strand of the MCPS are and should remain neighborhood based schools, the Blacksburg Middle School and Blacksburg High School are regional schools serving students from the Town of Blacksburg, the Village of Prices Fork, Merrimac, Ellett Valley, and other northern areas of the county. The new Prices Fork Elementary School was completed in fall 2011, and the new Blacksburg High School on Prices Fork Road is slated to open in fall 2013. In spring 2012, MCPS updated school districts to address the impact of new schools coming on-line and projected population trends. For more detailed information about each public school and the school districts please visit the Montgomery County Public School website at [www.mcps.org](http://www.mcps.org).

The MCPS has existing schools no longer in use that are being surplused to Montgomery County for sale to help fund construction of new schools. This includes the old Blacksburg High School site on Patrick Henry Drive. The future development of the site will be a topic of concern to Town residents. The site is currently designated as Civic on the Future Land Use Map because of its previous use as a school. Due to the close proximity to the Blacksburg Community Center and Aquatic Center, the old Blacksburg High School site is ideal to meet a number of Town facility needs.

*For information regarding the Old Blacksburg Middle School Master Plan and site redevelopment, please refer to the Jobs & Housing Chapter and the Land Use Chapter.*

Whether designing a new school or renovating an existing school, the school community facilities and recreational amenities need to be planned and operated to seamlessly integrate into the community. The joint-use of all public facilities, particularly schools, with other compatible civic uses, especially parks and recreation, will maximize the use and cost efficiency of public education facilities in the community. The future of the schools in Blacksburg is critical to the continued strength of the community. When planning for any changes to the school system, the future needs of the entire community must be considered.



## **Public Libraries**

Citizens have access to the largest library in the state on the Virginia Tech campus. Additionally, all citizens have access to the Blacksburg Branch of the Montgomery-Floyd Regional Library and to the regional resources of the library system. The Montgomery-Floyd Regional Library system is funded through joint contributions from the counties and towns that participate in the regional partnership. It is desired to keep the Blacksburg Branch in a central location.

## **Court System & Social Services**

Due to Blacksburg's classification as a Town, all district court proceedings and social services are referred to Montgomery County. The Montgomery General District Court did operate a local office, the Blacksburg Division, within the Town's Municipal Building. In 2012, upon completion of the new Montgomery County Courthouse, the Blacksburg Court Division ceased operation. This will allow for additional office space in the Municipal Building for Town services. The relocation of court services poses new operational challenges to the Blacksburg Police Department as they account for traveling to Christiansburg for court proceedings at the new Montgomery County Courthouse. Travel to Christiansburg could potentially impact the number of hours department personnel are outside the Town's limits instead of proactively working with citizens in the community.

## **Health Care**

Quality health care is provided within Town limits at the Montgomery Regional Hospital and at various urgent care and other private facilities. While located within Town limits, these facilities are privately owned and operated. Health care is one key component to a sustainable and healthy community, especially as the Town's population ages and has a greater need for services. *Please refer to the Transportation Chapter and the Jobs & Housing Chapter for additional information on other key components to sustainable community health.*

## **FUTURE PUBLIC FACILITIES**

### **Future Town Properties**

Local government must provide public community facilities that are responsive to citizens' desires. The selection and acquisition of Town property is a delicate process that is often time-sensitive. The Town is poised to take advantage of opportunities as each property is evaluated upon its individual merits to ensure that the property fulfills the multitude of Town needs at the time of purchase and in the future. Prior to any land acquisition, the Town Manager and staff shall conduct a site selection study to ensure that the property adheres to the goals and objectives of the Blacksburg Comprehensive Plan. Projects requiring land acquisitions are normally funded through the Capital Improvement Plan. Land acquisition ideally will be followed by construction of the facility or intended use and public use of the property within a reasonable time. Pending approval of the site selection by Town Council, negotiations are initiated for land acquisition. Appropriate state-mandated comprehensive plan reviews, as stated in the Virginia State Code §15.2-2232, are accomplished prior to completion of the property purchase.

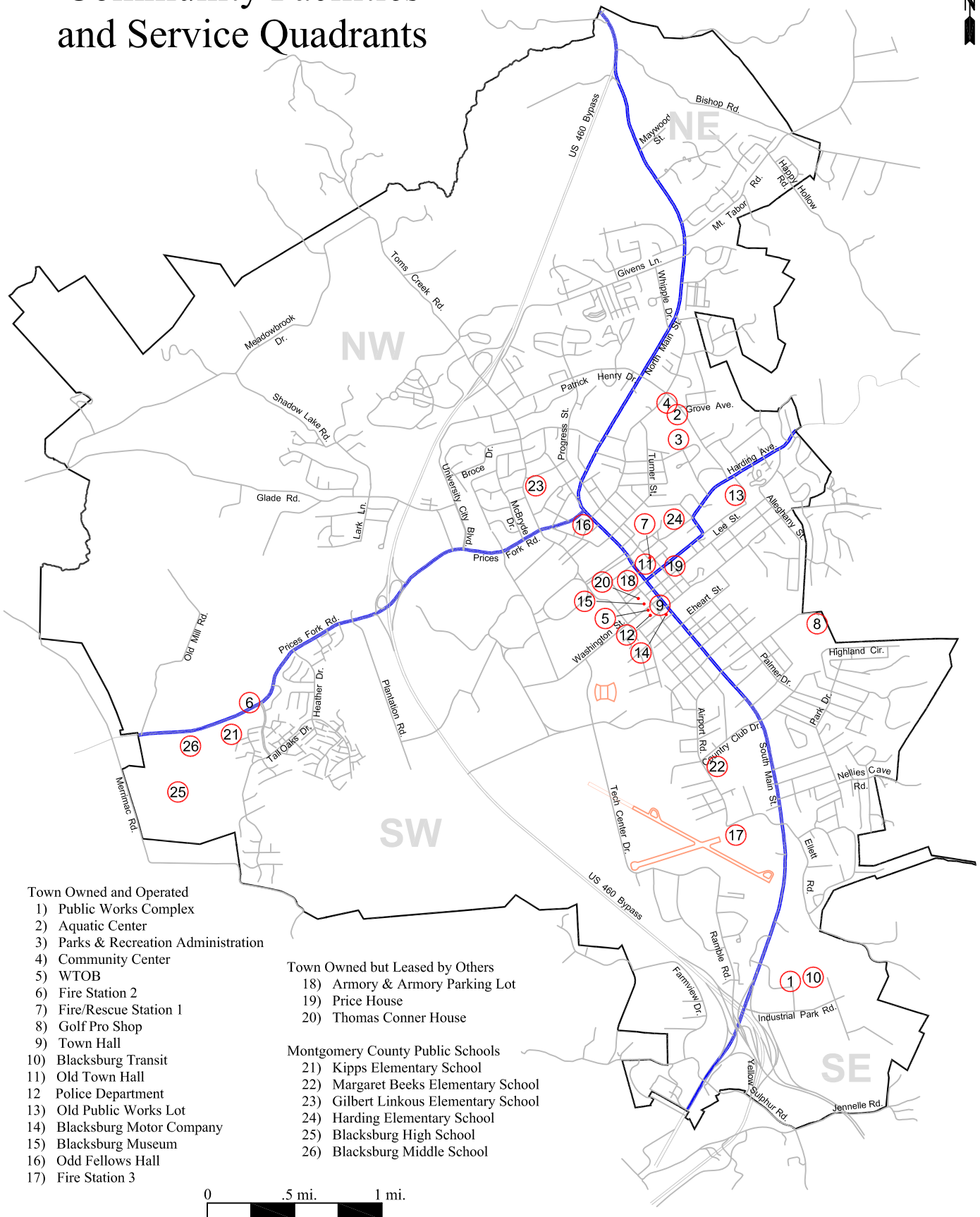
## **Design of New Public Facilities**

Existing public facilities are sources of pride in Blacksburg. New facilities should be held to the same standard. At the same time, however, they should also be cost-effective and serve the long-term needs of the Town. The construction of new facilities should be consistent with projected needs and costs. Recurring costs, notably the funds required to maintain and staff the buildings, should also be accounted for in the final “price tag” of a facility. Plans for new facilities should include opportunities for future additions and expansions. New facilities should be capable of containing multiple Town departments and agencies and offices from other government entities, where appropriate. Finally, new facilities should demonstrate environmentally-friendly design practices with respect to sustainable sites, indoor environmental quality, energy efficiency, and the efficient use of materials and resources as prescribed by the U.S. Green Building Council to provide examples for the community to replicate in construction of privately-owned buildings. *For more detailed information regarding public facility and service standards, please refer to the Blacksburg Administrative Manual.*

## **COMMUNITY FACILITIES MAP**

All of the existing facilities previously discussed, regardless of ownership, are shown on the following Community Facilities map. The location of existing facilities also helps illustrate where future facilities will be needed to meet increasing demands. The map can be used as an aid to site future public facilities.

# Community Facilities and Service Quadrants



# **PUBLIC SAFETY & COMMUNITY FACILITIES**

## **Objectives and Policies**

*Please refer to the Transportation Chapter —Road Network Objectives and Action Strategies regarding pedestrian safety and traffic-calming measures.*

- PS&CF.1. Create an environment that encourages respect, mutual responsibility, community outreach, and cooperation between public safety officials and citizens through citizen education programs, safety education programs, mediation and conflict resolution services, and other outreach opportunities. Continue citizen involvement opportunities for community interaction with public safety personnel to foster positive relationships.
- PS&CF.2. Provide citizens with the highest quality public safety services and facilities by maintaining high levels of training opportunities for Police, Fire, and Rescue personnel. Establish public safety levels of service and consider these levels when evaluating the impact of future land uses on Town service demands and costs.
- PS&CF.3. Provide resources for ensuring the highest quality police, fire and rescue services, and maintain the Police Department's National Accreditation Status, including the recommended national ratio of officers-to-citizens.
- Provide police, fire and rescue with adequate building space.
- PS&CF.4. Expand emergency response capabilities through collaboration with Virginia Tech, Montgomery County, and other surrounding jurisdictions to ensure quality public safety services by:
- Working with regional governments to construct a collaborative training center for Fire, Rescue, and Police personnel and a centralized 911 dispatch center.
  - Maintaining an alternate Town emergency operations center and coordinating with the regional emergency response teams, assisting where appropriate with the New River Valley Hazard Mitigation Plan.
  - Continually monitoring emergency response times to ensure quality service delivery.
- PS&CF.5. Enhance the Town's all-hazards disaster preparedness, mitigation and response by completing the Town's Comprehensive Emergency Management Strategic Plan, which focuses on improving communications, providing training opportunities, and working regionally.
- PS&CF.6. Provide public facilities that serve as examples of the desired development quality in Town.
- The design of new public facilities and the renovation of existing facilities will meet U.S. Green Building Council rating system standards and meet current best management practices that provide for efficient and cost-effective operations over the expected life of the facilities.
  - New public facilities should emphasize efficient service delivery systems to meet existing and anticipated community needs.

- All Town facilities must meet ADA requirements and should be equipped with proper emergency medical supplies such as Automated External Defibrillators (AED).

PS&CF.7. Continue to ensure that building needs assessments and cost evaluations are thoroughly explored prior to construction of any new public facility or renovation of an existing public facility and that the final public facility is compatible with other public facilities surrounding it. Where feasible, integrate the development of new public facilities as components of regional programs or public/private partnerships.

PS&CF.8. Maintain and fully utilize existing Town facilities according to their level of service and in a manner consistent with the community's high level of expectation.

- Establish a program to routinely review the adequacy and needs of existing public facilities and financial cost for upgrades and improvements through the Town's Capital Improvement Program and annual budget process.
- Conduct an examination of potential uses of public property prior to disposal by the Town.
- Prioritize and provide emergency power capability to critical Town facilities for temporary and extended power outages to ensure continuity of services to Town citizens.
- Ensure the coordination of development with adequate and accessible existing and future public facilities.

PS&CF.9. Work with Montgomery County Boards and Agencies, the Town of Christiansburg, Virginia Tech, and other public and private agencies to plan for future needs, develop shared facilities, and provide joint-use of existing facilities.

- Work cooperatively with Virginia Tech to plan for potential university growth and development.
- Work with Montgomery County to keep community resources on existing school properties.

# UTILITIES

*Providing Safe, Reliable Public & Private Utilities to Your Front Door*

## GOAL

Provide all properties within the Town's service area with adequate and reliable public and private utility infrastructure and services, including water, wastewater, stormwater management, solid waste management, recycling, power, and telecommunications, to meet demand needs in a customer service-oriented manner that promotes economic opportunities and a high quality of life.

### Sustainability Goal

Provide the above mentioned utility infrastructure and services, plus access rights, through safe, environmentally sensitive, and cost-efficient methods. Partner with state and local governments, utility franchises, and other public and private entities to incorporate best management practices of new technologies.

### Citizen Involvement

There are multiple Council-appointed committees that address utility issues, which involve citizen participation: Blacksburg-Christiansburg-VPI-Water Authority, Blacksburg-VPI Sanitation Authority, the Montgomery Regional Solid Waste Authority and any related task forces, such as the Stormwater Utility Stakeholders Advisory Group. Citizens are also encouraged to comment on proposed capital improvement projects and rate hearings. Citizens are encouraged to participate in the Blacksburg Citizens Institute to learn more about Town operations in general.

## OVERVIEW

Public utilities available within the Town include **water, wastewater, solid waste collection, electrical, natural gas, and telecommunications services** (telephone, cable television, and internet access). The Town provides both infrastructure and services for the water, wastewater and solid waste collection in conjunction with regional service authorities. Private companies under franchise with the Town provide infrastructure and services for electrical, natural gas, technology and telecommunications services. This chapter is divided into **Town Provided Services** and **Privately Provided Services** to accurately reflect how public utilities are provided within the Town of Blacksburg.

## TOWN PROVIDED UTILITY SERVICES

### Public Water System

The Town of Blacksburg purchases treated water from the Blacksburg-Christiansburg-VPI Water Authority. The Water Authority's plant is located along State Route 114 in Montgomery County. There is inter-jurisdictional cooperation with the Town of Christiansburg and Virginia Tech on the water treatment and distribution system through Water Authority membership. Discussions are ongoing between current Water Authority members and Montgomery County officials about the County joining the Water Authority.



*Water Authority*

The water source for the water authority is the New River. The capacity of the plant is approximately 12 million gallons per day (MGD). Current daily use by all members is approximately 6.5 million gallons per day, of which 3 million gallons per day is used by Blacksburg customers and 1.2 million gallons per day by Virginia Tech. Combining current water usage rates with new water-efficient appliances installed during renovations and new water-efficient building construction standards leaves significant treatment plant capacity available for projected water demand. The water treatment and distribution system is in compliance with all state and federal regulations, as documented in annual water quality reports.

Water reuse is becoming an important component of water resources management. Water reuse can include collection and use of stormwater, reuse of gray water in homes and businesses, and reuse of treated wastewater. Water can be reused for irrigation, vehicle washing, toilet flushing, and industrial purposes. The Town supports water reuse, particularly as a regulatory framework is developed to protect human health and the environment and as public acceptance of this practice grows. Water reuse is consistent with the Town's environmental and sustainability goals.

The Town's water service area includes areas outside the corporate limits. The Town and the Montgomery County Public Service Authority (PSA) have water service area agreements in place that establish the boundaries of the Town's service area outside the corporate limits. Any new areas outside the corporate limits that desire water service must request a boundary line adjustment and become a part of the Town prior to water service being provided.

The Town of Blacksburg and the Town of Christiansburg adopted a Regional Water Supply Plan in 2011 as mandated by the State. The plan covers the two Towns, plus Virginia Tech since the campus receives its water supply via the Town of Blacksburg's water system, which is detailed below. The New River Valley Planning District Commission has compiled a water supply plan for other localities in the area. The plan governing the Towns of Blacksburg and Christiansburg includes existing water resource information, existing water use information, existing resource information, water demand management, drought response and contingency plan, projected water demand, and statement of need based on existing and future water sources and demands. As part of the plan, the Town adopted an Emergency Water Resource Management Ordinance in case of a significant drought or emergency that threatens the Town water supply.

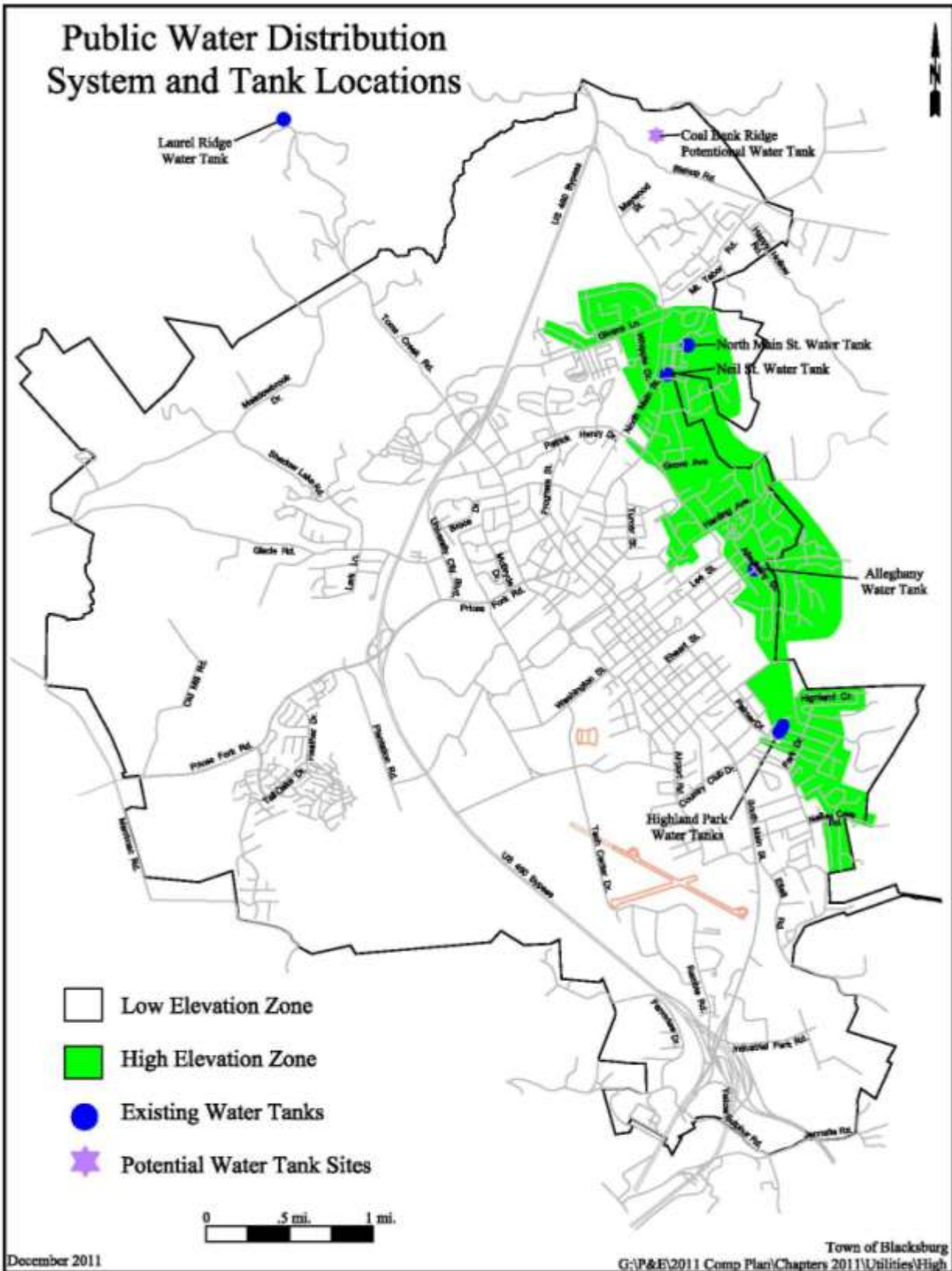
The Town's water system consists of two separate zones: the "high" elevation zone and the "low" elevation zone. The "high" elevation zone is located along the northern and eastern ridgelines of the Town and serves areas of Town that are at an elevation of 2,190 feet or greater. The "low" elevation system serves the majority of the Town and serves areas that are at an elevation lower than 2,200 feet, including the Virginia Tech campus.

A water storage supply and delivery system equal to 48 hours of use is necessary to enable interim emergency water provisions to be in place. As of 2011, current water storage tanks will provide service for approximately 43 hours in the event of an interruption in supply.

As discussed in the *Public Safety & Community Facilities Chapter*, the Volunteer Blacksburg Fire Department serves all areas of Town utilizing a combination of fire hydrants and tanker trucks to supply water in emergencies. As waterlines are upgraded or are extended into areas of Town not currently served by public water, fire hydrants are installed as a part of the project.

Town staff is responsible for administration of the Cross Connection Control program that protects the public water supply from backflow conditions caused by backsiphonage and backpressure. The program requires all water connections to have backflow protection and testing, based on the degree of hazard the water connection poses to the water supply. The Town will continue to use technology and mailings to educate the public on backflow prevention.





## **Public Wastewater System**

The Blacksburg-VPI Sanitation Authority treats the Town of Blacksburg's and Virginia Tech's wastewater. The Sanitation Authority Plant is located where Stroubles Creek crosses Prices Fork Road southwest of Town. The current design capacity of the Sanitation Authority Plant is 9 million gallons per day (MGD), which provides adequate treatment capacity for growth projections. The plant has the ability to expand to 12-MGD treatment capacity if necessary for the future. Current flows from Blacksburg, Virginia Tech, and several areas in Montgomery County total 5.5 MGD at the plant.

The Sanitation Authority Plant uses best management practices to prevent further impairment of local creeks and is part of the Virginia Department of Environmental Quality's (DEQ) Environmental Management System (EMS) plan. Additionally, through DEQ's "Virginia Environmental Excellence Program," the Sanitation Authority Plant has an Extraordinary Environmental Enterprise (E4) certification. While not mandated, the plant also has a nitrification/denitrification process to help improve the quality of the wastewater discharge. This process provides a benefit to Stroubles Creek, the receiving stream, by helping to preserve its existing stream biology. Sludge removed during the treatment process is incinerated. The Town, in partnership with the Authority, administers the industrial pretreatment program, which is effective in protecting the integrity of the wastewater collection system and the treatment plant process.

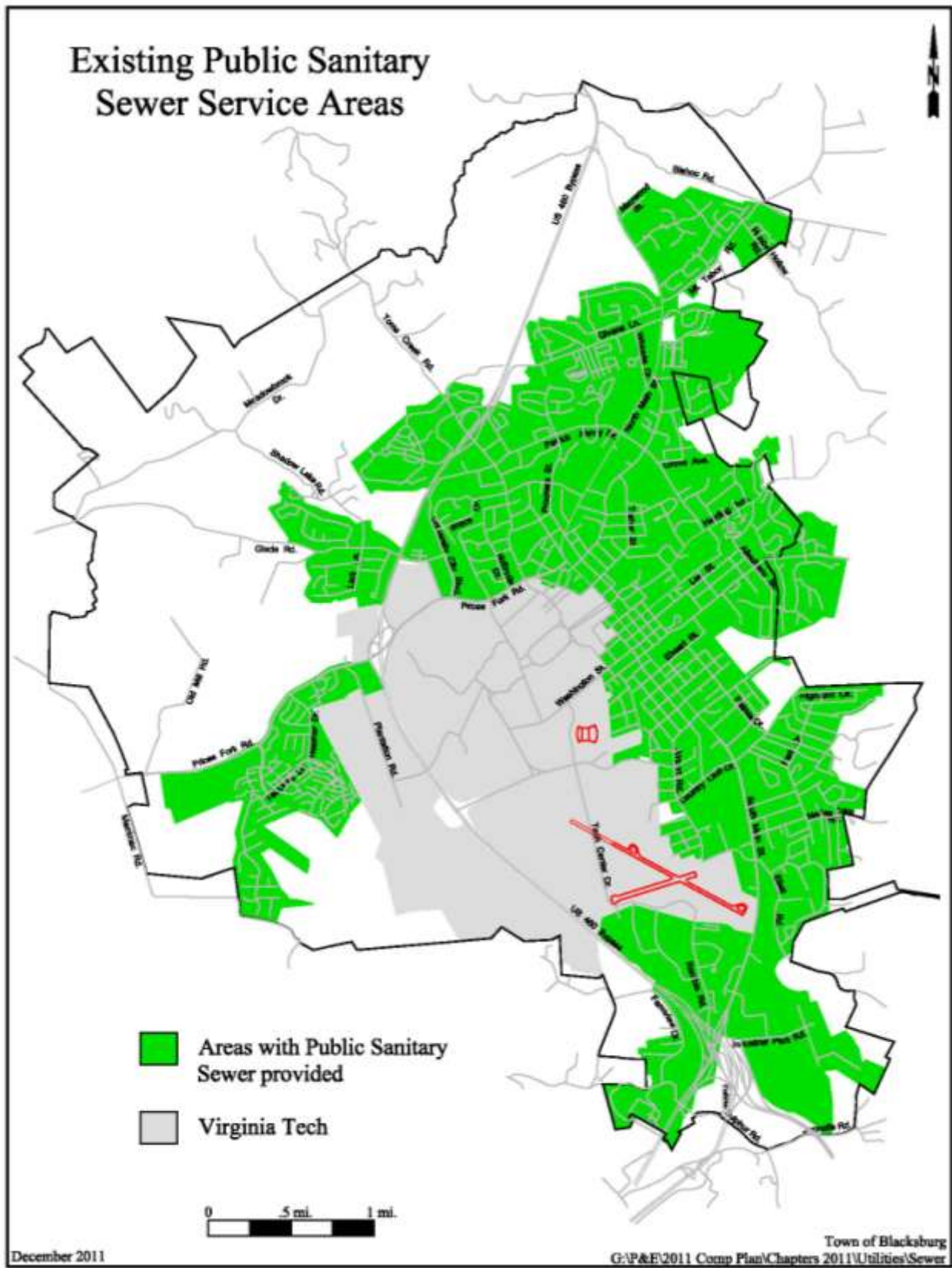
The Town of Blacksburg owns, operates, and maintains the public wastewater collection system within the Town limits. As of 2011, this infrastructure includes more than 150 miles of gravity collection lines ranging in diameter from 8 to 24 inches, 12 Septic Tank Effluent Pumping systems (STEP), 148 Septic Tank Effluent Gravity systems (STEG), and 25 wastewater pumping stations. Virginia Tech owns and operates the wastewater lines on the Virginia Tech Campus. Wastewater from Blacksburg and Virginia Tech flows into larger interceptor lines that are jointly owned and operated by the Blacksburg-VPI Sanitation Authority.

Public wastewater service is unavailable to the majority of the land area west of the Route 460 Bypass, including most of Toms Creek Basin. The Town supports an environmentally sensitive public wastewater service for these areas so that construction does not increase rates to the rest of Town. In these areas, the STEP/STEG systems are used and connect downstream to public sewage. This alternative wastewater system is proposed to serve future population growth in designated areas approved by Town Council.

Blacksburg has obtained new wastewater service areas both within Town and out of Town through negotiations with the County. In addition, service is provided to existing areas in Town through capital improvement and cost-share projects.

The Town is undertaking several approaches to evaluate more effective ways to provide new services while operating and maintaining the wastewater infrastructure as it ages and expands. This includes implementing Environmental Protection Agency (EPA) Utility Infrastructure Asset Management Principles. To meet these principles, a town-wide data logging program and hydraulic model has been developed to evaluate the effect of rainfall-derived Infiltration and Inflow (I/I) on the system and to develop a strategy to increase capacity within the existing infrastructure.

Additionally, the Town has proactively embraced the EPA's Capacity, Management, Operations, and Maintenance (CMOM) Program for municipal wastewater systems. The CMOM program seeks to evaluate and correct excessive I/I in the wastewater collection system through enhanced management practices such as root-control and rehabilitating aged or damaged pipes. Town staff works with homeowners to develop alternative discharge points for roof drains and sump pumps and to remove other inappropriate connections that impact the system's limited capacity.



## **Stormwater Management System**

Just as public water and wastewater is planned for and provided, stormwater must be thought of as a utility to be managed comprehensively to meet state and federal mandates that protect the environment locally and regionally while promoting the quality of life in Blacksburg. *Please refer to the Environmental Chapter for additional information on the Town's watersheds, maps, floodplains and MS4 Program Plan.*

To begin addressing this concept, in the spring of 2008, Town council created the Stormwater Management Task Force to study, define, and recommend the stormwater management programs and practices to resolve and avoid problems, to improve the water quality in Town streams and waterways, and to ensure the health, safety, and welfare of current and future citizens of Blacksburg.

After addressing sediment and erosion control efforts, the Task Force's final recommendations were made to Council in May 2010. The Task Force recognized the differences and similarities of each watershed and some shared goals and opportunities, plus the need and opportunity for:

- ❖ Public outreach and education;
- ❖ Modeling of the stormwater infrastructure to facilitate future repair, improvement and expansion;
- ❖ Compliance with the Town's required Municipal Separate Stormwater Sewer System (MS4) Permit;
- ❖ Compliance with required Total Maximum Daily Load (TMDL) on Stroubles Creek and Cedar Run Creek;
- ❖ Implementation of current and future regulations;
- ❖ Regional Best Management Practices (BMPs) to facilitate future economic growth in our heavily commercial areas; and
- ❖ Development of "stormwater parks" and regional recreational amenities such as greenways that also manage stormwater volume and quality.

The Stormwater Management Task Force also focused on the financial requirements for the implementation of these stormwater management requirements and opportunities. The current level of funding would support a very minimal level of basic compliance only. Further funding research analysis led to a recommendation to adopt a Stormwater Utility Fee. Town Council appointed a Stormwater Stakeholders Advisory Group in August 2012 to continue work on the utility fee as well as to engage and educate the public, further develop the Stormwater Program, recommend spending priorities, and advise Council. The stormwater program would need to continually manage stormwater of the Town in order to improve the health of the waterways and their ecosystems and to provide for additional community amenities.

In January 2014, the Stakeholders Advisory Group completed its work, recommending to Town Council to adopt a Stormwater Utility, with a stormwater fee based upon the amount of impervious surface controlled by landowners. The Stakeholders Group analyzed GIS to determine that the median impervious area for single family development in Blacksburg was 3300 square feet. This value is recommended to be the unit of billing for the Stormwater Utility, where single residences would all pay a nominal fee for one billing unit. Commercial and non-

single family development would pay a charge based upon multiple billing units. The group recommended a delayed January 2015 implementation start date that has been approved by Town Council.

## **Solid Waste Management & Recycling**

Blacksburg is progressive in waste reduction efforts and is environmentally conscious. As part of the Town's Environmental Management Program and its commitment to a sustainable environment, the Town itself strives to reduce waste and increase recycling. *Please refer to the A Sustainable Community Chapter for more information on the Town's Environmental Management Program.*

The Town is a member of the Montgomery Regional Solid Waste Authority (MRSWA), which was created in December 1994. Member jurisdictions are Blacksburg, Christiansburg, Montgomery County, and Virginia Tech. Through DEQ's Virginia Environmental Excellence Program, MRSWA has an E3 Certification as an Exemplary Environmental Enterprise (E3) community.



*Waste Material Conveyor Belts*

Funding for the MRSWA is provided solely through tipping fees and recycling revenues. The MRSWA is a member of a regional landfill and has constructed a transfer station at the former landfill site. Solid waste is disposed of at the New River Resource Authority in Pulaski County. MRSWA has constructed a regional recycling facility that has the capability to accept and process materials from the New River Valley and beyond. A higher quality of product, price, and market reliability can be obtained with higher quantities of materials to recycle.

Efforts to educate the general public about waste reduction and recycling to achieve a higher level of environmental awareness and environmental protection are emphasized in the Town and regionally. Source reduction is the first step, followed by reuse, and then recycling. As part of the Authority, the four jurisdictions have combined processing and marketing of recycling products to strengthen their representation in the recycling industry and enable larger volumes of materials to be batched. This economy of scale creates better marketability and a more regional coordination of programs, which improves cost effectiveness.

The Town currently provides curbside recycling for residential customers. Apartment complexes are required by ordinance to provide recycling opportunities similar to those provided curbside and contract privately for these services. In 2011, the Town revised regulations to proactively promote recycling in residential apartment complexes.

The Town provides temporary recycling at major street festivals such as Steppin' Out and is seeking to provide recycling on a daily basis to residents and visitors Downtown. However, providing solid waste collection and recycling for Downtown, especially to businesses, is challenging. The majority of merchants contract privately for refuse and recycling service, and there is no requirement for recycling. Cleaning up alleyways while providing for safe and effective refuse and recycling solutions is a top priority for improving the aesthetic appearance of the area. In conjunction with community partners such as Sustainable Blacksburg and Downtown Blacksburg, Inc., the Town is developing innovative recycling programs for Downtown businesses. A variety of potential solutions are being considered that include consolidating recycling sites managed by the Town or public/private partnerships.



The Town has partnered with the YMCA at Virginia Tech to create a residential electronics reuse and recycling program at the YMCA Thrift Store. The program helps ensure that end-of-life electronics are properly recycled and/or disposed of in the landfill. Businesses must dispose of their electronics in accordance with DEQ regulations.

The Town has an adopted policy to formalize a longstanding internal recycling program within all Town government operated-facilities to reuse or recycle 50% of the solid waste stream. Additionally, Public Works is constructing an inert debris fill site at its facility, which will be used for long-term hauling of construction debris—concrete, pavement and dirt that cannot be recycled. This material would otherwise be hauled to MRSWA and would come at a significant cost to the Town in tipping fees. Additionally, as part of the Town's Emergency Management Plan, the Town's goal is to certify this site with DEQ for hauling debris after events. A critical first response after any event is to clear debris that may endanger public health and safety from public rights-of-way.



## **PRIVATELY PROVIDED UTILITY SERVICES**

All utilities are placed in the street, in rights-of-way, or in public easements held by the Town in trust for the use of the public. These are finite assets that interest multiple users. The value of rights-of-way as a public asset has increased as more utility and communications providers have become interested in serving Blacksburg residents. The Town has an obligation to charge fair compensation for the use and restoration of this asset. The Town also has the duty to manage its rights-of-way and easement assets wisely for the public good. This duty includes, but is not limited to, adopting reasonable regulations for utility separation, the timing and coordination of work in the right-of-way, safety rules and regulations, and preservation of the streets in a condition to best serve the traveling public.

### **Electrical Power & Natural Gas Service**

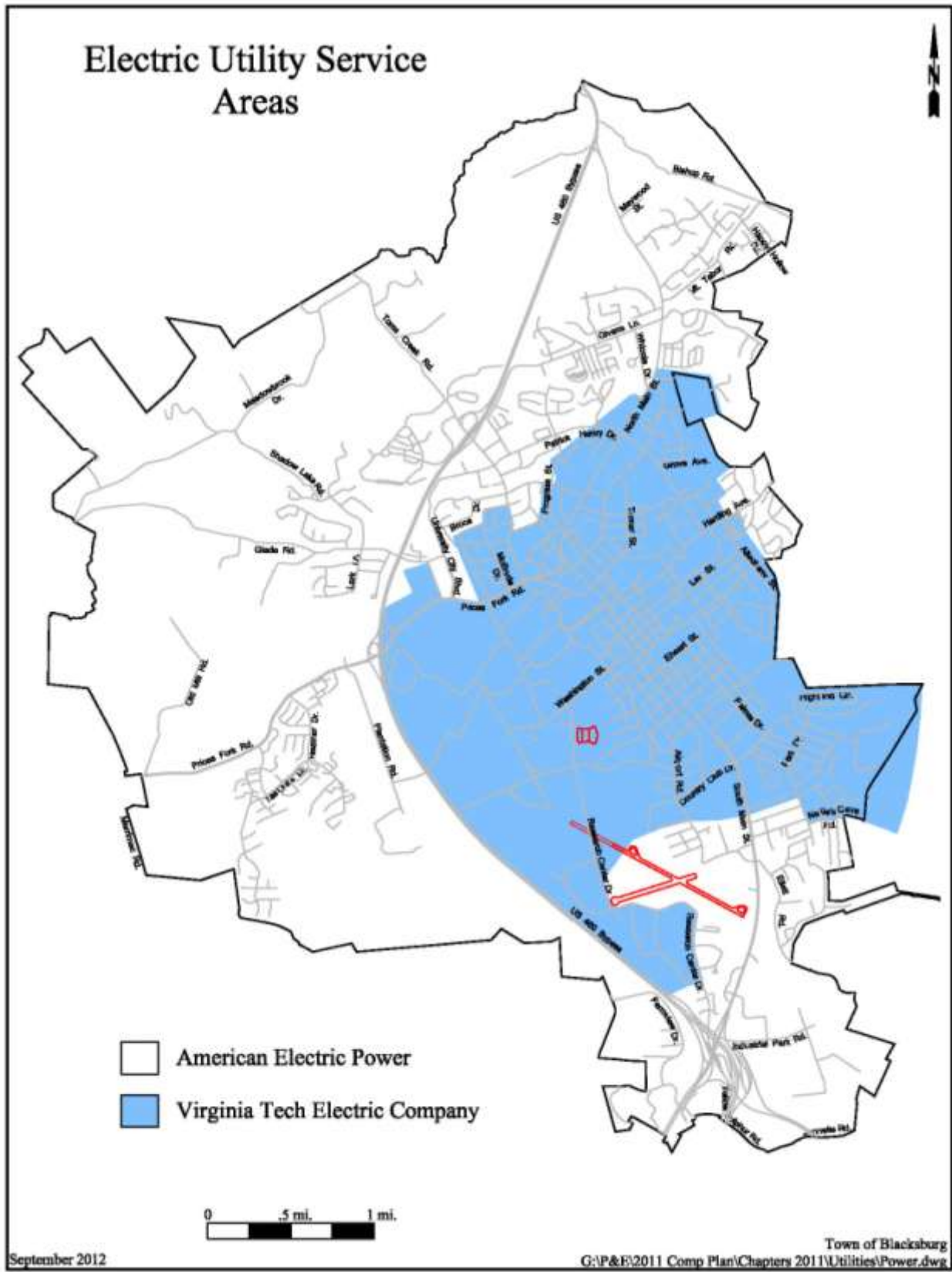
American Electric Power (AEP) Company and Virginia Tech Electric Service (VTES) provide electric service to Blacksburg. Generally, VTES serves the central area of Town, including the Virginia Tech campus, the Corporate Research Center (CRC), the Gables Shopping Center, and several neighborhoods as detailed on the following map. The rest of Town is served by AEP.



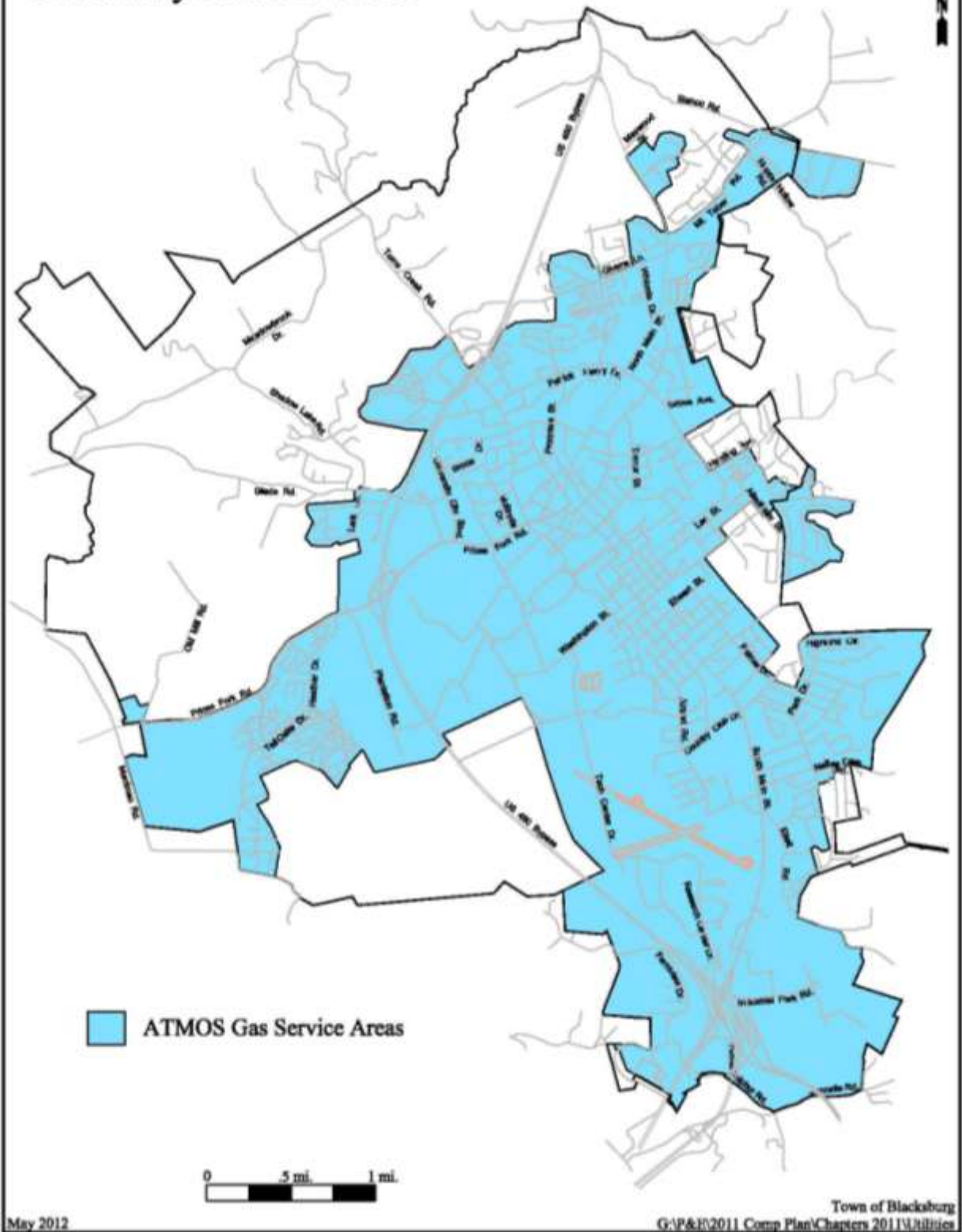
Atmos Energy currently has a franchise agreement to provide natural gas to customers in most areas of Blacksburg, which is detailed on the following map. Virginia Tech has its own heating system, based on a coal power plant for heating campus buildings.

The Town government and residents both desire to maintain low electric and natural gas rates. There is community interest in diversifying energy sources to reduce the need for traditional fossil fuel-generated centralized electricity. The Town is currently researching decentralized solar and wind generated power regulations to govern future uses at residences, businesses and Town facilities. Until then, electrical and natural gas distribution and service lines are constructed underground in new developments. The Town supports the replacement of all overhead utility lines, including power lines, with underground utility lines.

VTES or AEP owns the streetlights, which are leased to the Town. Streetlights are required to be installed as developments are constructed on collector and arterial streets. Additional streetlights can be requested to be installed at a later date to address safety concerns. These streetlights may be installed as funds are available and with adherence to the Town's Streetlight policy that balances the needs of crime prevention, maintaining the character of the neighborhood and the Town's Dark Sky policy. The Town must continually review the cumulative impact of all existing streetlights, making corrections as needed to increase safety, yet function within the Town's Dark Sky policy.



# Gas Utility Service Areas



## **Telecommunications & Technology**

Just as the Town's transportation and other utility infrastructure networks are carefully designed, maintained and expanded, the Town's telecommunications and technology infrastructure needs to be designed, expanded and maintained.

Today's telecommunications infrastructure includes telephones, wireless communications (radio, cellular, satellite television, etc.), the internet, cable TV systems, and network systems (public and private). Issues of security, privacy, right-of-way management, funding, governance, availability, service providers and economic development are of critical importance as the Town plans for new technology initiatives such as broadband (high-speed Internet access) and wireless facilities. Applications for telecommunication continue to evolve, especially in the wireless arena. It is important to understand that all wireless systems at some point require a wired connection; this is why community conduit and fiber optic systems are critical.

Citizen expectations for government services customized to their individual needs continue to increase, creating demand for more internet services available 24 hours a day, 7 days a week, not just during the traditional business Monday-Friday workweek. In addition, the demand for faster and more available internet access (broadband) for our community has increased staff focus and planning on this issue. Providing equal access and technology support to all Town staff is challenging due to the dispersed government office locations throughout Town. Siting of wireless telecommunication towers for public and private use is another issue the Town must address.

Fitting the dynamic nature of technology into the traditional infrastructure planning process is a challenge. Nonetheless, technology needs to be on the priority check list for review of development application as investments in broadband infrastructure, including conduit, are no more a luxury than planning for roads, water, stormwater, electrical, and sewer systems.

This holistic management approach to telecommunication and technology infrastructure planning is just one example of the Town's innovative achievements that complements the Town's economic development and environmental sustainability goals. Another is the Town's participation in the 2015 Task Force that seeks to address the best combination of public and private partnerships for providing broadband infrastructure and service. *Please refer to the Jobs & Housing Chapter for additional information.*

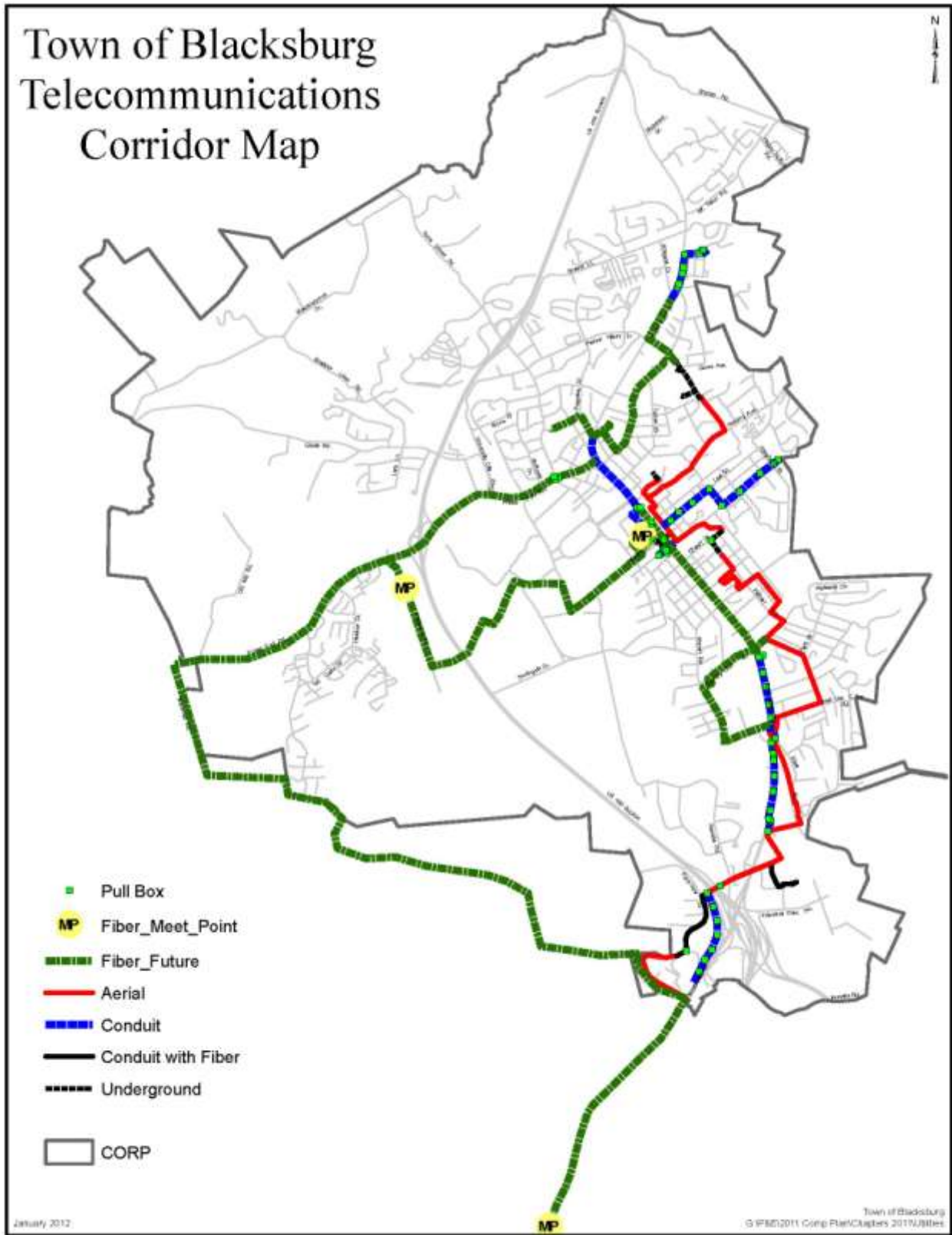
## **Town Telecommunication System**

Expansion opportunities of the Town's broadband infrastructure network can occur through public, public/private or private development projects. The Town government views any project as a partnership opportunity. In the more urban areas of Town, site design for new development and redevelopment present unique opportunities and challenges to expand the Town's broadband network.

The Telecommunication Corridor Map that follows on the next page illustrates existing and future fiber and conduit locations within the Town of Blacksburg. The Telecommunications Corridor Priority Construction Chart, located in the Blacksburg Administrative Manual, details key connections needed to complete the fiber infrastructure network within the Town.

Any proposed development within the Town should be reviewed and evaluated for conformance, as well as for possible network expansion opportunities as illustrated in the Telecommunications Corridor Map and detailed in the Telecommunications Corridor Priority Construction Chart.

# Town of Blacksburg Telecommunications Corridor Map





## Wireless Facilities

The increased use of wireless technology requires the construction of many new wireless facilities throughout the Town and in adjacent areas in Montgomery County. Telecommunications towers are difficult to locate, often creating conflicts between citizens and wireless providers; however, the services and technology access provided via the wireless facilities are important to the future of the Town and are discussed further in the *Jobs & Housing Chapter*, with siting location factors detailed below.

To help mitigate the impact of wireless facilities, the Town encourages companies to develop new and innovative ways to provide these wireless services by constructing low-impact facilities. These facilities should always seek out every opportunity to co-locate on existing structures. These locations may be public structures such as water tanks, light or power poles, or private buildings and structures. These facilities should be inconspicuous in nature, so that citizens are not able to reasonably differentiate between an existing structure and the facilities integrated into them. Other options for placement include within flagpoles and church steeples or fake trees.

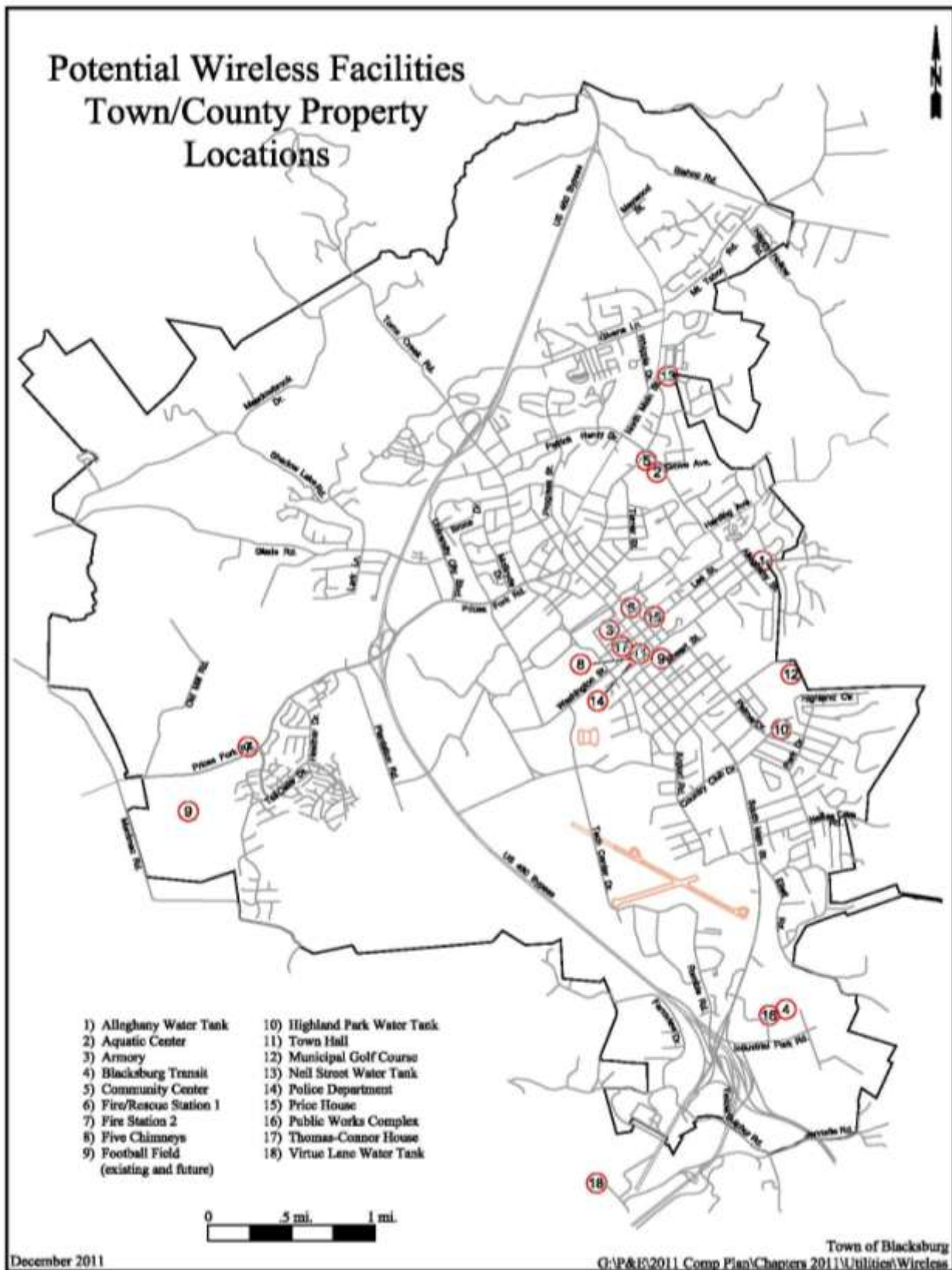
Some wireless facilities are utilized solely for public use, promoting the health, welfare, and safety of the general public. If a wireless facility is proposed for public use, due consideration should be given to this factor that is balanced with the Town's desire for construction of low-impact facilities. Every effort should be made to first co-locate public facilities on existing public or private facilities.

In conjunction with Montgomery County and other New River Valley localities, a regional approach to telecommunication and broadcasting facilities has been developed. This regional approach was initiated by Montgomery County to help local governments address the increasing demand for wireless facilities and their associated towers. The key items that are addressed in this regional approach are:

1. Uniform definition and approach to **co-location**;
  2. Uniform and consistent **notification** procedures;
  3. Uniform approach to **siting** of new towers;
  4. Uniform **mapping** of tower sites; and
  5. Consistent use of **consultants** to assist jurisdictions in review of requests.
1. **Co-location** refers to the siting of new antennas, microwave dishes, etc. on existing structures. This allows for the best use of existing structures and sites that can eliminate the need for construction of a new tower in an inappropriate area. Potential sites that provide co-location possibilities include, but are not limited to, the following:
- Existing telecommunication or broadcasting towers
  - Buildings
  - Water tanks and other public facilities
  - Electric transmission towers
  - Signs
  - Parks and ball field lights
  - Industrial parks

2. **Notification** of intent to construct a telecommunication or broadcasting facility refers to the written notification required for public hearings pursuant to § 15.2-2204 of the Virginia Code. In addition, the counties of Montgomery and Pulaski, City of Radford, and Towns of Blacksburg and Christiansburg have agreed to provide written notification to the Planning Commission of each jurisdiction upon receipt of a request for a new communication tower to allow for review and input from neighboring jurisdictions. Comments received from each jurisdiction will be considered by the jurisdiction having authority over the request during the public hearing process.
3. **Siting** of new telecommunication or broadcasting towers in a jurisdiction should be reviewed for its potential effects on surrounding jurisdictions as well as the jurisdiction in which the structure is to be located. Newly constructed towers should be built in locations that will provide the least negative impact to the citizens of each jurisdiction. The Town of Blacksburg encourages the use of "stealth towers" for new sites that require new construction or "new builds." The following locations are listed from most to least preferable when considering the siting of a telecommunication or broadcasting tower:
  1. Property zoned Industrial, Research and Development, or University
  2. Property zoned General Commercial
  3. Property zoned Downtown Commercial
  4. Property zoned primarily for high density residential uses
  5. Property zoned primarily for low density residential uses
  6. Agricultural, Conservation, or Ridgeline areas
4. **Regional Map** - Each jurisdiction has agreed to contribute information necessary to compile a regional map showing all tower/antenna sites and providers using those sites within each jurisdiction. Thus, each jurisdiction will be able to access current information on tower location to better assess the possibilities for alternative sites. This map may also include all government-owned property that may be available for co-location opportunities.
5. **Consultants** may be used from time to time by the jurisdictions to evaluate the possible alternatives and potential impacts of the request on the jurisdiction and the surrounding areas. Wherever possible, the jurisdictions will share resources and collaborate on the request to provide the most beneficial and economically feasible use of a consultant.





## **UTILITIES**

### **Objectives and Policies**

#### **Public Water System**

- U.1. Provide an adequate and reliable water distribution system throughout the Town that meets Town water specifications and standards that strive to limit water loss. This includes construction of new facilities plus maintenance and upgrades of existing facilities.
- U.2. Extend waterlines and upgrade all properties to provide fire protection service, ensuring waterlines are extended and fire hydrants are installed as part of any new development projects that occur in areas of Town not currently served by public water. Ensure that fire hydrants are installed within all existing developments in accordance with Town Code.
- U.3. Ensure the public water system provides adequate water storage facilities to serve Town residents.
  - Provide water storage supply equal to 48 hours of service to all areas within the Town and its service area.
  - Construct an additional water storage facility at the south end of Town, with screening equal to or exceeding existing tanks and with accommodations for telecommunication antennas.
  - Acquire and construct water storage facilities on the high system in the areas of North Main Street, Brush Mountain, and Harding Avenue and on the low system in the areas of Laurel Ridge, Price Mountain, and Brush Mountain that minimize impacts to the surrounding viewshed while also accommodating numerous telecommunication antennas.
- U.4. Ensure that all residents within Town limits are served by public utility services that provide adequate and reliable water and wastewater services. Areas outside the corporate limits will not be eligible for Town provided utility services unless a boundary line adjustment is requested and approved and the property becomes a part of the Town prior to services being provided.
- U.5. Require new developments to utilize pipe design and construction of the water system in accordance with Town Code and development standards.
- U.6. Plan regionally with local jurisdictions and authorities for public water needs, infrastructure, and utility extensions across jurisdictions.
  - Work cooperatively with other jurisdictions in the New River Valley to promote water conservation and to supply clean water to residents in the region without degrading the quality or quantity of the Town's water supply.
  - Continue to participate in the Blacksburg-Christiansburg-VPI Water Authority on drinking water issues.
- U.7. Encourage water reuse, including collection and reuse of stormwater and reuse of graywater.

## **Public Wastewater System**

- U.8. Provide a resilient, sustainable and cost-effective public wastewater service that is in conformance with all state and federal regulations.
- Decrease the amount of inflow and infiltration (I/I) within the system before peak flows exceed pipe capacity.
  - Employ renewable engineering strategies to extend the life of existing wastewater assets.
  - Encourage industrial process water recycling to reduce wastewater volumes and treatment demand.
  - Document existing environmental and ecological conditions prior to the construction of any wastewater system to provide baseline ecological information on any affected creek.
  - Encourage reuse.
- U.9. Continue an ongoing inspection and maintenance program as identified in the CMOM Program for the existing public wastewater system.
- Use Capital Improvement Program funds to upgrade and replace existing wastewater lines to reduce I/I.
  - Maintain a cleaning and root-cutting program to prevent stoppages.
  - Reduce I/I by disconnecting sump pumps and roof drain spouts from wastewater collection lines and utilizing other best management practices.
  - Explore the feasibility of establishing a program to require inspection of roof drains and sump pumps at the time of real estate property transfers.
- U.10. Plan regionally with other local jurisdictions and authorities for public wastewater needs, infrastructure, and utility extensions across jurisdictions. Participate with the Sanitation Authority to evaluate the region's rate of development and project treatment facility upgrade needs.

## **Stormwater Management System**

- U.11. Develop a Comprehensive Stormwater Management Program, including a Stakeholder Advisory Committee to implement the Stormwater Management Task Force recommendations.

## **Solid Waste Management & Recycling**

- U.12. Promote and expand waste reduction, reuse, and recycling locally and regionally by citizens, government and private businesses.
- U.13. Develop a comprehensive Environmentally Preferable Purchasing Policy for all Town government operations to encourage purchase of less toxic, more environmentally friendly items, for example, reduced packaging that contains recycled materials that can be reused locally.
- U.14. Continue to develop and promote long-term waste management and disposal strategies that explore alternatives to landfilling, including food composting and yard debris recycling.

- U.15. As regional waste collection practices become more uniform, contract regionally for collection services to increase cost effectiveness.
- U.16. As technology allows, consider development of a pay-as-you-throw program for refuse disposal whereby fees are based upon the amount of waste generated.

### **Electrical Services & Natural Gas**

- U.17. Support the development and maintenance of a highly reliable, efficient, and environmentally sound electrical infrastructure.
- U.18. Regarding underground utilities:
- Require that new installations of utilities in developments be constructed underground.
  - Emphasize conversion to underground utilities during all franchise negotiations and encourage Virginia Tech Electric Service and American Electric Power Company to convert overhead lines to underground on a continual basis.
  - Convert utility lines to underground service in Town road improvement projects and lay conduit in all Town projects in the right-of-way to provide for future utility relocations.
- U.19. Adopt or maintain reasonable regulations for utility separation, timing and coordination of work in the right-of-way, safety rules and regulations, and preservation of the streets in a condition to best serve the traveling public.
- U.20. Encourage all utility franchisees to implement and maintain Best Available Technology (BAT) practices and infrastructure.
- U.21. During all utility franchise negotiations, include a requirement that all utility companies report service disruptions on an annual basis to the Town of Blacksburg.
- U.22. Support programs for public and private entities to become more energy efficient and utilize alternative energy sources such as solar, wind, or other decentralized technologies.
- Promote the use of Demand Side Management (DSM) to reduce energy use through efficiency improvement devices.
  - Review and amend the Zoning Ordinance to incorporate clear standards.
- U.23. Coordinate with Virginia Tech Electric Service and American Electric Power Company to ensure a seamless electrical power supply to all areas of the Town and encourage planning and cost-share projects between the Town and utility companies.
- U.24. Provide cost-effective, energy-efficient street lighting in Town and on the Virginia Tech campus and VDOT-maintained roads that is appropriate to the use and character of the area and that promotes the Dark Sky initiatives.

- U.25. Accept alternate street lighting within neighborhoods that is appropriate to the character of the area, available through the electric utility, and where any excess cost is paid by the neighborhood residents or commercial property owners.
- U.26. Support the development and expansion of natural gas service that is reliable, cost effective, properly maintained, and responsive to customer needs. Require the best available safety measures and practices in franchise negotiations and encourage the expansion of natural gas service to new developments in a manner that accommodates anticipated commercial and industrial growth.

### **Telecommunications and Technology**

- U.27. Establish and maintain a vision of and goals for the Town's globally competitive telecommunications infrastructure and technology-related services.
- U.28. Establish public and private partnerships to undertake projects connecting any major public or private facility with fiber optic services.
- U.29. Apply infrastructure and applications to make the municipal workplace and technology services better, faster, or less expensive; and to provide services that cannot be provided any other way.
- U.30. Regularly assess the Town's IT situation, monitor performance of infrastructure and services, and adjust activities as necessary.
- U.31. Continue the transition toward paperless communications for all Town of Blacksburg processes, including website upgrades to implement the latest technology advances for on-line registration, payment and tracking of applications for all Town services and programs.
- U.32. Pursue technology initiatives to provide additional access to Town and County services, including an upgrade for online virtual Town Hall meetings and additional meeting space designed for digital recording.

### **Wireless Facilities**

- U.33. Continue to implement the regional approach to siting wireless facilities. Encourage Virginia Tech to carefully consider and restrict the placement of wireless facilities on-campus and at the Corporate Research Center.

# TRANSPORTATION

## *How We Get around Town and Beyond*

### GOAL

Provide an interconnected, multi-modal transportation system that is safe and efficient, serves a diverse population, and supports land use.

### Sustainability Goal

The Town is committed to providing viable mobility options to the personal automobile and making it an integrated part of daily life. The Town seeks to reduce its own carbon footprint by following best management practices for Town vehicles while promoting employee carpooling and transit use.

### Citizen Involvement

There are several Council-appointed committees that address transportation issues and that permit citizen participation: Greenway/Bikeway/Sidewalk Corridor Advisory Committee and Planning Commission. Citizens can voice concerns at Town Council meetings or request site specific improvements to the Traffic Committee. Citizens can participate in the Blacksburg Citizens Institute to learn more about Town operations or even work as a part-time bus driver for Blacksburg Transit.

### OVERVIEW

Citizens can choose to commute by means other than the traditional single-occupancy vehicle by walking, biking, carpooling or utilizing transit. The Blacksburg transportation system comprises a variety of elements including trails, sidewalks, bicycle routes, transit, roads, alleys, parking, and air transportation. The Town seeks for elements of the transportation system to complement each other while connecting the Town to the New River Valley and beyond. The Town's multi-faceted approach to transportation planning for easy mobility of people and freight is an integral component supporting Blacksburg's unique characteristics and quality of life. Residents of any age, Virginia Tech faculty and students, and visitors should be able to have a lifestyle in Blacksburg that does not require a car for transportation.

Creating an integrated transportation system in Blacksburg requires regional cooperation from Virginia Tech and the surrounding jurisdictions. Virginia Tech's Alternative Transportation Office's commitment has received recognition on the Environmental Protection Agency's list of "Best Workplaces for Commuters" among colleges and universities. The Blacksburg/Christiansburg/Montgomery Area Metropolitan Planning Organization (MPO) is committed to alternative transportation options. The 2035 Transportation Plan includes transit improvements, rideshare/park & ride improvements, bikeway/walkway improvements, and intercity transportation options.

The chapter's transportation elements are discussed from small to large and local to regional. The chapter begins with a review of the **Paths to the Future Plan**, which includes off-road trails, **Sidewalks and Bicycle Routes**. This system connects to and supplements the Town's **Transit** options. Presented next is the **Road Network, Alleys**, and **Parking** elements that complete the Town's transportation network system. The chapter closes with a discussion of **Regional Access**, including state highways and **Air Transportation**.

## **PATHS TO THE FUTURE**

The Town of Blacksburg's Comprehensive Plan Land Use Map Series is a series of four maps A-D, with maps A-C addressing future land use within the Town. Map D illustrates the Paths to the Future, which is the Town's master plan showing existing and proposed pedestrian and bicycle routes for greater mobility options within the Town. The Paths to the Future map components are discussed below. *Please refer to the Land Use Chapter for discussion on the use of the Paths to the Future map as part of the development review process.*

People want to use the Town's network of pedestrian and bicycle routes for many different reasons. Some are recreational users, such as a family out for a Sunday afternoon walk on the Huckleberry Trail. Others are commuters who will bicycle on weekdays to work and class on routes such as the Huckleberry Trail. Both groups have different needs for the Paths to the Future system that must be equally accommodated in the development and maintenance of a routes system to meet all needs.

The multi-purpose, off-road trail is a good option for all users including those riding bicycles, walking, or jogging. These trails are independent of roads and automobile traffic. In some locations, however, it is not possible to provide off-road connections. Therefore, the Town's focus is to develop a comprehensive combination of off-road and on-road routes in the system with attention to easy access and safe transitions between all routes.

The Town's bicycle and pedestrian route network into Downtown and around Town promotes connectivity (*please refer to Land Use Map Series, Map D: Paths to the Future*). The Huckleberry Trail, a rails to trails project, serves as a main artery of the Town's trail system with connections to Christiansburg and the Jefferson National Forest. As noted, the system is a combination of off-road and on-road facilities that, when fully constructed, will provide for local and regional connectivity. The Town supplements the Paths to the Future map with additional sidewalks, bicycle routes and shared roadways for an even richer set of bicycle and pedestrian travel options.

The Greenway/Bikeway/Sidewalk/Corridor Committee, commonly referred to as the Corridor Committee, strongly advocates the planning and development of multi-use trails, along with bicycle routes and sidewalks. Specific trail configurations are based on topography and specific site characteristics. More review will be needed particularly for trails in relation to the Creek Valley Overlay District. *Please refer to the Blacksburg Administrative Manual for additional information regarding specific projects.*

The Corridor Committee annually reviews the Paths to the Future map to reflect construction of new routes and propose alterations to the existing bicycle and pedestrian network.

Challenges exist for route development throughout Blacksburg. Public funding is limited for land acquisition and construction of routes. Non-local financial grants have been helpful in building the existing system and hold promise for future construction.



*Huckleberry Trail*

Opportunities for additional route connections are limited in the more developed portions of Town. Many residential neighborhoods and apartment complexes lack pedestrian and bicycle route connectivity and innovative initiatives are needed to correct existing deficiencies.

Despite pedestrian and bicycle route development challenges, citizens and businesses recognize the value of pedestrian and bicycle route connectivity and systems throughout the community. In a 2011 needs assessment citizen survey conducted by the Parks and Recreation Department, “walking, biking trails and greenways” was the top ranked Town recreation amenity. The continued development of a connected pedestrian and bicycle route network will have a visible effect on the overall quality of life in Blacksburg. *Please refer to the Environment Chapter for a detailed discussion of the benefits of greenways and the various functions they serve.*

## **Sidewalks**

As of 2012, there are approximately 140 miles of sidewalks in Blacksburg, including the Virginia Tech campus. Sidewalks complement the transportation network by increasing the safety of pedestrians and offering an alternate and practical option to the automobile, thus encouraging more people to walk to their destinations. Blacksburg’s sidewalk system is integrated with both the Blacksburg Transit system and the bikeway network in order to serve many transportation needs.



Town sidewalks are intended to serve a variety of functions in the community. They separate pedestrian and vehicular traffic, thereby facilitating better traffic flow, affording more safety to pedestrians; they allow for circulation within residential areas and provide pedestrian access to schools, recreational areas, commercial areas, the Downtown, and Virginia Tech. Sidewalks also provide safer areas for disabled citizens to travel and for children to travel and play. Conflicts between automobile and pedestrian safety occur where adequate facilities for pedestrians are not provided; therefore, maintaining a contiguous system of walkways, instead of a fragmented system, is critical to avoiding such conflicts.

Most arterial and many collector roads in Blacksburg have sidewalks on at least one side. New subdivision construction must provide sidewalks on at least one side of its streets unless a variance is granted. A few heavily traveled collector roads do not have sidewalks along them. Older streets, which are unlikely to have sidewalks, generally do not have sufficient right-of-way to construct sidewalks with any separation from the street without easements from adjacent properties. New sidewalk construction in established neighborhoods may also conflict with mature trees or other landscaping.

There are two ways new sidewalks are constructed within the Town. One way is when sidewalks are constructed in new developments where the developer pays for and constructs it. The second way is for the Town to construct new sidewalk connections and repair old sidewalks.



Sidewalk needs within the Town exceed current funding and require a long term commitment to retrofitting and completing the sidewalk network. To maximize current sidewalk construction, the Town utilizes a variety of funding sources, which include VDOT Revenue Sharing programs and allocations of funds or labor through the Town's Capital Improvement Program. The Town has also successfully used the federally-funded Safe Routes to School program. Gilbert Linkous Elementary, Harding Elementary, and Margaret Beeks Elementary schools have all participated with the Town on this program, which provides funding for needed sidewalk connections and other infrastructure improvements promoting walkability.

The Corridor Committee provides strong advocacy for planning and development of sidewalks. Sidewalk projects funded by the Town are prioritized by a ranking system developed by the Corridor Committee that is approved by Town Council. Until such a time that a new ranking system is approved, the Sidewalk Project Ranking System, adopted October 12, 2009, is used to guide priorities. *The Sidewalk Project Ranking System and the resulting Priority Construction Projects List and Map are all located in the Blacksburg Administrative Manual.*

## **Bicycle Routes**

For many, the bicycle is a desired alternative to the automobile for transportation around Blacksburg. Bicycle routes complement the Paths to the Future while providing more options of on-street bicycle lanes and shared roadways for commuting use. Blacksburg Transit promotes cycling by equipping its buses to carry the bicycles of passengers. Many clubs and organizations within Blacksburg that are associated with the Town and/or Virginia Tech promote cycling for recreation and physical fitness. Recreational cyclists do use the on-street system; however, the off-road trail system is often preferable for this user group.

The Town has designated bicycle routes throughout the community. Bicycle lanes are provided along several collector streets. These routes are intended to encourage alternative transportation options throughout Town. Many streets do not include bicycle lanes to accommodate cyclists, and bicycle lanes are not appropriate on some roads. Conflicts between automobiles, pedestrians and cyclists do occur where adequate facilities for cyclists are not provided. Therefore, maintaining a contiguous system of bicycle routes, instead of a fragmented system, is critical to avoiding such conflicts. Secondary effects associated with designated bicycle routes include an increased awareness of bicyclists on the Town's street network, increased safety for both bicyclists and motor vehicles, and traffic calming in neighborhoods and along primary roads.

The Corridor Committee provides strong advocacy for planning and development of on and off-road bicycle routes. In 2011, a component of the Corridor Committee, along with citizens and Town staff, began meeting to develop a more detailed master plan for desired bicycle and pedestrian routes in Blacksburg, including the desired construction detail standards. To date, this plan is still being developed. The March 2012 draft of the Town of Blacksburg Bicycle and Pedestrian Master Plan proposes a color coded bicycle and pedestrian route system that connects residential areas to key destinations such as Downtown, the Virginia Tech Campus and the Corporate Research Center. Once completed, it will be presented to Town Council for consideration and potential adoption, and if adopted, then integrated into the Comprehensive Plan. Until then, the adopted

Paths to the Future Map shall serve as a guide for proposed bike routes. *For more details, please refer to the Blacksburg Administrative Manual for the Bicycle Route Map and Construction Priority List developed by the Corridor Committee.*

## **TRANSIT**

Local and regional public transit options are important to Blacksburg's quality of life because they provide transportation alternatives to the private automobile for residents, Virginia Tech faculty, students, and staff, and visitors to the Town. The various transit services discussed below are now available within the Town of Blacksburg and provide connections to Christiansburg, Roanoke and beyond.

### **Blacksburg Transit**

Blacksburg Transit forms its own department within the Town and is administered by Blacksburg's Town Council. Blacksburg Transit authors a Transit Development Plan (TDP) that contains an overview of Blacksburg Transit's history, facilities, fleet, provided services, as well as its goals, objectives and strategies for the next 6 years. Transit projects are identified and categorized into those affecting existing route services, new local services, and new regional services. Blacksburg Transit's first TDP, "Blacksburg Transit 2011-2017 Transit Development Plan," was adopted on October 25, 2011 by Town Council. The State requires this plan to be updated on an annual basis. The most current plan can be found online at [www.montgomerycountyva.gov/filestorage/1146/98/157/658/Blacksburg\\_Transit\\_2011-2017\\_Transit\\_Development\\_Plan.pdf](http://www.montgomerycountyva.gov/filestorage/1146/98/157/658/Blacksburg_Transit_2011-2017_Transit_Development_Plan.pdf).



*Blacksburg Transit Bus*

As of January 2012, Blacksburg Transit had an annual ridership of over 3.3 million passengers and a fleet of more than 40 buses. Blacksburg Transit serves a 28 square mile area with approximately 253 transit stops. Blacksburg Transit provides fixed-route, demand response, and special events services to its riders. Use of the transit system is open to the general public. On average, ridership is predominately students (90%) with the other 10% being comprised of University faculty and staff and the general public. In general, local routes serve the Town and the core campus of Virginia Tech since the University relies on Blacksburg Transit as a primary means of student transportation between local apartment complexes and campus. Express routes link Blacksburg to Christiansburg, serving the Montgomery Regional Hospital, Route 460 Business corridor, and downtown Christiansburg. Details of the current Blacksburg Transit routes, schedules, and programs can be found at [www.btransit.org](http://www.btransit.org) with additional routing information available through Google Transit at: <http://www.google.com/intl/en/landing/transit/#mdy>.

### **Blacksburg Transit Multi-Modal Facility**

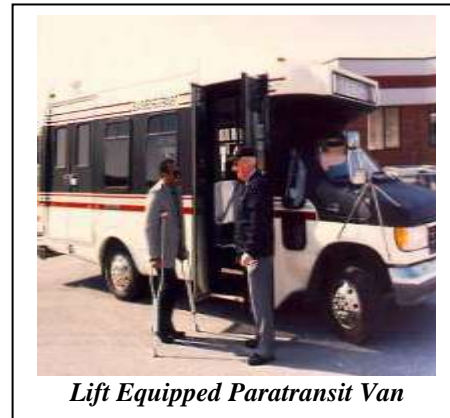
Blacksburg Transit operates as a hub and spoke system with the hub currently located in front of Burruss Hall on the Virginia Tech campus. The TDP calls for construction of a Multi-modal Transit Facility (MMTF) in conjunction with Virginia Tech to relocate the hub from the Drillfield to the proposed location on Perry Street. Planning is underway for

the hub relocation. Blacksburg Transit, in conjunction with Virginia Tech, has developed a concept plan for a MMTF to serve the bus passenger transfer and multi-modal transportation needs of the Blacksburg community and the greater region including bicycles, pedestrians, Home Ride, Ride Solutions, and the Smart Way bus. The MMTF will be designed to meet the operational needs of transit to the Blacksburg community for today and into the future. The MMTF will also maintain the integrity and safety of vehicular, bicycle and pedestrian traffic on the Virginia Tech campus. Additionally, transit access from the core campus areas to the Corporate Research Center (CRC) will be provided from the MMTF to accommodate the increasing presence of Virginia Tech offices, research, and laboratories housed at the CRC.

Blacksburg Transit is also investigating other routes to serve local businesses. A limited stop trolley service is being considered to connect the commercial development at First and Main with Downtown and the commercial development along University City Boulevard. The capital cost, operating costs and demand for service will determine when and if this service can be provided.

### **BT Access**

Serving individuals with disabilities with adequate transportation is another challenge the Town faces. Census data has identified a significant number of people living in our area with disabilities, and the local human resource agencies have also identified transportation issues for those in the community who are disabled. To serve those with temporary or permanent disabilities, Blacksburg's fixed-route service is complemented by an ADA paratransit service, BT ACCESS. Individuals who otherwise cannot complete their trip on the fixed-route system can apply to become certified to use BT ACCESS.



*Lift Equipped Paratransit Van*

### **Challenges for Blacksburg Transit's Future Emissions**

New federal regulations requiring stricter emissions standards are driving rapid technological changes in emissions for transit vehicles. Potential replacement buses could be hybrid-electric, electric, fuel cell, natural gas, methane or other alternative fuels. To help support the Town's sustainability goals, Blacksburg Transit has purchased 11 diesel-electric hybrid buses. As of 2010, Blacksburg Transit purchased its first two 60-foot diesel-electric hybrid articulated buses. In other efforts to promote the Town's sustainability goals, the Town has developed a Town employee bus-pass system to encourage the use of transit.

### **Bus Stop Amenities**

Forty-one of Blacksburg Transit's 253 transit stops have bus shelters and benches, with a number of additional stops having benches only. Blacksburg Transit wishes to increase the number of stops with amenities such as shelters, benches, and other means of weather protection at major transfer locations on-campus, large trip generators, and stops with increased amounts of passengers, among other key locations, in order to provide overall safety and comfort for its riders.

### **Funding Neighborhood Expansion Opportunities**

Although the Town operates Blacksburg Transit, the service is fully funded by federal and state transit grants, fare box revenues, partnerships, advertising, and a portion of Virginia Tech student activity fees. Thus, Blacksburg Transit has traditionally provided local service within the Town of Blacksburg for students commuting to the Virginia Tech campus and the CRC. There is currently no general fund subsidy from the Town for regular Blacksburg Transit service into the Town's residential neighborhoods. The demand for service to more residential areas within the Town and outside the Town has increased and will continue to increase. The current funding structures and fare levels cannot support extension of traditional transit service into lower density residential neighborhoods. New transit service operational alternatives and new funding solutions are needed to promote the expansion of neighborhood transit. Other avenues for transit expansion include commercial connections and tourism-oriented transit.

### **The SmartWay Bus**

The SmartWay Bus is a commuter bus service operated by Valley Metro of Roanoke that links the Roanoke Valley to the New River Valley. Service is provided between downtown Roanoke and the Virginia Tech Squires Student Center with stops in downtown Blacksburg, the CRC, Christiansburg, and Roanoke Regional Airport, plus several Park & Ride areas. Blacksburg Transit provides connecting service to and from SmartWay Bus stops in Blacksburg. Detailed routes and schedule times can be found at [www.smartwaybus.com](http://www.smartwaybus.com), including rail connection to Amtrak.

### **Interstate Bus Service and the MegaBus**

No interstate bus service is available directly from the Town. For Greyhound service, Roanoke, VA, is the closest location with connecting service via the Smart Way Bus. In 2011, MegaBus, a long-distance express bus service in the United States and Canada, added a stop in Christiansburg at the 118 Exit Park and Ride area. Via the SmartWay Bus, passengers can connect with the MegaBus in Christiansburg and make the non-stop trip north to Union Station in Washington, DC or south to Knoxville, TN. [www.megabus.com](http://www.megabus.com)

## ROAD NETWORK

To promote mobility, access and safety in the Town and Virginia Tech campus, the Town of Blacksburg is dedicated to constructing a grid network system of roads. This road network will provide transit stops and connections to the Paths to the Future. Sidewalks and bicycle lanes are desired elements of the road network system. The following section details the regional planning efforts, road categories, and proposed road construction improvements as required by State code.

### Virginia Department of Transportation (VDOT)

The Town of Blacksburg is located within VDOT's Salem District. The Salem District maintains more than 9,200 miles of specific roads in a 12-county area in southwestern Virginia: Bedford, Botetourt, Carroll, Craig, Floyd, Franklin, Giles, Henry, Montgomery, Patrick, Pulaski and Roanoke. The district serves more than 650,000 citizens who live in these counties and the cities within them.



### Primary Road Project Funding

The Town of Blacksburg has two main categories of road projects: state primary road projects and urban construction initiative road improvement projects. VDOT manages the road construction for projects on primary roads such as the Route 460 Bypass. In order to receive funding for road projects on state primary roads, the Town competes with the rest of the VDOT Salem District for funding priority, as detailed in the Virginia Transportation Six-Year Improvement Program for Primary Roads.

### Urban Road Project Funding

Urban road projects include the Town's collector and arterial roads as illustrated on the Town Street Classification map on page 12. The Town participates in the Urban Construction Initiative Program for improvements to these roads. VDOT finances these projects completely. Once a road project is funded, to accelerate construction of the project, the Town oversees and manages the engineering, design and construction of road improvements in Town, as opposed to project management by VDOT. If the Town manages the project efficiently, safely and successfully, the difference in cost savings can be applied towards financing other urban road projects within Town.

VDOT funds in this program have decreased significantly which has impacted collector road construction. The Town continually seeks other sources of funding for road construction. One example is VDOT's Revenue Sharing program, which is a 50/50 split of road construction costs between VDOT and the Town. As the funding cap for the Revenue Sharing has been increased, Revenue Sharing has recently become a key funding source for financing road construction projects in Town. As the State addresses the larger state-wide funding transportation issue, there will be continued changes to the traditional allocation of funds and required local contributions. Regardless of the funding source, road project priorities are established through the process detailed on the following page.



### **Establishing Road Project Priorities**

In *Blacksburg 2046*, the Town establishes its long-range transportation policies and road projects, including cost estimates. Blacksburg policies and road project priorities are forwarded to the Blacksburg-Christiansburg-Montgomery Area Metropolitan Planning Organization (MPO), which coordinates and prioritizes the long range transportation policies of Blacksburg, Christiansburg and Montgomery County into the Blacksburg-Christiansburg-Montgomery Area 2035 Transportation Plan (the Plan). The road improvement projects in the Plan are then funded through VDOT's Six-Year Improvement Program. The Town's policies and projects should be reviewed at a minimum of every five years in conjunction with the Town's review of *Blacksburg 2046* or when the MPO's 2035 Transportation Plan is reviewed, whichever occurs first.

### **The New River Valley Metropolitan Planning Organization (MPO)**

The MPO is a transportation policy-making organization serving the Town of Blacksburg, the Town of Christiansburg, Radford and adjacent urban areas of Montgomery and Pulaski Counties. The MPO was established based upon population and population density results from the 2000 Census and expanded to include the City of Radford and part of Pulaski County based upon the 2010 Census. The MPO provides the information, tools, and public input necessary to improve the performance of the transportation system of the region. Future transportation needs are addressed, giving consideration to all possible strategies and the community's vision. The Town and MPO coordinate with the regional road planning efforts conducted by the New River Valley Planning District Commission. This includes plans such as the 2035 Rural Long Range Transportation Plan, the Regional Bikeway-Walkway-Blueway Plan, and Regional Transit Authority study.

[www.montgomerycountyva.gov/content/1146/98/157/default.aspx](http://www.montgomerycountyva.gov/content/1146/98/157/default.aspx)

### **The Blacksburg/Christiansburg/Montgomery Area 2035 Transportation Plan (2035 Plan)**

Adopted in November 2010, the 2035 Plan describes a comprehensive set of transportation improvements for the Towns of Blacksburg and Christiansburg and the surrounding urbanized portions of Montgomery County. The proposed improvements seek to meet current travel demands, as well as projected travel demands to the year 2035. The Plan was developed in accordance with federal, state, and local requirements for an MPO Plan. These included early and ongoing public involvement, extensive coordination with local governments to ensure that local goals and objectives were reflected in the Plan recommendations, a 20-plus year horizon for Plan recommendations, consideration of anticipated transportation funding, and responsiveness to federal planning factors.

Because anticipated needs exceeded funding projections to the year 2035, the Plan includes projects within a Financially Constrained Plan as well as a desired Vision Plan. Should funding projections increase prior to the usual five-year update cycle of the Plan, priority projects in the Vision Plan can be incorporated into the Financially Constrained Plan through an amendment to the Plan.

The development of the Plan included data collection, assessment of the existing transportation system, refinements to the regional computerized transportation model, and public meetings at key milestones to solicit input. Each of these is described within this document. Plan recommendations were based on technical analyses, public input, and

consideration of local planning, mobility, safety, and economic development initiatives. The Financially Constrained Plan includes projects from two sources:

- 1) Projects currently programmed for funding in the Virginia Department of Transportation (VDOT) Six-Year Improvement Program (SYIP), which covers fiscal years 2011 through 2016; and
- 2) Projects that could be implemented based on anticipated funding streams between 2017 and 2035.

Current funding amounts for projects in the SYIP total approximately \$16.4 million.

The Plan notes the region's transportation system integrates multiple travel modes, including those that primarily function on roadways (or within or immediately adjacent to roadway rights-of-way), as well as modes that use separate facilities. Roadway-related modes include single occupant vehicles, rideshare (and park-and-ride facilities), trucks, bus transit, bicycles, and pedestrians. Improvements to support these modes are included in both the Constrained and Vision Plan projects. Modes not directly related to roadways include air and rail travel and are detailed further within this chapter.

The MPO has begun the 2040 Plan update with a Fall 2015 completion date that will incorporate the expanded service area.

### **Blacksburg Road Classification System and Speed Limit**

As of 2012, the Town's internal street network consists of approximately 350 lane miles of local, collector, and arterial streets. All streets within the Town of Blacksburg are assigned a speed limit of 25 miles per hour unless otherwise posted. Streets are classified into one of the following three groups, which determine construction standards and speed limits:



- **Local streets** provide direct access to adjacent land and make up approximately 75.6% (or 264.8 lane miles) of the total street mileage, while carrying a relatively small proportion of the vehicle miles traveled. These streets serve primarily residential and neighborhood traffic. Speed limits on these streets in the Town are 25 miles per hour and may be posted as low as 15 miles per hour in areas with high pedestrian activity or hazardous terrain or a school zone.
- **Collector roads** connect the local street system to the arterial roads and, thus, carry a higher level of traffic than local streets. These roads comprise approximately 11% (or 38.2 lane miles) of the Town's total street mileage. Collector roads may provide direct access to adjacent land; however, they primarily route traffic from neighborhoods to major employment and commercial centers. Speed limits on these roads range from 25 to 35 miles per hour.
- **Arterial roads** are major routes for traffic movement within an urban area, serving traffic movement to and from interstates. These roads make up approximately 13.4% (or 47.4 lane miles) of the Town's total street mileage. Arterial roads connect the principal traffic generators within the urban area, as well as major rural routes. Speed limits on these roads range from 25 to 55 miles per hour in Town. Main Street and Prices Fork Road are two of Blacksburg's major arterial roads. No

primary north-south alternative to Main Street exists, nor is there currently an east-west alternative to Prices Fork Road.

The Town has recognized that the character of neighborhoods and the broader community could be compromised if road network improvements consider only facilitation of vehicular traffic flow or if roads planned to serve as local roads function as collector roads. Further, there is recognition that if dead-end streets or cul-de-sacs proliferate at the expense of an integrated network, traffic constriction and congestion will result.

### **Traffic Signals and Road Capacity**

As of July 2012, there are 23 traffic signals in Town, 19 of which contain pedestrian crossing phases. Signalization or de-signalization of intersections should occur as warranted, based upon traffic counts and surrounding development patterns.



*Pedestrian Crossing Signal*

All arterial and collector roads within Town that operate within capacity and with no significant delays have a level of service of C or better. During the peak hours, congestion occurs in few locations and generally is limited to a period of 30 minutes, during which some roads and intersections operate at levels of service D or E. Road capacity is continually monitored with proposed improvements such as signal light sequence timing and construction of roadway upgrades to alleviate congestion as funding becomes available. *Please refer to the Blacksburg Administrative Manual and Glossary for more details.*

### **Road Maintenance**

Roadway conditions are good within Town and are supported by regular maintenance and paving schedules. Maintenance of public roads, including repairing pot holes or repaving streets, is completed by the Blacksburg Public Works Department. However, VDOT provides funds for the maintenance of public roads utilizing a statewide formula based upon population and number of miles of road. The Town also puts funds toward the regular paving and maintenance program and, while robust, the program cannot meet the desired level of maintenance on a yearly basis for roadways within the Town. In addition to paving and repair, the Town Public Works Department also performs maintenance on tree and vegetation encroachments and median plantings.

### **Traffic Committee**

The Town Manager appoints a Traffic Committee each year to consider and make recommendations on issues relating to traffic safety and parking in Town. The Traffic Committee promotes better compliance with the traffic laws in order to provide safer streets for pedestrians, cyclists, children, and the elderly. The committee consists of representatives from the Police, Public Works, Transit, Planning and Building, Engineering and GIS Departments, Blacksburg Volunteer Fire Department, Blacksburg Volunteer Rescue Department, Downtown Blacksburg, Inc. and two citizen representatives. Complaints, concerns, and suggestions relating to traffic, parking, or pedestrian safety are forwarded to this committee monthly for recommendation to the Town Manager. Recommendations, which can include minor road improvements or upgrades, are funded through the Town's Capital Improvement Plan.





## **The South Blacksburg Transportation Planning Task Force**

The South Blacksburg Transportation Planning Task Force (Task Force) was established by the Blacksburg Town Council in February 2008. The charge of the Task Force was to study existing and projected transportation demands and facilities in the southern area of Town. The Task Force made recommendations to the Town Council on transportation policies, programs, and projects that provide for the efficient and safe movement of people and goods as well as reduce inappropriate use of neighborhood streets for cut-through traffic. The financial impacts of recommendations were also to be considered by the Task Force.

Final recommendations were made to Town Council in December 2010 and are available on the Town's website. In March 2011, Town Council reviewed the implementation of recommendations and noted that a number were already ongoing efforts by the Town, while other recommendations were to be pursued within the next 12-24 months or in three to five years. Finally, Town Council was undecided on some recommendations and decided to revisit the Task Force recommendations in the future.

The Task Force developed recommendations on all modes of transportation but prioritized three key recommendations below:

**Recommendation #1:** Make a commitment to the creation of at least one new east-west connector road. The best alternative, which is supported by the traffic modeling, is the construction of both Hubbard Street Extended and Research Center Drive. The Task Force understands that it is unlikely that both of these roadways can be built. The Task Force's preference is that Hubbard Street Extended be the first priority.

**Recommendation #2:** The most important short term recommendation of the Task Force is to establish broader geographic application of traffic control measures in and around the Southgate Drive neighborhoods and Margaret Beeks Elementary School.

**Recommendation #3:** A standing committee focused on transportation issues should be established by Town Council to provide input on transportation issues for the Town. The Town should commit to regular updating of traffic modeling to track changes in the area.

Additionally, the Task Force made a variety of other recommendations detailed in the final report and implementation matrix regarding land use and transportation, vehicular traffic, transit, rail, and bicyclists and pedestrian improvements.

Transportation planning is a complex issue. When the South Transportation Task Force recommendations are revisited, they should not be studied in isolation. Instead the recommendations should be reviewed in conjunction with completed projects, public and private, new plans such as the bicycle master plan and a current analysis of VDOT funding so that realistic road improvements can be achieved to provide the utmost mobility within Blacksburg and the New River Valley.

## Road Project Priorities & Cost Estimates

The Virginia State Code Section 15.2-2223 requires comprehensive plans to “include 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.”

The following chart and map address this requirement with project cost estimates as of spring 2014. Cost estimates will need to be adjusted accordingly prior to construction for inflation and fluctuating prices in material costs and labor. All projects should be constructed with sidewalks, bike routes and trails per the Comprehensive Plan and Town Zoning Ordinance.

### VDOT Six Year Plan

<b><i>Projects in the Blacksburg Urban Construction Program – Funding in place</i></b>	
1.	<b>Corporate Research Center/ Va. Tech Interchange Project</b> Improve Southgate Drive, relocate portions of Tech Center Drive, and construct an interchange at the Route 460 Bypass with grade-separated Huckleberry Trail crossing. <i>\$16 Million</i>
2.	<b>Research Center Drive Improvements</b> from Industrial Park Drive to the Corporate Research Center. <i>\$3 Million</i>
3.	<b>North Main Street Improvements</b> from Giles Road to Mount Tabor Road, including realigning Mount Tabor Road with Givens Lane and widening Main Street to four lanes with landscaped medians, bicycle routes, trails, and sidewalks. <i>\$13 Million (Funding Expected)</i>
<b><i>Other Priority Projects – Listed Alphabetically</i></b>	
4.	<b>Commerce Street Extension</b> from the Industrial Park to Jennelle Road. <i>\$1.6 Million</i>
5.	<b>Cross County Connector Extension</b> Connecting with Southgate Drive as 4-lane boulevard with median, bicycle routes, sidewalks and grade-separated interchanges with the Huckleberry Trail crossings; extending west of the Route 460 Bypass to Prices Fork Road to improve access to Hethwood, Merrimac, and Warm Hearth areas. <i>\$10.5 Million</i>
6.	<b>Draper Road Improvements</b> from College Avenue to Miller Street to include streetscape improvements. <i>\$2.8 Million</i>
7.	<b>Ellett Road Improvements</b> from South Main to corporate limits, widen to four lanes with sidewalks, bicycle routes and trail. <i>\$5.9 Million</i>
8.	<b>Farmview Drive/Mabry Lane Improvements</b> to include bicycle routes and sidewalks with connections to the future Town Interchange Park. <i>\$3.4 Million</i>
9.	<b>Glade Road Improvements</b> to include bicycle routes, trail, and sidewalks. <i>\$1.7 Million</i>
10.	<b>Harding Avenue Improvements</b> between Progress Street and the corporate limits. <i>\$2.2 Million</i>
11.	<b>Heather Drive Extension</b> from Prices Fork Road to Glade Road. A collector road with bicycle routes, sidewalks and trails. <i>\$3.9 Million</i>
12.	<b>Hubbard Street Extension</b> from Airport Road to Southgate Drive with a grade-separated crossing for the Huckleberry Trail. Extend Electricity Drive as a two-lane road with berm and bicycle route from Airport Road to the proposed Hubbard Street extension. Include bicycle routes and trail. <i>\$6.3 Million</i>
13.	<b>Meadowbrook Road Improvements</b> to include bicycle routes, trail, and sidewalks. <i>\$3.9 Million</i>
14.	<b>Mount Tabor Road Improvements</b> from Main Street to the corporate limits. Include bicycle routes, sidewalks and trail. Realign with Givens Lane. <i>\$4 Million</i>
<b><i>Other Priority Projects, cont.</i></b>	
15.	<b>North Main Street Improvements</b> from Mount Tabor Road to Route 460 Bypass to widen to four lanes with medians, bicycle routes, sidewalks and trails. <i>\$10.6 Million</i>
16.	<b>North Main Street/Rt. 460 Grade-Separated Interchange</b> <i>\$10 Million</i>
17.	<b>Progress Street Extension</b> through Northside Park from Givens Lane to North Main Street as collector road with sidewalks, bicycle routes and trails. <i>\$4 million</i>
18.	<b>Shadow Lake Road Improvements</b> to include bicycle routes and sidewalks, realign from Basil Lane to Lakewood Street. <i>\$2.2 Million</i>
18.	<b>South Main Street Improvements</b> from Roanoke Street to Eheart Street streetscape improvements to include

brick sidewalks, streetlights, signals and streetscape to match Downtown. *\$1.5 Million*

19. **Toms Creek Road Improvements** west of Route 460 to include bicycle routes and sidewalks. *\$2.1 Million*

20. **Turner Street Improvements** between Prices Fork Road and Main Street to include streetscape, widened sidewalks, bicycle routes and a raised pedestrian crossing at the curve. *\$1.4 Million*

*All road projects should include bicycle lanes, trails, sidewalks and other amenities as called for in the Comprehensive Plan and Town Zoning Ordinance.*

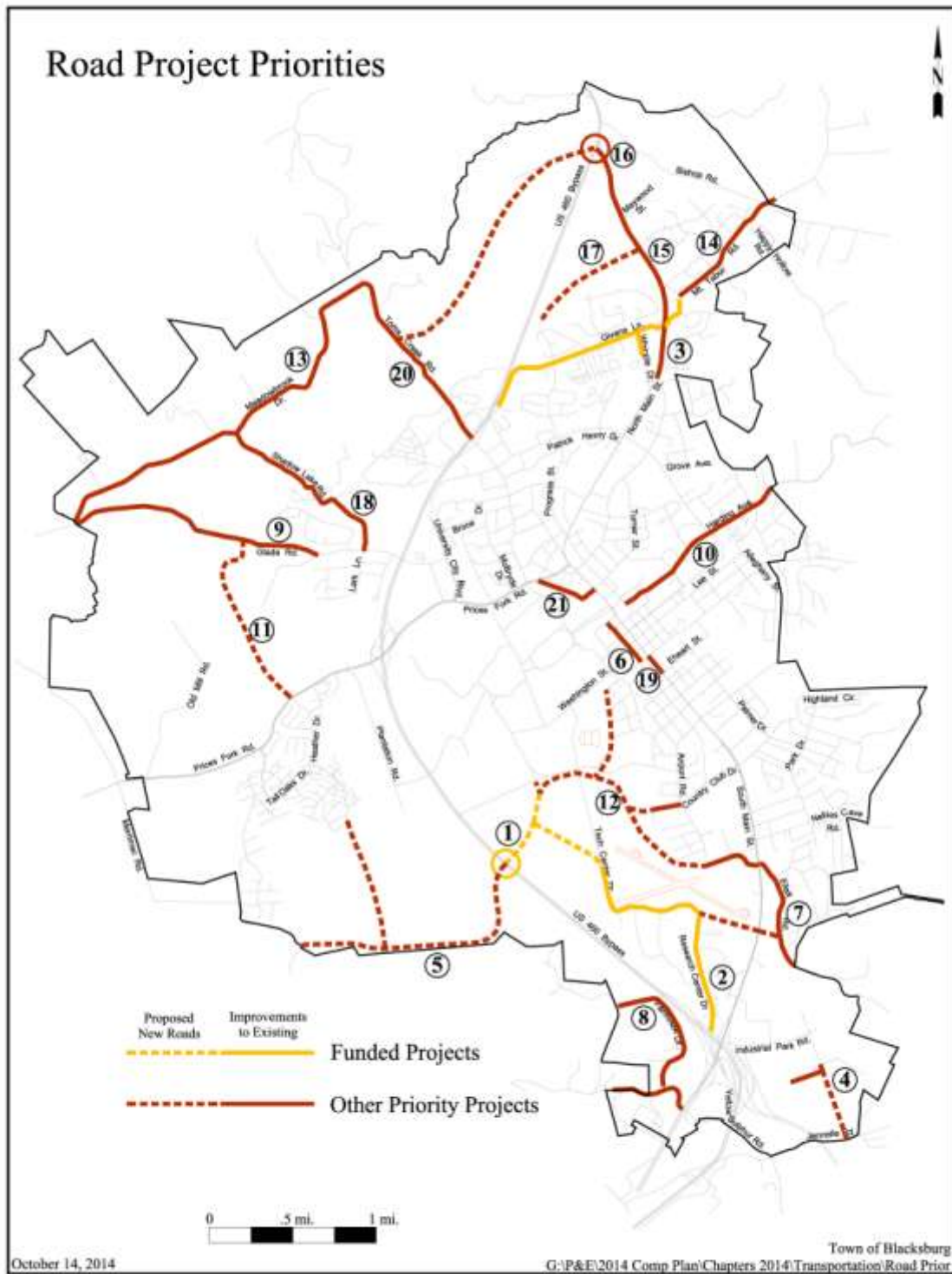
### ***Recently Completed Projects***

1. **Progress Street Extension** from Main Street to Givens Lane and **Givens Lane Improvements** to include bicycle routes and sidewalks. \$16 Million

2. **College Avenue Promenade** Enhance pedestrian streetscape and town/university green space to include a gathering place for a variety of community events. \$4.5 Million

3. **Blacksburg High School Signal** Install signal light with pedestrian crossing signalization at new intersection on Prices Fork Road with new high school entrance. \$500,000

# Road Project Priorities





## ALLEYS

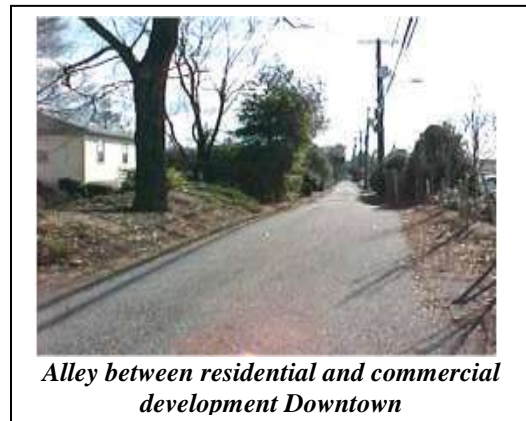
In most towns and cities in Virginia, the trend has been to vacate and dispose of alleys and their maintenance responsibilities. Blacksburg has taken a different perspective on alleys and recognizes the many benefits of alleys in a multi-modal transportation network.

Alleys contribute to the historic and neo-traditional character of Blacksburg. They provide access to many of the Town's older homes, which may be "street locked" due to small lots and no driveways. They also provide secondary, and in some cases, primary access to garages and utilities in the rear of properties. Most alleys contain public utility lines, and several provide locations for refuse and recycling pick-up. Near the campus, alleys provide an alternate path for pedestrians and bicycles. Some alleys were never improved or paved, and therefore exist as an extension of a backyard. On commercial lots, loading functions can take place in alleys rather than occurring adjacent to the main thoroughfares, reducing the risk of traffic accidents. Alleys are a traditional aspect of land use planning that have been successful in creating the communities that are now valued for the small blocks, grid streets and connected alleys. The use of alleys is being rediscovered as communities seek to keep or expand this important part of the street system.

Alleys do need to be carefully constructed and monitored. For example, due to the steep slopes in some alleys, retaining walls can obstruct the view of oncoming traffic. If commercial use of alleys is taking place in residential areas, this can potentially degrade the character of the neighborhood. Alleys can be prone to cut-through, especially during peak traffic hours. It is important that alley policies are standardized and enforced (e.g., the 15-mile per hour speed limit) to ensure safety throughout Blacksburg. Having standards will also help when new alleys are included in developments.

### Typical Construction

Alleys in Town generally are very narrow, ranging from 7.5 to 15 feet, and constrain two-way access. Also, many alleys have no provisions for a vehicle to turn around at dead ends. Some alleys are paved while others remain unimproved. The Town receives no maintenance funding for alleys from the state; thus they are inevitably a lower priority and not maintained or maintained to a lesser level than streets.



### Unbuilt Streets

Before Blacksburg had a subdivision ordinance, a number of subdivisions were developed in which streets were platted but not built. These streets belong to the Town in that the right-of-way was dedicated to the Town through the recordation of the plat. Most of these streets have never been constructed and appear as extensions of yards or overgrown areas. These "paper streets" vary in right-of-way width. Some of them meet the VDOT requirement of 50-foot right-of-way width for local streets, while others have much smaller rights-of-way. Future road or bike-walkway construction could take place on some of these rights-of-way in order to improve the overall transportation function of the Town. In other cases they may contribute to the Town's bikeway/greenway network.

Vacation requests have historically served only the individual property owner's interests and have removed rights-of-way from the Town's system so that the alley can no longer be accessed by the public or used for any future project. In certain cases, public access or utility easements have been retained to preserve some future possibility of use. Vacation of rights-of-ways that are not specifically identified for future use may limit future development plans for the implementation or extension of multi-modal means of transportation and use of this unbuilt network.

Before any alley or unbuilt right-of-way is vacated, the future implications impacting mobility around Town and to the Town's transportation system should be carefully evaluated. This is achieved by following the Alley and Right-of-Way Vacation Policy process found in the Blacksburg Administrative Manual, where also the list of Alley and Unbuilt Rights-of-Way Retention Recommendations can be found.

## PARKING

Parking facilities are one element of Blacksburg's transportation system. While the Town encourages alternative modes of transportation, parking will continue to be needed to support business and employers. Parking areas should be attractively constructed and conveniently located to meet citizen needs and to connect to the broader transportation network.

### Campus Parking Demand

Parking demand by students, faculty, employees and visitors exceeds the on-campus parking supply. Virginia Tech sells parking permits to students and faculty, but does not guarantee available space. The Virginia Tech Alternative Transportation Office promotes, supports, and coordinates carpooling, biking, car sharing and transit to and around campus. However, University parking demands continue to impact neighborhoods and businesses within the Town.



*Squires Center Parking Lot*

To address parking demand, the University's Campus Master Plan calls for conversion of existing surface parking lots to structured parking decks, primarily located on the perimeter of campus. These parking decks should help alleviate commuter and long-term parking for on-campus residents parking in neighborhoods that are adjacent to Virginia Tech. Other measures, such as restricting students from having cars during their first year, would help address parking conflicts within Town. A permit parking system is provided for in the Town Code to allow on-street parking to be available only to neighborhood residents and their guests in such areas. Town and University efforts should continue to promote all transportation alternatives to the car when traveling to Blacksburg and around the Virginia Tech campus.

### Downtown Parking

Adequacy of parking in Downtown is a long-standing community concern. There is limited availability of parking in the downtown core and limited opportunities to provide new parking. Another issue in evaluating the adequacy of Downtown parking is the perception of the customer when a parking space close to the destination is not readily available. The vitality of the Downtown area lies in the perception of the community, which is closely linked to the provision of adequate and convenient parking in the Downtown area. The Town and Downtown businesses should work together to publicize parking locations and embrace technology that can help drivers find parking spaces. Downtown Blacksburg is an urban area geared towards the pedestrian, and it is unlikely that vehicular parking will ever be available directly in front of the patron's desired destination. However, maximizing the use of available spaces is key. Another factor complicating the parking problem is that available parking is also used by students and employees of Downtown businesses. The Town is investigating new technologies for parking meters to try to help address the "meter-feeding" issue.



*Downtown Parking*



Recent Town projects, such as Market Square Park and the College Avenue Promenade, have resulted in a reduction of available parking spaces. To address the overall parking needs in the Downtown core, the Town acquired a surface parking lot between Main Street and Progress Street in 2012. The Town will manage these surface parking spaces to maximize their use and benefit the Downtown.

As far back as the Downtown Master Plan in 2000, the need for a series of parking garages in Downtown was identified to solve the long-term parking demands of businesses, residents and visitors. There is a large parking garage in Kent Square that provides public parking space at the eastern end of Downtown. When completed in 2013, the Turner Street garage will provide space for the adjacent office building and the new Center for the Arts at the western end of Downtown. However, there is still demand for additional public parking at the core of Downtown near the College Avenue Promenade. The 2006 Virginia Tech Campus Master Plan proposes a parking garage on the Donaldson Brown surface parking lot located at College Avenue and Otey Street, but not a timeline for construction. The Town supports the construction of this parking deck with retail space on College Avenue on the top levels to provide more vitality to the Downtown. While the Town has no immediate plans to construct a garage on the Progress Street parking lot, it is an ideal site for a parking garage in the future. Parking garages constructed in the Downtown area should be designed to minimize their visual impact on the landscape and be connected to the Town's transportation network.

## REGIONAL ACCESS

### Route 460

Route 460, the Heartland Corridor, is recognized as a corridor of Statewide Significance with multi-modal connections to the Commonwealth's active centers. In March 2010, the state Office of Intermodal Planning and Investment prepared the VTrans 2035 plan for all of Route 460, running east-to-west from Norfolk, VA, to Frankfort, KY. It is an important freight corridor providing access between the Port of Virginia and the Midwest.



Route 460 connects the Town of Blacksburg to I-81 and to the Town of Christiansburg along a seven-mile corridor through a major commercial center. To the North, Route 460 serves as a connection to I-77 in West Virginia. To the South, Route 460 links Blacksburg to eastern Montgomery County, Roanoke, and beyond.

Route 460 Business is the Town's Main Street, running north-south directly through the Downtown, carrying approximately 18,400 vehicles per day. Route 460 Bypass, carries approximately 35,000 vehicles per day on a limited-access bypass, guiding through-traffic past the commercial center of Town. Route 460 Bypass is an integral connection for the daily commutes of residents, helping to alleviate congestion and significantly reduce travel time between the Town and the interstate while stimulating economic development opportunities. Route 460 Bypass does not divide the Town; instead, Route 460 Bypass provides safe vehicular and pedestrian access with grade-separated interchanges, connecting land uses within Blacksburg. Blacksburg's character, which is directly associated with its scenic setting along Route 460 Bypass, is enhanced through the preservation of significant open space owned by Virginia Tech.

### Interstate Access

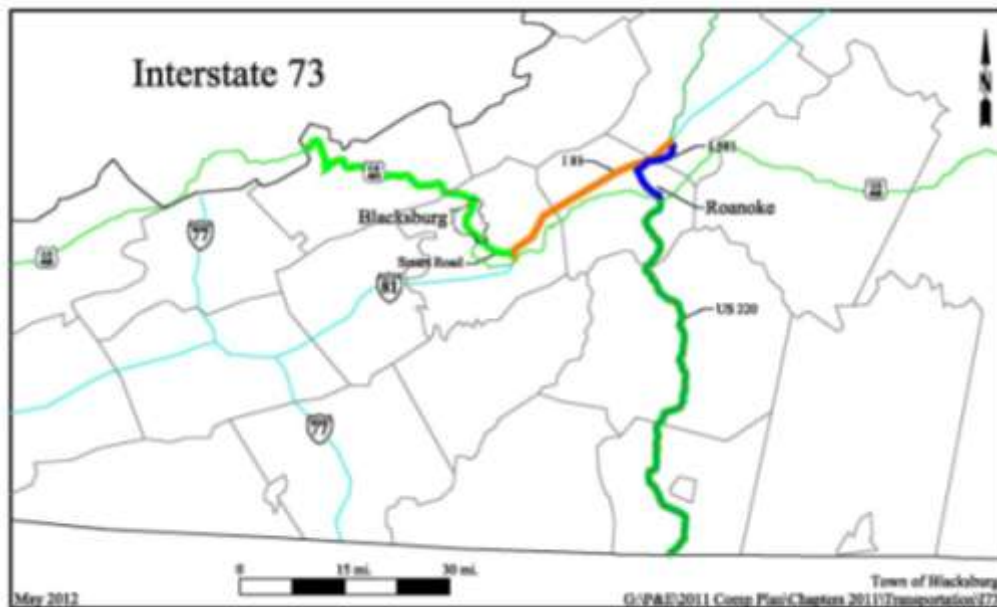
Blacksburg is proximate to Interstate 81 (I-81), which serves as the major north-south transportation corridor along the Appalachian mountain range from Tennessee to New York. This interstate serves as a primary commuting corridor between Blacksburg and Roanoke and currently carries an average of 47,100 vehicles per day. VDOT is currently constructing a truck lane over Christiansburg Mountain to facilitate traffic between Roanoke and Montgomery County. VDOT has conducted an I-81 Corridor Improvement Study, [www.virginiadot.org](http://www.virginiadot.org), which may affect the Town of Blacksburg. The Town will monitor the situation and the roadway design should funding become available. No funding is currently available.

Interstate 77 (I-77) serves as another major transportation corridor primarily used between Ohio and South Carolina. This interstate is accessible to the south via I-81 (approximately 40 miles from Town) and northwest via Route 460 (approximately 50 miles from Town). The section of I-77 between the North Carolina border and Wytheville serves as a significant truck cargo route carrying approximately 38,900 vehicles per day. The proximity of the Town to these two interstates provides for the efficient delivery of supplies to local industries and makes Blacksburg more accessible in general.

## Proposed Interstate 73 (I-73) & the Smart Road

In accordance with the Intermodal Surface Transportation Efficiency Act of 1991, I-73 is the proposed north-south commerce route from the Great Lakes region to South Carolina. The Virginia portion of this four-lane divided interstate is slated to follow Route 460 Bypass through Giles and Montgomery Counties, the Smart Road, I-81, I-581 through Roanoke, and then south, roughly following Route 220 to the state line. Blacksburg's quality of life could be significantly affected by the potential interstate highway (I-73), or other high speed travel corridors, passing through the Town.

A two-mile Smart Road testing facility has been constructed adjacent to the Blacksburg Industrial Park, close to exit 3A of the Route 460 Bypass. The Smart Road to I-81 road construction project further improves access to the Town and provides an opportunity to create a scenic entrance. Groundbreaking took place July 8, 1997. Construction on the first segment, including Virginia's tallest bridge over Wilson Creek, was completed in 2002 with a turn-around loop to allow non-stop test driving. The original plans indicate that as funds become available, the next segment of the Smart Road, providing direct access from the south end of Town to I-81, will be designed and built in a series of test beds for research into emerging transportation technology associated with Virginia Tech. There is no timeline for conversion of the Smart Road into a public transportation route.



*Possible I-73 Routes*

## **Rail Access**

The Huckleberry Line provided rail access to the Town during the first half of the 20<sup>th</sup> Century. Currently no passenger rail service is provided to the Town. The closest terminal for passenger service is located in Lynchburg, VA, approximately 80 miles northeast of Blacksburg. The Smart Way Connector has been established to provide limited bus service between Roanoke and the Lynchburg Amtrak train service. Additional bus connections are desired until the Town's ultimate goal of restoring passenger rail service to Roanoke and Southwest Virginia is reached. Passenger rail service extensions from Bristol to Richmond and Washington, D.C., on freight lines is under consideration with potential stops in Abingdon, Marion, Wytheville, Pulaski, Radford, and Christiansburg. Passenger rail could increase heritage tourism in the area and be helpful in decreasing traffic congestion on I-81.

Regarding rail freight, a Norfolk Southern railway hub for freight service is located in Roanoke, approximately 40 miles to the northeast. In 2006, planning began for a new Norfolk Southern intermodal facility in Elliston-Lafayette area in eastern Montgomery County. The intermodal facility would be a transfer point of freight from rail to semi-trucks for delivery to businesses.

## **AIR TRANSPORTATION**

### **Virginia Tech/Montgomery County Executive Airport**

The Virginia Tech/Montgomery County Executive Airport, located on the Virginia Tech campus, was constructed in 1929. It is a public general aviation airport situated in the southern portion of Town between the Corporate Resource Center and the Route 460/Smart Road interchange. The airport is open to the public 24 hours a day.

The airport's primary mission is to support and service corporate executive markets as well as other aviation markets and to assist in promoting economic development in order to benefit the community. The airport sits on 255 acres with a primary runway length of 4,550 feet that supports corporate executive jets and generates more than 16,000 flights annually.



The Airport designation is Airport Reference Code C-II classification, which details the size and speed of aircraft utilizing the airport. The runway and taxiway system is well lighted for night operations and is complemented by a non-precision localizer approach to the main runway. A full-length parallel taxiway complements the movement system as well as a newly constructed terminal building, parking area, hangar space, and apron area. Further details can be found at [www.vtmea.com](http://www.vtmea.com).

In 2001, Blacksburg, Christiansburg, Montgomery County, and Virginia Tech collaborated to form a regional Airport Authority to operate, under a long-term lease, the existing facilities at the Virginia Tech Airport. The regional airport provides corporate/executive/local community service for the area, with the Roanoke Regional Airport continuing to provide commercial passenger service.

The Airport Authority owns the fuel concession and is the Airport's designated Fixed Base Operator (FBO). Additional services provided by the Authority include aircraft tie-down and hangar rentals. An Independent Flight Instructor provides primary flight training, and a light maintenance facility provides for aircraft repair. At present, the Airport Authority is in the process of coordinating additional services that include a low-cost air taxi that can be chartered for flights to other airports.

### **Airport Safety Zones**

The Code of Virginia, Section 15.2-2294, states that every locality with a licensed airport shall provide for the regulation of the height of structures and natural growth for the purpose of protecting the safety of air navigation and the public investment in air navigation facilities. The ordinance may be designed and adopted by the locality as an overlay zone superimposed on any preexisting base zone. The safety zones are featured in the Airport Safety Zone Map following this section.

### **Runway Protection Zone**

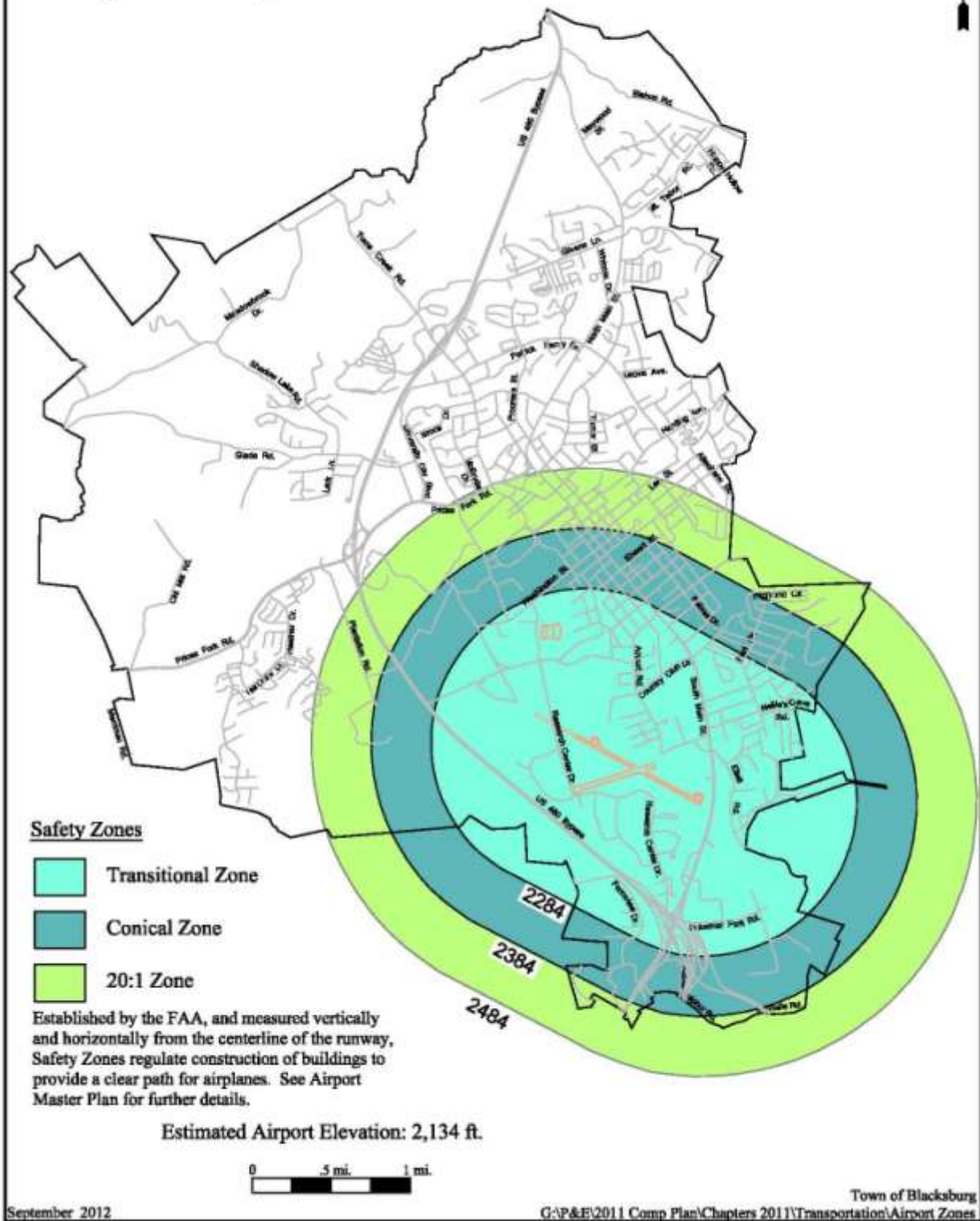
The Runway Protection Zone (RPZ) is defined as a trapezoid-shaped area that extends beyond the end of each runway. The RPZ's function is to enhance the protection of people and property on the ground. The RPZ requirements are established by the Federal Aviation Administration (FAA) and are enforceable under the jurisdiction of the Airport Authority. Land uses prohibited from the RPZ are: residences and places of public assembly (churches, schools, office buildings, shopping centers, and other uses with similar concentrations of persons). Also, fuel storage facilities should not be located in the RPZ. The enforcement of the RPZ results in vacant land that will be owned by the Airport Authority. The most prominent RPZ land is located in a primarily commercial area of South Main Street and is part of the entrance corridor into Town from the Route 460-bypass. The Airport Authority should give careful consideration to the future use and maintenance of the property due to its highly visible location. The Airport Authority will work with the community to find the correct balance or use of this area while maintaining operational safety.

### **Airport Expansion**

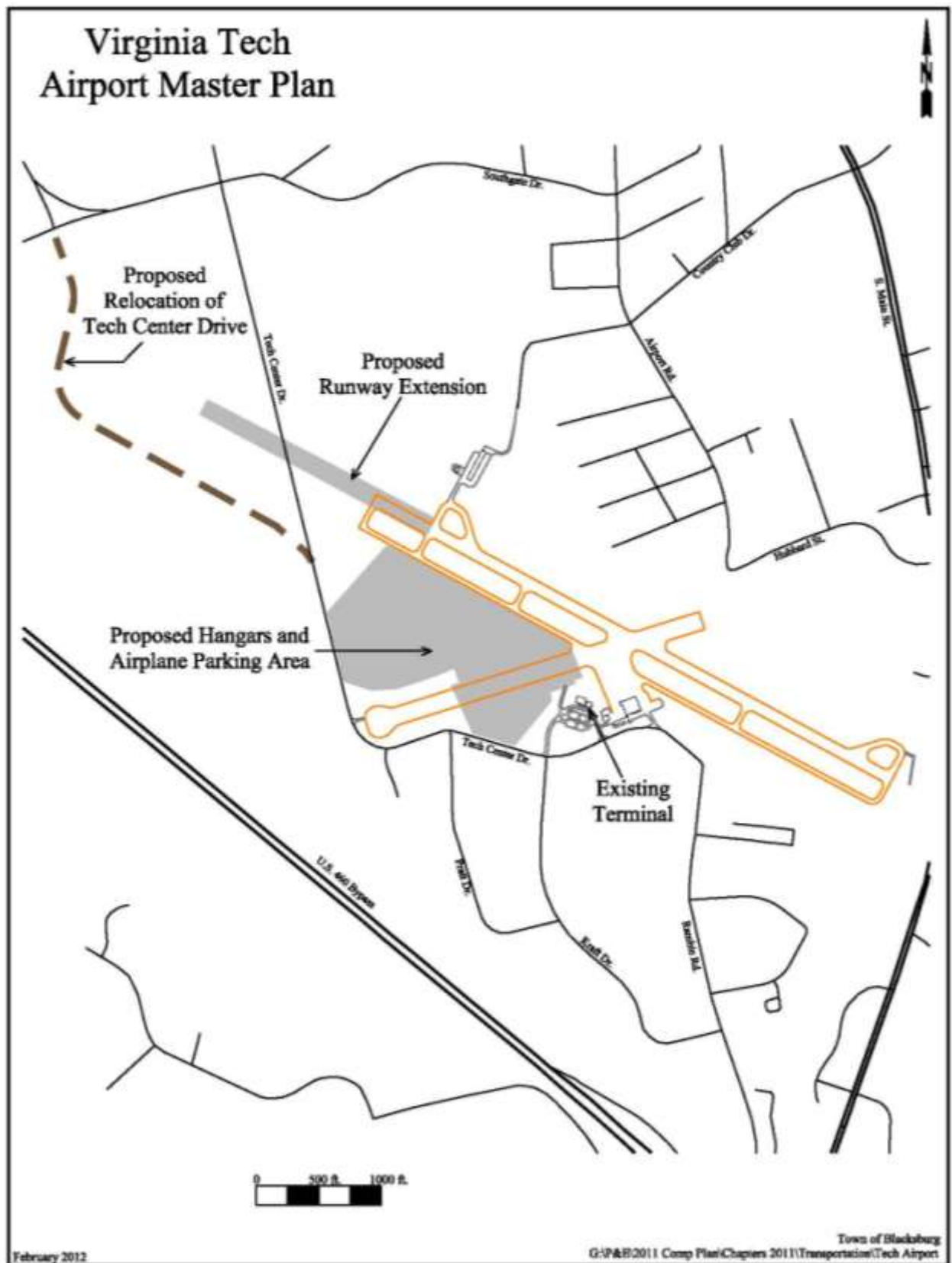
The Virginia Tech Airport Master Plan indicates construction of additional corporate hangars, t-hangars, tie-downs, improved fueling facilities, and an extended apron for aircraft parking. The airport will continue to be used primarily for private aircraft and may be a site for low-hazard air shows and fly-ins. The airport location will remain a significant amenity for corporate air transportation serving the industries located in the Blacksburg Industrial Park and the Corporate Research Center.

The 2008 Airport Master Plan Update recommends extending the primary runway to 5500 feet. This enhancement would provide for increased operational efficiency while enhancing safety for airport users as well as the surrounding community. The runway expansion will require the relocation of Tech Center Drive.

# Airport Safety Zones







# **TRANSPORTATION**

## **OBJECTIVES AND POLICIES**

### **Paths to the Future**

- T.1. Implement the Paths to the Future Map to create a cost-efficient infrastructure of multi-purpose trails that connects to residential areas, parks, schools, businesses, and other community amenities.
- T.2. Support the implementation of the New River Valley's Bikeway, Walkway, Blueway plan.
- T.3. Support the Corridor Committee in educating the public about etiquette and safety on trails, sidewalks and bike routes.
- T.4. Educate the public on the safety and economic value of having trails in residential areas.
- T.5. Encourage employers to provide incentives to employees who regularly use alternative transportation to get to work.
- T.6. The Zoning and Subdivision Ordinance shall establish the design standards for trails, sidewalks and bicycle lanes.
- T.7. As part of the development review process, when proposed developments include trails as shown on the Paths to the Future map, determine how the trail will be incorporated into the development design and how the trail will be connected to internal sidewalks and bike routes.
- T.8. Increase access to the trail network to promote the network as an effective means of transportation and a recreational amenity:
  - Include parking, bicycle racks, shelters, and other facilities at trail access points to promote use of the system
  - Construct multi-use trails that are accessible to the physically challenged and meet ADA standards as topography permits
  - Improve connections from trails to sidewalks and bicycle lanes with safe crossings at major roads
- T.9. Provide maintenance of the trail system to ensure a safe and clean trail system year-round:
  - Monitor the condition of trails and establish criteria for trail maintenance
  - Perform snow removal on trails when feasible
  - Provide opportunities for private citizens, businesses, and service organizations to keep the trail system litter-free
  - Provide safety phones and safety lighting along bike-walkways where appropriate



## **Sidewalks**

- T.10. Complete the construction of a connected sidewalk system:
- Include sidewalks on both sides of the road in all publicly-funded, new road construction projects
  - Require the inclusion of sidewalks or multi-purpose trails in all new subdivisions
  - Consider requiring sidewalks on both sides of the street in infill areas with high pedestrian traffic
  - Minimize curb cuts
  - Pursue new sources of funding for sidewalks
  - Ensure the sidewalk system is ADA accessible
- T.11. Minimize pedestrian and vehicular conflicts by:
- Implementing crossing signals at all signalized intersections
  - Maintaining sidewalks and streets
  - Educating drivers on yielding to pedestrians in crosswalks
  - Ensuring appropriate signage, lighting, markings, and other physical improvements are made
- T.12. Maintain and improve the aesthetic quality of the pedestrian environment by planting street trees and other landscaping and installing street furniture where appropriate.
- T.13. Remove utility poles and other obstructions from sidewalks.

## **Bicycle**

- T.14. Complete the development of the Bicycle Master Plan and, once adopted, begin implementation of the plan.
- T.15. Develop a bikeway system that minimizes potential conflicts between bicycles, pedestrians and motor vehicles; conduct regular maintenance of existing bicycle lanes; provide appropriate signage, lighting, markings, and other physical improvements; and promote safety and education through Virginia Tech as well as the Town to create a safe and convenient bicycle network for all.
- T.16. Develop and implement a comprehensive bicycle parking program throughout the Town and in coordination with Blacksburg Transit to install covered bicycle racks at public sites and commercial and residential locations, as well as to coordinate with Montgomery County and the New River Valley Planning District Commission for bicycle and pedestrian connections throughout the region.
- T.17. Investigate implementing a bike share program.
- T.18. Work locally with Virginia Tech and regionally with the New River Valley Planning District to achieve a connected bike system.

## **TRANSIT**

- T.19. Complete a Blacksburg Transit Comprehensive Operational Analysis every five (5) years while updating the Transportation Development Plan annually.
- T.20. Monitor the public transportation provided to ensure effectiveness and efficiency while maintaining the priorities of safety, courtesy and scheduling.
- T.21. Operate the transit system in a cost-effective, fiscally sound manner that is well supported by federal and state grants.
- T.22. Enhance transit accessibility and convenience; lower parking demand, energy use, and air pollution by reducing traffic on local roads; and educate the community on the positive environmental impact from using public transit in order to encourage its overall use throughout the Town.
- T.23. Work regionally and locally to develop satellite park-and-ride facilities with bus service to reduce traffic congestion in the region.
- T.24. Comply with all federal and state environmental regulations and guidelines by using best available technologies and other innovative systems. Support Blacksburg Transit's continued use of alternative fuels and acquisitions of hybrid electric buses by providing needed additional funding.
- T.25. Stimulate economic development by expanding public transit's role in supporting tourism and as a tool to attract new businesses and aid existing local businesses in employee retention.
- T.26. Upgrade the Blacksburg Transit fleet to provide wireless internet access and implement new technologies for vehicles, equipment, and/or communications in cooperation with Virginia Tech.
- T.27. Increase the number of covered bus shelters and covered bike parking provided at transit stops where appropriate.
- T.28. During the development review process, ensure that transit service and access to/from the transit stop and the development are provided.
- T.29. Ensure that transit service is accommodated in designing Town projects.
- T.30. Expand Blacksburg Transit to become a full service network for permanent residents to meet their commuting, shopping, sporting or leisure activities.
- T.31. Improve the regional accessibility of Blacksburg by integrating bus, rail, and air modes of transportation into the Town's transportation system.
- T.32. Research the opportunities to provide high-speed passenger connections between the New River Valley and Roanoke Valley that would be connected to Blacksburg's Alternative Transportation System.
- T.33. Better serve riders with up-to-date route information.

## **Road Network**

- T.34. Develop the Town street system in accordance with the Town Street Classifications Map, updating when needed.
- T.35. Complete and update *Funded* and *Other Priority Projects* listed in the Town's Project Priority table.
- T.36. Keep current cost estimates for road and transportation improvements in compliance with State Code Section §15.2-2223.
- T.37. Identify new funding sources for road project priorities that are not eligible for the urban Road Improvement Program.
- T.38. Actively participate in the MPO and updates to the MPO's Plan.
- T.39. Avoid the creation of new cul-de-sacs in developments unless no other vehicular connections can be established.
- T.40. Provide for a street network that achieves the interconnection of parcels, blocks, and neighborhoods, keeping consistent with the historical grid network pattern of the Town.
- T.41. Provide a road network that facilitates traffic flow within and outside of Town, while minimizing the impact on residential neighborhoods and bikeways/walkways, improving access to areas of higher-density and activity centers.
- T.42. Provide a road network that is safe for all users.
- Make the best use of the available right-of-way in neighborhood streets to accommodate pedestrians, bicyclists, transit and cars
  - Incorporate traffic calming principles as needed
  - Provide regular tree trimming along rights-of-way
  - Limit driveway access along collector and arterial roads
  - Reduce speeding and cut-through traffic in neighborhoods
  - Maintain storm drainage facilities, resurface pavements and streets when necessary, replace and rehabilitate bridges
  - Provide Dark Sky compatibility street lighting along all new or improved collector and arterial roads and along local roads where requested by petition
- T.43. Provide a road network that accommodates multiple modes of transportation including bus, pedestrian, and bicycle access as well as develop strategies for reducing demand on the Town's roads.
- T.44. Provide a road network that enhances public life and is congruent with the Town's unique character and quality of life.

## **Alleys**

- T.45. Retain existing alleys and unbuilt right-of-ways, and do not approve vacations without a clear demonstration of why elimination of the alley or unbuilt right-of-way serves a greater public purpose than its retention. All vacations will be in compliance with the criteria contained in the Alley and unbuilt right-of-way vacation process.
- T.46. Amend the Zoning Ordinance to incorporate the Alley and right-of-way vacation process.
- T.47. Maximize the use of alleys and unbuilt right-of-ways by all modes of transportation that can safely be accommodated.
- T.48. Maintain and improve alleys when and where necessary, as funding allows.
- T.49. Encourage the design of developments that incorporate alleys for primary or secondary vehicular access in keeping with the historic development pattern of the Town.

## **Parking**

- T.50. The development review process ensures:
- Surface parking facilities are landscaped and appropriately lighted
  - Structured parking facilities are designed to minimize the visual impact of the bulk of the structure and the horizontal appearance of a parking deck
  - New parking lots minimize impacts on stormwater
- T.51. Require that parking for commercial and industrial development is adequate to serve employee and customer needs without excessive unused spaces.
- T.52. Promote alternative modes of transportation, including the development of a shuttle or trolley service between commercial centers and outlying parking nodes and mixed-use areas.
- T.53. Maintain an inventory of available public parking spaces and publicize parking locations using best available technologies.
- T.54. Encourage shared use of existing parking areas in Downtown, including parking lots of churches, law firms, and other businesses. Have business owners provide alternate parking hours for daytime and nighttime to better provide for the array of individuals parking Downtown.
- T.55. Continue to improve handicap access in the Downtown area through handicap parking spaces, bus stops, and handicap accessible pedestrian connections in order to meet ADA standards and to better provide for those with disabilities as a Town.
- T.56. Assist Downtown business in finding either alternate transportation modes for their employees or alternate parking spaces so that parking spaces near their businesses can be utilized for customers.

- T.57. Rigorously enforce parking restrictions in the commercial area of Downtown and in the adjacent downtown neighborhoods.
- T.58. Expand and enforce permit parking in Downtown residential neighborhoods affected by campus parking shortages or deficiencies.
- T.59. Work towards the future goal of having two new structured parking facilities in the Downtown core: one on University property at the Squires parking lot and one on the Town-owned Progress Street lot.

### **Regional Access**

- T.60. Support all efforts to bring passenger rail service to the Town of Blacksburg or closer to the Town with convenient transit connections from the Town to the station.
- T.61. Monitor future expansion of the interstate highway system that may involve the US 460 Bypass or Smart Road to ensure that any future highway corridors are designed to preserve the character of the area and with sensitivity to safety, quality of life, and natural beauty.
- T.62. Monitor the implementation of the I-81 Corridor Improvement Study and any potential impacts upon the Town.

### **Air Transportation**

- T.63. Support the Virginia Tech/Montgomery County Executive Airport to provide corporate/executive service for the New River Valley and to work in conjunction with other regional airports promoting regional economic development activities associated with business, industry, and university-related research and development.
- T.64. Protect Town residents and air traffic from possible hazards or nuisances by enforcing airport safety zone restrictions.
- T.65. Participate in the Virginia Tech/Montgomery County Executive Airport Authority to ensure the Airport is safe and convenient for use while serving the Town and region's businesses and citizens.
- T.66. Create a separate zoning district for the Virginia Tech/Montgomery County Airport to facilitate airport operational services.
- T.67. Encourage airport attractions that enable the Town to be a frequent stop for small plane travel, and encourage public use of the airport terminal for meetings, informational gatherings, and special events.

# LAND USE

## *How We Will Use the Land*

### **GOAL**

Guide growth in a responsible manner that results in quality development and redevelopment consistent with Blacksburg's character.

#### **Sustainability Goal**

Support current and future land uses that contribute to a sustainable community by protecting natural resources, supporting cultural diversity and social equity, and by enhancing economic opportunities.

#### **Citizen Involvement**

There are several Council-appointed committees that address land use issues and that involve citizen participation, including: Agricultural and Forestal District Advisory Committee, Board of Zoning Appeals, Greenway/Bikeway/Sidewalk/Corridor Committee, Historic/Design Review Board, and the Planning Commission. There are also opportunities to serve on Town Council Task Forces when created to address specific issues. Citizens are also encouraged to attend and speak at Planning Commission and Town Council public hearings when development review projects are discussed. Citizens are also encouraged to participate in the Blacksburg Citizens Institute to learn more about the Town in general.

### **OVERVIEW**

The Town is committed to sustaining Blacksburg's university town charm, ensuring that existing development, new development, and redevelopment enhance the quality of life. The Town seeks an appropriate balance between individual property rights and the community's goals. The Town seeks to ensure adequate public services are provided, good design principles are used, and growth is thoughtfully integrated into the existing fabric of the Blacksburg community.

Land use decisions should reflect a commitment to all of the principles in the Comprehensive Plan. The specific policies outlined in the previous chapters are all part of the analysis of public and private projects. The land use decision-making process incorporates all of the technical elements with key land use issues such as the context of development and compatibility with adjacent uses. The land use analysis is also where the many competing ideas and policies throughout the Comprehensive Plan must be reconciled. The outcome of this analysis is the ability to implement progressive ideas that realize the intent of the Comprehensive Plan and keep Blacksburg a vital, sustainable community. Many different groups are involved in land use decision making, and the Comprehensive Plan serves as a tool for all: policymakers, citizens, developers and staff.

The primary components of the Land Use Chapter are the Community Character Principles, Design Considerations and the Land Use Map Series. The ideas embodied in this chapter, along with the Future Land Use objectives and policies, are part of the consideration of Land Use changes and development review as well as matters affecting existing development in the Town. The following outline of the chapter is provided for easy reference:

- Community Character Principles
- Design Considerations
- Land Use Map Series Overview
- Map A: Future Land Use
  - Future Land Use Definitions & Typical Implementing Zoning Districts
  - Mixed Use Area Overlay Descriptions
- Map B: Urban Development Areas
- Map C: Neighborhood, Employment and Service Areas
- Map D: Paths to the Future
- Objectives & Policies

## COMMUNITY CHARACTER

There are a number of attributes that contribute to a community's character and uniqueness and that give it a "sense of place." These factors collectively comprise the Town of Blacksburg's quality of life. Community character affects how the Town is perceived and valued by anyone who lives, works, plays, or visits in Blacksburg. Ongoing Community Conversations surveys, as well as previous iterations of the Comprehensive Plan, consistently show that the Town of Blacksburg is valued for and aspires to have:

- A small town feel
- A sense of community and belonging
- A walkable place
- An identity as a progressive and sustainable community
- A high level of outdoor amenities
- An appreciation for the beauty of the Town and surrounding mountain landscape
- A place for economic opportunity

The qualities identified above comprise the character of the Blacksburg community. To guide the future of the Town as desired by its citizens, the Comprehensive Plan expresses these qualities as specific implementing principles. The Community Character Principles found on the following pages are an articulation of these enduring qualities. Each principle will be used by policymakers to guide community decision-making to protect the integrity of what makes Blacksburg "Blacksburg."

### Community Character Principles

- CCP 1. **Well-designed pedestrian and bicycle friendly routes and facilities are essential to the Town's identity as a walkable and bikeable community.** Pedestrian circulation systems are required to be constructed in all new developments. Connections to the existing Paths to the Future routes should be made where possible through new development or Town programs.
- CCP 2. **Lifestyle conflicts are inherent in a college town, where neighborhoods may have a mix of students and non-students.** Students moving into established neighborhoods may have different expectations than neighbors with regard to noise, upkeep, parking, and occupancy. Property management, education and code enforcement can mitigate some of these conflicts. This is an important issue for residents.
- CCP 3. **Schools are anchors within the community.** The Town values a high quality of education at all levels. Public and private schools foster a family-oriented atmosphere. Public schools also serve as recreational areas and community gathering places. Neighborhood schools in particular promote walkability.
- CCP 4. **Places of worship are important anchors in a neighborhood.** Places of worship should be developed at a scale and intensity appropriate to the surrounding community. These also serve as community gathering places.
- CCP 5. **Historic landmarks and properties are an important part of the character of the Town.** Efforts should be made to maintain and protect historic landmarks and properties. Focus should be placed on the use or re-use of historic properties so they



contribute to the Town's economic base and neighborhood vitality and charm. New development in the district should be constructed at the same quality in order to be a valuable contribution to the Historic District in the future.

- CCP 6. **Creation of public and private parks and recreation amenities is an important part of land use development decisions.** A variety of gathering spaces should be available to citizens throughout the Town. Recreation areas should be thoughtfully designed to meet the needs of the development, neighborhood or broader community.
- CCP 7. **Commercial development should be street-oriented.** Pedestrians, bicyclists and transit riders are better served by buildings that meet the street with meaningful street-oriented entrances and vehicular parking located to the side or rear. Parking should not be a dominant feature of the development. There should be clearly defined safe pedestrian routes to buildings and to the public sidewalk system across vehicle travel ways.
- CCP 8. **To ensure economic viability over time, commercial structures should be constructed with quality building materials and maintained.** Quality construction and materials should be used so that new buildings withstand the test of time and are not designed for obsolescence. Architectural style should be sensitive to the character of surrounding properties. The conversion of existing residential property to small scale commercial or office uses should use the existing residential structure on-site or construct the new building in a scale and design that does not detract from the character of the neighborhood.
- CCP 9. **With limited availability of commercial land, efficient use of the land is critical to provide services to a growing population.** Redevelopment of aging commercial centers is the most significant opportunity to meet this need. Residential development should not encroach in these areas unless incorporated as part of a well designed mixed use project.
- CCP 10. **Offices are part of the desired mix of uses in the Downtown but should contribute to the vibrancy and vitality of Downtown throughout the day and night.**
- CCP 11. **Work with Virginia Tech and the Virginia Tech Foundation on future projects to recognize the economic value from these entities' developments in the context of maintaining the integrity of commercial and residential areas in Town.**
- CCP 12. **To serve the needs of the community, support opportunities for commercial development and redevelopment in appropriate locations.**
- CCP 13. **Increasing the safety and efficiency of traffic flow on arterial and collector roads is important in maximizing the functionality of the transportation network.** For commercial developments: minimize curb cuts and driveways, add internal connections between adjacent properties and optimize signal timing. For residential developments: design an internal connected street grid system as well as connections to the external street system, along with traffic calming measures.

- CCP 14. **Transit connections and bus stop facilities are important components to support transit as a viable transportation option in Town. These elements should be part of the design of new developments and be coordinated with Blacksburg Transit regarding service availability.**
- CCP 15. **Blacksburg is a responsible headwaters community for Southwest Virginia.** Developments within the Town should minimize short and long term impacts on surface waters (streams and ponds), groundwater, karst features, and wetlands.
- CCP 16. **Responsible site design and development practices will minimize environmental impacts within the Town.** Any residential, commercial, industrial, or agricultural development or redevelopment should meet and exceed federal, state, or local regulations to minimize impacts of soil erosion, stormwater run-off, and non-point source pollution.
- CCP 17. **The preservation of open spaces is an important part of community identity.** Provision of private and public open spaces on both a small scale and large scale can be achieved by protecting environmentally sensitive areas and scenic vistas, and promoting agricultural and forestal lands. Dedicated open space, passive recreational open space and community gardens within developments are ways to preserve open space.
- CCP 18. **Minimize light pollution, balancing dark skies with a safe pedestrian and vehicular experience at night.** The design and placement of new lighting for buildings, parking areas, or streets should have minimum impact of light spillover and glare on surrounding uses with special attention given to lighting when transitioning from higher intensity to lower intensity uses. Lighting should be the minimum necessary to have a safe environment.
- CCP 19. **For safety, appearance, and maintenance reasons, new developments are required to place utilities underground.** Where feasible and financially possible through developer contribution, Town subsidization, or other financial sources, existing above-ground utilities should be relocated underground.
- CCP 20. **The Town is committed to the co-location of utilities in order to minimize impacts and maximize efficiency of infrastructure serving the public.**
- CCP 21. **The Town is concerned about the impact of the height, mass, and placement of buildings, cell towers or other features of considerable height on viewsheds.**
- CCP 22. **Gateway entry corridors are the first impression for visitors and residents and should reflect the care and quality of the Town.** The Town will provide landscaping and maintenance, and entry and wayfinding signage within the right-of-way at key gateways. Development proposals in gateway corridors should be designed with aesthetic features such as parking areas, landscaping, and signs, all of which affect the visual quality of entrance areas and corridors.

## DEVELOPMENT DESIGN

Design considerations, whether in new development or rehabilitation of existing developments in the Town, are ways in which the Community Character Principles are implemented. More and more, communities throughout the country, including Blacksburg, are realizing that site design and design details have a significant impact on the look and feel of a community. Both public and private investments should be made with the importance of these design details in mind.

### Residential Infill Development Guidelines

In an effort to supplement existing Town Zoning and Subdivision Ordinance regulations and provide more guidance on residential design, in 2011, a set of Residential Infill Development Guidelines were developed. These guidelines can be applied to new development as well as to redevelopment, which is often challenging in urban infill areas.

Residential “infill” development can range in size and scale, varying from construction of one home on a single lot up to a larger subdivision development. Infill encompasses both new construction and redevelopment. Compatible infill development can help reinforce community character. In many cases, residential infill will require planning approvals, and the guidelines will serve as useful tools in the review and approval of planning applications.

The following is a summary of the residential infill design principles identified in the Town of Blacksburg Residential Infill Development Guidelines. For additional information on these principles, see the full text, which is available at [www.blacksburg.gov](http://www.blacksburg.gov).

- **Building Orientation:** Orienting buildings toward the street contributes to a pedestrian-friendly street environment, provides a visually rich street edge, and contributes to resident safety by placing “eyes-on-the-street.”
- **Setback:** Consistent front building setbacks create a uniform appearance along the street.
- **Building Frontage/Entries:** Landscaping in front of buildings and entry features, such as porches or steps, create visual interest and give the neighborhood an identifiable character.
- **Off-street Parking:** Parking for residential areas that plays down the visual impact of cars and parking garages respects the character of an existing neighborhood and creates pedestrian-friendly streets.
- **Planning for Parking:** Shared structured parking can accommodate more parking than surface parking lots and can be designed so that the structures do not dominate street frontage of a building.
- **Alleys:** Alleys are a part of the Town’s historic street structure, and they are a way to provide off-street parking without impacting the pedestrian friendliness of a residential street.
- **Screening/Landscaping:** Hedges, trees, shrubs, and fences can provide privacy, a transition between spaces, and can help buffer pedestrians from vehicle traffic.
- **Open Space:** Comfortable outdoor places in multifamily developments can provide a place for people to sit, rest, and interact, fostering a sense of community.
- **Connectivity:** An interconnected street network and compact blocks provide the framework for a greater diversity of building types close to one another and promote

pedestrian and bicycle activity by making connections between destinations accessible and convenient.

- **Walkways:** Internal walkways within larger residential developments promote pedestrian movement by connecting users from the public sidewalk network and parking areas to ultimate destinations within a site.
- **Scale and Massing:** Buildings designed to fit within the context of the surrounding structures help reinforce neighborhood character and create visual interest for pedestrians.
- **Architectural Features:** Structures that are designed with architectural features similar to existing homes contribute to a sense of place and add to the character of the neighborhood.
- **Character and Context:** Infill designs that are sensitive to the vernacular and traditional architecture found in Blacksburg and Southwest Virginia help to preserve community character.
- **Streetscape:** Streetscape designs that include trees, pedestrian-scaled lighting, benches, drinking fountains, newspaper boxes, or other pedestrian-oriented amenities help encourage pedestrian activity and promote safety and security.
- **Sidewalks:** Well-connected and maintained sidewalks contribute to the character of neighborhoods by providing safe places for people to travel and interact with one another.
- **Crosswalks:** Crosswalks provide higher visibility to pedestrians at logical crossing points and can be basic white striping or can include other elements such as raised surfaces or aesthetic materials.
- **Bicycle Facilities:** Streets that have been optimized for bicycle travel and bicycle parking facilities can help support bicycle activity in a community.
- **Complete Streets:** Complete Streets provide an efficient and interconnected network for bicyclists, pedestrians, autos, and transit users of all ages and abilities.

### **Non-Residential Development Design**

Equal and careful attention should be paid to the design details of non-residential new development, redevelopment and retro-fitting projects. The two goals of any non-residential development are:

- 1.) Attractive, high quality projects that are compatible with surrounding areas and contribute to the Town's character.
- 2.) Projects that are economically viable and allow the developer to meet his or her client's objectives.

These two goals are not mutually exclusive.

The Town and the development community need to work together on these goals. It is of mutual benefit for Blacksburg to be a progressive community with development and services that meet citizens' needs and expectations. Many of the desired design details of non-residential developments are the result of the developer's vision for his or her project. Development is also subject to the Town's regulatory structure that contains many development design standards affecting how development occurs. At the Comprehensive Plan level, Community Character Principles and Mixed Use Area descriptions articulate important design considerations to be incorporated in non-residential projects. Additionally, many of the Residential Infill Design guidelines are also important design details to incorporate in non-residential projects.

The majority of the design standards, applicable to both public and private non-residential development proposals, are contained in the Town's Zoning and Subdivision Ordinances. For the Town's Historic District, additional direction is given through the Blacksburg Historic District Design Guidelines. Several of these regulatory documents should be reviewed and further evaluated to determine if the existing regulations are adequate to implement the Comprehensive Plan. More detail and guidance may be needed to achieve the desired non-residential development forms and keep Town regulations current with changes in land use planning and development practices.

## **LAND USE MAP SERIES OVERVIEW**

The Town of Blacksburg's Comprehensive Plan Land Use Map Series is a series of four maps depicting **Future Land Use** classifications, **Urban Development Areas**, **Neighborhood, Employment and Service Areas**, and **Paths to the Future**. All four maps will be referenced in conjunction with the text of the Comprehensive Plan when reviewing development applications and planning Town capital improvement projects.

### **Map A: Future Land Use**

Map A, the Future Land Use Map, illustrates how the Town is envisioned to develop, grow, and mature through 2046. It delineates where residential uses are to be found, where road connections are planned, and where commercial centers are to be located. The Future Land Use designation of a property is a major tool that Planning Commissioners and Town Council members use when evaluating development requests.

### **Map B: Urban Development Areas (UDA)**

Map B, the Urban Development Areas Map, depicts the areas that have been so designated. UDA ensure that local governments are planning for needed residential and commercial growth in the next 10 to 20 year period to meet growing population demands. UDA address both density and intensity of uses, as well as development form.

### **Map C: Neighborhood, Employment and Service Areas**

Map C, the Neighborhood, Employment and Service Areas Map, illustrates different styles of land use that can be found throughout the Town of Blacksburg. This map replaces the Planning Sectors found in previous versions of Blacksburg 2046. How a development request supports and addresses the needs of a particular neighborhood style, employment or service area will be considered during the development review process and will also guide Town project priorities.

### **Map D: Paths to the Future**

Map D, the Paths to the Future Map, illustrates transportation and connectivity in the Town of Blacksburg. The Map shows trails and connectivity elements that contribute to the Town's quality of life. This map is used during the development review process and in Town project planning to ensure that route connections are created. More information about this map can be found at the end of this chapter and in the Transportation Chapter.

## **MAP A: FUTURE LAND USE**

Future Land Use is often confused with current land use or zoning designations. Future Land Use generally depicts how the Town envisions different land uses will be distributed in the future. Current Land Use is how a particular parcel is currently developed or being redeveloped at any given time. A Current Land Use map provides a baseline reference for how the Town exists today that can be compared to how Blacksburg is envisioned in 2046 on the Future Land Use Map (Map A). Zoning Districts are how the various Future Land Use classifications are implemented, and they regulate specific uses and associated development standards. A copy of the Current Land Use map, Zoning map, or Zoning Ordinance and Subdivision Ordinance regulations can be obtained at the Town of Blacksburg's Planning and Building Department.

The Future Land Use map is general in nature, due to the scale of the maps required to illustrate the future land uses in the entire Town. For example, the Future Land Use map may illustrate that a road is desired in a particular location to connect two specific areas of Town, but does not show the exact engineered road alignment. The Future Land Use map illustrates where public parks are located, but does not show the required open space areas within a subdivision. Basic definitions of the designations listed on the Future Land Use map are listed below. The typical implementing zoning district(s) is(are) listed with each Land Use Classification Definition.

### **Future Land Use Map Classification Definitions**

#### **Park Land/Open Space/Resource Protection**

Public recreational space or dedicated public or private open space.

*Typical Implementing Zoning Districts:* Can occur in any zoning district.

#### **Very Low Density Residential**

Net density of one dwelling unit per acre and some low intensity agricultural uses.

*Typical Implementing Zoning Districts:* Rural Residential 1 (RR-1), and Rural Residential 2 (RR-2) and Planned Residential (PR).

#### **Low Density Residential**

Up to four dwelling units per acre.

*Typical Implementing Zoning Districts:* Low Density Residential (R-4) and Planned Residential (PR).

#### **Medium Density Residential**

Up to and including ten dwelling units per acre; or up to 20 bedrooms per acre, whichever is less.

*Typical Implementing Zoning Districts:* Transitional Residential (R-5), Old Town Residential (OTR), Planned Residential (PR), and Planned Manufactured Home (PMH).

#### **High Density Residential**

More than ten dwelling units per acre; or more than 20 bedrooms per acre.

*Typical Implementing Zoning Districts:* Low Density Multiunit Residential (RM-27), Medium Density Multiunit Residential (RM-48), and Planned Residential (PR).

#### **Limited High Density Residential**

More than ten dwelling units per acre; greater than 20 bedrooms per acre, but less than 30 bedrooms per acre.

*Typical Implementing Zoning Districts:* Low Density Multiunit Residential (RM-27), and Planned Residential (PR).

### **Civic**

Schools, government offices and buildings, service organizations, and other institutional uses.

*Typical Implementing Zoning Districts:* Can occur in any zoning district.

### **Low Impact Commercial**

Small-scale commercial and office developments that do not need high visibility and have a limited impact on the surrounding environment, including but not limited to factors such as lighting, noise, parking, traffic and hours of operation. Examples include professional offices, retail establishments and restaurants that are smaller in scale and compatible with adjacent neighborhoods.

*Typical Implementing Zoning Districts:* Downtown Commercial (DC), General Commercial (GC), Planned Commercial (PC), Office (O), Research and Development District (R&D), and Mixed Use (MXD).

### **High Impact Commercial**

Small or large commercial developments with a need for high visibility and have a high impact on the surrounding environment, including but not limited to factors such as lighting, noise, parking, traffic and hours of operation. Examples include large retail establishments, restaurants, hotels/motels, and auto related uses.

*Typical Implementing Zoning District:* Downtown Commercial (DC), General Commercial (GC), Planned Commercial (PC), and Mixed Use (MXD).

### **Research and Development**

Research and development offices and laboratories, and light industrial uses that have minimal external impacts and are compatible with surrounding land uses.

*Typical Implementing Zoning District:* Research and Development (R&D).

### **Industrial**

Industrial uses that may produce moderate to significant external effects. Uses include raw materials processing, manufacturing, warehousing, distribution centers, and other large-scale operations.

*Typical Implementing Zoning District:* Industrial and Planned Industrial.

### **Airport**

Aviation related uses and services to support the Virginia Tech Montgomery Regional Airport.

*Typical Implementing Zoning District:* currently zoned Research & Development (R&D). Separate Airport Zoning District proposed.

### **University**

The core of the Virginia Tech campus, including academic buildings, residence halls,

administrative offices, recreational fields, dining facilities, retail establishments, and parking to support the activities of the University. The Virginia Tech Hokie Stone Quarry is also included in this classification.

*Typical Implementing Zoning District:* University and College.

### **Mixed Use Areas**

Developments containing a mix of both residential and non-residential uses. Refer to the Mixed Use Descriptions below for more detail of each designated area.

*Typical Implementing Zoning Districts:* Mixed Use (MXD), Downtown Commercial (DC), General Commercial (GC), Planned Residential District (PR), and Planned Commercial District (PC).

### **Mixed Use Area Overlay Descriptions**

As outlined on Land Use Map A: Future Land Use, proposed Mixed Use Areas are designated within the Town where a mix of residential and non-residential development and redevelopment is encouraged. These areas are located on major roads, served by public utilities and transit.

The Mixed Use Area boundaries are intended as a general guide of where mixed use developments are desired. If a property is bisected by a Mixed Use Area boundary line, features such as ownership, topography, road network, and site design shall guide if it is appropriate to include the properties or adjacent properties in the Mixed Use Area. Individual development requests when a property is bisected a Mixed Use Area will be reviewed on a case-by-case basis.

It is not anticipated that all property within every Mixed Use Area will be developed into a mixed use development. Should property not be developed as mixed use, the property's underlying future land use designation will guide development of that site. The designation of a Mixed Use Area on the Future Land Use map does not affect existing zoning or the evaluation of rezoning requests based on the underlying of the Future Land Use designation. The designation of a Mixed Use Area on the Future Land Use map does not obligate the Town to approve a rezoning for a mixed use development. The designation does not mandate a specific type or style of development on a property.

Regardless of zoning classification, all properties within a Mixed Use Area should complement adjacent properties with vehicular connections, coordinating pedestrian amenities, and complementary architecture and site design features. The desired ratio of residential and non-residential uses is detailed in the specific Mixed Use Area descriptions found on the following pages. Key features of any Mixed Use Area include the following:

- a. Vertically mixed use buildings and, where feasible, a mix of uses horizontally throughout the entire site.
- b. Access to mass transit stops with shelters located on the perimeter of the development and, where feasible, internal to the development to serve the area.
- c. Internal pedestrian amenities and greenways that connect to mass transit stops and connect externally to the Blacksburg Greenway system. Pedestrian features such as a loop trail around the perimeter of the development are strongly encouraged.
- d. Limited entrances to major arterial roads to help prevent additional traffic congestion



and to help prevent the appearance of strip commercial shopping centers. On-site vehicular parking should be accommodated without dominating the streetscape or landscape.

- e. Site design and site layouts that are coordinated with and complemented by other mixed use developments within the Mixed Use Area and to other properties adjacent to the Mixed Use Area. While mixed-use developments may be designed independently of each other, they must function with surrounding developments.
- f. Arrangement and configuration of buildings, building setbacks and streets that create a sense of spatial enclosure or “outdoor rooms” along key portions of street corridors. The result should be an inviting and attractive built environment that encourages and accommodates people living, working, shopping, and visiting these mixed use areas.
- g. A mix of uses, residential and non-residential, within each building and within the development is encouraged. Outdoor activities such as patio dining are encouraged to promote commercial and pedestrian vitality. Complementary uses, such as daycare and preschool facilities, are supported within the Mixed Use Areas.
- h. Low Impact Development (LID) techniques and the preservation of existing mature trees and the provision of landscaped buffers within each development.
- i. Historical and environmentally sensitive sites within a Mixed Use Area that are adequately protected and, where appropriate, incorporated into the site design.
- j. Design styles and features that accommodate and prepare for the Town’s changing population, such as aging in place.

The following Mixed Use Area descriptions provide additional guidance regarding the desired mix of uses for each specific area:

***Mixed Use Area A*** was removed from the Future Land Use Map Classifications by Resolution 10-B-14 dated October 14, 2014.

***Mixed Use Area B*** is located north of Prices Fork Road, between the Route 460 Bypass and University City Boulevard. A mixed balance of commercial and residential development in this area should complement existing commercial development with roads, sidewalks, and greenways connecting to the Town. The close proximity to Virginia Tech should encourage a development designed for the University community, such as graduate student housing and services. Limited access on Prices Fork and additional landscaping to buffer the mixed-used development is recommended.

***Mixed Use Area C*** is located along North Main Street between Prices Fork and Patrick Henry Drive. A balance of commercial and residential mixed uses is desired to provide a natural transition from the commercial orientation on North Main Street, Prices Fork and Patrick Henry Drive to the adjacent residential uses. Limited vehicular entrances on these arterial streets and landscaping techniques should be implemented to avoid the impression of a strip commercial shopping center.

***Mixed Use Area D*** includes the Old Blacksburg Middle School property located at the 500 Block of South Main Street, extending to include the Old Annie Kay’s property in the 300 Block of South Main Street. In 2011, Montgomery County and the Town of Blacksburg

adopted the Old Blacksburg Middle School Master Plan to guide redevelopment of the site. Redevelopment of remaining property in Mixed Use Area D should have uses that stimulate pedestrian activity on Main Street and have sensitive transitions to established neighborhoods within the Blacksburg Historic District.

**Mixed Use Area E** is located on South Main Street between Country Club Drive and Hubbard Street. A major commercial node for the Town already exists in the area, and any redevelopment should also provide services for all residents and visitors. This mixed use area is predominantly commercially oriented with limited entrances on South Main Street so as not to impede traffic flow on South Main Street nor give the impression of a strip commercial shopping center. Transitional residential uses should be located closer to the existing residential neighborhoods to help protect the integrity of the existing neighborhoods and to provide a buffer between the commercial-oriented uses on South Main Street.

#### ***Mixed Use Areas F & G***

While adjacent to each other, topography prevents easy interaction between Mixed Use Areas F & G. Care with the design and development of both areas should be taken so there are complementary land uses, pedestrian access, and, where possible, vehicular connections between the two areas. Attention to aesthetic and architectural details in these mixed use areas is required since both areas are visible from the Route 460 Bypass and are part of the southern gateway entrance to Blacksburg.

**Mixed Use Area F** is located on South Main Street at the major south entrance gateway to Blacksburg. This mixed use area is predominantly an office and commercial campus with limited entrances on South Main Street with landscaping that does not give an impression of a strip commercial shopping center. Retail and residential uses are secondary in nature and support the Blacksburg Industrial Park and existing office parks.

**Mixed Use Area G** is located on Research Center Drive, a predominantly medium and high density residential oriented mixed-use development. Neighborhood commercial and office uses could support local residents and employees at the adjacent Virginia Tech Corporate Research Center, including the Edward Via College of Osteopathic Medicine (VCOM).

**Mixed Use Area H** is located around the North Main Street, Patrick Henry Drive and Giles Road block. A major commercial node for the northern area of Town already exists in the area, and any redevelopment should continue to provide services for residents and visitors. Properties fronting on North Main Street within this mixed use area should be commercially oriented with the highest intensity of uses. Redevelopment of these properties should include limited or shared driveway access so as not to impede traffic flow on North Main Street, nor give the impression of strip commercial shopping centers. Any uses located on Patrick Henry Drive and Giles Road should be of a lower intensity to help provide a transitional buffer between the existing residential neighborhoods on Giles Road and the commercially oriented uses on North Main Street. High Density Residential uses should be carefully designed, constructed, and managed to provide parking, sidewalks and trails as well as provide amenities for residents and minimized impacts on adjacent neighborhoods. Blacksburg Transit services and sidewalks should be incorporated with any redevelopment in the area.

## **MAP B: URBAN DEVELOPMENT AREAS (UDA)**

Local governments subject to the UDA State legislation, originally adopted in 2007, must show that through new development or redevelopment, there is sufficient acreage to accommodate projected residential and non-residential growth for the next 10 to 20 year period. The State legislation indicates that UDA will be appropriate for higher density development due to proximity to transportation facilities and the availability of a public or community water and sewer system. To the extent feasible, UDA are to be used for redevelopment or infill development. The UDA State legislation also requires the boundaries and size of each Urban Development Area to be reexamined and, if necessary, revised every five years in conjunction with the review of this Comprehensive Plan and in accordance with the most recent available population growth estimates and projections.

In 2010, State legislation was amended to include density standards and design criteria for UDA and to improve the coordination between transportation and land use. To the extent possible, federal, state and local transportation, housing, water and sewer facilities, economic development, and other public infrastructure funding for new and expanded facilities shall be directed to the urban development areas. The Town met the State requirement by adopting UDA in August 2011. In 2012, the State legislation was again amended to make the adoption of UDA optional. The planning principles set forth in the 2007 and 2010 Urban Development Area legislation are similar to many principles that already existed in the Town's Comprehensive Plan. Regarding the 2012 legislative change, the State has not advised localities as to the impact of removing UDA already adopted. The Town may be in a better position for State funding opportunities by retaining UDA. Thus, the 2012 Comprehensive Plan Update maintains the UDA as adopted in 2011.

UDA are intended to serve as a focal point for growth over the next 10 to 20 years. Development within the UDA should be compact, using Traditional Neighborhood Design principles, or part of a mixed use development designed to accommodate pedestrian and vehicular traffic with a full complement of services and amenities. Development in a UDA should also provide for transit facilities or stops. Designated UDA are intended to be developed at urban densities and intensities and may include single-family residences at four dwellings per developable acre, townhouses at six dwellings per developable acre, or multifamily units at 12 units per developable acre or higher—or a combination of these unit types—or commercial development at a floor area ratio of 0.4 per acre or higher. Individual parcels or groups of parcels within a UDA may be either higher or lower than the general density/intensity standards, as long as these general density/intensity standards are available in some combinations in the UDA when taken as a whole. Compact, mixed uses are appropriate in UDA and development in these areas should be guided in part by the mixed use area guidelines discussed later in this chapter.

The designation of UDA does not prevent rezoning of developments outside a UDA, nor obligate the Town to approve rezoning within a UDA. The designation of UDA does not affect existing zoning, nor do UDA mandate a specific type or style of development on a property.

Within the Town, there are eight geographic areas designated as UDA. The UDA are shown on Map B of the Town's Land Use Map Series. While the UDA generally correspond with areas

designated as mixed use on the Future Land Use Map, Map A of the Town's Land Use Map Series, the boundaries are not synonymous. (*Also refer to Blacksburg Administrative Manual*)

Note: In 2012, the Long Range Planning Committee and Planning Commission recommended review of Map C in 2014 with the annual amendments. However staff recommends further reviews in 2015 of Map C once there are more public hearing cases to reflect benefits/challenges of using Map C in the Land Use Analysis.

## **Map C: NEIGHBORHOOD, EMPLOYMENT AND SERVICE AREAS**

The Town of Blacksburg's Comprehensive Plan Land Use Map Series, Map C: Neighborhood, Employment and Services Areas Map, illustrates different types of areas that can be found throughout the Town of Blacksburg. Map C replaces the Planning Sectors found in previous adopted versions of *Blacksburg 2046*. The eight Planning Sectors were geographically designated areas of the Town, describing the planning issues found within each, often with great duplication. The Neighborhood, Employment and Service Areas reorganize the Planning Sectors by type, bringing areas throughout the Town that have similar lifestyles and issues together to improve the overall effectiveness of planning for each area.

All neighborhoods and areas in Blacksburg are classified into different styles based on a number of key characteristics. This classification is not based on geography, but on commonalities and factors including historical patterns of development, transportation network, and neighborhood identity, density and type of development, and potential development opportunities. The boundaries reflect the predominant land use form within each area. There may be isolated instances or enclaves of a land use form that do not conform with the designation of the area. For example, there may be a single family home located beside a multi-unit residential apartment building; however, the boundaries of the areas were determined based on the predominant land use form and the common issues identified with that area. The result is that areas of the Town that share similar characteristics and face similar challenges were classified together into the following categories:

- A 1. Commercial and Employment Areas
- A 2. Urban/Walkable Neighborhoods
- A 3. Multi-Unit Residential Neighborhoods
- A 4. Suburban Residential Neighborhoods
- A 5. Rural/Undeveloped Areas

Additional information about each area style is detailed on the following pages, including a general description of the areas, how the areas developed, and strategies for the future. Applicable Community Character Principles are referenced to provide context for how that particular neighborhood style relates to the Town as a whole.

Both private proposals and Town projects will be reviewed against the neighborhood, employment and service areas to evaluate if the proposed development or capital improvements will benefit the neighborhood, employment or service area, or exacerbate neighborhood problems identified in this chapter. If the proposed land use is different from the adopted Neighborhood, Employment and Service Area, the Area more closely matching the proposed

land use may also be considered during the review process to better evaluate the proposed land use request.

### ***A 1. Commercial and Employment Areas***

There are five core commercial and employment areas in Town where needs of employees, customers and suppliers converge. These areas in the Town contain the majority of the jobs in Blacksburg but do not incorporate home-based businesses, which have minimal land use impacts. These areas include all but one of the Town's gateway entrances (the other primary gateway, North Main Street, is discussed under *A 4. Suburban Residential Neighborhood Areas* later in this chapter). The five core commercial and employment areas are listed below and then individually discussed in greater detail:

- University
- Retail (Downtown, South Main Street, University City Boulevard)
- Corporate Research Center
- Blacksburg Industrial Park
- Hospital/460 Business

#### **University**

Virginia Tech is the largest employer in Blacksburg, with 6,500 employees in 2011. Virginia Agricultural and Mechanical College (now Virginia Tech) was established in 1872 and contains historic structures on-campus, including Smithfield Plantation and Solitude. Adjacent to the Downtown, Virginia Tech's presence has promoted the growth of a retail employment center in the Downtown to serve the needs of students, faculty and staff. Some Downtown properties adjacent to campus have been converted to university-related uses as Virginia Tech has expanded. As Virginia Tech continues to grow, it will be important for the Town to work closely with the University to balance the economic value from these entities' developments in order to maintain the integrity of commercial and residential areas in Town. To this end, it will also be important to effectively coordinate the Town's Comprehensive Plan with Virginia Tech's Master Plan, most notably to create a seamless transition between the campus and the Downtown with a free flow of bicycle, pedestrian and vehicular traffic between the two areas. The development along College Avenue in coordination with the University can serve as a model for this collaboration, and the best practices from that project can be applied to other coordinated developments. The construction of the Center for the Arts at Virginia Tech that is adjacent to the Downtown will benefit from this successful coordination, as the addition of this important cultural amenity will attract residents and visitors to the Downtown.

#### **Retail**

In addition to the Historic Downtown retail employment and commercial area that developed largely as a result of the presence of Virginia Tech, two other retail employment and commercial areas have developed along primary transportation routes through the Town on South Main Street and University City Boulevard. Businesses located in these areas serve the day-to-day needs of residents, such as grocery stores, pharmacies, banks, or gas stations, as well as businesses meeting more quality of life needs, including restaurants, clothing stores, specialty shops, coffee shops, bakeries, and bicycle shops. Businesses located in the Historic Downtown area tend to be locally owned, while most national chains are located in the other employment and commercial areas. Town Council is considering a live/work overlay district in the

Downtown to add to the variety of arts and tourism-related employment and commercial offerings in this area.

Commercial and employment areas contain a variety of building styles, age and quality. New development in these areas should be designed to fit the character of the area in which they are located; designs should create a community gathering place as well as a commercial center, and should provide convenient pedestrian and bicycle access. Redevelopment of aging commercial centers is the most significant opportunity to meet the demand for limited availability of commercial land in these areas and to allow for the preservation of historic landmarks and properties in the Downtown. As established commercial areas redevelop over time, a re-orientation to a pedestrian focus is a primary design goal to help create more cohesive neighborhoods. In both new construction and in the refurbishment of older structures, quality building materials should be used and maintained to ensure economic viability over time.

Offices are part of the desired mix of uses in the Downtown and can contribute to the vibrancy and vitality of Downtown throughout the day and night. Office uses complement retail, restaurant and other commercial uses in the Downtown, and employees of those businesses become patrons of other Downtown businesses. The development of properties, such as the Old Blacksburg Middle School (OBMS) site in accordance with the OBMS Master Plan, provides an opportunity to create office, commercial, and residential uses in a mixed-use development that is street-oriented, pedestrian and bicycle friendly, has easy access to public transportation and is an asset to the vibrant Downtown area.

Both the South Main and University City Boulevard employment and commercial centers can also benefit from greater access to pedestrian and bicycle routes, as well as public transportation that can better connect them to the other commercial and employment centers in the Town as well as to residential neighborhoods.

### **Corporate Research Center**

The Virginia Tech Corporate Research Center (CRC) is a research park containing over 140 high-technology companies that currently employ over 2,200 people. In partnership with Virginia Tech as a wholly owned subsidiary of the Virginia Tech Foundation, the CRC houses companies that provide educational opportunities and research-related jobs for University students, faculty, graduates, staff, and spouses, all of whom may also be residents of the Town. With Phase I complete and Phase II under construction, maintaining easy access to the area creates a critical need for traffic management in addition to making available alternative forms of transportation such as adequate access to mass transit and bicycle friendly routes. A proposed interchange on US 460 at Southgate Drive will create a direct connection from that highway to campus and the CRC. While alleviating some of the traffic concerns, it will be important to foster a sense of community between the CRC and other areas of the Town. This can be achieved by encouraging community involvement through programming at the CRC, in addition to assuring adequate access to pedestrian, bicycle and mass transit alternatives that encourage employees to live locally and patronize local businesses.

### **Blacksburg Industrial Park**

The Blacksburg Industrial Park is home to several large corporations, small high-tech firms, and Virginia Tech research institutes. Phase V of the Industrial Park was completed in 2011. A

recent extension of Commerce Street in 2012, as well as the subdivision of four parcels slated for development, speaks to the economic health of this employment area. Similar to the CRC, appropriately managing traffic flow in this area and providing alternative transportation, such as adequate access to mass transit and bicycle friendly routes, will be important in the development and future expansion of the Industrial Park. In encouraging pedestrian networks and trail connections through this area, it will be important to be sensitive to the unique vehicular traffic patterns of an industrial park. Large trucks and other equipment may not be compatible with more traditional pedestrian networks such as sidewalks, but pedestrian access for employees might still be possible through less invasive walkways or trails through this area.

### **Hospital/460 Business**

LewisGale Hospital (formerly Montgomery Regional Hospital) has been the leading healthcare provider in the New River Valley since opening in 1971. The hospital has been expanding its services to meet growing healthcare needs and was the 6<sup>th</sup> top employer in Blacksburg in 2011. The hospital is located just off 460 Business on the South end of Blacksburg, so any development in this area is part of a gateway to Blacksburg, and should reflect the care and quality of the Town. In addition to its own employees, the presence of the hospital fosters the growth of a cluster of related employment centers surrounding it such as medical offices, elderly living facilities, and other service providers. By working with developers on projects in this area, there is an opportunity to capitalize on open space requirements that meet another need of the residents in the area for parks and recreational facilities. With Warm Hearth, a comprehensive retirement community, located in both the County and the Town, as well as other facilities in Town addressing the needs of the aging population, transportation in this area should be focused on providing easy and accessible public transportation and pedestrian networks for those residents to the healthcare services this area provides. By focusing on improvements to transportation, there is also an opportunity to allow for additional development farther away from this area as the aging population grows and demand for additional elder care facilities and services increases.

### ***Commercial and Employment Area Issues for the Future***

- The activity in these areas generates traffic and congestion. Mass transit, alternative transportation and other creative options, such as staggered working hours and telecommuting, can mitigate some of these negative impacts.
- Connectivity between the non-residential uses in these areas provides options for employees and customers alike to move between the uses without having to go out into the main road network. Connections should be safe for pedestrians, bicyclists and vehicles.
- There is an opportunity to upgrade technology infrastructure in these areas so they can become more economically competitive.
- Unique utility demands of new Research and Development, Light Industrial or Manufacturing businesses in these areas will need to be accommodated and incorporated into the Town's infrastructure.

- With a variety of commercial and employment areas throughout the Town, strengthening and expanding that economic vitality while adding to a high quality of life for residents is a primary focus.
- Creating a master plan for site redevelopment in these areas helps to assure that appropriate site design is achieved and fosters successful collaboration.
- Site design elements such as street orientation, preservation of historic landmarks, adequate open space, and effective and efficient use of land are important to these areas and can address the Town's goal of economic, environmental and social sustainability.
- Implement the pending 2012 Economic Development Strategies once adopted (*Refer to the Jobs & Housing Chapter*).
- There are a number of aging commercial properties in these areas. Stimulating redevelopment or the refurbishing of existing buildings in accordance with the various Commercial Infill Design principles discussed earlier in this chapter will help make these properties contribute more, both to the Town's economic tax base and the Community Character Principles of Blacksburg.

## ***A 2. Urban/Walkable Neighborhoods***

Urban/walkable neighborhoods are typically higher density residential neighborhoods located within walking distance of employment and commercial centers. These areas typically have access to all modes of transportation, including mass transit, bikeways, and pedestrian trails. Streets are typically organized in a grid pattern, which allows for easy pedestrian travel. Pedestrians can travel from these areas to commercial centers, the University, and neighborhood schools.

The urban/walkable neighborhoods in Blacksburg are centered around Downtown and the original "Sixteen Squares." Residential neighborhoods developed over time beginning at Main Street and the Sixteen Squares and eventually moved outward. These are some of the oldest neighborhoods in the Town, and they contain a number of historic homes. There is a strong community sentiment for preserving these structures, and the Blacksburg Historic Overlay District attempts to do this. In addition, two of the neighborhoods in this area, McBryde Village and Miller-Southside, have developed their own neighborhood master plans. The majority of these neighborhoods have a high percentage of rental properties when compared to owner-occupied homes.

The urban/walkable neighborhoods contain open space and greenway connections to better connect them to Downtown. These areas also provide visual and physical resting points, enhance the aesthetic experience, and make the area more desirable in general. Pedestrian trails, such as the Huckleberry Trail, play a significant role in the aesthetic charm and pedestrian orientation of these areas.

Places of worship and neighborhood schools are an important anchor to these areas. They function as gathering places and are recreational and cultural centers for their neighborhoods, providing definition and identity.



### ***Urban/Walkable Neighborhood Issues for the Future***

- Single-family residential character and neighborhood identity should be preserved in these areas.
- Through education of residents, owners and property managers, as well as the Town's zoning enforcement property maintenance programs, seek to minimize lifestyle conflicts that may occur in these neighborhoods, especially with undergraduate students renting property in these areas.
- As the fraternity and sorority uses cease in these areas, the non-conforming structures can be converted back to single-family residential uses or other alternative compatible uses such as art studios, bed and breakfasts, or other creative small-scale commercial uses.
- More connections in sidewalks and trails benefit children and adults who wish to travel to nearby schools and work from their home without relying on a car or bus. To remedy deficiencies, improve connectivity and ensure property maintenance, utilize programs such as the Safe Routes to School along with other grants or Town funding.
- There is a limited inventory of homes within walking distance of the University and Downtown. In addition, these homes are often beyond the financial reach of many young families, young professionals, or employees of the University or Downtown businesses who would like to live in this area. Creative strategies are needed to encourage more home ownership in these neighborhoods (*Refer to Jobs & Housing Chapter*).
- With the access to Downtown services and amenities, there is an opportunity to provide more opportunities to allow aging in place in these neighborhoods.
- The speed and inattention of drivers using some of these neighborhood streets can be a safety issue. Education and other strategies are needed to combat this ongoing issue (*Refer to Transportation Chapter*).
- Construction of new homes and the redevelopment and refurbishing of the existing housing stock in this area should be done utilizing the Residential Infill Guidelines and, where applicable, the Blacksburg Historic Overlay guidelines.
- The housing stock in these areas is aging and lack of property maintenance is a critical issue for neighborhood identity and character in the future.
- Limited parking is an issue in these neighborhoods. Any opportunities to reduce the number of vehicles being parked in this area should be explored and encouraged.
- Development in this area should be sensitive to balancing the minimization of light pollution with the need for sufficient lighting to create safe pedestrian and vehicular experiences at night.

- Where there are undeveloped tracts of land that are on ridgelines or that contain significant wooded areas, such as the area between Clay Street and Roanoke Street near the eastern continental divide, thoughtful care should be given to design in order to retain natural areas and features as part of the new development. Creative design can be used to balance residential infill with protection of important natural systems and viewsheds. The Town's Residential Infill Development Guidelines provide examples and directions on how to design infill development in the Clay and Roanoke Street area, or any other area that can accommodate density but is also sensitive to the surrounding residential context.

### ***A 3. Multi-Unit Residential Neighborhoods***

These neighborhoods are primarily apartment developments rented to students due to the proximity of the Virginia Tech campus. In these dense urban areas with a high concentration of students, there are fewer lifestyle conflicts than in other residential areas because the properties are larger rental developments where residents have a shared set of lifestyle expectations. The compact forms of development in these areas allow residents to rely less on automobiles as they have access to public transit, on- and off- road trail systems, sidewalks, and bicycle lanes. With the exception of the Hethwood and Foxridge neighborhoods, these areas are located just beyond the urban/walkable neighborhoods, and all are located near the Town's major employment and commercial areas. These neighborhoods also have easy access to the US 460 Bypass, the main transportation route to I-81 and surrounding localities.

While Hethwood has easy access to US 460 Bypass, the bypass separates Hethwood from the University and Downtown. Hethwood has a comprehensive trail system that connects to the campus bikeway system of Virginia Tech, providing convenient bicycle and pedestrian access to campus via an extension of the Huckleberry Trail. This landscaped, multi-use trail can also serve as a natural buffer between existing and future development in the area. The route system also connects residences to recreation facilities within the neighborhood. Recreational amenities include a pond, playing fields, tennis and basketball courts, two pools, and tot lots.

#### ***Multi-Unit Residential Neighborhood Issues for the Future***

- Transit service in these areas should continue to meet residents' needs.
- Enhancing sidewalk, trail and bicycle opportunities that link these areas of high concentrations of people with Downtown and the University core campus will be beneficial.
- New developments and redevelopments should:
  - Consider providing open areas and recreational opportunities within their developments.
  - Provide landscaped multi-use trail systems for commuting opportunities to the Commercial and Employment areas while providing landscape buffers.
  - Provide strong property management and maintenance.
- Through education of residents, owners and property managers, as well as the Town's zoning enforcement property maintenance programs, seek to minimize lifestyle conflicts

that may occur at the interface of these higher density developments with adjacent residential neighbors.

- Coordination with Virginia Tech on the development of property located east of the US 460 Bypass between Prices Fork Road and Glade Road will affect these areas. Specifically, the area adjacent to University Mall is suitable for high-density, multi-family housing.
- There is an opportunity to encourage planned residential development, with limited neighborhood commercial areas, on the properties to the north and south of the existing Hethwood neighborhood, with accommodations for appropriate collector/access roads and alternative transportation routes.
- New multi-family developments in these areas should de-emphasize parking areas, maximize the use of alternate transportation options, be walkable, connect to other developments, have a street presence, and use other principles as detailed in the Residential Infill Guidelines.
- If additional student housing is not provided on-campus, the University should consider providing additional student residences only on property that is currently designated on the Future Land Use map for this high density residential use.

#### ***A 4. Suburban Residential Neighborhoods***

Suburban residential neighborhoods are commonly made up of detached single-family homes on quarter acre or larger sized lots. Homes are typically owner-occupied and known for their good exterior maintenance and appearance. They are on tree-lined streets with houses nestled under a full and mature tree canopy. Homes are often rented to families who complement the already existing family-oriented neighborhood. Many of these neighborhoods are located near parks and recreational amenities. The low density neighborhoods are located on the edges of town, and many abut agricultural and open land. There is no transit service to single-family neighborhoods in these areas. These areas do not contain some of the urban/walkable amenities such as sidewalks and streetlights on all streets. The neighborhood street grid is not as well connected as older neighborhoods closer to Downtown. While commuting by biking and walking is possible, residents in these neighborhoods predominantly use their personal automobile to get to places.

Suburban neighborhoods are primarily located at the edges of town, where urban development transitions to rural areas. The North Main Street gateway entrance to Blacksburg is in this area. These neighborhoods developed as demand increased for individuals and families looking for less urban lifestyles and more land while remaining close to employment and commercial areas.

### ***Suburban Residential Neighborhood Issues for the Future***

- Parks are an integral part of these neighborhoods. Maintaining the high quality of parks requires the cooperation and support of the neighborhood residents and the Town. New developments in these areas should be encouraged to provide pocket parks within their developments.
- Neighborhoods in these areas should increase connectivity to other neighborhoods, Town parks and other recreational facilities.
- Other means of transportation should be supported in these predominantly vehicular-oriented traffic neighborhoods.
  - Construct new sidewalks, bicycle lanes, and off-road trails where appropriate.
  - Provide creative transit options.
- The Town has classified streets as arterial and collector roads to carry support traffic with local traffic connecting to local streets. Planned road connections and improvements will complete the Town's interconnected grid system to efficiently move traffic. Any road improvements should honor the Town's arterial and collector road system while reflecting the character of the surrounding area.
- While cul-de sacs are typical suburban development features, they are not always desired in Blacksburg. New developments should connect to the existing street system and existing neighborhoods where possible and as allowed by topography. This should include the provision of stub-outs as part of the development review process.
- Additional small-scale commercial services will be needed in some of these areas as residential communities grow. These uses will be considered in large planned residential developments and should be pedestrian-oriented and should not generate additional traffic from outside the area.

### ***A 5. Rural/Undeveloped Areas***

These areas contribute to the rural feel of Town and create a natural boundary between the more urbanized areas of Town and the rural county. The feeling of openness and picturesque views of open fields and surrounding mountains contribute to the overall quality of life in the Town. Most of this area abuts the George Washington-Jefferson National Forest. The Town's Gateway Park provides a greenway connection from the Town to the National Forest where recreational opportunities include hiking, biking, horseback riding, camping, fishing, and picnicking. The pattern of future development in this area is critical to the preservation of open space, protection of water resources and agricultural land uses within the Town. Due to the low density and rural character of these areas, alternative transportation is not available to residents.

#### ***Rural/Undeveloped Area Issues for the Future***

- As demand for residential areas in Town increases, this area will face increasing development pressures.
  - Cluster housing development can be a concern to some residents due to the “urban” character of the developed land. However, this type of development can be a mechanism to address these development pressures while preserving large tracts of open space in perpetuity.
- Through the adoption of Urban Development Areas, the Town has identified areas for future residential and commercial growth. It will be important to balance potential development with the needs of the residents in this area.
- Public wastewater systems are not extended into this area by current policy, as the readily-available service supports and promotes a level of growth not desired for this area. The existing road network and road connectivity is limited, as expected in rural/undeveloped areas. Planned future roadways and connections, as identified on the Land Use Map series and further detailed in the Transportation Chapter, may impact the character of this area.
- Commercial services are not as readily available in this area as elsewhere in Town. Very limited neighborhood commercial uses to serve residents may be appropriate, but these should be carefully integrated into the development pattern and consistent with the character of the area.
- Alternative transportation options, such as transit, may be limited in this area, but there may be non-traditional transit options or ridesharing options to reduce vehicular travel.
- Recreational amenities in these areas are typically larger open space, such as Heritage Park. These areas need to be protected and connected to other recreational and residential areas through the off-road trail system.
- Scenic views of the mountainside and the rolling, open terrain of this rural area are a desired view by Blacksburg residents and visitors alike and provide an attractive entrance to the community.
  - This rural viewshed should be protected if there is development.

- Both public and private efforts to preserve agricultural and open lands through land trusts, open space easements, purchase of development rights, and fee simple acquisition is strongly encouraged in this area.
- A larger portion of the rural undeveloped property west of the US 460 Bypass adjacent to the University is currently owned by the Virginia Tech Foundation. The Town should coordinate with the University and the Foundation on the future use of this parcel, recognizing the Town's Future Land Use Classifications of this property and the fact that it may not remain a rural/undeveloped area.

## **MAP D: PATHS TO THE FUTURE**

Map D: Paths to the Future Map illustrates transportation and connectivity in the Town of Blacksburg. The map shows trails and connectivity elements that contribute to the Town's sustainability goals and quality of life, including the feel of a walkable and bikeable community. The Town is committed to providing residents with a unified pedestrian route network that includes off-road and on-road trails, supplemented with bikeways and sidewalks.

The Paths to the Future Map depicts the link between transportation and land use. Land use decisions impact transportation networks, and, at the same time, transportation systems can influence nearby land use patterns. It is very important that these elements are coordinated to create an environment where people have a variety of options to access the goods, services and amenities they need. Connectivity that allows for many types of transportation within the Town is an important element of Blacksburg's character.

This map is used during the development review process to ensure this character is maintained through compatibility with new development. More information about this map can be found in the *Transportation Chapter*.

## **LAND USE**

### **OBJECTIVES & POLICIES**

- LU.1. Clearly articulate and communicate the Town's Future Land Use goals, development standards and requirements to the development community and the general public.
- LU.2. Educate the public about the land use decision-making process and tools to encourage public participation at all levels of the process.
- LU.3. Review the Zoning Ordinance and Subdivision Ordinance, as well as other parts of the Town Code, to determine if these regulations adequately implement the Town's Comprehensive Plan.
- LU.4. Explore programs to encourage more construction in Town of EarthCraft certified and U.S. Green Building Council's LEED certified buildings.
- LU.5. Continue amendments to update the Town's Zoning Ordinance based on Town Council priorities. Determine the Zoning Ordinance amendments necessary to:
  - Implement the Residential Infill Design Guidelines
  - Create a Commercial Infill Guideline manual
  - Re-evaluate the implementing districts for the Mixed Use areas
  - Facilitate aging in place and other uses needed for an aging population
- LU.6. Consider the compatibility of development with surrounding uses. Utilize strategies such as landscaping or other buffering techniques along with modification of site design to minimize impacts and facilitate compatibility.
- LU.7. Encourage developers to work with surrounding property owners and tenants to resolve community concerns prior to formalizing development plans.
- LU.8. Continue the policy not to extend Town water and sewer to areas unless within Town boundaries and subject to the Town's Land Use regulations.
- LU.9. Work with Virginia Tech on the implementation of the Virginia Tech Campus Master Plan, specifically with the timing and impact of proposed improvements.
- LU.10. Create a corridor planning initiative for key roadway corridors to address redevelopment opportunities, streetscaping and gateway entrances.
- LU.11. Encourage residential infill in the Downtown area. Support the addition of a mix of uses and services that will attract and support a Downtown residential population.
- LU.12. Develop and implement a comprehensive long-term parking strategy and education plan to reduce parking needs Townwide and address continued parking issues in residential areas.
- LU.13. Continue Town support of child care and adult day care services for all residents.

- LU.14. As the Town focuses on attracting high-tech industry, IT infrastructure should also be considered on each development project along with more traditional public utilities.
- LU.15. Use cluster development as a means to enhance the natural environment and for the preservation of open space.
- LU.16. Through the Land Use review and decision-making process, encourage grouping open spaces together and creating interconnectivity in sensitive areas such as ridgelines, steep slopes, wetlands, and flood-prone areas.
- LU.17. Reduce the development of ridgelines and preserve open space.
- LU.18. Protect the integrity and quality of forested areas as buffers, wildlife habitats, and pollutant removal systems. Ensure the retention of existing high quality trees and woodlands and the planting of new trees during land development.
- LU.19. Regulate the amount of noise and/or light produced by land uses to minimize impacts on nearby properties.
- LU.20. Protect the integrity and quality of water resources in the Town.



# GOVERNMENT RELATIONS

## *A Regional Look*

### **GOAL**

Partner with federal, state, and local governments, commerce, institutions of higher education, and other area stakeholders to plan and develop as a unified region.

### **Sustainability Goal**

Work in partnership to sustainably support the New River Valley region economically, environmentally, and socially.

### **Citizen Involvement**

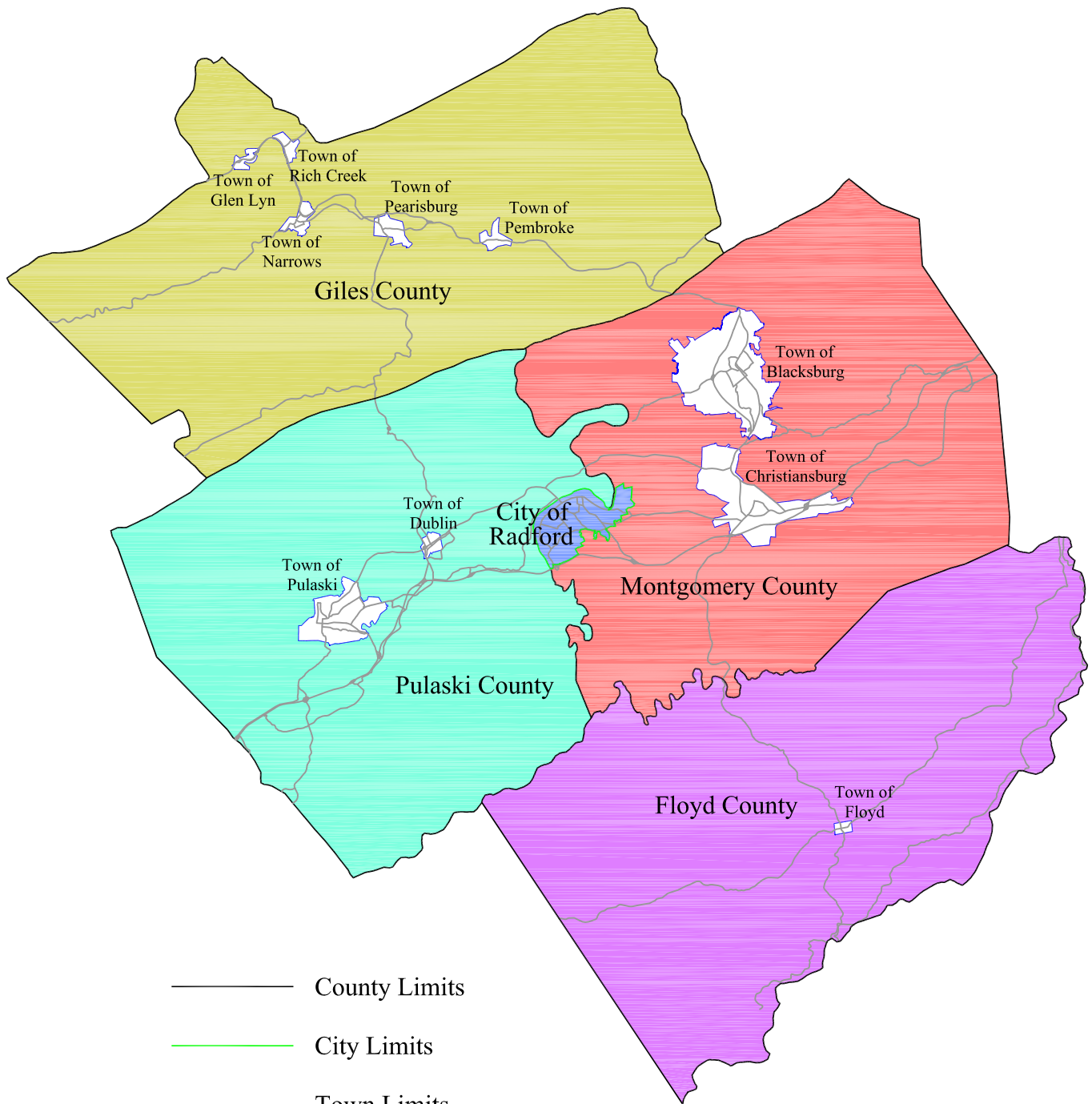
Citizens can participate on the following related Town Council appointed committees: Blacksburg-Virginia Tech Liaison Committee, Council on Human Relations, Montgomery County/Blacksburg Local Emergency Planning Committee, Montgomery Regional Economic Development Commission, New River Valley Agency on Aging, New River Valley Alcohol Safety Awareness Program, New River Valley Development Corporation, New River Valley Livability Initiative, New River Valley Planning District Commission, and Town-County Liaison Committee. Town residents, as Montgomery County residents, can also serve on Montgomery County appointed committees and boards.

### **OVERVIEW**

What happens in Blacksburg affects neighboring jurisdictions, just as the actions of neighboring jurisdictions and state agencies, such as the Virginia Department of Transportation and Virginia Tech, affect what happens within the Town limits. There are many available tools to help build strong working relationships among the local governments, economic development agencies, planning related organizations, and universities in our area.

The New River Valley, as illustrated in the map on the following page, is a natural geographic boundary for creating and promoting a regional identity. The Town partners with many different organizations and surrounding jurisdictions to promote the Town, Montgomery County, and the New River Valley. While lines on a map identify boundaries between individual jurisdictions, in reality, those boundaries are invisible for items such as transportation and the natural environment. Local governments and state agencies share in the design and construction of roads and regional transportation facilities, such as the Virginia Tech/Montgomery County Executive Airport, Blacksburg Transit, and the Smart Way Bus. The Town of Blacksburg shares mutual aid agreements with many surrounding jurisdictions in the areas of public health and safety. Virginia Tech and other higher education facilities offer the region economic opportunities through their research, teaching, and service opportunities to students, staff, faculty, alumni, visitors, and the community. The Virginia Tech Corporate Research Center and Blacksburg's Industrial Park provide attractive international and national business addresses, while simultaneously retaining local business in the region.

# New River Valley



- County Limits
- City Limits
- Town Limits
- Major Roads

0 5 mi. 10 mi.

## **FORMAL AND INFORMAL COOPERATIVE EFFORTS AMONG THE TOWN OF BLACKSBURG, LOCAL GOVERNMENTS & VIRGINIA TECH**

There are many Town committees and regional committees with Town representation working collectively in the New River Valley. The Town also closely coordinates with Virginia Tech. Participation locally and regionally are two important ways in which the Town participates in the decision-making processes that affect the future of the Town. Going forward, regional coordination and cooperation will be increasingly important in solving long-term regional issues. The New River Valley Livability Initiative is one such good example of a regional approach in assessing topics of interests to all living within the New River Valley. Efforts to increase partnerships with localities and organizations in the larger surrounding regions, such as the Roanoke Valley and in Southwest Virginia, should be goals to achieve in the future.

### **Administration**

- Blacksburg Town Council
- Blacksburg-Virginia Tech Liaison Committee
- Town-County Liaison Committee

### **Agriculture**

- Agricultural & Forestal District Advisory Committee
- Friends of the Blacksburg Farmers Market

### **Economic Development**

- Blacksburg Partnership
- Downtown Blacksburg, Inc.
- Downtown Revitalization Committee
- Montgomery-Blacksburg-Christiansburg Development Corporation
- Montgomery Regional Economic Development Commission
- New River Valley Development Corporation

### **History**

- Cemetery Trustee Advisory Committee
- Historic/Design Review Board
- The Blacksburg Museum and Cultural Foundation

### **Housing and Neighborhood Services**

- Blacksburg Housing and Community Development Advisory Board
- Rental Housing Inspection Program
- Student Orientation
- The Big Event
- Town-Gown Community Relations Committee

### **Planning**

- Blacksburg Planning Commission, and subcommittees:
  - Environmental Quality and Land Use Committee

- Long Range Planning Committee
- Board of Building Code Appeals
- Board of Zoning Appeals
- New River Valley Planning District Commission
  - Livability Initiative
- Virginia Tech Campus Master Plan

### **Public Safety and Emergency Planning**

- Drug Task Force
- Drunk Driving Enforcement
- Emergency Locator System
- Judicial Affairs
- Law Enforcement Training
- Major Event Security
- Montgomery County/Blacksburg Local Emergency Planning Committee
- Mutual Aid Agreements for Fire, Police, and Rescue Services
- New River Valley Alcohol Safety Awareness Program
- New River Valley Hazard Mitigation Planning
- Safety Seat Check Points/Educational Program
- Underage Alcohol Enforcement

### **Social Issues**

- Council on Human Relations
- Women's Center at Virginia Tech
- New River Valley Agency on Aging

### **Recreation & Events**

- Art at the Market
- Holiday Parades
- Huckleberry Trail
- Recreation Advisory Board
- Steppin' Out Street Festival
- Summer Solstice Fest
- Virginia Tech Arts Initiative
- Virginia Tech Summer Arts Festival

### **Technology**

- Blacksburg Electronic Village Board
- Montgomery County Public Schools Technology Steering Committee
- NRV Network Wireless Authority
- VT Knowledge Works

## **Transportation**

- Blacksburg Transit
- Greenway/Bikeway/Sidewalk Corridor Committee
- Metropolitan Planning Organization Board
- Safe Routes to School
- Towing Advisory Board
- Traffic Committee
- Virginia Tech/Montgomery Regional Airport Authority

## **Utilities/Environment**

- Blacksburg-Christiansburg-VPI Water Authority
- Blacksburg-VPI Sanitation Authority
- Energy Alliance of Southwest Initiative
- Mayor's Task Force on Climate Protection & Sustainability
- Montgomery Regional Solid Waste Authority
- Stormwater Stakeholder Advisory Group
- Virginia Tech Salt Storage Joint Facility Agreement

# **GOVERNMENT RELATIONS**

## **Objectives and Policies**

- GR1. Improve existing relationships and establish new relationships between governing bodies of the New River Valley and the Roanoke Valley to improve understanding and support regional development.
- GR2. Work with Montgomery County on the successful redevelopment of the Old Blacksburg Middle School property.
- GR3. Work with the New River Valley Planning District Commission to successfully complete and implement the NRV Livability Initiative.
- GR4. Continue coordination with the Town of Christiansburg and Montgomery County at the comprehensive planning level.
- GR5. Identify opportunities for short, medium, and long-term joint infrastructure, recreational, or environmental protection projects between partnering agencies and governments that achieve efficient uses of resources and cost savings.
- GR6. Support regional efforts by local government jurisdictions and non-profit organizations to support the needs of the increasing senior citizen population.
- GR7. Work with other entities in the region to explore expansion of Blacksburg Transit and alternative transportation to increase mobility between localities in the region and reduce individual commuting by automobile.

- GR8. Work with Montgomery County to encourage developments outside of Town limits that are of a scale and design to complement developments within the Town, minimize impacts on traffic congestion, and provide open space and greenway connections, while protecting viewsheds and ridgelines.
- GR9. Develop initiatives with Montgomery County to protect and promote historic districts located in the Town and County. Provide financial incentives for investing and renovating historic properties.
- GR10. Continue to coordinate with Virginia Tech on Town/Gown relations, transportation, implementation of the University Master Plan and the Town's Comprehensive Plan, Virginia Tech Foundation projects, and protection of commercially zoned properties Downtown.
- GR11. Ensure that meals, lodging, and other taxes are applied equally within the Town so that businesses are not placed at a disadvantage because they are taxed at different rates depending on their location.
- GR12. Support local governments and other regional organizations to implement economic strategies and incentives to promote the Town of Blacksburg and the New River Valley.
- GR13. Continue participating in discussions regarding Montgomery County joining the Water Authority.
- GR14. Continue to participate in the Regional Airport Authority with Virginia Tech, Montgomery County, and the Town of Christiansburg to support airport operations and marketing the airport to help grow the region's economy.
- GR15. Promote a unified regional development pattern and address the regional impacts of development by considering the following Town concerns when commenting on development proposals in adjacent jurisdictions. *Please refer to the Blacksburg Administrative Manual for additional detail.*
1. Density and intensity of land use and transition of land uses with adjacent jurisdictions
  2. Implementation of Urban Development Areas
  3. Historic preservation
  4. Viewsheds
  5. Town gateways
  6. Transportation, including road construction, traffic volume and safety, transit, trails, sidewalks and bikeways
  7. Water
  8. Wastewater
  9. Stormwater and Watershed impacts
  10. Information Technology, including Telecommunications Towers
  11. Broadband Development
  12. Economic Impacts

## *Glossary of Terms*

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- AARP* – a nonprofit, nonpartisan membership organization for people 50 and over.  
[www.aarp.org](http://www.aarp.org)
- Absentee Ownership* – property that is owned by an individual who does not reside locally. Properties with absentee ownership tend to deteriorate more quickly because the owner is often not aware of the condition of the property.
- Act for the Special Assessment for Land Use Preservation* – Virginia Code Section 58.1-3229 *et seq.* permits a locality to adopt a program of preferential treatment for lands devoted to agricultural, horticultural, forestry, and open space uses.
- ADA* – see *Americans with Disabilities Act*.
- AFD* – see *Agricultural and Forestal Districts*.
- Affordable Housing* – as defined by the U.S. Department of Housing and Urban Development (HUD), housing for which the occupant is paying no more than 30% of his or her gross income for housing costs, including utilities. Affordable housing strategies can include targeted programs to assist specific demographic groups such as low-income or workforce populations.
- Agricultural and Forestal Districts (AFD)* – a tax relief district established to promote the preservation, protection, and improvement of agricultural and forestal lands for the production of food and other products.
- Alley* – a narrow service street, not intended for heavy traffic, but specifically for access to adjacent businesses or homes.
- Alternative Transportation* – transportation by means other than a single-occupancy vehicle or automobile-based: walking, riding a bike, or taking the bus, for example.
- Americans with Disabilities Act (ADA)* – provides civil rights protections to individuals with disabilities and guarantees them equal opportunity in public accommodations, employment, transportation, state and local government services, and telecommunications. (1990)
- Arterial Streets* – main roads that connect outer suburban communities with the central part of a community.
- Best Management Practices (BMPs)* – land management techniques designed to reduce non-point source pollution inputs into receiving waters to improve water quality; actions, which are required by law, to keep soil and other pollutants out of streams and lakes to protect water quality and to prevent new pollution.
- BEV* – see *Blacksburg Electronic Village*.
- Blacksburg Electronic Village (BEV)* – the outreach project of Virginia Tech that has helped provide an electronic community network for the Town of Blacksburg.
- Blacksburg Strand* – Seven secondary and elementary schools within the Montgomery County Public School System that educate primarily the children of Blacksburg and some county students attending as well: Margaret Beeks Elementary School, Gilbert Linkous Elementary School, Harding Avenue Elementary School, Kipps Elementary School, Prices Fork Elementary School, Blacksburg Middle School, and Blacksburg High School
- Blueway* – a system of water trails along rivers and lakes that combine recreation and environmental awareness, allowing users to travel between access points and to enjoy land-based attractions in the vicinity.
- BMPs* – see *Best Management Practices*.

- Broadband* – high speed, digital data communications. Requires special digital telephone lines. Normally more expensive than analog.
- Buffer* – a physical barrier or designated open space that moderates the influence that one land use has on an adjacent land use. For example, trees and yard space intentionally placed to separate a commercial building from a housing community to reduce noise and visual impacts. Can apply to riparian areas as well.
- Bungalow* – an affordable one-story residential house design originally brought to the U.S. from India. This design became popular during the first half of the 20<sup>th</sup> century.
- Capital Improvements Plan (CIP)* – five- to ten-year plans that show where facilities (such as roads) will be provided; allows local governments to match their capital expenditures with development needs and to guide development to intended areas.
- CBD* see *Central Business District*.
- Central Business District (CBD)* – a business, office, and residential district that provides a full range of services and a variety of uses in a downtown atmosphere.
- CIP*– see *Capital Improvements Plan*.
- Cluster Development* – a residential subdivision comprised typically of single-family suburban homes, but grouped together on smaller lots to create expanses of common open space and to preserve steep slopes, floodplains, and other environmentally sensitive areas. Also called compact development.
- Co-housing Development* – a tightly clustered residential development style that focuses on an internal pedestrian walkway system. Houses are placed to maximize the community's open space. A co-housing development is designed to promote a strong sense of community.
- Co-location* – the use, or construction, of a structure that accommodates more than one telecommunication or broadcasting facility, such as antennas or other sending/receiving equipment.
- Collector Streets* – roads designed to carry moderate flows of traffic between arterial streets and local roads.
- Community Park* – parkland used to serve several neighborhoods within a Blacksburg community.
- Comprehensive Plan* – the document that Virginia localities are legally required to produce, outlining policies the locality plans to achieve in the future related to growth, public services, infrastructure, etc.
- Conservation Easements* – a non-possessory interest in real property imposing limitations or affirmative obligations, the purposes of which include retaining or protecting natural, scenic or open space values of real property; assuring the availability of the property for agricultural use, protecting natural resources, or maintaining air or water quality.
- Contributing Structure* – a site that is designated as significant; it is at least 50 years old and reflects the historic, cultural, or archaeological features of the Town or region.
- Cool Cities Coalition* – a set of strategies adopted by the Town to ward off global warming with energy conservation solutions. [www.coolcities.com](http://www.coolcities.com)
- Corridors* – property along major roads and thoroughfares that influences traffic flow along a given road.
- Cost-Share Program* – a public / private venture by which the Town provides the equipment, labor, and professional services and the private entity provides funding for the cost of materials.
- CRC* – see *Virginia Tech Corporate Research Center*.



- Creek Valley Overlay* – a Town zoning overlay district to regulate land use and development on lands adjacent to streams and creeks to help protect watersheds and environmentally sensitive features.
- Cross-connection* – any actual or potential connection or structural arrangement between a public water supply and any other source or system through which it is possible to introduce into any part of the potable system any used water, water of questionable quality, industrial fluid, gas, or any substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections.
- Cul-de-sac* – street or passage open at only one end; blind alley. Generally found in suburban style residential areas and designed to eliminate through traffic.
- Dark Sky Policies* – compliance practices that reduce glare and light pollution to eliminate wasted energy involving exterior lighting. For example, lights are set to shine down rather than up.
- Demand Side Management* – regional growth is decided by the extent of demand for a region's product.
- Density Bonuses* – allocation of development rights that allow a parcel or tract of land to accommodate additional building square footage or additional residential units beyond the maximum for which the tract of land is zoned. These are usually in exchange for the provision or preservation of an amenity at the same site or at another location.
- Dig Once* – a policy concept to repair and upgrade all underground utilities; water, sewer, telecommunication lines, etc., in conjunction with other construction in the area. This helps to prevent the need to later repair underground utilities, for example, after a streetscape renovation that can disturb established landscaping.
- Digital Divide* – the growing division between people connected to the internet, government e-services and e-mail and those who are not connected due to cost, lifestyle choice or education. The digital divide can be quite apparent between generations.
- District Park* – parkland used to serve the active recreational needs of the Town of Blacksburg; usually flatters properties, such as open fields or former farm fields, with buffers concentrated heavily on property borders and between nodes of activity.
- Dwelling Unit* – a room or group of connected rooms containing cooking, bathroom and sleeping facilities, constituting a separate, independent housekeeping unit, physically separated from any other dwelling unit in the same structure. Examples include houses, apartments, townhouses, duplexes, etc.
- E2* – *Environmental Enterprise, see VEEP.*
- E3* – *Exemplary Environmental Enterprise, see VEEP.*
- E4* – *Extraordinary Environmental Enterprise, see VEEP.*
- E-Government* – electronic government; refers to the trend of electronically provided government services to enhance traditional methods of conducting transactions, providing information, and facilitating citizen interaction.
- Easement* – an interest in real property that is held by someone other than the property owner, which limits all or part of the property to a specific use or condition.

- Emissions Requirement* – standards established by the federal government pertaining to what kind and how much of a certain gas is permissible to be emitted into the atmosphere. This is most often in regard to industrial and automobile emissions, etc.
- Fiber-Optic Technology* – strands of glass, yet stronger than steel, designed to transmit vast amounts of data.
- Fiscal Year* – an accounting period of any twelve months as established by the locality or business. The Town of Blacksburg’s fiscal year runs July 1<sup>st</sup>-June 30<sup>th</sup>.
- Floodplain, Natural* – relatively flat land adjoining a river, creek, or stream subject to regular flooding.
- Floodproofing* – any combination of structural and nonstructural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.
- Floor area* – The gross floor area is the sum of the horizontal areas of the several stories of a building, measured from the exterior faces of exterior walls, or in the case of a common wall separating two buildings, from the centerline of such common wall. Gross floor area excludes basements and attics.
- Gateways* – entrances into a community or specific areas of a community, typically along major transportation corridors.
- GIS or Geographic Information Systems* – A system for creating, storing, analyzing, and managing spatial data and associated attributes.
- Grandfather Clause* – provisions made in the zoning ordinance that allow nonconforming uses to continue legally if they were in effect prior to the passage of laws which then prohibit the use.
- Grass Pavers* – a somewhat pervious surface of pavement material that is designed to allow grass to grow up and through the pavement surface. They can significantly reduce water runoff. Brick and concrete are the most common materials used as grass pavers.
- Graywater*— wastewater generated from domestic activities such as laundry, dishwashing and bathing which can be recycled on-site for uses such as landscape irrigation.
- Greek Housing* – buildings owned and operated by fraternal organizations; fraternity/sorority houses.
- Green Infrastructure* – an interconnected network of waterways, wetlands, woodlands, wildlife habitats, greenways, parks, conservation lands, working farms and other open space areas that support native species, maintains natural ecological processes, sustains air and water resources and contributes to the health and quality of life for communities and people.
- Greenway* – linear stretches of open space, used as either public or private spaces that serve as an environmental buffer. Greenways may or may not have formally maintained trails.
- Groundwater* – underground water that feeds stream base flows, wells, and springs.
- HDRB* – see *Historic or Design Review Board*.
- High/Low Water Subsystems* – Due to elevation, Blacksburg public water is provided through separate subsystems that serve different developments. Low subsystems serve developments at low elevations, and high subsystems serve developments at higher elevations.
- The Hill* – nickname of the Town of Blacksburg’s municipal 9-hole golf course.

*Historic District* – a collection of sites, structures, and landmarks that are of unique architectural, historic, and cultural significance to the Town, Commonwealth, or Nation.

*Historic or Design Review Board (HDRB)* – established by Ordinance 1206 of the Town Code to protect and preserve historic or archaeological sites in the Town, enforce architectural proffers in Planned Residential and Industrial Zoning Districts, and provide recommendations to requests made by Town Council or the Planning Commission.

*Historic Overlay District* – a zoning classification applied to an existing Historic District where specific design guidelines are developed and a public review process is established to regulate alterations to the character of the Historic District.

*Hokie Stone* – nickname given to the limestone and dolomite mined locally and used on the facades of many of Virginia Tech’s buildings.

*Homeowners’ Association* – a nonprofit organization governed by its own bylaws, operating by land agreements generally through a specific subdivision. Each lot is subject to an automatic charge for a proportionate share of the expenses for the organization’s activities, which, if unpaid, become a lien against the property.

*Housing Stock* – conditional principles of housing in a community (i.e., cost, age, current condition, conformance to surrounding areas, etc.).

*Housing, High Density* – characterized by multiple dwelling units per acre, such as an apartment building.

*Housing, Low Density* – land use classification generally characterized by single-family detached style housing on lots of a quarter acre or larger.

*Housing, Transitional Density* – land use classification generally characterized by a mix of duplexes, townhouses, single family houses on small lots, and some multifamily dwellings.

*HUD* – U.S. Department of Housing and Urban Development.

*Impervious Surface* – surface that water is not able to pass through, such as asphalt in a parking lot and roofs.

*Infill Development* – the practice of building homes, businesses, and public facilities on unused and underutilized lands within existing developed areas; development or redevelopment of land that has been bypassed, remained vacant, and/or is underused as a result of the continuing urban development process.

*Infiltration* – pass through by a filtering process.

*Information superhighway* – coined in the early 1990s by the Clinton-Gore administration; used to describe ways of expanding the Internet beyond its current state.

*Infrastructure* – basic facilities such as roads, schools, power plants, transmission lines, and transportation and communications systems on which the continuance and growth of a community depends.

*Inclusionary Zoning* –see *Zoning*.

*Itinerant Vendor* – a person who is involved with a temporary or transient business, who occupies a location for less than 45 days.

*Karst Terrain* – areas that are underlain by soluble carbonate rock, such as limestone or dolomite. These areas are susceptible to dissolution that can result in sinkholes, caves, and underground streams.

*Land Banking Funds* – appropriations for the purchase of land by a local government for use or resale at a later date.

*Land Use Intensity* – how differing types of development impact a community.

- Last Mile* – metaphorical term referring to the last section of any distance that is needed to physically connect individual homes and businesses to major telecommunication network services such as land telephone lines or broadband.
- LEED or Leadership in Energy and Environmental Design* – a rating system that is the nationally accepted benchmark for the design, construction, and operation of high performance environmentally-friendly buildings.
- Levels of Service (LOS)* – an accepted measured quality and quantity of public services. For example, there are nationally accepted levels of service grades, A, B, C, D, E, and F for signalized intersections that engineers use to describe how well the intersection operates at a given time by measuring the number of minutes and/or the number of light cycles it takes to drive through a particular intersection.
- Light Pollution* – unwanted light that occurs as a result of lighting parking lots, etc.
- LMI* – see *Low-Moderate Income*.
- Local Streets* – residential streets, not intended for heavy traffic flows.
- Loop System* – a utility term that refers to tying a utility line back into the main line in more than one location. This form of system can decrease inconveniences due to maintenance and increase the reliability of the utility.
- LOS* – see *Levels of Service*.
- Lot* – parcel of land owned separately, and independently.
- Lot coverage* – the portion of a lot that is covered by any building or structure, parking and loading areas, or any other impervious surface.
- Lot, Depth of* – average horizontal distance between front and rear lot lines.
- Lot, Double frontage* – a lot that borders on one or more than one street (not including alleys).
- Low-Moderate Income (LMI)* – households earning at least the full-time minimum wage (nationally \$10,712) up to 120% of the local area median income.
- MAP-21* – Moving Ahead for Progress in the 21<sup>st</sup> Century Act. It is a funding and authorization bill to govern United States federal surface transportation spending. It was passed by Congress on June 29, 2012, and President Barack Obama signed it on July 6, 2012. It is an update and/or re-authorization of ISTEA, TEA-21, SAFETEA-LU acts & programs.
- Master Plan* – conceptual plan indicating interrelationships between uses and facilities on a site for those projects, phased developments, or developments occurring over a span of time, which may be adopted by an institution, business, or organization.
- Manufactured Housing* – a structure, transportable in one or more sections, which in the traveling mode is 8 body feet or more in width or 40 body feet or more in length, or, when erected on site, is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation. Manufactured homes are built in accordance with Federal standards known as the HUD Code, and include mobile homes, park trailers, travel trailers, and similar structures. Modular Homes are not a type of Manufactured Housing and are regulated differently.
- MCPS* – Montgomery County Public Schools.
- Median* – strips of land between opposite directions of traffic, which can be used as a visual divider promoting aesthetic strengths of a locality.
- Median family income* – income level at which 50% of families earn more and 50% of families earn less.
- Migratory Pollutants* – mobile pollutants due to viscosity that can move through water, such as oil.

- Mixed Use* – practice of containing more than one type of use in a building or set of buildings; i.e., a combination of residential, commercial, industrial, office, institutional, or other uses being housed in one unit.
- Mobile Home* – see Manufactured Housing.
- Modular Home* – a dwelling unit constructed on-site in accordance with the Virginia One and Two Family Dwelling Code and composed of components substantially assembled in a manufacturing plant and transported to the building site for final assembly on a permanent foundation.
- Multifamily Dwelling* – a building or a portion of a building thereof which contains three or more dwelling units for permanent occupancy, regardless of the method of ownership. Examples include garden apartments, low and high rise apartment, and condominiums.
- Multi-Modal* – more than one mode of transportation at a location. A bus stop and a train stop, for example, could be located at the same city intersection.
- MS4* – Municipal Separate Stormwater Sewer System Permit
- Neighborhood Park* – parkland located within walking distance of adjacent neighborhood(s) that serves the area's specific recreational interests.
- Neo-Traditional Development* – approach to land-use planning and urban design that promotes the building of neighborhoods with a mix of uses and housing types, architectural variety, a central public gathering place, interconnecting streets and alleys, and edges defined by greenbelts or boulevards. The basic goal is to integrate various activities to a particular location (i.e., shopping, housing, work, recreation, etc.).
- Nonattainment* – the condition of not achieving a desired or required level of performance. Frequently used in reference to air quality.
- Nonconforming Building* – any building whose size, dimensions, or location was lawful when built, but fails to meet current standards and regulations according to amendments or revisions to the Town code.
- Nonconforming Use* – a use or activity that was lawful when originally created, but fails to meet current standards due to amendment or revision of ordinances.
- Non-contributing structure* – building, site or structure that does not add to the architectural qualities or character of the area. This designation is primarily used when a site is not more than fifty years old or has lost its historic character through significant building alterations.
- Non-point source pollution* – pollution that cannot be attributed to a specific source that can be constantly monitored and regulated. Chemical runoff from a parking lot would be an example.
- Occupancy* – the period during which one owns, rents, uses, or occupies a certain premises or land. Often refers to the number of persons allowed by law to live in a dwelling unit.
- Off-Road Trails* – generally multi-purpose trails designed to hold pedestrian and bike traffic, but independent from roads and automobile traffic.
- On-Road Trails* – bicycle lanes on existing roadways separated from vehicular traffic use.
- Open Landscapes* – landscapes exposed to continuous sunlight, unprotected by trees or shrubs (Marshlands, grasslands, desert landscapes, and rocky terrain are examples).
- Open Space* – land and water areas retained for use as active or passive recreation areas or for resource protection in an essentially undeveloped state. Refer to Blacksburg's

Zoning Ordinance for specific requirements, but generally 50% of developed land must remain open space.

*Overlay District* – a district established by ordinance in order to prescribe special regulations to be applied to a site in combination with the underlying or base district.

*Pervious* – permeable, or having pores or openings that permit liquids or gasses to pass through, for example, pervious soils or pervious concrete.

*Place of Worship* – a permanent structure that serves as the primary location for regular, organized religious assembly such as churches, synagogues, mosques, etc.

*Planned Unit Development (PUD)* – planned development that allows more leeway in the application of the zoning ordinance to a tract of land (may allow mixed uses, flexibility of development standards, etc.).

*Population Density* – the number of persons living in a given geographic area, such as a town, neighborhood, or locality. This statistic is usually given in terms of persons per square mile.

*Porous* – full of pores through which liquids, light, or air can pass. Sandstone is a porous rock and can therefore absorb water well.

*Proffer* – a developer provides public services in exchange for right to develop land, for example, developing parks and greenways.

*PUD* – *see Planned Unit Development.*

*Radon* – a colorless, odorless gas that occurs naturally and can be deadly. Radon comes from the natural (radioactive) breakdown of uranium in soil, rock, and water.

*Recycled Water & Water Reuse* – Water recycling and reuse can include collection and use of stormwater, reuse of gray water in homes and businesses, and reuse of treated wastewater. Uses of recycled water can include irrigation, vehicle washing, toilet flushing, and industrial purposes.

*Reforestation* – replanting or planting of forest plant materials. Also includes planting in areas not originally forested for mitigation purposes.

*Regionalism* – dealing with issues and problems that cross multiple legal jurisdictions or localities.

*Regional Park* – multi-jurisdictional parkland used to provide a wide variety of activities, including non-traditional recreation, for the greater community.

*Religious Assembly* – a use located in a permanent building and providing regular organized religious worship and related incidental activities, except primary or secondary schools and day-care facilities.

*Rental Inspection Program* – a Town program to maintain safe, decent, and sanitary living conditions for tenants typically living in neighborhoods located close to campus on a routine inspection schedule. Any rental property within the Town can be inspected upon request/complaint.

*Renter vs. Owner-Occupied Housing* – the ratio between rented housing units versus units where the property owner lives on-site.

*Retention Ponds* – a form of stormwater management used for holding a specified amount of water runoff for a period of time.

*Reused Water* – Water collected and reused for other uses. Can include collection of stormwater, reuse of gray water in homes and businesses, and reuse of treated wastewater. Water can be reused for irrigation, vehicle washing, toilet flushing, and industrial purposes.

*Recycled Water*– See Reused Water

- Ridgeline* – a line connecting the highest points along a ridge and separating drainage basins, or small-scale drainage basins, or small-scale drainage systems from one another.
- Right-of-Way* – legally established area or strip of land, publicly or privately owned, intended to be occupied by a street, utility service, water main, sanitary or storm sewer main, or similar use.
- Riparian*– relating to or living or located on the bank of a natural watercourse (as a river or stream).
- Riparian Forest* – streamside vegetative communities typically offering important benefits to a stream ecosystem.
- Runoff* – precipitation leaving a site due to the force of gravity.
- Sanitary Sewer* – wastewater collection system that relies on gravity or pumps for the movement of the waste from its source to a treatment facility.
- Sedimentation* – deposits of soil, sand, pebbles, and stone fragments by water, which can create a flooding hazard when it fills rivers or streams, reducing the capability of a river channel to carry water.
- Septic Tank Effluent Gravity (STEG) and Septic Tank Effluent Pumping (STEP)* – a system where sewerage from a residence enters an on-site underground tank where effluent is primarily treated, filtered, and drained through small-diameter public lines to a treatment location.
- Service Level Demand* – the amount of community services that are demanded from a certain service radius.
- Service Radius* – an area for which community services, such as fire and police, are designated and allocated.
- Setback* – a legally enforceable buffer zone between properties that requires that a minimum space remain between the property line and any building construction.
- Sewershed* – an area in which sewer flows by gravity.
- Shared Pathway* – surface area designed for multi-purpose uses, for example, bikes and pedestrians.
- Signage* – the placement of informational or directional signs, indicating traffic patterns for drivers, for example.
- Single Family Occupancy* – a dwelling unit designed and intended for one family.
- Site Plan Review* – review of the site plan of any public or private project by the department of planning or the planning commission.
- Sixteen Squares*—the original sixteen blocks that comprised Blacksburg when the Town was incorporated by the Virginia General Assembly in 1798.
- Smart Road* – transportation research project developed by Virginia Tech, implementing technological features to improve the operation of vehicles, roads, and human interaction with the transportation system.
- Special Exception* – some designated local body must review any application to establish a use on a particular site. This is also called a “Use by Review.”
- Special Use Permit* – utilization of a property authorized by a zoning ordinance, but not permissible unless certain stated criteria have been met.
- Sprawl* – low-density land-use patterns that are automobile dependent, requiring high ratios of road surface to the development served.
- Stealth Technology* – generally referring to telecommunication or broadcasting facilities; the “invisible,” camouflaged, or integrated siting of towers, antenna, or other equipment into an area (e.g., antennas on or within existing structures, “tree, flagpole, light post, or other common fixture” towers, etc.).

*STEG/STEP* – see *Septic Tank Effluent Gravity (STEG)* and *Septic Tank Effluent Pumping (STEP)*.

*Steep-Slope Provisions* – topographic areas that are generally unsuitable for development due to the steep grades. These areas are conversely the most valuable to maintain as open space due to their visibility, impact on viewsheds, and effect on water runoff.

*Stormwater Management* – physical improvements and other techniques that control the rate of release of water runoff from a site into the surrounding areas or downstream.

*Stormwater Mitigation* – physical improvements and other techniques that reduce the impact of water runoff from a site into the surrounding areas or downstream.

*Strip Development* – commercial, retail, or industrial development, usually one lot deep that fronts on a major street.

*Sub-sewershed* – a specific portion of a designated sewershed.

*Subdivision Regulations* – land use controls that govern the divisions of land into two or more lots.

*Surface Water* – water on the earth's surface exposed to the atmosphere such as rivers, lakes, and creeks.

*Sustainable Blacksburg* – a collaborative community partnership formed as part of a \$95,000 U.S. EPA Resource Conservation Challenge grant received by the Town of Blacksburg to address toxic chemical risks facing the community.

*Sustainable Community* – the Town of Blacksburg's vision of sustainability is about ensuring choices for citizens in how they choose to live their lives and provide for their children and grandchildren. The Town of Blacksburg's sustainability goal is a community that balances economic vitality, environmental stewardship and the well being of citizens to provide a high quality of life for current and future generations.

*TDR* – see *Transfer of Development Rights*.

*Technology Park* – Commercial real estate development with emphasis on Research and Development and technology tenants instead of traditional industrial plants.

*Telecommuting* – employees who are able to work out of their homes rather than physically commuting to a job every day.

*Telemetry* – equipment used to transmit data via communication lines or radio signals to enable automated operation of a mechanical system; in this context, the electronics that operate the Town's water and sewerage systems.

*Tipping Fee* – the unit price charged at the disposal site or transfer station to accept waste. Fees are based upon weight and material type, usually expressed as dollars per ton or dollars per cubic yard.

*TMDL* – see *Total Maximum Daily Load Implementation Plan*.

*Total Maximum Daily Load (TMDL) Implementation Plan* – a framework for reducing contaminant levels, for example, fecal coliform, to achieve water quality goals for impaired stream segments.

*Town-Gown Government Relations Committee* – a forum for interested stakeholders, including Virginia Tech and Town of Blacksburg affiliates.

*Transfer of Development Rights (TDR)* – to move development rights and densities to another parcel of land and the recordation of that conveyance among the land records of the locality.

*Unbuilt Right-of-Way* – an area where construction of a road, utility, or other public venture is planned or authorized, but not yet built.



*Urban Forestry* – trees located in an urban environment that are placed to improve the area’s character and aesthetics, or to reduce noise and pollutants.

*Urban Landscaping* – integration of vegetation (shrubs, flowers, etc.) into an urban environment.

*Urban Services* – defined geographic areas where new or improved infrastructure is planned.

*USGBC* – U.S. Green Building Council is a non-profit organization dedicated to sustainable building design and construction. Developers of the LEED building rating system.  
[www.usgbc.org](http://www.usgbc.org)

*VCOM* – the Edward Via College of Osteopathic Medicine

*VEEP* – *Virginia Environmental Excellence Program* – is coordinated by the Virginia Department of Environmental Quality. The program encourages superior environmental performance through environmental management systems, pollution prevention, and monitoring. Private and public facilities that impact the environment can participate at various levels: E2, E3, and E4.  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

*Viewshed* – area within view from a defined observable point.

*Virginia Conservation Easement Act* – Virginia Code Section 10.1-1009, authorizes the creation of conservation easements whereby the easement is held by a charitable organization.

*Virginia Natural Heritage Program* – a program dedicated to the identification, protection, and stewardship of Virginia's biodiversity.

*Virginia Polytechnic Institute and State University (Virginia Tech)* – Virginia’s largest university, enrolling more than 26,000 students, located in the Town of Blacksburg.

*Virginia Tech Corporate Research Center (CRC)* – a growing research park for high-technology companies located adjacent to the Virginia Tech campus.

*Wastewater System* – any system that involves the movement and treatment of effluent from its source to where it is discharged.

*Water Reuse*– *See Recycled Water.*

*Watershed* – an area in which water flows by gravity downstream to a specific location.

*Wetlands* – lands submerged underwater frequently, or long enough to support habitats suitable for saturated conditions.

*WTOB* – Town of Blacksburg Public Access Television station tasked with providing notices, bulletins, educational material, and other information pertinent to the function of the Town government and residents.

*Zero-lot Line* – allows houses to border property boundaries in order to promote diverse development.

*Zoning* – parcels of land set aside for certain types and intensities of development in a way that is compatible with surrounding real estate and in conformance with the Comprehensive Plan.

*Zoning, Inclusionary* – encourages construction of affordable housing (May require that a certain percentage of housing units in a development are affordable. See Affordable Housing).

*Zoning Density* – the amount of dwelling units per acre permitted by the zoning ordinance.

*Zoning Ordinance* – outlines what type of development is allowed in a certain location.

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