

# 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



*Huckleberry Trail*

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.

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 January 2011, the Town of Blacksburg's Greenway/Bikeway/Sidewalk Corridor Advisory Committee initiated a volunteer effort to develop a detailed master plan for desired bicycle and pedestrian routes in Blacksburg. This effort evolved to develop Bike Blacksburg, the 2015 Blacksburg Bicycle Master Plan. The plan is intended to serve as the guiding document for the development of an integrated network of bicycle facilities and supporting programs, linking neighborhoods and activity centers throughout the Town. The network will not only make cycling a more viable mode of transportation but will contribute to

enhanced quality of life for residents and visitors. For more details, please refer to [www.blacksburg.gov/bike](http://www.blacksburg.gov/bike).

## **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 Bus*

“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).

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

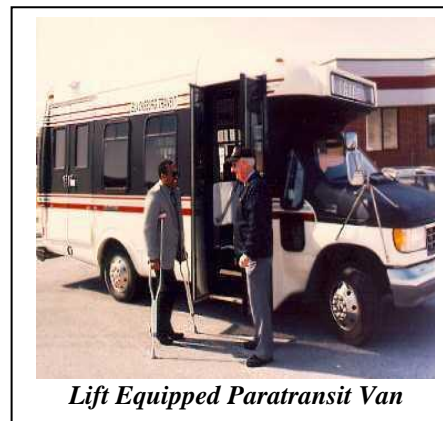


Transit Facility (MMTF) in conjunction with Virginia Tech to relocate the hub from the Drillfield to the proposed location on Perry Street. Planning is underway for the hub relocation. Blacksburg Transit, in conjunction with Virginia Tech, has developed a concept plan for a MMTF to serve the bus passenger 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.

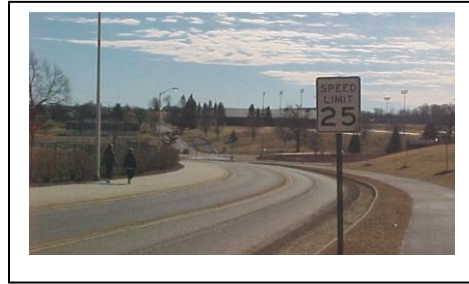
[www.megabus.com](http://www.megabus.com)

## **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 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.

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**

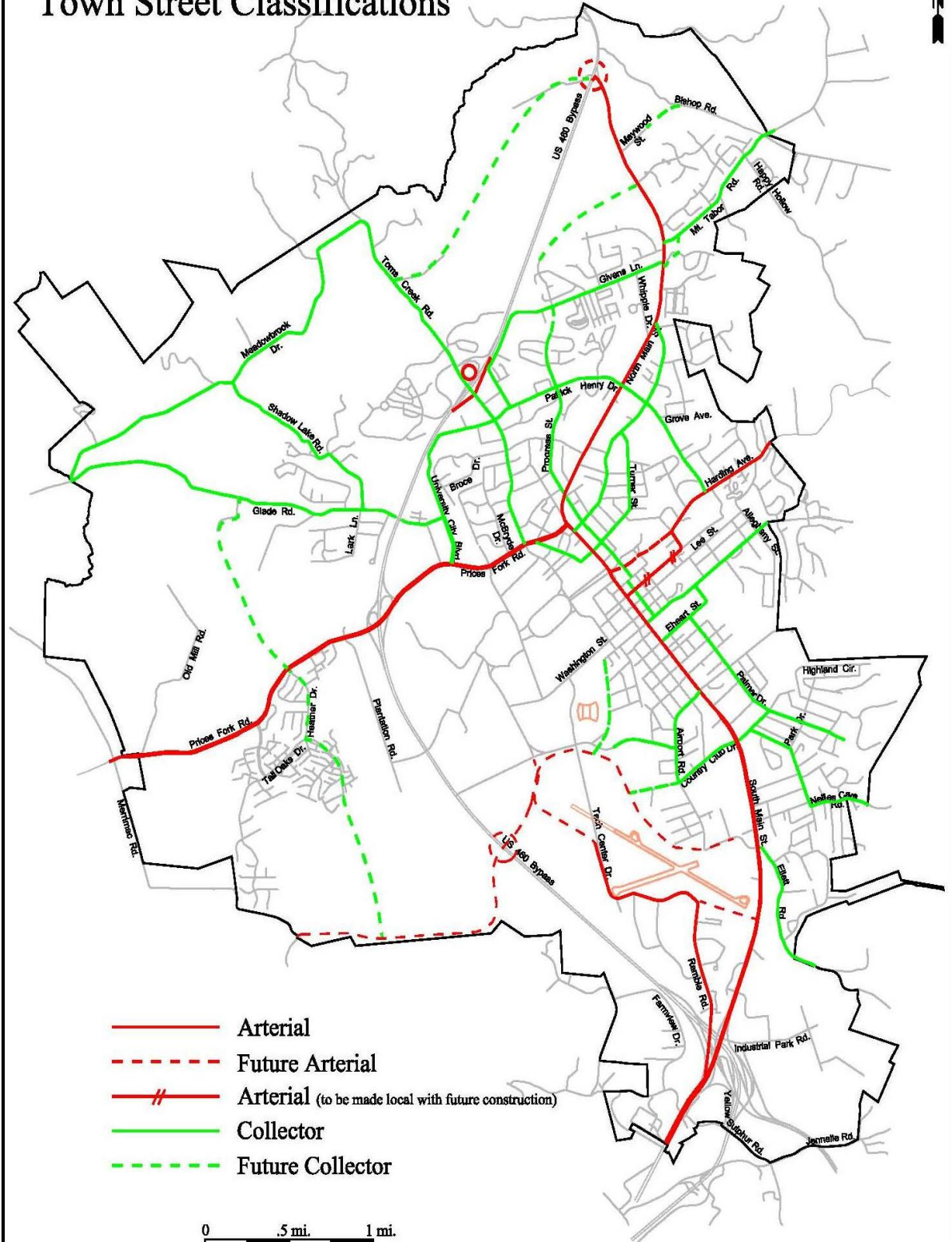
Roadway conditions are good within Town and are supported by regular maintenance and paving schedules. Maintenance of public roads, including repairing pot holes or repaving streets, is completed by the Blacksburg Public Works Department. However, VDOT provides funds for the maintenance of public roads 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.

# Town Street Classifications



February 2012

Town of Blacksburg  
 G:\P&E\2011 Comp Plan\Chapters 2011\Transportation\Street Class



## **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>Other Priority Projects – Listed Alphabetically</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>Other Priority Projects, cont.</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>

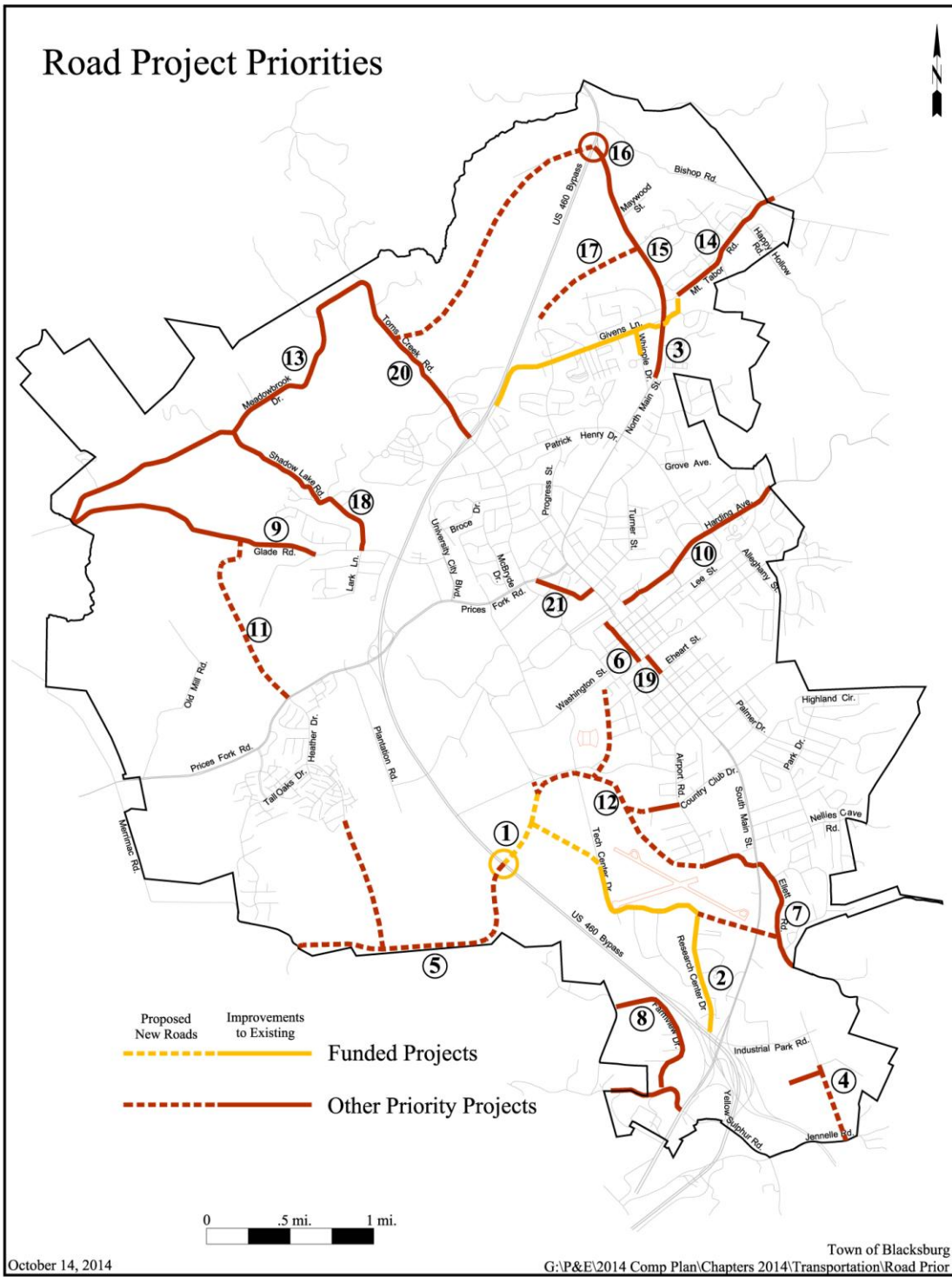
18. **Shadow Lake Road Improvements** to include bicycle routes and sidewalks, realign from Basil Lane to Lakewood Street. *\$2.2 Million*
18. **South Main Street Improvements** from Roanoke Street to Eheart Street streetscape improvements to include brick sidewalks, streetlights, signals and streetscape 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

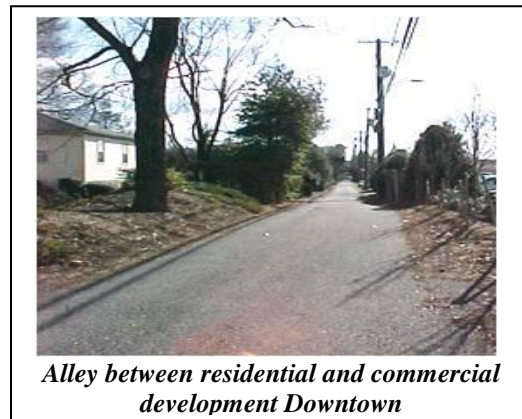
In most towns and cities in Virginia, the trend has been to vacate and dispose of alleys and their maintenance responsibilities. Blacksburg has taken a different perspective on alleys and recognizes the many benefits of alleys in a multi-modal transportation network.

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.



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.

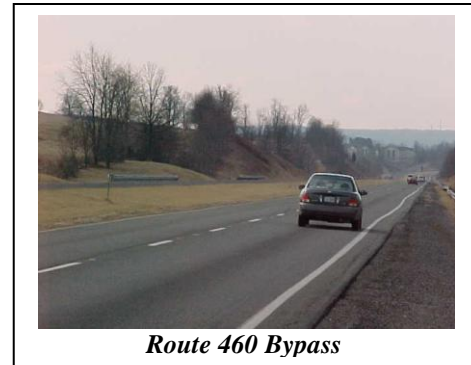
Recent Town projects, such as Market Square Park and the College Avenue Promenade, have resulted in a reduction of available parking spaces. To address the overall parking needs in the Downtown core, the Town acquired a surface parking lot between Main Street and Progress Street in 2012. The Town will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

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

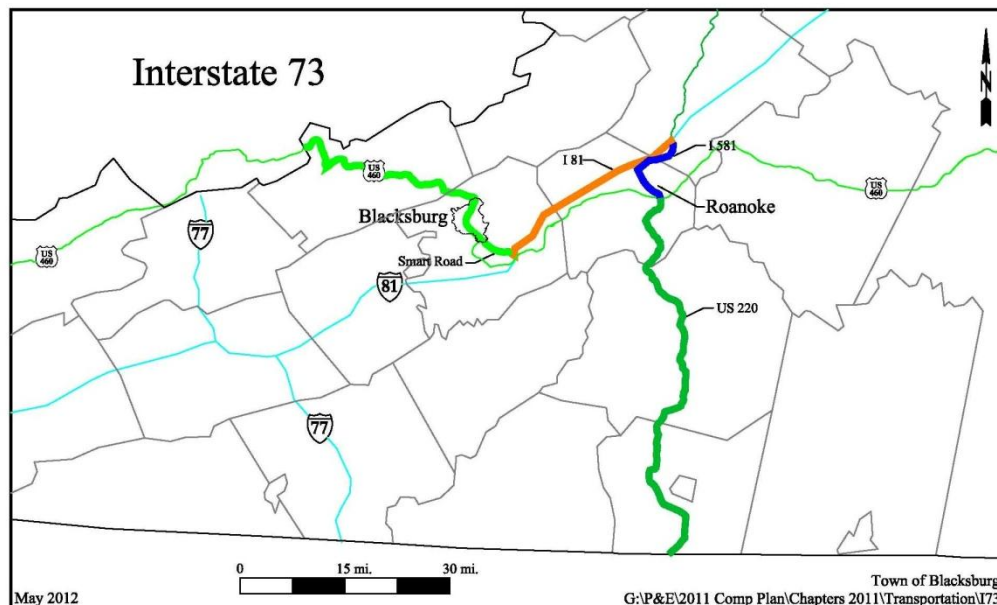
Blacksburg is proximate to Interstate 81 (I-81), which serves as the major north-south transportation corridor along the Appalachian mountain range from Tennessee to New York. This interstate serves as a primary commuting corridor between Blacksburg and Roanoke and currently carries an average of 47,100 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**

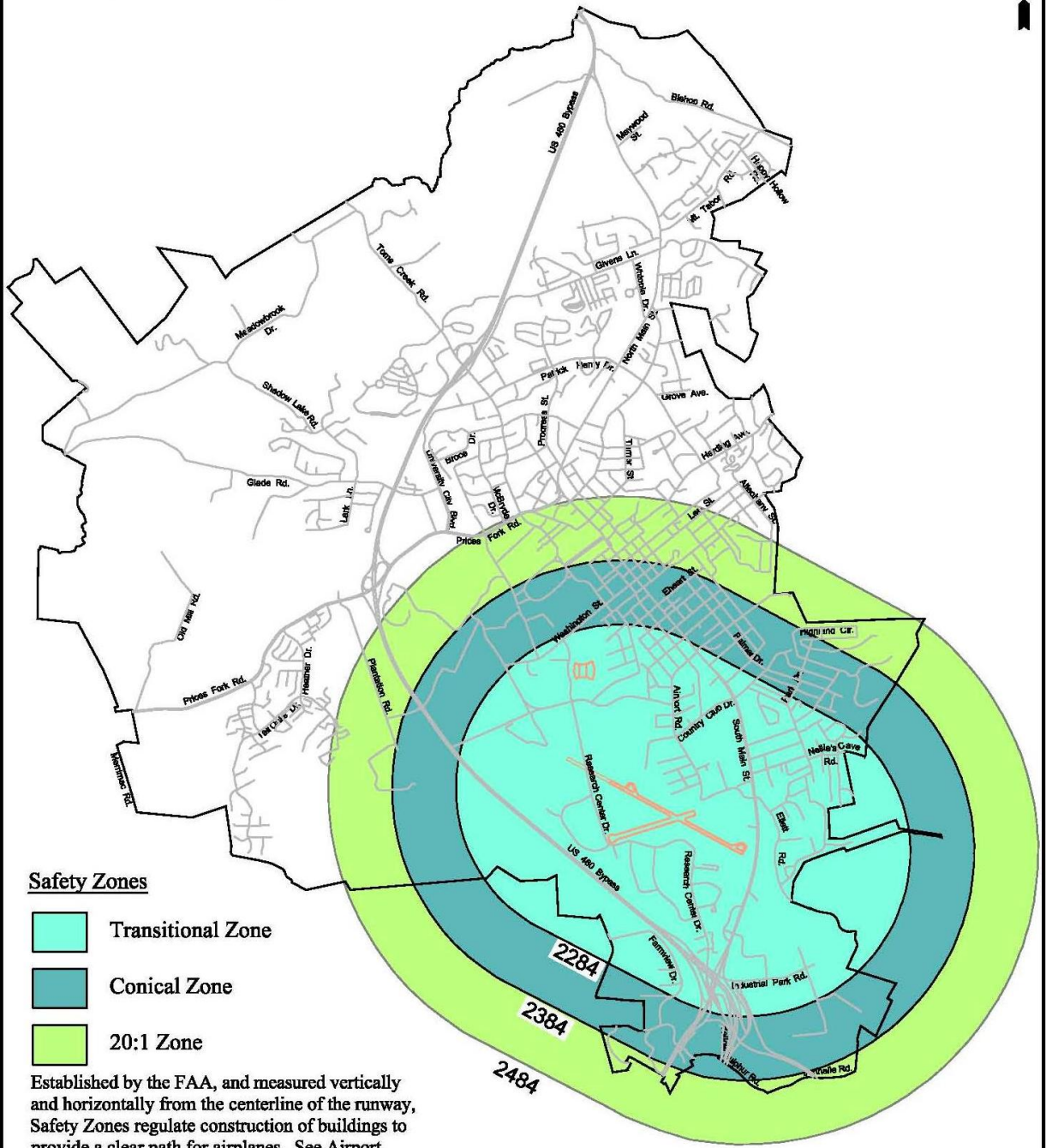
The Runway Protection Zone (RPZ) is defined as a trapezoid-shaped area that extends beyond the end of each runway. The RPZ's function is to enhance the protection of people and property on the ground. The RPZ requirements are established by the Federal Aviation Administration (FAA) and are enforceable 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

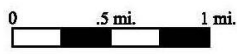


### Safety Zones

- Transitional Zone
- Conical Zone
- 20:1 Zone

Established by the FAA, and measured vertically and horizontally from the centerline of the runway, Safety Zones regulate construction of buildings to provide a clear path for airplanes. See Airport Master Plan for further details.

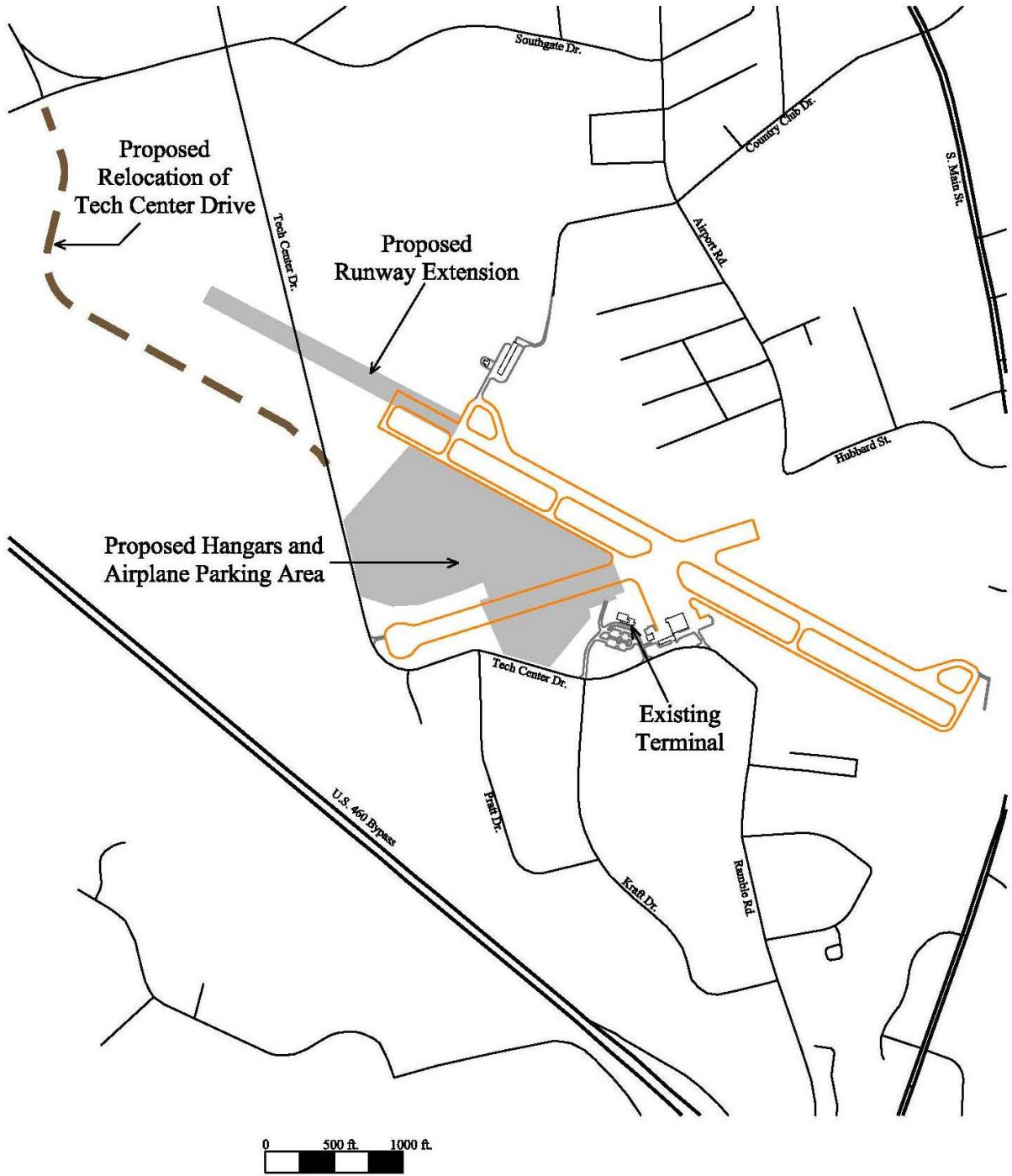
Estimated Airport Elevation: 2,134 ft.



September 2012

Town of Blacksburg  
G:\P&E\2011 Comp Plan\Chapters 2011\Transportation\Airport Zones

# Virginia Tech Airport Master Plan



February 2012

Town of Blacksburg  
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# **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. Continue implementation of Bike Blacksburg by:
- Achieving the League of American Bicyclists' bronze-level Bicycle Friendly Community (BFC) designation within 2-3 years
  - Implementing improvements along designated bicycle routes according to the matrix for recommended facilities
  - Maintaining an up-to-date inventory of existing bicycle facilities
  - Educating citizens on bicycle safety and encouraging ridership
  - Considering Town Code changes to promote bicycle activity.
- T.14. 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.15. 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.16. Investigate implementing a bike share program.
- T.17. Work locally with Virginia Tech and regionally with the New River Valley Planning District to achieve a connected bike system.

## **TRANSIT**

- T.18. Complete a Blacksburg Transit Comprehensive Operational Analysis every five (5) years while updating the Transportation Development Plan annually.
- T.19. Monitor the public transportation provided to ensure effectiveness and efficiency while maintaining the priorities of safety, courtesy and scheduling.
- T.20. Operate the transit system in a cost-effective, fiscally sound manner that is well supported by federal and state grants.
- T.21. 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.22. Work regionally and locally to develop satellite park-and-ride facilities with bus service to reduce traffic congestion in the region.
- T.23. 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.24. 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.25. 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.26. Increase the number of covered bus shelters and covered bike parking provided at transit stops where appropriate.
- T.27. During the development review process, ensure that transit service and access to/from the transit stop and the development are provided.
- T.28. Ensure that transit service is accommodated in designing Town projects.
- T.29. Expand Blacksburg Transit to become a full service network for permanent residents to meet their commuting, shopping, sporting or leisure activities.
- T.30. Improve the regional accessibility of Blacksburg by integrating bus, rail, and air modes of transportation into the Town's transportation system.

T.31. 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.32. Better serve riders with up-to-date route information.

### **Road Network**

T.33. Develop the Town street system in accordance with the Town Street Classifications Map, updating when needed.

T.34. Complete and update *Funded* and *Other Priority Projects* listed in the Town's Project Priority table.

T.35. Keep current cost estimates for road and transportation improvements in compliance with State Code Section §15.2-2223.

T.36. Identify new funding sources for road project priorities that are not eligible for the urban Road Improvement Program.

T.37. Actively participate in the MPO and updates to the MPO's Plan.

T.38. Avoid the creation of new cul-de-sacs in developments unless no other vehicular connections can be established.

T.39. 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.40. 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.41. 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.42. 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.43. Provide a road network that enhances public life and is congruent with the Town's unique character and quality of life.

### **Alleys**

T.44. 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.45. Amend the Zoning Ordinance to incorporate the Alley and right-of-way vacation process.

T.46. Maximize the use of alleys and unbuilt right-of-ways by all modes of transportation that can safely be accommodated.

T.47. Maintain and improve alleys when and where necessary, as funding allows.

T.48. 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.49. 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.50. Require that parking for commercial and industrial development is adequate to serve employee and customer needs without excessive unused spaces.

T.51. 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.52. Maintain an inventory of available public parking spaces and publicize parking locations using best available technologies.

T.53. 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.54. 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.55. 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.56. Rigorously enforce parking restrictions in the commercial area of Downtown and in the adjacent downtown neighborhoods.
- T.57. Expand and enforce permit parking in Downtown residential neighborhoods affected by campus parking shortages or deficiencies.
- T.58. 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.59. 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.60. 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.61. Monitor the implementation of the I-81 Corridor Improvement Study and any potential impacts upon the Town.

### **Air Transportation**

- T.62. 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.63. Protect Town residents and air traffic from possible hazards or nuisances by enforcing airport safety zone restrictions.
- T.64. 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.65. Create a separate zoning district for the Virginia Tech/Montgomery County Airport to facilitate airport operational services.
- T.66. 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.