



# *MOVING FORWARD*

## THE COMPREHENSIVE PLAN FOR CHESTERFIELD COUNTY



*Adopted by the Chesterfield County Board of Supervisors on May 22, 2019*



## ACKNOWLEDGEMENTS

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The Chesterfield County Planning Department acknowledges the hard work and input contributed by various groups in the formation of this Comprehensive Plan, including citizens, staff, and various regional and state agencies. Moving Forward...The Comprehensive Plan For Chesterfield County is a collaborative effort between appointed and elected officials, citizens, stakeholders and county staff.



### For More Information

Chesterfield County: [www.chesterfield.gov](http://www.chesterfield.gov)

Planning Department: [www.chesterfield.gov/plan](http://www.chesterfield.gov/plan)

*\*Please contact the Planning Department at (804) 748-1050 or visit the Planning Department homepage (see above) for copies of Special Area Plans; contact the Planning Department to purchase larger size maps.*

### Photo Credits

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# CHAPTER 1: PLAN OVERVIEW

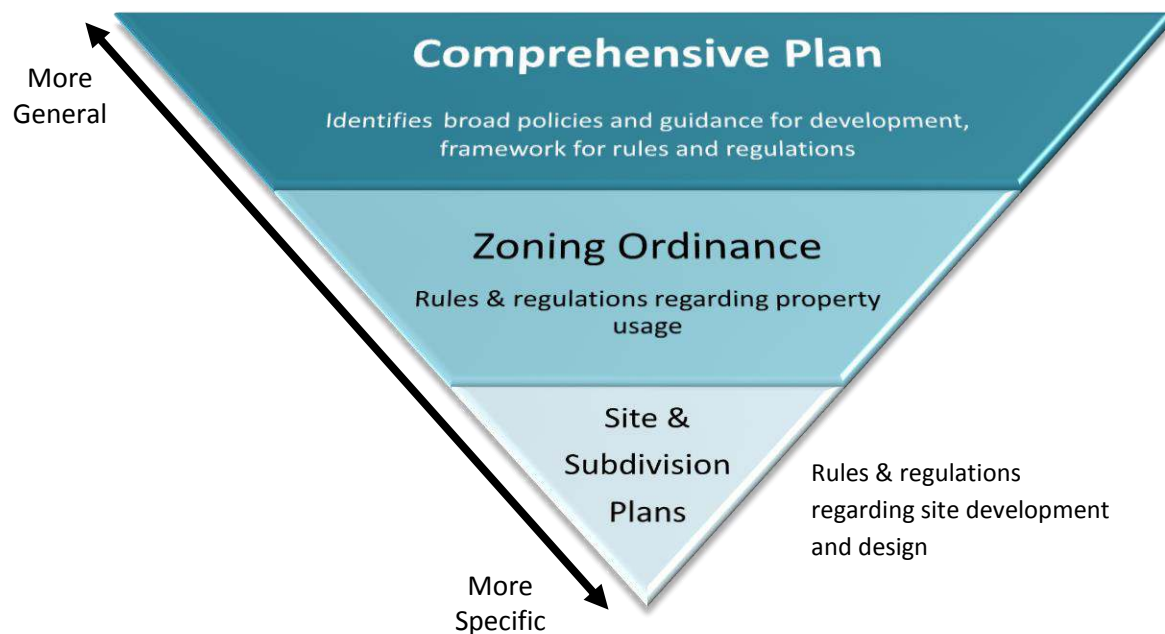
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## The Comprehensive Plan

The *Code of Virginia* ([Section 15.2-2223](#)) requires localities to adopt a comprehensive plan for the physical development of jurisdictions. The *Code* requires that consideration be given to existing conditions and growth trends. The purpose of a plan is to guide and accomplish a coordinated development of the jurisdiction to promote the health, safety, prosperity and general welfare of the community. The plan should be used to protect and enhance the high quality of life our citizens enjoy today, and the probable needs of future county citizens, in order to maintain that quality of life in the foreseeable future. A comprehensive plan provides a blueprint for the future by establishing a framework for growth and development as well as revitalization decisions. The plan coordinates transportation, utilities, schools and other public infrastructure needs with anticipated growth and development. Implementation occurs through the adoption and application of ordinances, guidelines, policies and development decisions. As required by the *Code*, the plan must be reviewed at least every five years and may be amended as necessary.

Moving Forward...The Comprehensive Plan For Chesterfield County recognizes the desires of the community to have the highest quality of life through attractive, orderly, fiscally-responsible, well-planned and well-designed development. The Plan will be used to protect and enhance the high quality of life our citizens enjoy today. It is important to note that the Plan does not change existing legal land rights, nor does it provide funding and/or staffing for implementation of its recommendations. Successful implementation of the Plan's goals and guidelines will depend on close coordination and cooperation among governmental officials, citizens, business leaders, property owners and other stakeholders.

Moving Forward...The Comprehensive Plan For Chesterfield County provides guidance for the formation and implementation of various tools that guide growth and development decisions. These tools include the Zoning and Subdivision Ordinances, and other regulations and policies.





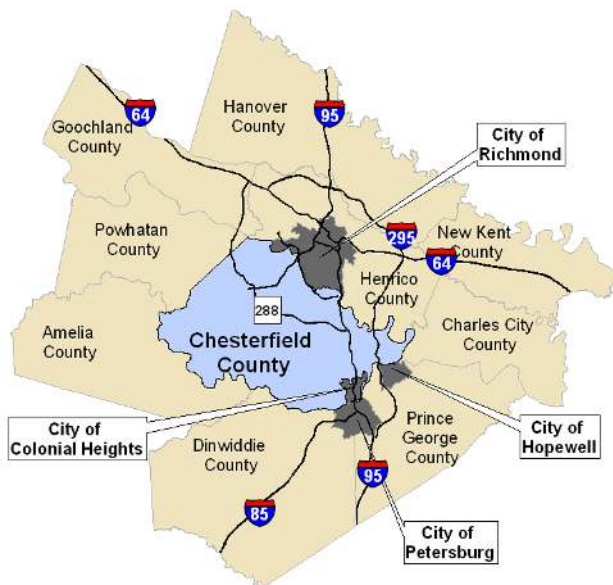
## CHAPTER 2: WELCOME TO CHESTERFIELD COUNTY

### Welcome

Over the centuries, Chesterfield County has grown into an attractive, vibrant and diverse community. Today, Chesterfield County is home to approximately 344,000 (estimate as of 1/1/18) people within its 437 square miles and is poised to lead the region as a fiscally sound and desirable place to live, work and shop. The county is dedicated to providing leadership, focus and defined direction to maintain the highest quality of life and to always be worthy of the public's trust in sustaining Chesterfield County as a "First Choice" community. Chesterfield County is a nationally recognized leader in local government.

### Location

Located in the heart of central Virginia, Chesterfield County is accessible to markets throughout the eastern United States by way of major roads which pass through the county including Chippenham Parkway, Pocahontas Parkway, Powhite Parkway, Route 288, and Interstates 95, and 295; the Chesterfield County Airport; Amtrak service via Ettrick Station; and the navigable James River. In fact, the county is within a one-day drive of 50 percent of the U.S. population. This location, combined with the high quality of life, makes Chesterfield County a desirable destination for businesses, residents and visitors.

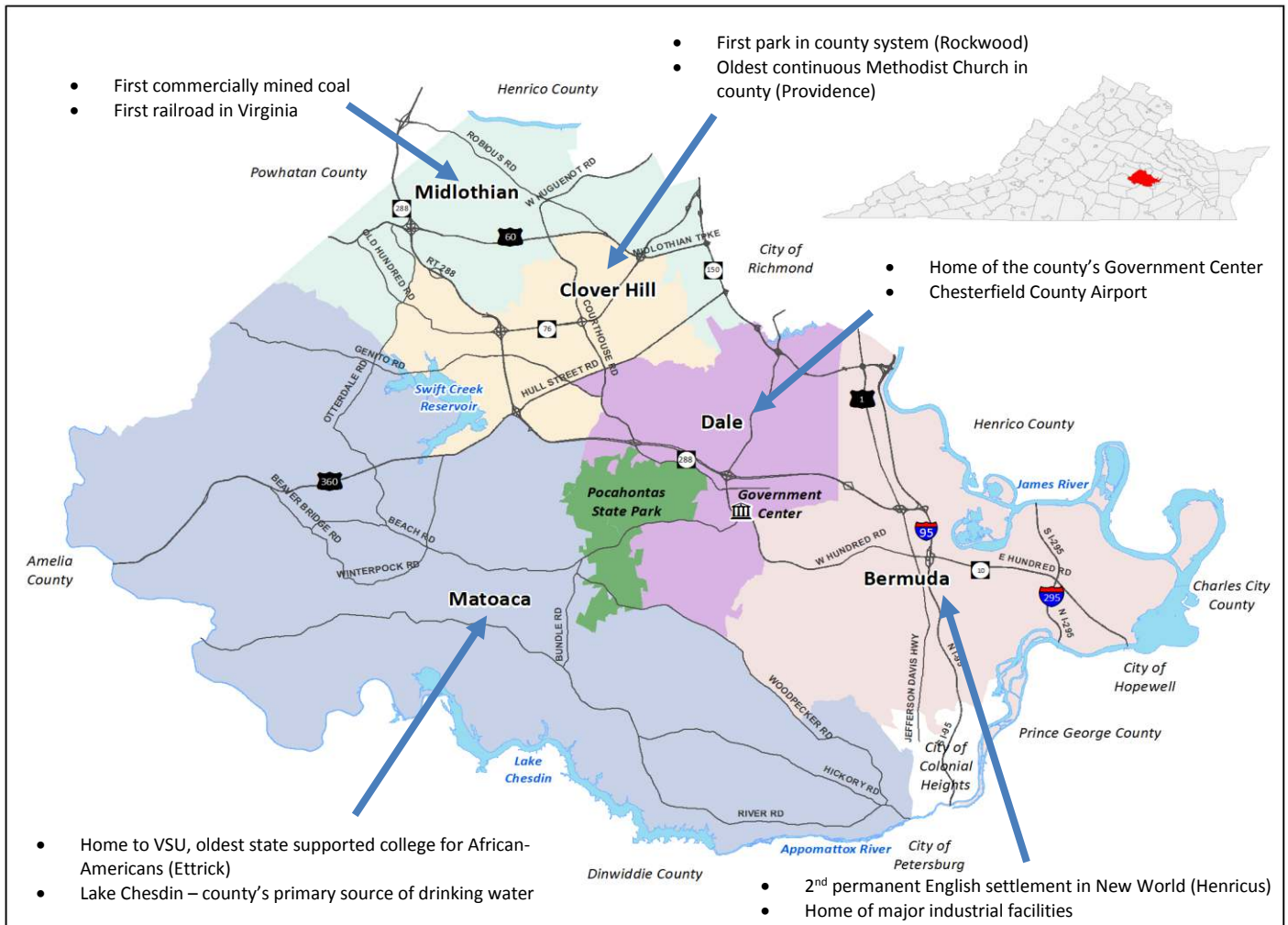


Chesterfield County is bounded by the James River to the north, Appomattox River to the west and south, and confluence of the James and Appomattox Rivers to the east. Adjoining jurisdictions include the cities of Richmond, Petersburg, Hopewell and Colonial Heights, and the counties of Goochland, Henrico, Charles City, Prince George, Dinwiddie, Amelia and Powhatan.

### History

In the 17<sup>th</sup> century, European colonists from Jamestown arrived in what would become Chesterfield County, seeking to establish a second permanent English settlement in Virginia near the fall line of the James River. Here they found ‘a good air, wholesome and clear, fresh and plentiful water springs, much fair and open grounds - and wood enough at hand’. The colonists built homes and fortifications on what is known today as Farrar’s Island, naming the community the “Citie of Henricus”. Other settlers followed, establishing plantations, farms and villages, and manufacturing and transportation centers along the James and Appomattox Rivers.

At the time of its official formation in 1749, Chesterfield County was a community of farms and small settlements. The James and Appomattox Rivers provided valuable transportation arteries. Many settlements such as Ettrick, Matoaca, Warwick, Bermuda Hundred, Osbornes and Port Walthall were established along the river banks. Soon transportation improvements such as roads and railways gave rise to manufacturing centers along the rivers and roads, changing the economic and social landscape of the county. Over time, parts of the county transitioned from a rural to a suburban community. Today the county has a diversity of working and living choices ranging from rural to suburban to urban environments.





# CHAPTER 3: PLAN GOALS

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## Overview

Goals are the framework for guiding county growth and development. The guidelines of each chapter are based upon the principles of these goals. Achieving these goals will ensure Chesterfield County continues to be a healthy, thriving community providing residents with a high quality of life; employers with a supportive business climate; and visitors with positive historical, cultural, recreational and shopping experiences.

Goals are achieved through the measures outlined in the Implementation chapter.

Where the goals refer to public facilities and infrastructure, they include schools, parks, libraries, fire and emergency medical services stations, transportation, public water and wastewater, communication technology and other public infrastructure and services.

## Plan Goals

### USING THE PLAN

- The Comprehensive Plan offers general guidance to the growth, redevelopment, revitalization and infrastructure provision of the county.
- Programs, strategies, policies, ordinances, projects and development incentives should, where appropriate, align with the Comprehensive Plan.
- The Comprehensive Plan should be a useful tool in guiding long-term decision making and resource allocation, including the Capital Improvement Program (CIP).
- The Comprehensive Plan helps the county be proactive in preparing for change.

### PUBLIC FACILITIES AND INFRASTRUCTURE

- The Comprehensive Plan promotes orderly and fiscally responsible growth through adequate public facilities and infrastructure provision.
- The Comprehensive Plan supports the public sector's role for ensuring long-term stability and supporting a high quality of life is by providing equitable distribution and efficient allocation of public resources. Provision of equitable public services will promote investment and reinvestment in aging and maturing areas.

### ECONOMY

- The Comprehensive Plan promotes a high quality of life supported by an expanding and diverse economy that generates well-paying jobs and contributes significantly to the tax base.

- The Comprehensive Plan supports an atmosphere conducive to fostering new and unique business opportunities, especially small business through land use recommendations and support for incentives.
- The Comprehensive Plan strives to achieve an appropriate balance between residential and business growth.

### **COMMUNITY**

- The Comprehensive Plan strives to protect the health and wellbeing of all citizens of Chesterfield County in support of the mission and vision of the Virginia Department of Health.
- The Comprehensive Plan supports a mix of living, shopping, entertainment, recreation, employment and natural areas that are balanced and integrated to ensure a high quality of life and fiscal health.
- The Comprehensive Plan promotes strong and sustainable neighborhoods and business areas that are well planned, of high quality, visually attractive and well maintained.
- The Comprehensive Plan promotes redevelopment and revitalization opportunities to take advantage of existing or planned public facilities and infrastructure.
- The Comprehensive Plan calls for our communities to be connected, both physically and socially, to their surroundings and nearby destinations, and easily accessible by pedestrians, cyclists and drivers.
- The Comprehensive Plan supports unique and attractive social places that are the cornerstone of our thriving communities.

### **ENVIRONMENT**

- The Comprehensive Plan recommends the protection of valued environmental resources through fair regulatory practices while accommodating growth and development consistent with the Plan.
- The Comprehensive Plan supports the integration of vital environmental resources and features into development designs for enjoyment by the community, where appropriate.

### **HISTORICAL AND CULTURAL**

- The Comprehensive Plan supports preservation of unique historical and cultural resources that are incorporated into the community fabric where appropriate.
- The Comprehensive Plan supports tourism and educational opportunities that are provided to promote unique historical and cultural resources.



## CHAPTER 4: DEMOGRAPHICS & TRENDS

### Overview

It is important to understand the state of the county today, what has shaped it through the years, and how it is likely to change over time. This chapter provides general information regarding existing and projected populations, income, education, employment, development patterns, existing land uses and zoning. Additional existing conditions information is addressed in the individual Plan chapters. Demographic information assists in planning for future needs and services. For more detailed or updated information, please visit [Chesterfield County's Community Information webpage](#).

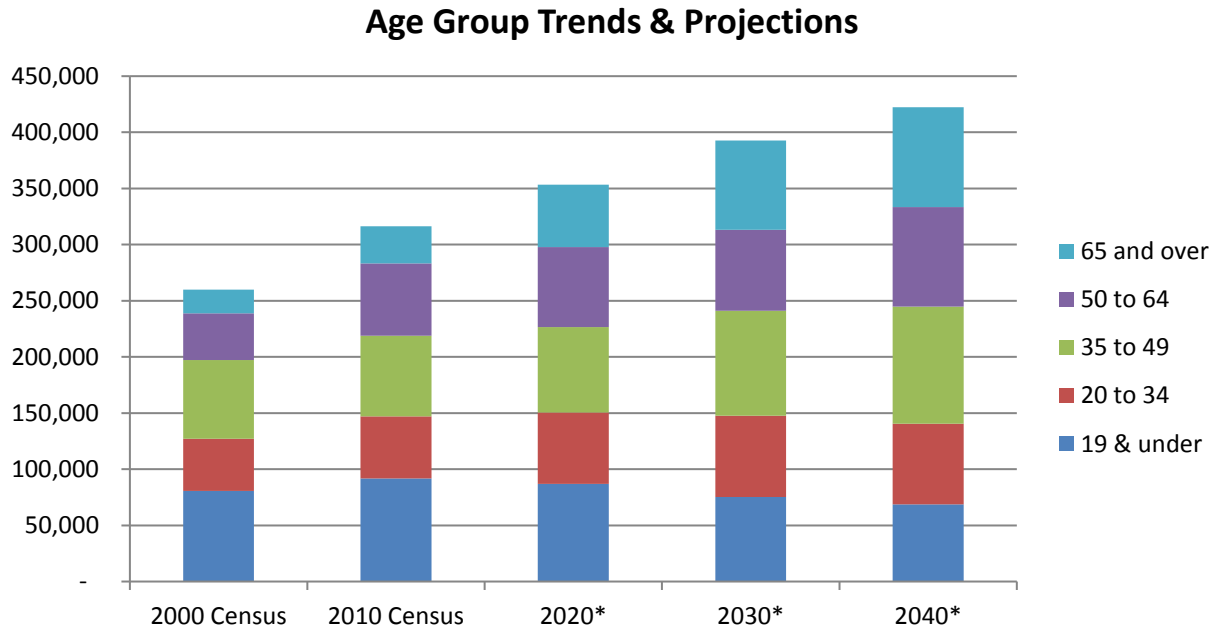
### Population

The 2018 population estimated by the county is approximately 344,000 persons. Between 2000 and 2018, the county experienced an average annual growth rate of 1.7 percent. Since 2000, the population has grown older with the highest increase occurring with the population 65 and over. By 2040, the county's population is projected to grow to approximately 422,000, a 63 percent increase from 2000.

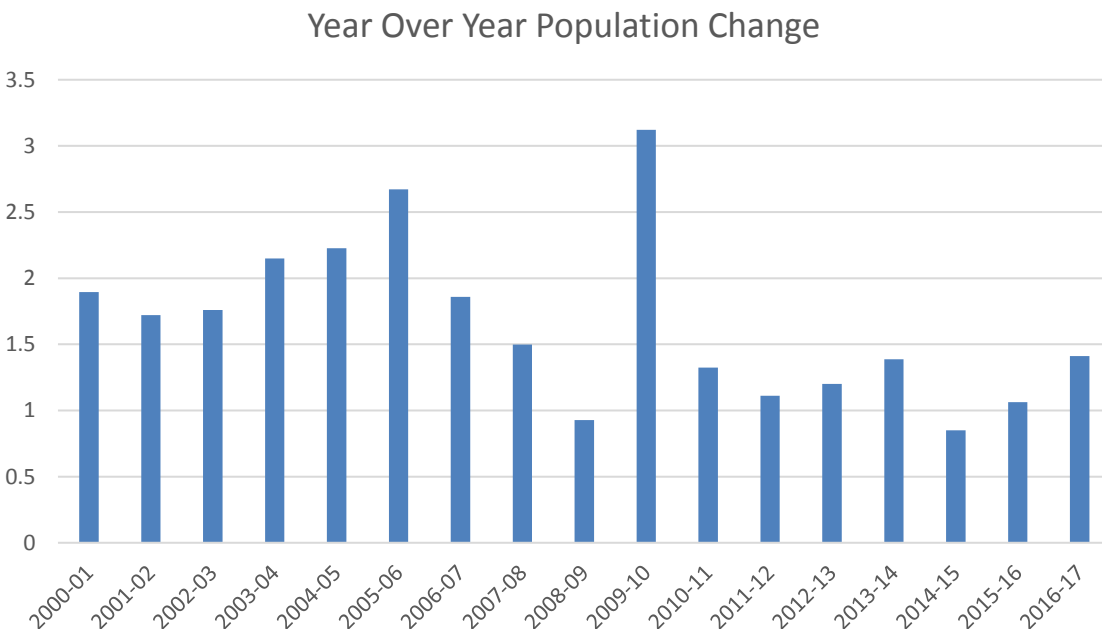
Demographic Indicators	Year		Change
	2000	2016	
Population	259,903	344,000*	+34%
Median Age	35.7	38.6	+2.9
Persons Per Household	2.73	2.62	-0.11
Households with Persons Under 18 Years	14,796	25,604	+73%
Single Person Households	17,327	27,615	+59%

Source: U.S. Census Bureau and \*Chesterfield County

Some important trends to note are the growing age wave and projected shrinking presence of children. The population aged 19 and under is projected to decrease by 25 percent due to low birth rate trends. On the other end of the spectrum, the population 65 and over is projected to continue to see the most growth with a 171 percent increase due to the presence of a large baby boomer population in the county.



Since 2000, the county's average annual growth rate has been 1.7 percent. Note the impact from the recession in the 2008-2011 timeframe. The apparent spike in 2010 is most likely due to the decennial census correcting previous year estimates.

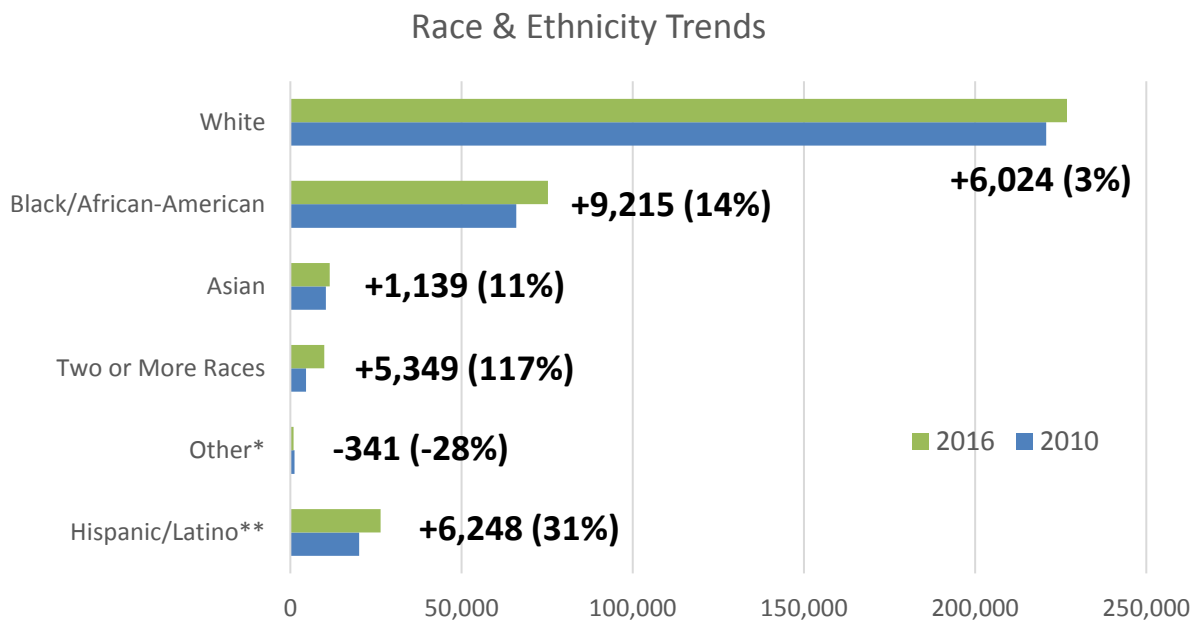


Source: American Community Survey 5-year estimates Decennial U.S. Census Data



## Race and Ethnicity

Along with growing older, Chesterfield County's population has become more racially and ethnically diverse since 2010. As of 2016, the county remains predominantly white, but this racial group experienced the slowest growth (outside of the "other" category). There have been considerable increases in all minority racial groups, specifically individuals of two or more races. The Hispanic or Latino population has grown the most significantly with a 31 percent increase and includes over 26,000 people as of 2016. It is important to note that the category Hispanic or Latino is considered an ethnicity and individuals can be of any race.



Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.

\*The category "Other" includes American Indian and Alaskan Natives, Native Hawaiian and Other Pacific Islander, and other races not captured in the main categories used by the Census.

\*Hispanic or Latino is an ethnicity and individuals can be of any race.

**RACE** –The categories generally reflect a social definition of race recognized in this country, and not an attempt to define race biologically, anthropologically, or genetically. In addition, it is recognized that the categories include racial and national origin or socio-cultural groups.

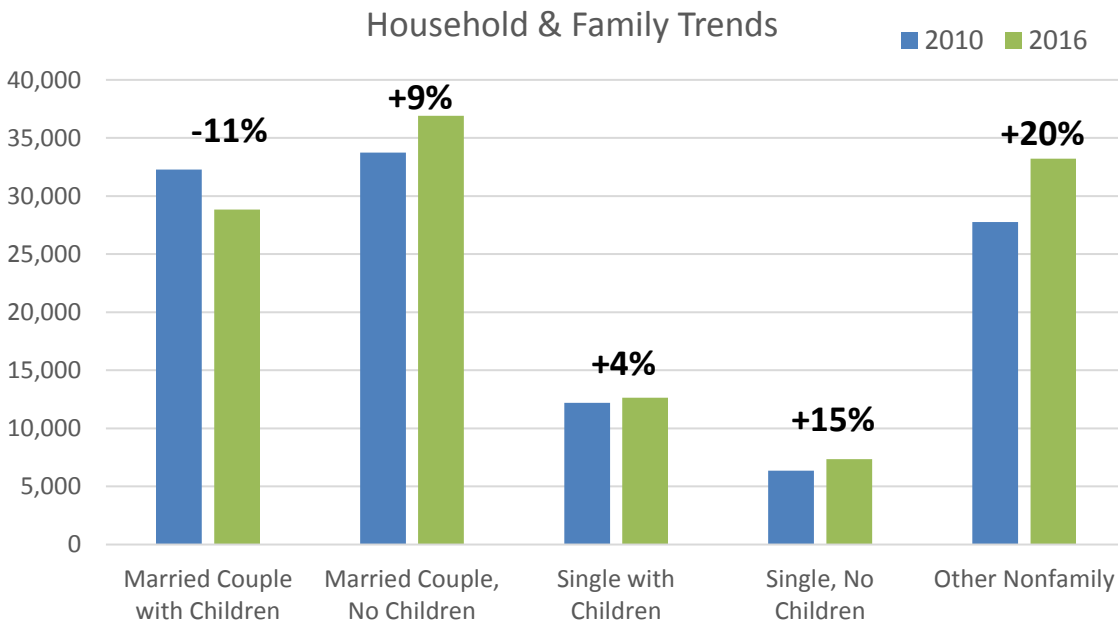
**ETHNICITY** – Ethnic origin refers to an individual's self-identification of their origin or descent, "roots," heritage, or place where the individual or his/her parents or ancestors were born.

Source: U.S. Census Bureau.

## Households and Families

As of 2016, Chesterfield County is estimated to have 118,908 households, which is an increase of 35 percent from 2000. Nearly two-thirds of all county households do not have children present despite the fact that the majority of households consist of families. Family households are typically married couples, but more than half do not have children.

Since 2000, there has been a growing presence of single-headed and nonfamily household types. Most significantly, there have been increases in the number of individuals living alone, over a third of which are age 65 and over. These household trends may continue to grow stronger with an increasing presence of individuals living alone as the age wave becomes more prominent.



Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.

**HOUSEHOLD** – A household includes all the people who occupy a housing unit as their usual place of residence.

**FAMILY** – A group of two or more people who reside together and who are related by birth, marriage, or adoption.

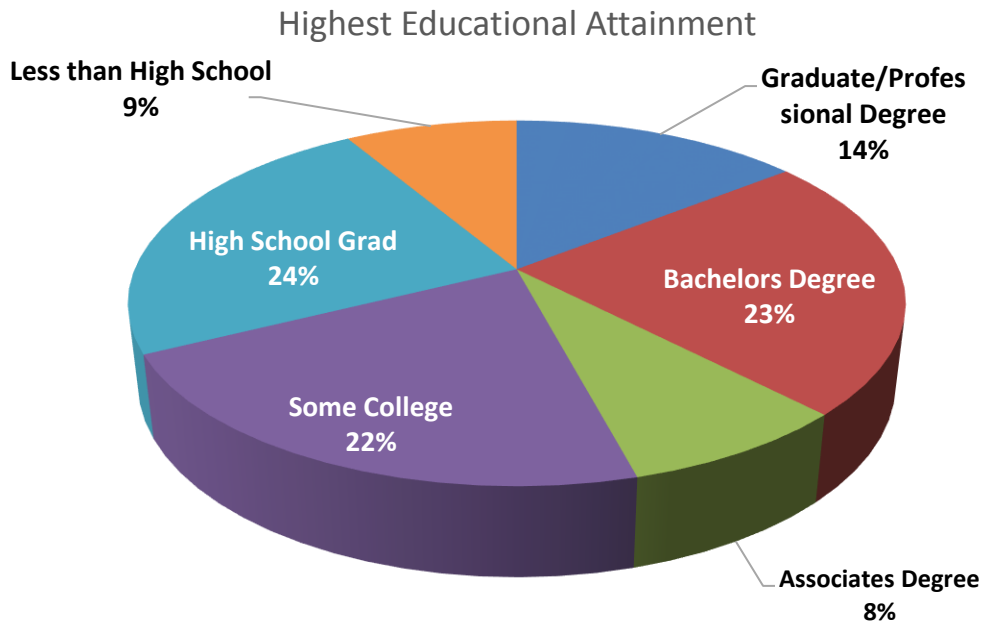
**CHILDREN** – A child under 18 years old who is a son or daughter by birth, marriage (a stepchild), or adoption.

Source: U.S. Census Bureau.



## Education

In addition to a high quality public school system, the county is home to Virginia State University, John Tyler Community College, and a variety of technical and workforce training schools. The county's population is well educated, especially when compared to that of the nation. The following chart depicts the percentage of Chesterfield residents 25 years or older by their highest educational achievement.



Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.

## Income and Poverty

Chesterfield County's households are generally more affluent than those in Virginia or the United States. The county's gross median household income (\$69,000) exceeds that of the state (\$61,000) and the nation (\$50,000). Gross median household income represents a middle value where half of the households earn more and half earn less than the middle value.

The following graph depicts the percentage of households within each governmental jurisdiction (county, state and nation) corresponding with an annual household income range. As of 2016, Chesterfield County's median household income is \$73,869, which exceeds that of the region, state and nation and indicates a generally affluent locality. However, when adjusting for inflation, Chesterfield County saw a higher decline than the region, state and nation in median household income with a decrease of 10 percent since 2000.

### MEDIAN HOUSEHOLD INCOME –

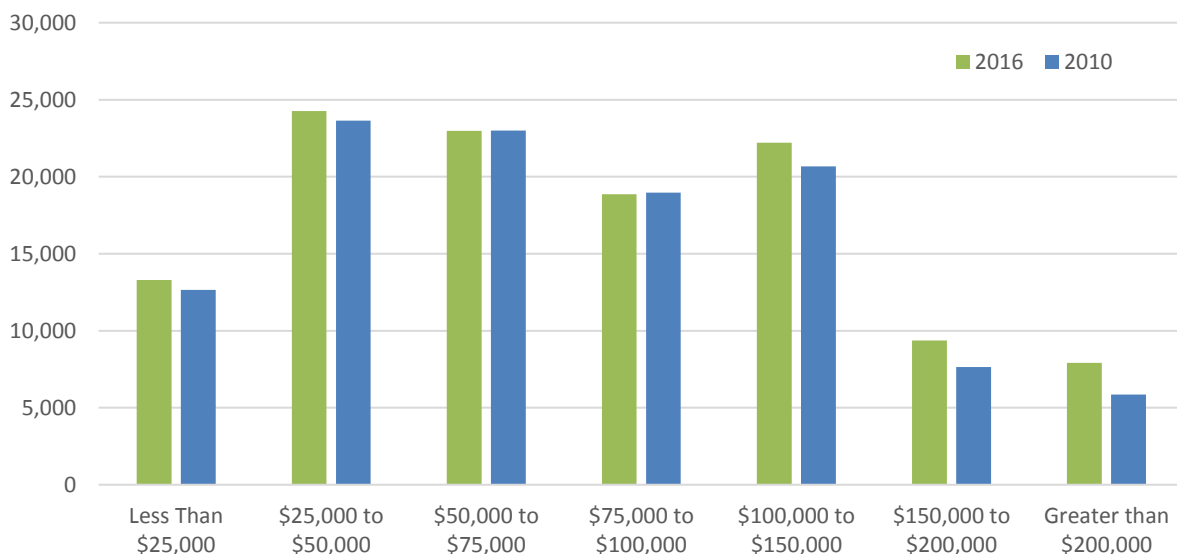
This includes the income of the householder and all other individuals 15 years old and over in the household, whether they are related to the householder or not. The median income divides the income distribution into two equal groups, one having incomes above and the other having incomes below the median.

**POVERTY** – A set of money income thresholds that vary by family size and composition. If the total income for a family of unrelated individual falls below the relevant poverty threshold, then the family (and every individual in it) or unrelated individual is considered in poverty. In 2015, the poverty threshold for an individual was \$12,082.

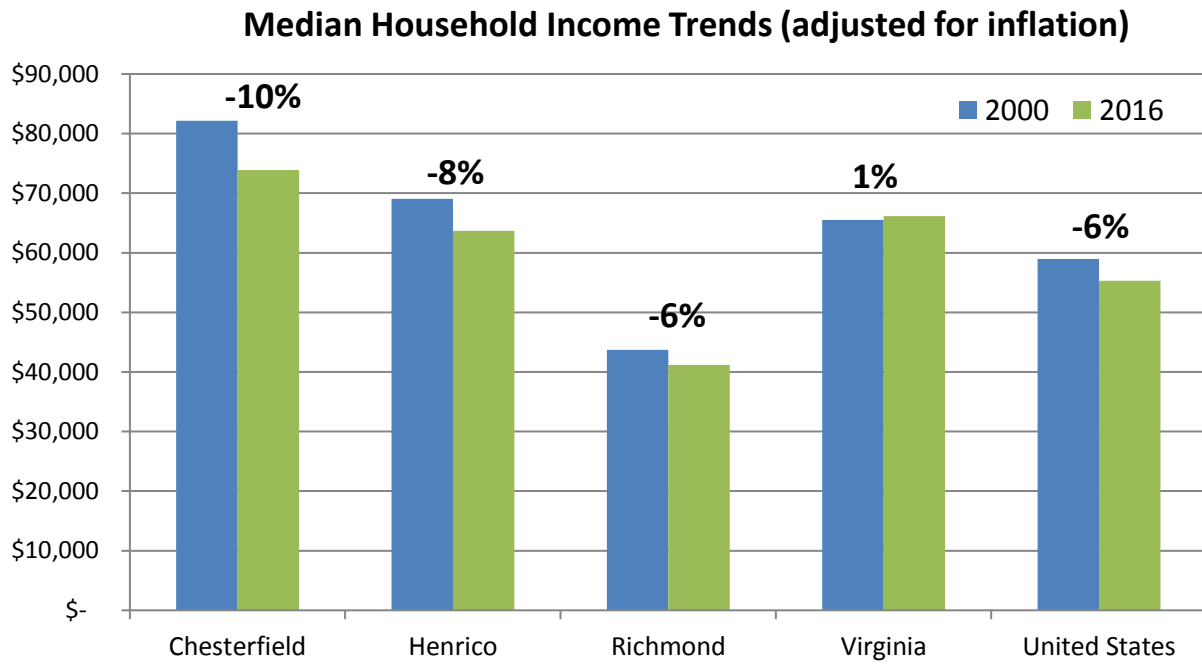
Source: U.S. Census Bureau.

Poverty is another important economic indicator to consider. As of 2016, Chesterfield County has a poverty rate of 7.4 percent, which accounts for over 24,000 individuals. While the county has a lower poverty rate compared to the region, state and nation, the number of individuals in poverty is growing with an increase of 110 percent since 2000. The rise in suburban poverty is being seen across the Richmond region, Virginia and the United States. As cities are redeveloping and seeing stable or declining poverty rates, the inner-ring suburbs are seeing an increase. Nearly 40 percent of county households earn between \$25,000 and \$75,000 per year. Just over 11 percent of households earn less than \$25,000, while just about seven percent earn more than \$200,000. Since 2010 the county has added more households with incomes over \$100,000.

Household Income Trend (Inflation Adjusted)



Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.



Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.



## Employment

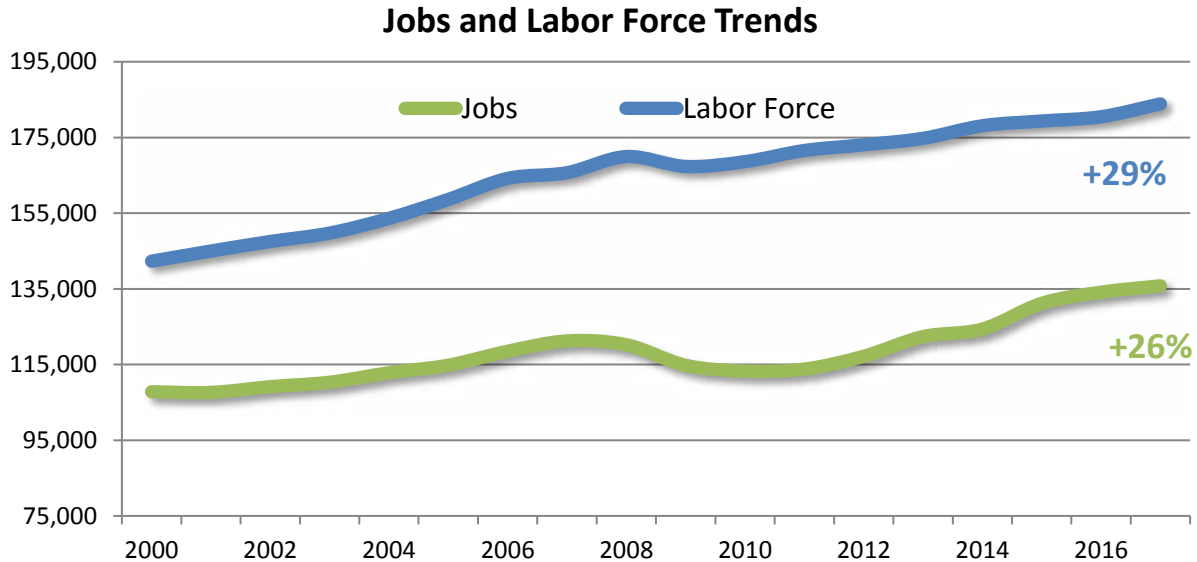
Chesterfield County has a diverse economy with a wide range of employment choices ranging from self-employed enterprises to internationally-owned companies. Many services and incentives are available not only to existing businesses, but also to those wishing to locate in the county. As of 2017, there are approximately 136,000 jobs within the county. The industries with the most jobs are retail trade, health care and social assistance, and accommodation and food services, which collectively account for over a third of the county jobs. The number of jobs increased 20 percent since 2010, and the fastest-growing sectors have been in the health care and social assistance, transportation and warehousing, and professional, scientific, and technical services. The Richmond Regional Planning District Commission projects that the county will have approximately 166,000 jobs by 2035, an increase of 47 percent since 2010.

**LABOR FORCE** – All persons 16 years of age and over who are classified as employed, unemployed and seeking employment, or involved in a labor-management dispute. The labor force does not include persons who never worked a full-time job lasting two weeks or longer and "discouraged workers" who have been unemployed for a substantial length of time and are no longer actively seeking employment. Members of the armed forces stationed either in the United States or abroad are counted by their place of residence.

**UNEMPLOYMENT RATE** – The number of unemployed people as a percentage of the labor force.

Source: Virginia Employment Commission.

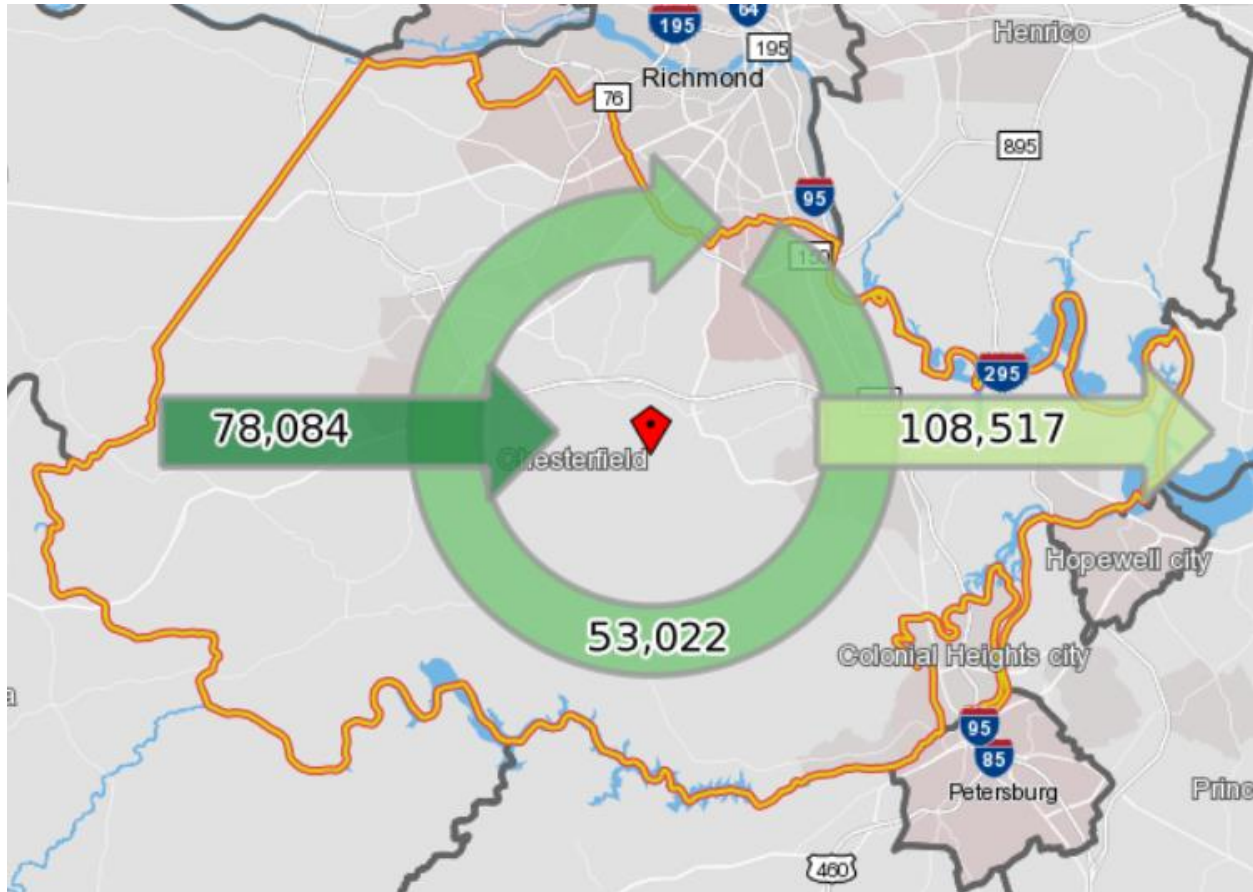
As of 2017, the county's labor force includes over 183,000 persons, the largest labor force among surrounding jurisdictions. Chesterfield County's unemployment rate was 3.6 percent and has traditionally been lower than that of the state and nation. The number of workers in the county surpasses the number of jobs resulting in many workers commuting around the region for jobs.



Source: Quarterly Census of Employment and Wages and Local Area Unemployment Statistics, 2017 Virginia Employment Commission.

## CHAPTER 4: DEMOGRAPHICS & TRENDS

The map below shows commuting patterns for Chesterfield County as of 2015. The map indicates that about 53,000 people live and work in Chesterfield. Approximately 109,000 individuals live in the county, but commute elsewhere for work, primarily Henrico and Richmond. Additionally, about 78,000 workers commute into Chesterfield for work from the surrounding region.



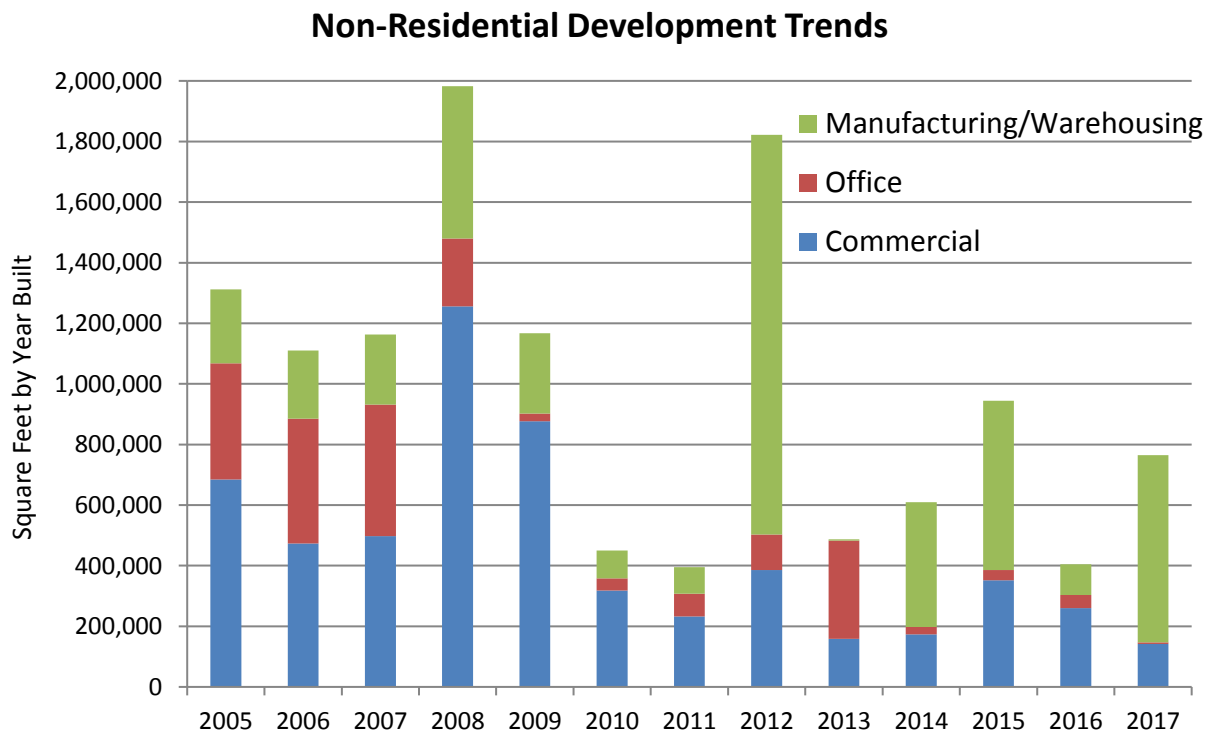
Source: Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics 2015, U.S. Census Bureau.

## Development Patterns

Since the 19<sup>th</sup> century, development patterns have been greatly influenced by the changing transportation and public utilities networks. Traditionally, the economic development base consisted primarily of large manufacturing and chemical industries. Today, the economic base has been enhanced by development of a variety of commercial and corporate office uses providing a range of services and employment opportunities for the county and region.

As of 2017, Chesterfield County is home to approximately 76 million square feet of commercial (34 percent), office (12 percent) and manufacturing/warehousing (54 percent) development. Due to its exceptional accessibility to regional, national and international markets by road, rail, water and air, the eastern portion of the county has an extensive manufacturing/warehousing base. Commercial development has followed the growth of residential areas radiating outward from the urbanized areas of the Cities of Richmond, Petersburg and Colonial Heights along Midlothian Turnpike, Hull Street Road, Route 10 and Jefferson Davis Highway. Major commercial, office and other employment centers have also developed in proximity to limited access interchanges along Chippenham Parkway, Powhite Parkway, Route 288, and Interstates 95 and 295.

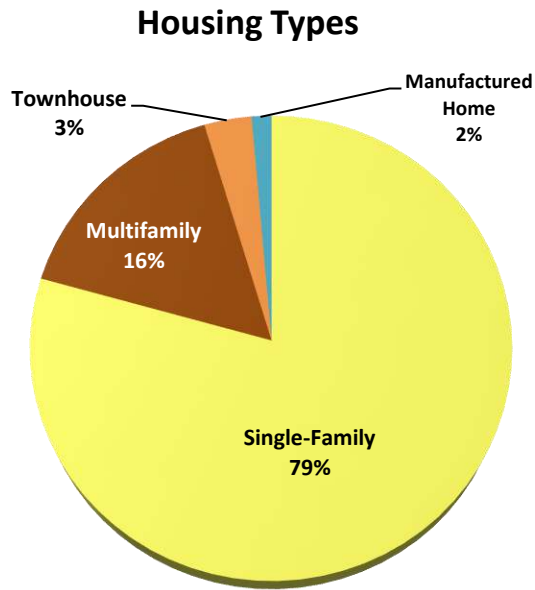
The graph below shows the new square footage of commercial, office and manufacturing/warehousing added based on the year built associated with parcel information from the Department of Real Estate Assessments. The spike in commercial square footage in 2008 was primarily due to the development of Westchester Commons. In 2012, the Amazon Fulfillment Center was built accounting for the majority of the manufacturing/warehousing development that year. Modern manufacturing/warehousing uses are much cleaner and less impacting than 20<sup>th</sup> century uses.



Source: Development Potential Database 2017, Chesterfield County Planning Department.

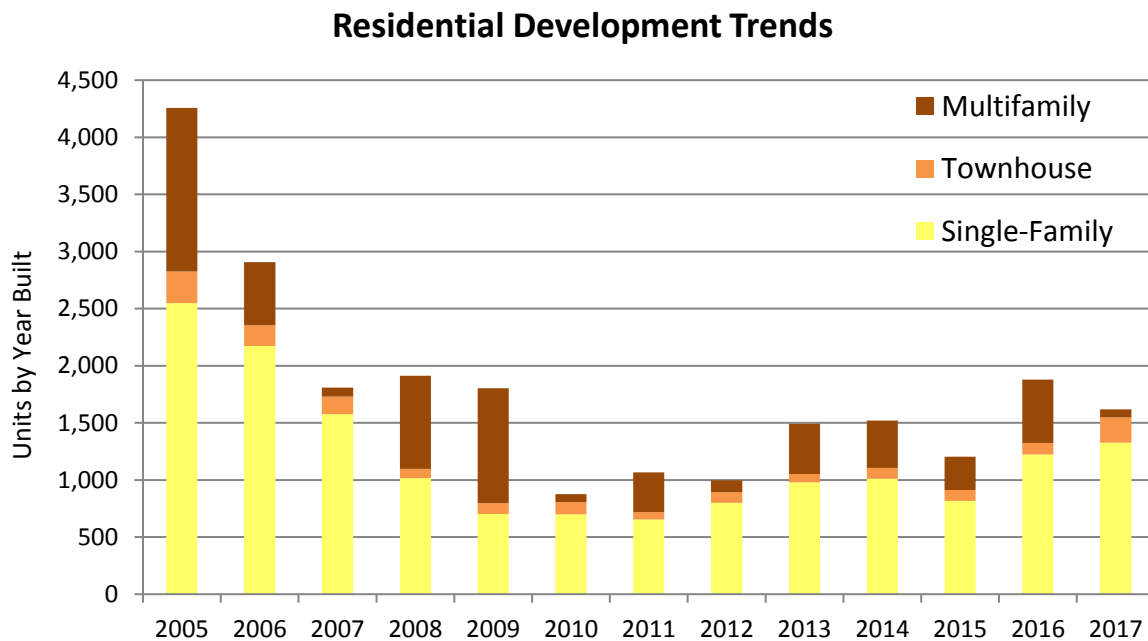


As of 2017, Chesterfield County had more than 135,000 dwelling units of various types. Most of the county's housing consists of single-family homes in subdivisions. Multifamily, which includes apartments and condominiums, as well as townhomes are most often found along the major corridors in the county. Much of the southern and western area of the county is rural, consisting of large-lot residential, farming and forestry uses. Manufactured homes are primarily found in mobile home parks, which are mostly concentrated on the Jefferson Davis corridor.



Source: Development Potential Database 2017, Chesterfield County Planning Department.

Consistent with national and regional trends, there has been a decline in residential development. Single-family typically makes up the majority of new units added, but multifamily saw an increase during the recession and accounted for the majority of new units in 2009. Following the recession, residential development has been moderate with most new units being single-family.

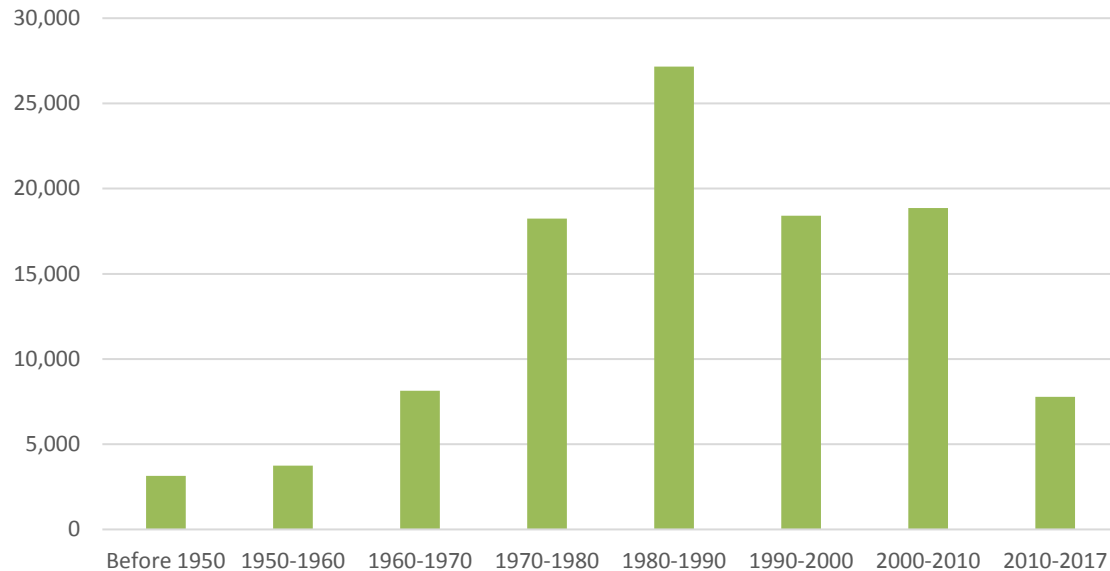


Source: Development Potential Database 2017, Chesterfield County Planning Department.

## Single Family Housing By Age & Value

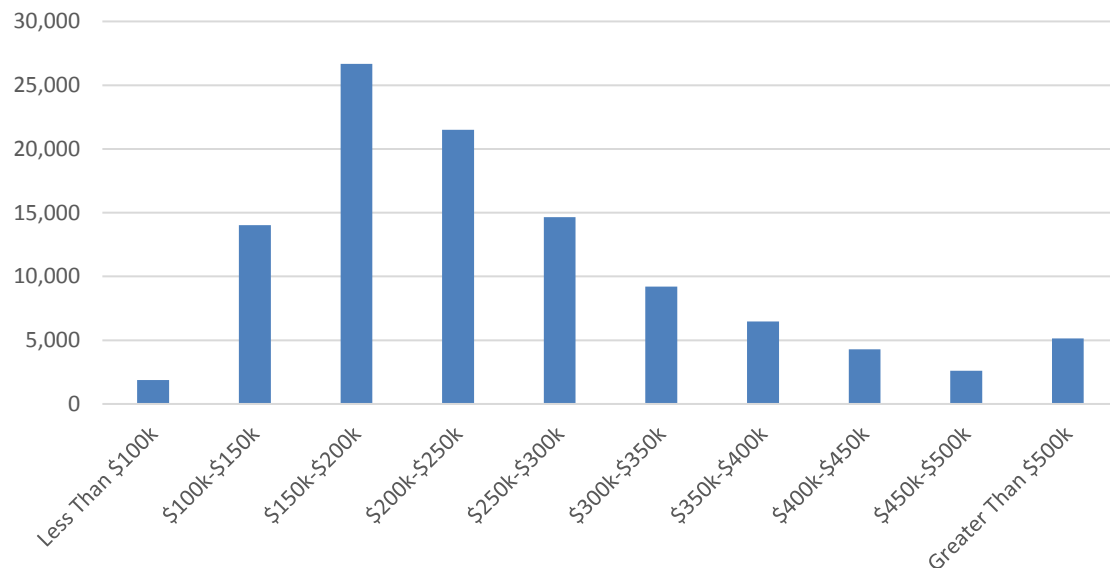
Chesterfield contains over 108,000 single family housing units. Over one quarter were constructed during the 1980s. The county's average age of a single-family home is 32 years.

**Single Family Housing By Year Built**



The average assessed value of a single-family home in 2017 was \$255,000. Over 58 percent of all single-family homes in the county are assessed between \$100,000 and \$250,000.

**Single Family Housing By Assessed Value**

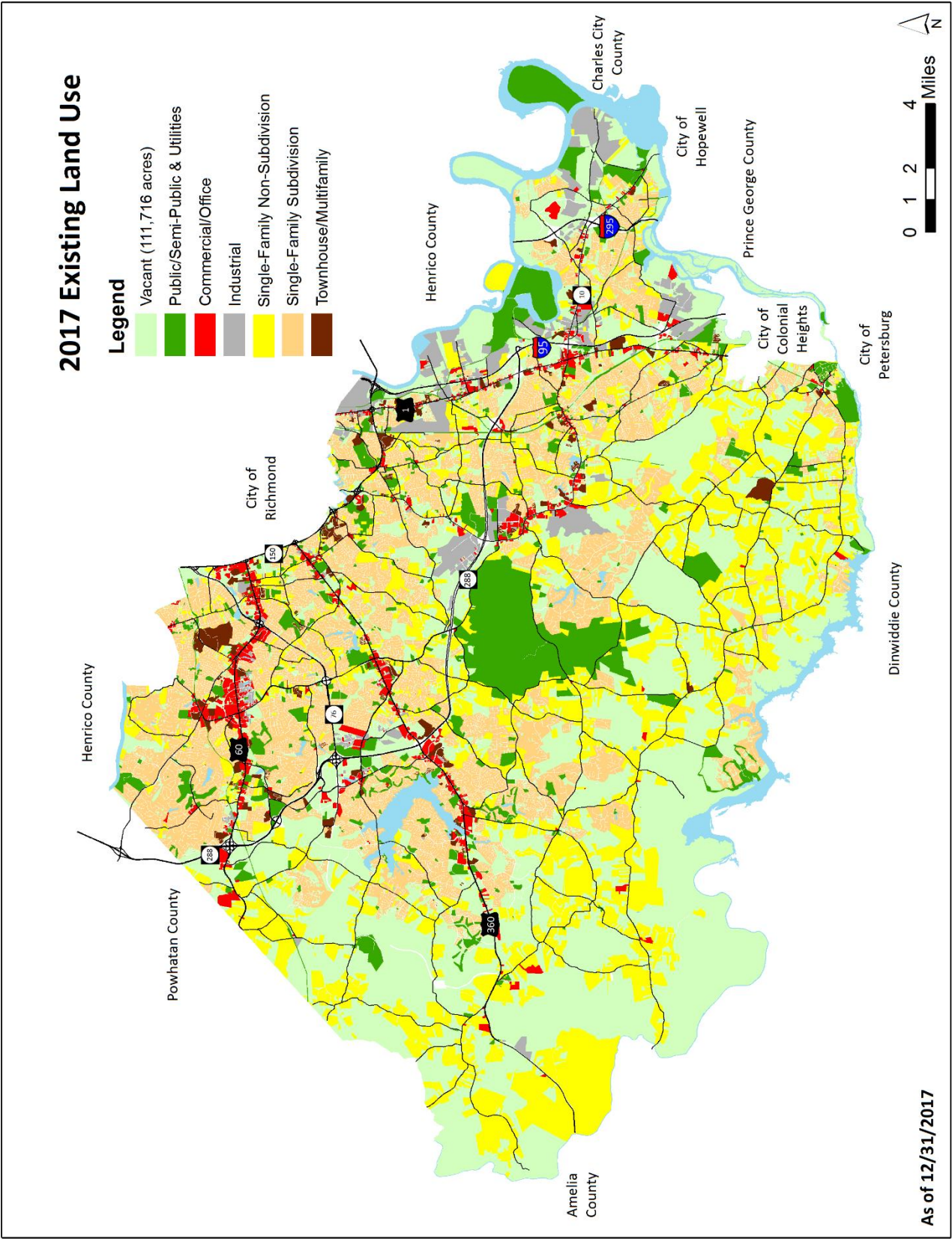


Source: Development Potential Database 2017, Chesterfield County Planning Department (all data on this page).

### 2017 Existing Land Use Map

The Planning Department maintains an inventory of existing land uses based upon information from the Department of Real Estate Assessments, aerial photography and field surveys. The 2017 Existing Land Use Map shown on the following page does not reflect existing zoning which is described in the next section. The map showcases existing development patterns as of 2017 that were considered during the planning process. Existing land use categories are defined as properties occupied by the uses described below:

- **Vacant:** Minimal or no structural improvements, including forested lands and farmland.
- **Public/Semi-Public & Utilities:** Generally accessible to the public, uses such as parks, golf courses, libraries, schools, jails, fire stations, etc, places of worship; and utility facilities such as pump stations, treatment plants, water towers, telecommunication towers on separate parcels and power plants.
- **Commercial/Office:** Uses which provide goods and services such as stores, banks, restaurants, gas stations and professional/ administrative offices.
- **Industrial:** Manufacturing and processing, warehousing and distribution uses and landfills/quarries.
- **Single-Family Non-Subdivision:** Dwellings not in subdivisions.
- **Single-Family Subdivision:** Dwellings on parcels in a subdivision and associated subdivision open space and recreation facilities.
- **Townhouse/Multifamily:** Townhomes, condominiums, apartments and manufactured home parks and associated subdivision open space and recreation facilities.





## Zoning

As permitted by the *Code of Virginia*, Chesterfield County has adopted a Zoning Ordinance which regulates the use of land and buildings, the location of uses, the size (height, area and bulk) of structures and other aspects of development. All property in the county is zoned. As of 2017, 36 percent of the land in the county was vacant. Zoning changes typically occur at the request of a property owner. Rezoning requests are first reviewed by staff and the Planning Commission who make recommendations to the Board of Supervisors. The Board of Supervisors makes the final decision as to whether or not to change zoning.

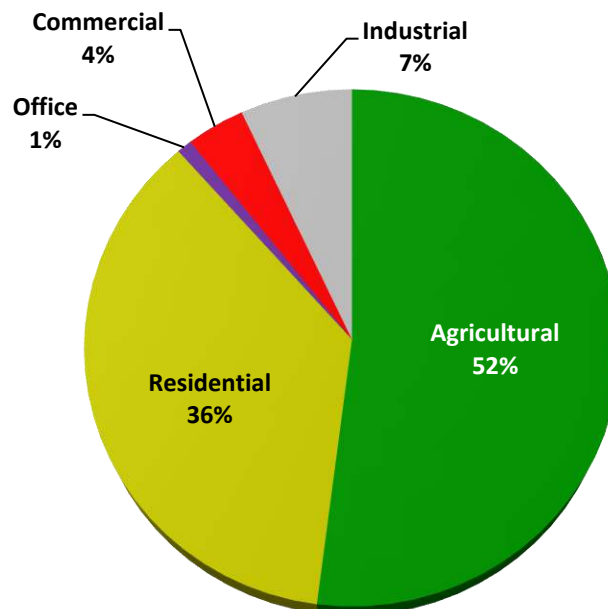
Comparison of Zoning & Vacant Acreage 2010-2017					
Zoning Category	2010	2017	2010-2017 Change	2017 Acres Vacant**	% of 2017 Vacant
Agricultural	146,035	145,651	-384 acres	64,692	44%
Residential	101,489	101,899	+410 acres	25,882	25%
Office	2,411	2,646	+235 acres	950	36%
Commercial	9,984	10,225	+241 acres	3,150	31%
Industrial	19,582	19,553	-29 acres	7,125	36%
<b>Total Acreage</b>	<b>279,501</b>	<b>279,974*</b>		<b>101,799***</b>	<b>36%</b>

\*GIS discrepancy in total acreage between 2010 and 2017 due to shapefile changes

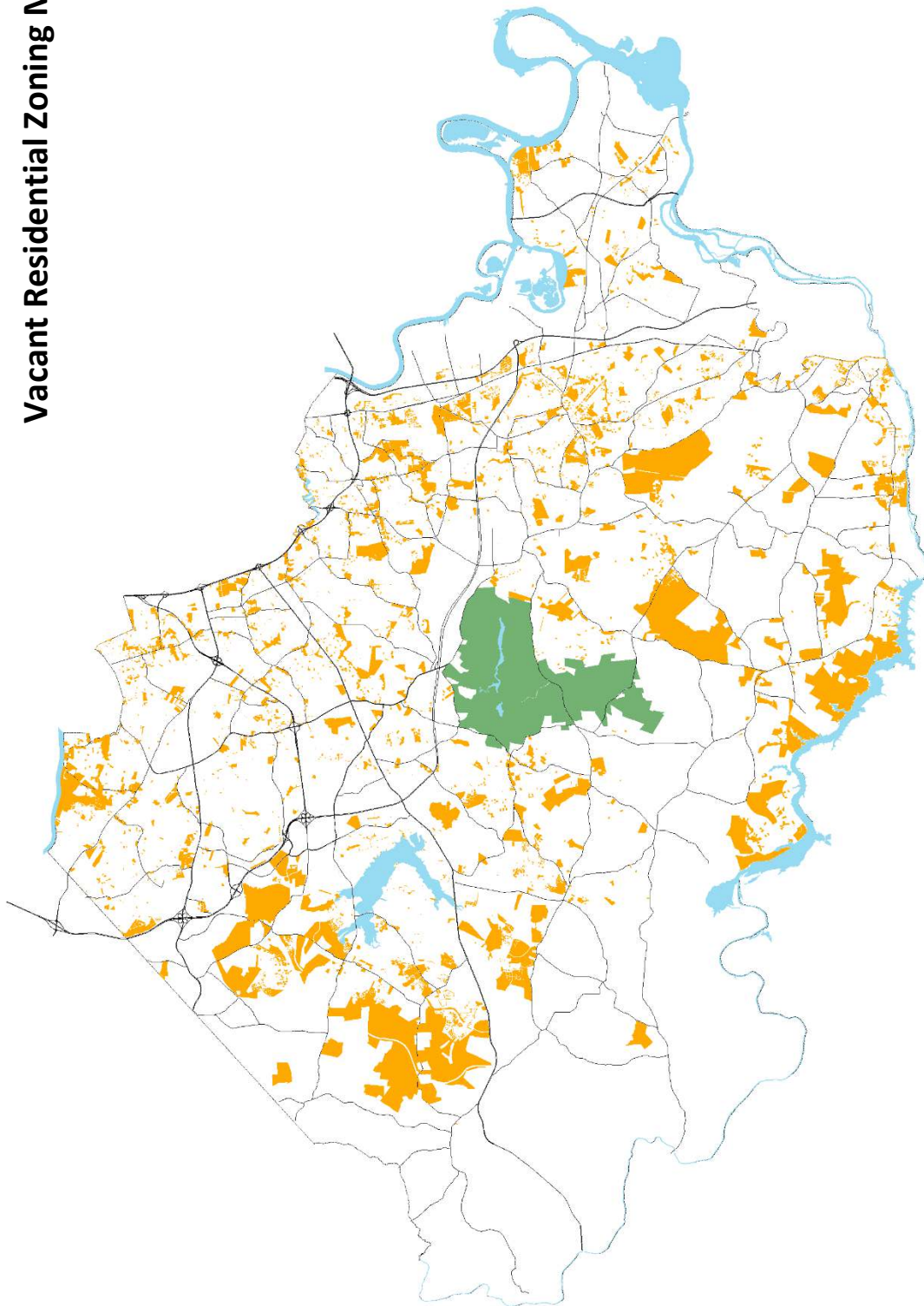
\*\*As defined by the Chesterfield Department of Real Estate Assessments, properties having no defined structural use except for minor improvements.

\*\*\*This is the area identified as vacant on the 2017 Existing Land Use map.

### 2017 Zoning by Category



**Vacant Residential Zoning Map**



Residential zoning includes MH-1, MH-2, R-7, R-9, R-12, R-15, R-25, R-40, R-88, R-MF and R-TJ districts. Vacant includes properties with a single family non-subdivision home as of 1/1/2018.

# CHAPTER 5: BUSINESS DEVELOPMENT

## Overview

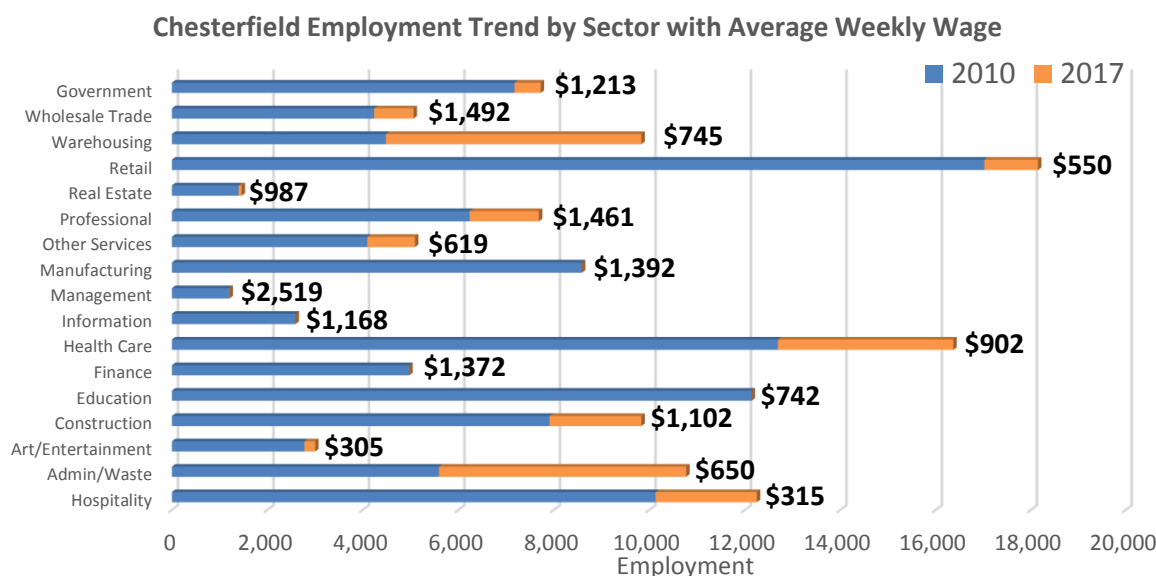
A driving force behind the Comprehensive Plan is a commitment to maintain a strong and growing economic base in Chesterfield County. New and existing business and industrial development, as recommended on the Land Use Plan Map, provides diverse employment opportunities and revenue, and is vitally important in providing the types of services that promote a high quality of life in the county. More detailed economic information (including industries, employment, wages and commercial land uses) can be found on the [Planning Department website](#).

### DESIRED OUTCOMES OF THIS CHAPTER:

- Improved Jobs to Worker Ratio
- Business Attraction, Retention, and Expansion
- Increased Number of Higher Paying Jobs
- Increased Business to Residential Tax Base Ratio to Relieve Residential Tax Burdens
- Strengthened Partnerships with the Business Community
- Workforce Development, Attraction, and Retention
- Revitalization and Reinvestment in Older Commercial Corridors
- Why Businesses Should Choose Chesterfield

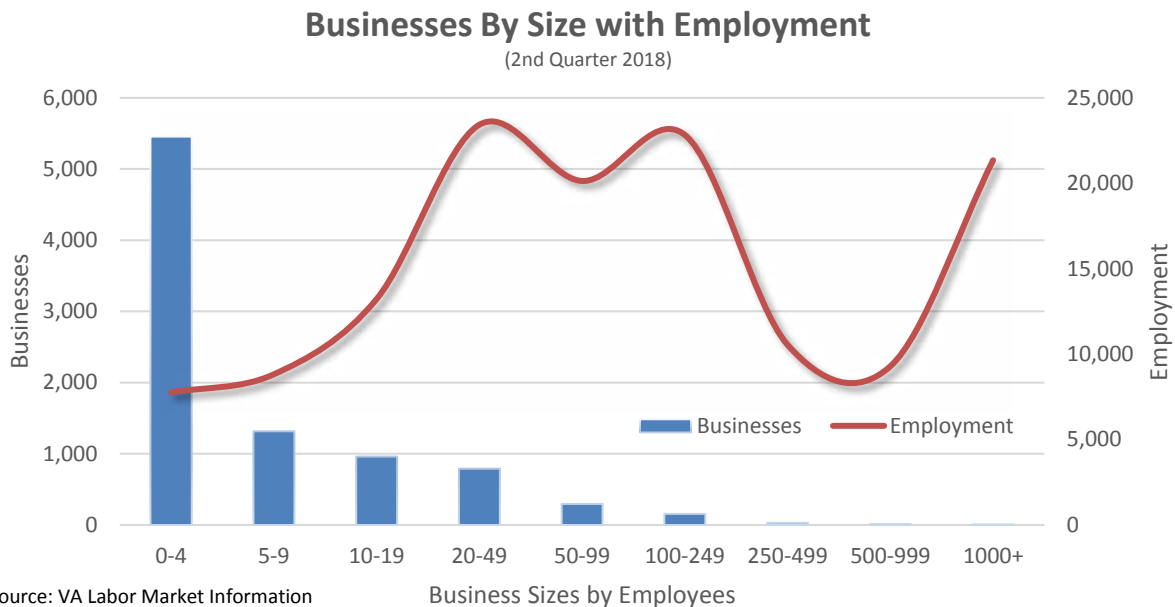
**SECTOR** – based upon the North American Industry Classification System (NAICS), classifies businesses by their primary economic activity. The information in this section is from Virginia Labor Market Information (<http://www.virginiaml.com>)

### ECONOMIC INFORMATION

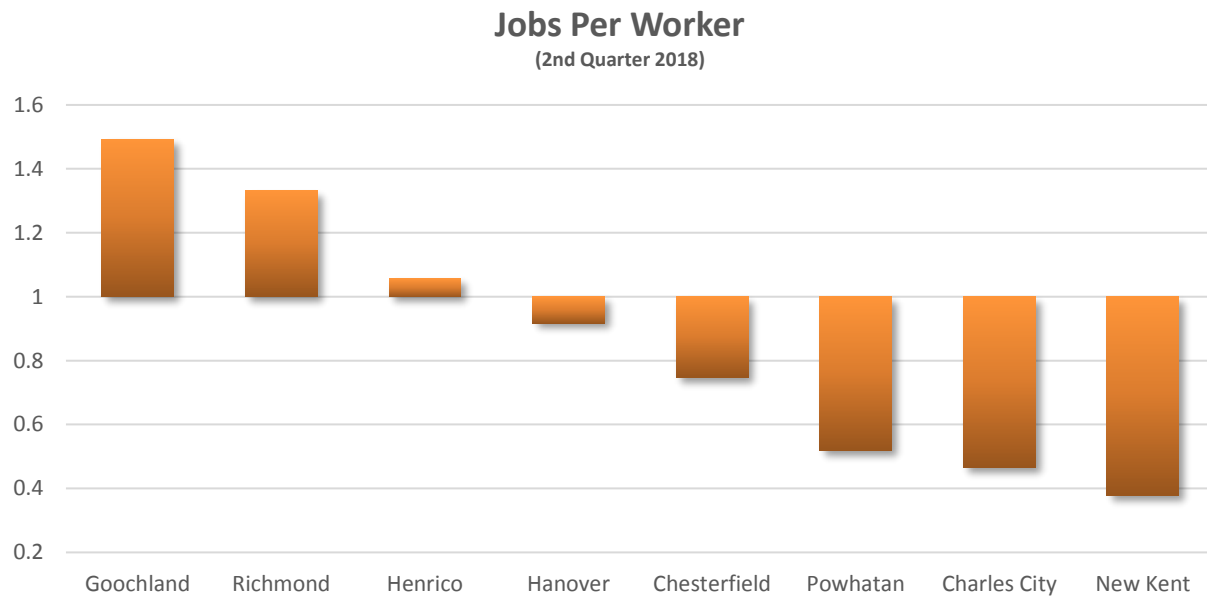


The vast diversity of Chesterfield County's economic base is displayed below. The Retail Trade sector comprises 13 percent of the county's employment, while Management of Companies sector has the highest average weekly wage. The Admin/Waste Services and Warehousing sectors each nearly doubled employment since 2010. Significant employment gains have also occurred in the Health Care and Hospitality sectors. Education Services, Finance & Insurance, Information, and Manufacturing sectors have all lost employment since 2010, in many cases due to automation. Chesterfield had nearly 136,000 jobs in 2017 with an average weekly wage of \$889.

Of the county's 9,000 businesses, over 60 percent have less than five employees. However, 17 percent of jobs in the county are in businesses that employ between 20 and 50 persons, with a further 17 percent in businesses employing 100-249 persons. Approximately 74 percent of new businesses since 2010 have had less than five employees, while nearly 75 percent of new jobs since 2010 have occurred in businesses over 50 employees.



Chesterfield had 0.75 jobs for every person in the county's labor force. In the Richmond Region, Goochland, Richmond and Henrico each have more jobs than workers. Chesterfield would need to add 46,000 jobs to achieve a ratio of one job for every worker.

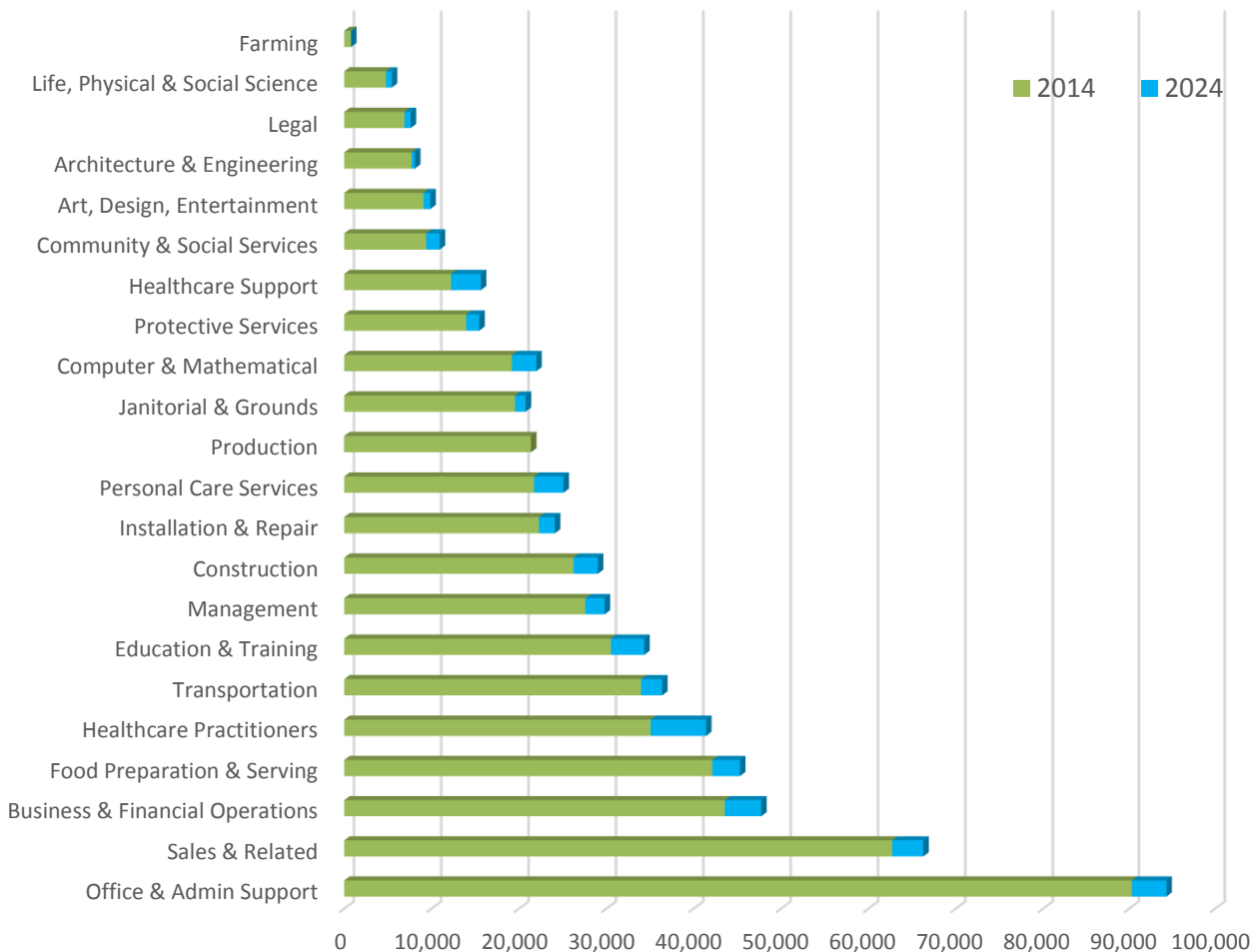




The Capital Region Workforce Partnership area (Chesterfield, Richmond, Henrico, Hanover, Powhatan, New Kent, Goochland, Charles City, New Kent) is projected to add 50,000 jobs between 2014-2024. The most numerous occupation within the region is Office & Administrative Support with 16 percent of jobs, followed by Sales & Related. However, the fastest-growing occupation is projected to be Healthcare Practitioners & Technical, with a projected increase of 6,300 jobs (18% increase). Healthcare Support is also projected to add 3,400 jobs, an increase of 28 percent since 2014.

**CAPITAL REGION  
WORKFORCE  
PARTNERSHIP** – a local, federally-funded workforce investment board that works to increase private sector employment opportunities and workforce development needs ([www.resourceva.com](http://www.resourceva.com))

### Occupation Projections & Trend (Capital Region Workforce Partnership Area)



Source: VA Labor Market Information

## Business Advantages

Chesterfield County is ideally located in the mid-Atlantic region of the United States. The county's location puts local businesses within a one-day travel time for transporting raw materials and finished goods to 50 percent of the U.S. population, 50 percent of the nation's manufacturing operations, and 60 percent of the corporate headquarters in the country.

The local economy is characterized by a strong industrial base and diversified economic structure including internationally based companies. The county is centrally located in one of Virginia's major manufacturing areas, and a wide variety of industries, large and small, are located here.

Chesterfield County is one of fewer than 25 counties in the nation to hold AAA bond ratings from all three major bond-rating agencies. Consistently excellent bond ratings allow the county's general obligation bonds to trade AAA rates. This status reflects exceptional management of financial operations and conservative fiscal policies.



Important business advantages include:

- Access to Interstates 95, 295, 64, 85
- Freight and passenger rail services
- Port of Virginia and Richmond Marine Terminal services
- Low cost, abundant and reliable electric power, natural gas, water and sewer systems
- Extensive broadband, cable and wireless services
- Chesterfield County General Aviation Airport
- Largest labor force in region
- Competitive business tax rates
- High quality education facilities – public schools, Virginia State University, John Tyler Community College, etc.
- High quality of life and business-friendly environment



### Economic Development Programs

Chesterfield County Department of Economic Development administers several programs and initiatives in support of business attraction, retention, and expansion. The department works with existing and prospective businesses, along with regional and state agencies, to promote business development in the county. The following are just some of the primary services provided by the department, more information can be found [here](#):

- **Business Attraction** – marketing activities that promote Chesterfield County as a premier business location
- **Site & Building Searches** – maintains a database of available sites and buildings to assist businesses in finding a suitable site in the county for their location or expansion
- **Small Business and Entrepreneurship Assistance** – provides resources and programs to encourage entrepreneurship and grow small business
- **Site Development Coordination** – facilitates discussions with other county departments to assist permitting and review processes, including zoning
- **Financing & Incentives** – maintains and administers an array of programs to support business location and expansion
- **Research & Information** – provides analysis and information to assist businesses and promote the county

### **BUSINESS FIRST CHESTERFIELD**

- Collaborative effort by City of Richmond and Chesterfield, Henrico and Hanover Counties, Greater Richmond Partnership
- One-on-one business assistance customized to need, including support services
- Conducts face-to-face interviews to understand local business needs, potential incentives and tools

### **BUSINESS ASSISTANCE CENTER**

- Partnership between Economic Development and Public Libraries
- Includes [web portal](#) to answer questions and provide resources
- Physical work spaces in Meadowdale and North Courthouse Road libraries – including meeting and network space, and access to free business resources, tools, technology and expertise



### **BIZWORKS ENTERPRISE CENTER**

- County's only non-profit, small business incubator located on Route 1 and Bellwood Road
- Supports creation and growth of new businesses, including virtual businesses
- Provides shared office resources, training, and education
- Offers low-cost office, manufacturing and warehouse spaces

### **CHESTERFIELD COUNTY ECONOMIC DEVELOPMENT AUTHORITY (EDA)**

- Appointed by Board of Supervisors to help create new jobs and attract capital investment to county
- Has authority to buy, sell and develop land for economic purposes
- Provides financial incentives to support business attraction and expansion
- Accomplishments include Stonebridge redevelopment and Meadowville Technology Park

### **INCENTIVE PROGRAMS**

Several incentive programs and resources are available to help attract, retain and expand business investment in the county.

#### **Technology Zones**

Technology Zones provide an attractive local incentive package to businesses choosing to locate in these areas, if a company meets the following objectives:

- Increase private investment and job creation
- Encourage manufacturing and commercial uses
- Promote rehabilitation of the area's existing older commercial and industrial structures
- Promote the area's revitalization through increased economic activity

Chesterfield County's Technology Zone Program is administered by the Department of Economic Development. The county has five designated technology zones that offer a package of local business incentives to encourage investment. Incentives include full or partial business license tax exemption, public water/sewer connection fee assistance, site plan/rezoning fee waivers, and full or partial rebate of Machinery & Tools Tax. It should be noted that the local incentives are subject to change.



### **Workforce Services**

- Virginia Jobs Investment Program (VJIP)
  - Funded by state, offers training programs for new and expanding businesses to reduce costs
  - Eligibility requirements
- Capital Region Workforce Partnership
  - Offers recruiting and screening services
  - Apprenticeship assistance
  - Employee development and retention services

### **Financial Incentives**

- Opportunity Fund – case-by-case consideration for incentives and grants based upon investment and job creation
- Industrial Access Road/Rail Fund – provides assistance to businesses needing road or rail improvements to utilize sites
- Business Expansion Incentive Fund (BEIF) – helps to preserve and expand existing businesses in the county through low interest loans or grants via application

### **Fast-Track Permitting**

Chesterfield County has developed a "fast-track" process to expedite those projects that bring a significant economic impact to Chesterfield County. Chesterfield County can offer fast-track permitting of both site and building plans review should a project need to be expedited.



## **Workforce Development, Education & Attraction**

Chesterfield area workers have above-average levels of education and skill, and work in business-friendly environments rich with training opportunities. Close ties between local businesses and industries and local institutions of higher education such as Virginia State University and John Tyler Community College, assist in tailoring educational programs and curriculum to area employers' needs. Accessibility to other area colleges and universities to include Virginia Commonwealth University, College of William and Mary, University of Virginia, Richard Bland College and J. Sargeant Reynolds Community College allows Chesterfield County to have a readily available educated workforce. Education and training are top priorities for Chesterfield County. Close ties with local businesses and industries mean 21<sup>st</sup> century skills are being developed in the area's universities and schools. Chesterfield County Public Schools offers students the opportunity to participate in specialty centers, technical centers and governor's schools that target special interests, such as Code RVA, as well as incorporating an intense focus on communication, computation, scientific concepts, history and geography at all public high schools. County Technical Centers provide opportunities for students to be prepared to meet the workforce needs of business and industry sectors in the county and region by offering leading-edge programs such as advanced CAD, modeling/computer integrated manufacturing, logistics operations, environmental biotechnologies and mechatronics.



## **Business Revitalization and Redevelopment**

In conjunction with Chapter 7 Revitalization, this chapter supports efforts to encourage reinvestment in older commercial/employment areas. Indeed, business development is a key driver of revitalization and redevelopment efforts. These areas often serve as the community's "front door", the first perception of the community one receives while traveling. Tools and incentives identified in that chapter should be used to encourage new uses for vacant structures. One possible reuse example would be to support indoor recreation facilities within vacant big-box stores. In other instances, where existing structures are obsolete in either design or function, incentives should support redevelopment. In either case, the Land Use Plan should be used to guide appropriate redevelopment and reuse. Business corridor revitalization can also be aided through streetscaping projects and strategic use of public facility investment as a catalyst for private investment. Efforts should also provide assistance and incentives to small businesses to improve their façades and exterior aesthetics such as landscaping.

### **Business Sector Development Strategy**

A healthy economy strives to achieve a balance between residential, commercial and industrial development. Commercial and industrial businesses provide tax revenues that offset the tax burden for residents and generally require less services than residential development. To this end, Chesterfield County's economic development efforts are focused on a business sector strategy that attracts and retains businesses that align with the county's unique economic assets, including a highly educated workforce, central east coast location, and strong transportation and utility infrastructure. Business attraction strategies are focused on target industries where the county enjoys a competitive advantage and align with the goals and guidelines of the Comprehensive Plan.

### **RETAIL/COMMERCIAL SERVICES**

Retail services are concentrated along the county's major thoroughfares, including Hull Street Road, Midlothian Turnpike, Route 10 and Jefferson Davis Highway. Retail businesses generally depend on residential development in proximity.

#### **Sector Business Strengths**

- Automobile Dealerships
- Auto Parts, Accessories & Tire Stores
- Electronics & Appliance Stores
- Building Material & Supplies Dealers
- Lawn & Garden Equipment & Supplies
- Grocery Stores
- Book, Periodical & Music Stores
- Department Stores
- Other General Merchandise Stores
- Electronic Shopping & Mail-Order Houses
- Automotive Repair & Maintenance
- Electronic Equipment Repair
- Personal Care Services

#### **Sector Challenges**

- Aging, obsolete commercial strip centers
- Internet shopping competition
- Geographic gaps in retail access

#### **Strategy**

Future retail development will continue to follow new residential growth. Automobile-oriented retail development will continue to occur as freestanding buildings as well as in shopping centers in categories shown on the Land Use Plan Map for Convenience Business, Neighborhood Business, Community Business and General Business. However, where appropriate, other retail development should be incorporated into mixed use projects with higher density residential uses as shown on the Land Use Plan Map for Residential Mixed Use, Community Mixed Use and Regional Mixed Use. Unique, destination, and 'experience' retail uses should also be pursued and directed into commercial activity centers around highway intersections. Efforts to revitalize and redevelop older commercial corridors should be encouraged. Affordable housing options should be encouraged to support this sector.



### **MANUFACTURING**

Typically known better as ‘industrial’ uses, manufacturing and advanced manufacturing are key components of the county’s economy. Chesterfield County has the highest concentration of manufacturing and advanced manufacturing in the region. Because of innovation and technology improvements, manufacturing jobs are decreasing, however, new manufacturing jobs require higher skill sets and pay higher wages. Due to the presence of major utilities, roadways and railways, these uses are concentrated in the eastern area of the county. Agricultural activities are included in this sector due to their production-oriented nature. Currently these uses are predominantly in the southern and western areas of the county.

#### **Sector Business Strengths**

- Food and Beverage Manufacturing
- Basic Chemical Manufacturing
- Advanced Materials Manufacturing
- Electronic Instrument Manufacturing
- Medical Equipment & Supplies Manufacturing
- Virginia State University (VSU)
- Agricultural Land

#### **Sector Challenges**

- Automation of production resulting in fewer but higher paying jobs that require more advanced skills
- Reserving sufficient future industrial lands
- Minimizing impacts on adjacent non-industrial properties

### **Strategy**

Manufacturing and advanced manufacturing should continue to be a target industry for Chesterfield County. Future manufacturing uses should continue to be located near major highways and infrastructure. However, new infrastructure provided in accordance with the Transportation and Water & Wastewater chapters could enable additional industrial development in new areas as identified on the Land Use Plan Map for Corporate Office, Research & Development, Light Industrial (CORDLI) and Industrial. Infrastructure improvements and incentives should also be provided to existing industrial areas to better utilize underdeveloped and vacant properties. These locations should be protected from incompatible development such as residential in proximity to these areas. Conversely, new developments should provide adequate mitigation to existing residential areas.

Support for agricultural activities throughout the county should be encouraged as a viable economic use of land and to take advantage of underutilized properties, provide public education, provide jobs and support local businesses (such as restaurants and farmer’s markets). Partnerships with VSU’s agricultural research center and Chesterfield County Public Schools could aid local agricultural efforts. In more developed areas of the county, appropriate urban agriculture activities should be encouraged. Larger-scale agricultural uses should be located in the Rural Residential/Agricultural and Residential Agricultural categories of the Land Use Plan Map.





### **LOGISTICS & SUPPLY CHAIN MANAGEMENT**

Typically known better as warehousing, Logistics & Supply Chain Management are key components of the county's economy. Due to excellent transportation infrastructure with easy access to I-95, I-295, I-85, proximity to the Port of Virginia and the Richmond Marine Terminal and CSX rail running through the county, Chesterfield is an ideal location for these industry sectors.

#### **Sector Business Strengths**

- General Freight Trucking
- Specialized Freight Trucking
- 3<sup>rd</sup> Party Logistics Providers
- Supply Chain Management

#### **Sector Challenges**

- Available land with regional access
- Road network improvements

#### **Strategy**

Logistics businesses are well-suited to the county's location and road, rail and port access. These uses should continue to locate near limited access highways and rail connections, generally in the eastern area of the county. The construction of the East-West Freeway could open up additional areas for these uses. These uses should be located in areas recommended for Industrial or Corporate Office/Research & Development/Light Industrial (CORDLI).





### **MANAGEMENT, FINANCE, PROFESSIONAL, & INFORMATION SERVICES**

Typically associated with office developments and professional jobs, these businesses are concentrated in the northwestern area of the county, especially along Midlothian Turnpike. These jobs have relatively high wages and require advanced education.

#### **Sector Business Strengths**

- Software Publishers
- Motion Picture & Video Industries
- Radio & Television Broadcasting
- Data Processing & Related Services
- Other Information Services
- Architectural & Engineering Services
- Business Support Services

#### **Sector Challenges**

- Lack of high-density activity centers

#### **Strategy**

Future office developments should be a component of new regional mixed-use centers as shown on the Land Use Plan Map. Existing office parks could be enhanced by adding other uses, especially higher density residential, to make them more appealing to modern office needs. Given the skills of the county's labor force and relatively low share of employment in these sectors, these uses should be a primary target of business attraction efforts through incentives and other competitive tools and programs. These uses are best suited to Corporate Office, Regional Mixed Use and Corporate Office/Research & Development/Light Industrial (CORDLI) areas of the Land Use Plan Map. High quality, active lifestyle communities should be developed to accommodate this sector's workforce.



### **TOURISM & HOSPITALITY**

Entertainment, restaurants, and lodging are the primary components of this sector. Uses in these categories serve local and visitor needs. Tourism, especially sports tourism, is becoming a major economic driver for the county. With historic assets like Henricus Historical Park, Pocahontas State Park, and world-class sports venues like the River City Sportsplex, the hospitality and tourism industry is poised for significant growth. Although the county has several first-class sports and entertainment venues, there is a larger concentration of tourism support services such as restaurants and hotels in the City of Richmond and Henrico County.

#### **Sector Business Strengths**

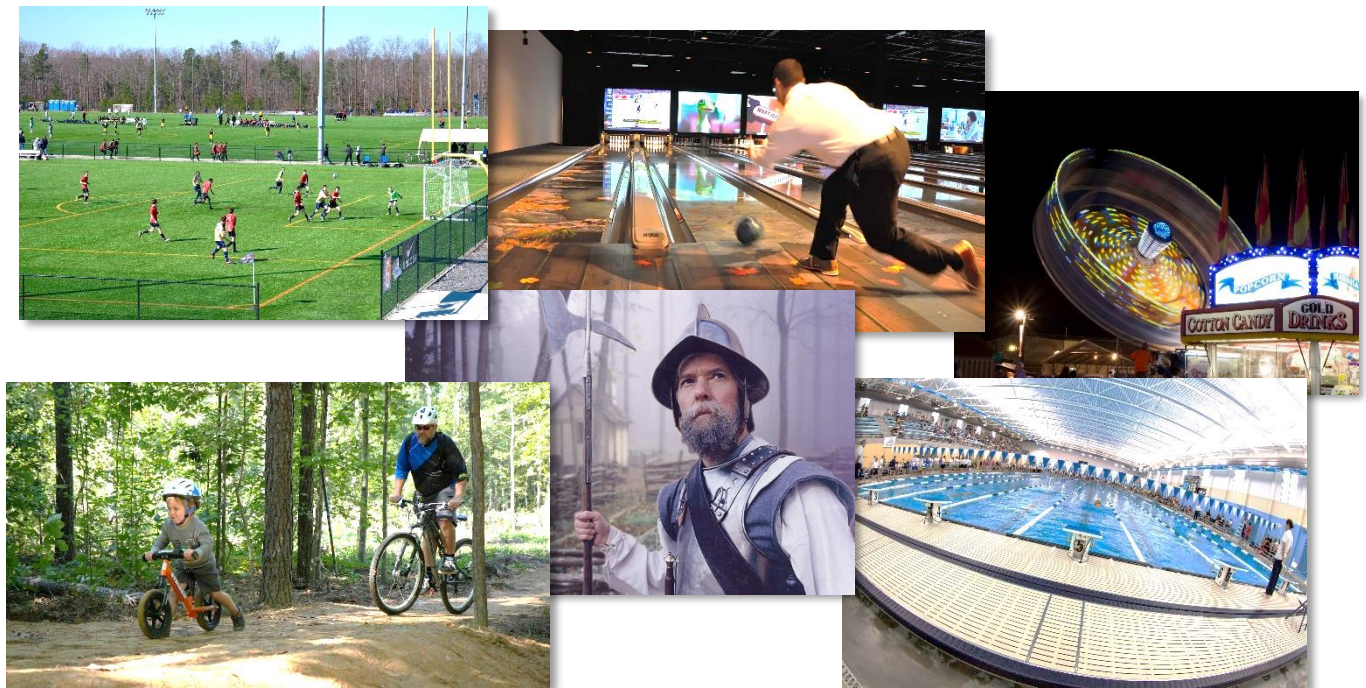
- Other Amusement & Recreation
- Restaurants & Other Eating Places
- Recreation/Sports Venues
- Rural Lands

#### **Sector Challenges**

- Lack of concentrated density of attractions
- Suburban development pattern
- Lack of local venues and gathering spaces for cultural events
- Development pressure

#### **Strategy**

Future tourism and hospitality uses should be pursued and concentrated at key intersections in the county. Hotels, restaurants, entertainment and cultural venues should be clustered together in Regional Mixed Use and Community Mixed Use areas of the Land Use Plan Map. Hospitality services should also be near major recreation facilities such as River City Sportsplex and SwimRVA to serve travelers. Business traveler needs should also be a part of Corporate Office and Corporate Office/Research & Development/Light Industrial (CORDLI) areas shown on the Land Use Plan Map. Agritourism uses and events should be supported in Rural Residential/Agricultural and Residential Agricultural areas on the Land Use Plan Map. Celebratory events should be encouraged throughout the county to instill community pride as well as attract visitors to the community in support of local businesses.



### **HEALTHCARE & EDUCATION**

The Healthcare sector is one of the fastest-growing segments of the county's economy. The continued growth and aging of our population combined with new treatments and technologies, mean that this sector should continue to be an important part of our economic future. Education service businesses ensure that our workforce has opportunities to gain new skills needed for 21<sup>st</sup>-century employers.

#### **Sector Business Strengths**

- Technical & Trade Schools
- Other Schools & Instruction
- Offices of Other Health Practitioners
- Home Health Care Services
- Residential Mental Health Facilities
- Child Day Care Services
- Assisted Living & Memory Care
- Virginia State University (VSU)

#### **Sector Challenges**

- Regional medical facilities outside of county
- Access to medical facilities
- Regional education facilities outside of county

#### **Strategy**

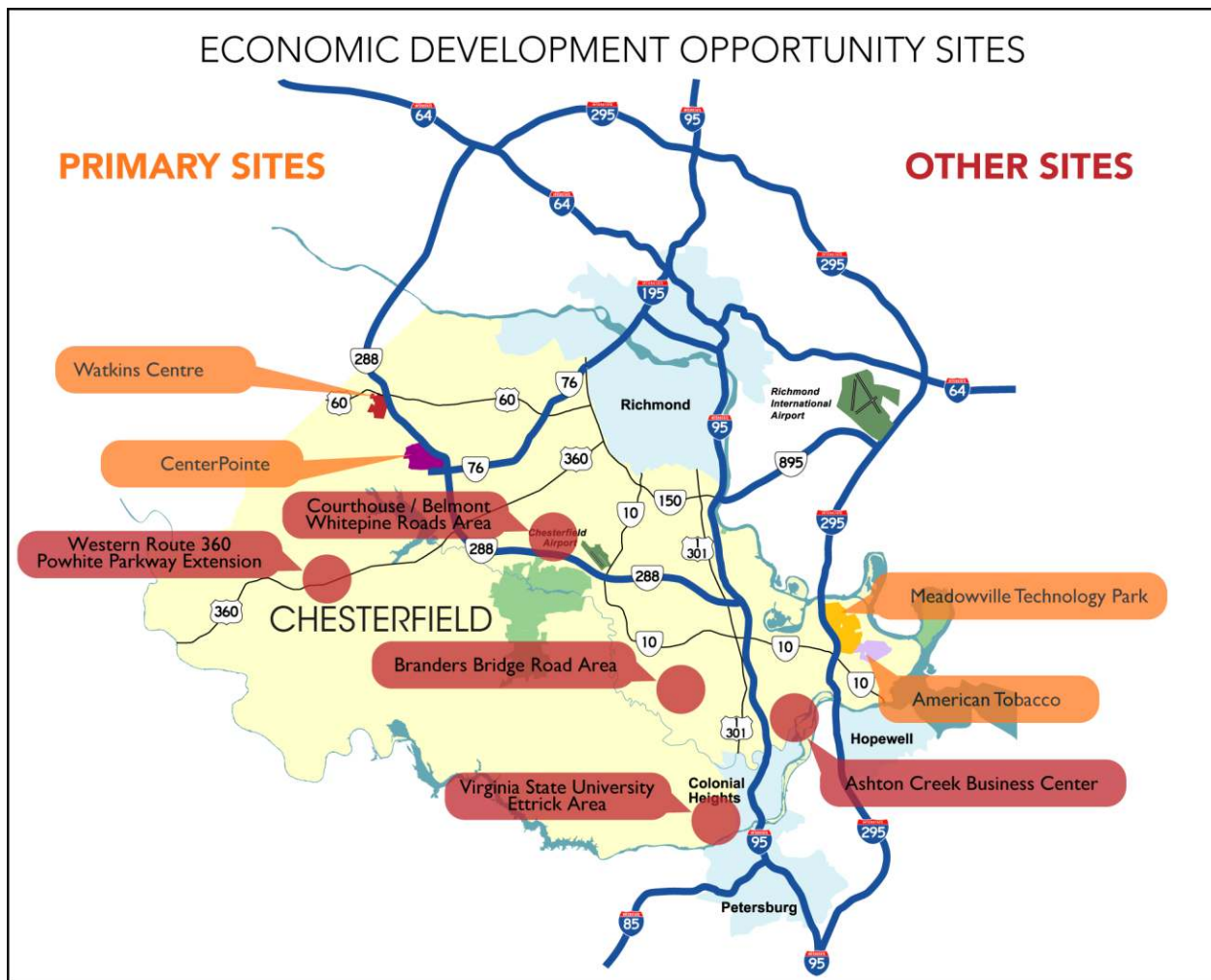
The healthcare sector will continue to grow in importance to the county's economy. Future major healthcare facilities should be located in highly accessible areas, while community-scale emergency care facilities should locate in proximity to residential areas. Senior housing should be encouraged around these facilities and be connected to other supportive commercial services. Incentives should be considered to help healthcare and education facilities locate within revitalization areas. Workforce development efforts should focus on the healthcare sector as it is expected to be the dominant growth sector for some time. The county should continue to strengthen partnerships with area hospitals, universities, colleges and the public school system to ensure new workers have the skills necessary to thrive in the 21<sup>st</sup> century economy. In particular, the area around VSU has great potential for redevelopment to accommodate the continued success of the university as well as the surrounding community.





## Economic Development Opportunity Sites

The relationship between land use and economic development is extremely important to the future financial stability of Chesterfield County. Identifying Economic Development Opportunity Sites throughout the county provides valuable insight for physical and financial aspects of comprehensive planning. Preservation of Economic Development Opportunity Sites is critical to preserving balanced growth in Chesterfield County. These sites represent a sizeable opportunity for significant commercial development because of location, size, transportation and utility infrastructure.



### **PRIMARY SITES**

#### **American Tobacco Site**

This 353-acre site is located in the eastern portion of Chesterfield County. This site offers substantial power and water/sewer capabilities. The interchange at Interstate 295 provides easy access to the Port of Virginia and Richmond International Airport. Rail access is feasible at this site. The property is well suited for heavier manufacturing uses.

#### **CenterPointe**

CenterPointe is an 800-acre mixed used development located in southwest Chesterfield County at the intersections of the Powhite Parkway and the Route 288 and Lucks Lane Interchange. Route 288 provides outstanding access to the entire metropolitan area, and CenterPointe has easy access to the Route 60 (Midlothian Turnpike) and Route 360 (Hull Street Road) retail/service corridors. Abundant housing in a variety of price ranges is located within a short distance from CenterPointe, including the planned communities of Brandermill, Woodlake, Hampton Park, Evergreen, The Grove, Queensmill, Walton Park and Charter Colony. CenterPointe is well suited for office, corporate headquarters and medical uses.

Construction of a full interchange at Charter Colony Parkway and Powhite Parkway would greatly enhance development efforts in this area.

#### **Meadowville Technology Park**

Meadowville Technology Park (MTP) is a 1,300-acre industrial development located in Chesterfield County. For businesses seeking a profitable and stable environment in which to operate, MTP is a superb location. MTP is an attractive site for a wide range of businesses such as headquarters, distribution, information technology, office and research and development. It is especially well suited to serve water-intensive users such as pharmaceutical and semiconductor manufacturers.

MTP provides a unique opportunity for major industrial clients to share one of the county's most majestic and beautiful resources. The Meadowville site borders the James River for approximately 6,000 feet southeast of the Interstate 295 Varina-Enon Bridge. The property's river frontage contains steep overlooks that provide spectacular views of the river, bridge and surrounding property.



The site also borders Interstate 295 for approximately 2.5 miles, and includes an interchange into the heart of the park. Chesterfield County has completed the zoning, environmental and utility infrastructure studies that are necessary for potential industrial users to evaluate this site. Chesterfield County has also constructed phase one of the utility infrastructure necessary to serve the property.



### **Watkins Centre**

Watkins Centre is the highest point in the western Richmond area and capitalizes on its existing topography and natural features to create an integrated development. Strategically located at the interchange of Route 288 and Midlothian Turnpike in western Chesterfield County, Watkins Centre is a critical component of the economic engine that will drive the Richmond metropolitan region.



Encompassing approximately 625 acres of total land area between four quadrants of the Route 288 interchange, Watkins Centre is positioned to become Richmond's premier business and lifestyle address. The mixed-use development is primarily dedicated to commercial uses, including office, headquarters, research and development, medical, retail and light industrial.

### **OTHER SITES**

#### **Branders Bridge Road Area**

This property is strategically located in proximity to the Interstate 95 and Woods Edge Road interchange. Potential exists for a new limited access road, the East-West Freeway that would further enhance accessibility to Interstate 95. The Land Use Plan Map recommends most of the property for Corporate Office/Research and Development/Light Industrial (CORDLI) with a Regional Mixed Use center along the East-West Freeway.

#### **Western Route 360/Powhite Parkway Extension**

The planned extension of the Powhite Parkway and Woolridge Road makes this area a good potential location for corporate headquarters, light industrial and commercial uses.

#### **Courthouse Road/Belmont Road/Whitepine Road Area**

Adjacent to the Chesterfield County Airport and the Chesterfield Airport Industrial Park, this area provides easy access to Route 288. Zoning is in place for a portion of this area that can accommodate light industrial and some general commercial uses.

#### **Virginia State University/Ettrick Area**

With the expansion of Virginia State University, Ettrick and the surrounding area has potential for increased retail, commercial, and/or mixed-use development providing services to the University community. With the proposed expansion of passenger rail service and high-speed rail, Ettrick Station is poised for development.



### **MIXED USE CENTERS**

The county's suburban development pattern has resulted in a general lack of identifiable places in our communities. Places can be defined as having a variety of activities within a confined, walkable area and unified through design and connections. Many businesses desire to locate in such activity centers as they offer many amenities to workers and promote a positive image of the company. High-density mixed-use centers provide an opportunity for the county to attract and accommodate businesses and people who prefer such communities, offering greater choice to current and future residents and businesses.



Further, such development would aid in attracting new skilled, creative and entrepreneurial workers to the county so that we remain a desirable place for business investment. To attract new workers the county needs to facilitate the creation of desirable, well-planned places in which they will want to reside. A variety of community choices, settings and prices needs to be fostered to accommodate a wide range of resident preferences. By fostering high quality communities centered around attractive social gathering spaces in mixed use environments, the county can attract new worker residents along with their employers.

### **General Business Development Guidelines**

The General Economic Development Guidelines provide direction for development and land use decisions that expand the county's business foundation.

Major considerations used in the development of these guidelines include:

- ❖ Building upon a strong, growing and diverse economy.
- ❖ Protecting Economic Development Opportunity Sites.
- ❖ Encouraging the distribution of economic resources throughout the county.
- ❖ Striving for a mix of employment industries that generates high-paying jobs.
- ❖ Promoting tourism in the county as an economic engine.
- ❖ Promoting unified business attraction and retention strategies.

The following General Economic Development Guidelines should be used when addressing specific business attraction and retention strategies and land use issues:

- **Economic Growth.** Promote economic development activities that attract, retain and expand commerce at all levels, from home-based businesses to large commercial and industrial concerns.
  - Strategically utilize incentives and financing to support existing businesses and keep them in Chesterfield County, as well to attract new businesses.

- Increase the diversity of the county's economic base by promoting and supporting entrepreneurial and small business opportunities.
  - Promote business attraction and retention strategies that are complementary to both new and existing business.
  - Identify and preserve Economic Development Opportunity Sites for regional level growth and encourage the development of these sites for high tax revenue-generating uses.
  - Identify areas for employment-generating uses to ensure new and growing job opportunities are available in communities throughout the county.
  - Promote the development of planned office centers, business and industrial parks and mixed-use centers in accordance with the Land Use Plan.
  - Support the viability, operational efficiency and productivity of the county's agricultural resources for current and future generations.
  - Promote economic development opportunities associated with the expansion of Virginia State University.
- **Marketing and Communications.** Expand the tax base by promoting the county as a premier business location.
- Work with regional marketing partners to market the county locally, nationally and internationally.
  - Market the county's key economic assets including the airport, road system, utilities and river access, as well as the specific operating advantages of the county's location in the region.
  - Promote awareness of the assets and diversity of the county's individual communities to attract highly skilled residents and support efforts to maintain the appeal of the county's communities.
- **Infrastructure.** Connect economic development opportunity sites and areas to countywide and regional transportation systems, including major thoroughfares, seaports, airports and railways.
- Coordinate the provision of transportation and utility infrastructure in key economic development sites and revitalization areas.
  - Encourage industrial and commercial development in areas where utility capacity is available or underutilized.
  - Encourage a range of multimodal transportation options that link businesses to their labor force, customers and adjacent communities.
  - Promote key interchanges such as those on Interstates 95 and 295, and Route 288 for mixed use, office, industrial and commercial development.
  - Promote the economic development advantages of conventional and high-speed rail through the county and develop specific strategies to take advantage of rail services for economic development promotion.
  - Encourage appropriate development within the Airport Industrial Park and surrounding areas that protects and promotes the use of the Chesterfield County Airport.

- Encourage redevelopment of Ettrick Station.
  - Encourage expansion of broadband services throughout the county.
  - Support a county park system that provides high quality recreation opportunities and enhances quality of life and attractiveness to businesses.
- **Tourism.** Promote the county's unique recreational, natural, cultural and historical resources as tourism assets.
- Promote the development of tourism support services such as restaurants and hotels in Regional Mixed Use and Community Mixed Use areas of the Land Use Plan Map.
  - Encourage hospitality services in close proximity to major recreation areas such as River City Sportsplex and SwimRVA
  - Support tourism development and promotion, including the potential for agri-tourism such as wineries and farmers' markets in the county's rural areas and eco-tourism utilizing the county's park system and the Appomattox and James Rivers.
  - Utilize the county's unique historic, recreational, natural and cultural resources to promote tourism through events and programs that attract visitors from the region, state and beyond.
  - Support sports tourism through the development and enhancement of public and private recreation-related facilities that attract outside visitors, serve citizens and support local businesses.
- **Collaboration.** Foster collaboration among federal, state, regional and local agencies and entities to promote mutually beneficial economic development opportunities.
- Foster a cooperative relationship between the county government and the business community.
  - Promote organizational and regulatory changes to streamline the development review process and provide flexibility in development standards while continuing to ensure high-quality development.
  - Partner with neighboring localities and regional organizations to promote tourism and economic development in the region.
  - Pursue cooperative relationships with community-based, faith-based and non-profit organizations to enhance economic development in the county.
  - Collaborate closely with the region's academic institutions such as Virginia State University and John Tyler Community College as partners to leverage assets, provide research opportunities and to develop a workforce aligned with business needs.
  - Establish a close partnership with the Economic Development Authority to market to and attract high-end and high-tech industries.
  - Pursue partnerships with Chesterfield County Public Schools to promote the development of workforce skills that respond and adapt to the changing needs of the county's current and desired future businesses.

- Strengthen relationships with elected officials at the local, state and federal levels to promote economic development opportunities.
- Collaborate with other county departments such as Libraries and Parks & Recreation to develop programs that support business development.
- Pursue partnerships between food manufacturers and area farmers to encourage use of locally grown products in food production.
- Work closely with Virginia State University and their research activities to support and promote agricultural research, tourism and businesses in the county.



# CHAPTER 6: NEIGHBORHOODS & HOUSING

## Overview

Chesterfield County's housing stock includes a variety of homes in suburban, rural and urban settings providing choices for the county's diverse population. This chapter includes general information regarding the existing housing stock, market trends, design considerations, affordability, special housing needs and existing programs and offers guidance for future neighborhood and housing decisions. For more detailed or updated information, please click the following to visit [Chesterfield County's Community Information webpage](#).

**MEDIAN VALUE** – The median of respondents' estimates of how much the property (house and lot, mobile home and lot, or condominium unit) would sell for if it were for sale.

**MONTHLY RENT** – The median amount of contract rent plus the estimated average monthly cost of utilities and fuels.

**COST-BURDENED** – Households spending more than 30 percent of household income on housing costs including utilities.

Source: U.S. Census Bureau.

## DESIRED OUTCOMES OF THIS CHAPTER:

- **Promote Affordable Homeownership Opportunities**
- **Support a Range of Housing Options in Both Neighborhoods & Mixed-Use Centers**
- **Connect Housing to Services, Jobs and Recreation**
- **Support High Quality & Innovative Community Designs**
- **Encourage Housing Maintenance, Rehabilitation and Affordability Programs**
- **Support Special Needs Housing for Elderly and Disabled Persons**
- **Foster Partnerships with Housing Agencies, Nonprofits and the Private Sector to Address Housing Concerns**

## Housing Stock & Market Trends

Based on county data, there were more than 134,000 housing units as of 2017. The vast majority of units are single-family homes and the remainder is a mix of townhomes, apartments, condominiums and manufactured housing units.

As of 2017, about three-quarters of households were occupied by owners while the rest are renter-occupied. Since 2000, the percentage of renter households has grown. When adjusting for inflation, the median value of owner-occupied units increased 28 percent while the median monthly cost for renters increased by 11 percent. While the cost of housing has been increasing, the county's median household income declined 13 percent when adjusting for inflation contributing to increases in the number of cost-burdened households since 2000. In 2017, 28 percent of all county households experienced housing cost burden.

Housing Characteristics	Owner Households		Renter Households	
	2000	2016	2000	2017
Percent of Total Households	81%	76%	19%	24%
Median Value/ Monthly Rent	\$171,432	\$218,700	\$1,020	\$1,137
Cost-burdened	17%	25%	32%	49%

Source: 2015 American Community Survey 5 year estimates, U.S. Census Bureau.

### **SINGLE-FAMILY**

Most single-family units are in subdivisions throughout the county while large individual lots can be found in more rural areas.

#### **2017 Quick Facts:**

- **Number of Units:** 105,421
  - 79 percent of stock
- **Average size:** 2,142 square feet
- **Average assessed value:** \$257,353
- **New Construction:**
  - Average size: 2,912 square feet
  - Average assessed value: \$380,375
- Nearly two-thirds of all single-family housing is 25 years or older.



Older housing stock could potentially qualify for the county's rehabilitation tax exemption program. Additional details of this program can be found in the Existing Programs section of this chapter and are accessible [here](#).

### **TOWNHOMES**

Most townhouse development is along major corridors, particularly Hull Street Road.

#### **2017 Quick Facts:**

- **Number of Units:** 4,456
  - 3 percent of stock
- **Average size:** 1,510 square feet
- **Average assessed value:** \$170,430
- **New Construction:**
  - Average size: 1,746 square feet
  - Average assessed value: \$229,782
- Nearly half of all townhomes are 25 years or older.



Townhomes offer both ownership and rental options in an attached setting, which can help facilitate a more walkable neighborhood when designed with on-street parking and alleyways with rear garages. Townhomes along with other higher density residential developments should be connected to employment centers, services and other amenities to improve community integration.

### **APARTMENTS**

The vast majority of apartments are located along major corridors such as Chippenham Parkway, Iron Bridge Road, Hull Street Road and Midlothian Turnpike.

#### **2017 Quick Facts:**

- **Number of Units:** 18,561
  - 16 percent of stock
- **Median Rent:** \$1,137
- **Half of all multifamily units are 25 years or older.**

Apartments should be integrated in mixed use developments or commercial areas to provide improved access to employment and services.



### **CONDOMINIUMS**

Most condominium developments are in the northwestern parts of the county.

#### **2017 Quick Facts:**

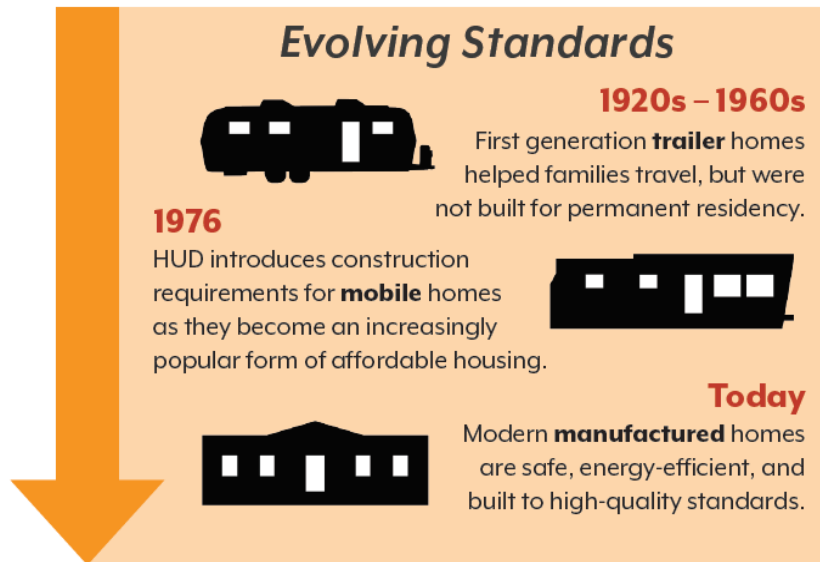
- **Number of Units:** 2,483
  - 2 percent of stock
- **Average size:** 1,413. square feet
- **Average assessed value:** \$183,889
- **New Construction:**
  - Average size: 1,795 square feet
  - Average assessed value: \$226,384
- **About 38 percent of condominium units are 25 years or older.**



This housing type makes up a large supply of age-targeted communities and offers living opportunities with little to no exterior maintenance required, which may appeal to individuals who want to age in their community. These units can mimic single family residential units or apartment buildings. New condominium developments should be located similar to apartments, and integrated with surrounding development.

### **MANUFACTURED HOMES**

The term manufactured homes is used to collectively describe trailers and mobile homes. The graphic highlights the evolution of this housing type as new standards have been established. Most of these homes are in parks along the Jefferson Davis Corridor where residents lease the land and either rent or own the unit. National and regional experts have recognized that manufactured homes are an important part of the housing spectrum and have been noted as the largest source of unsubsidized affordable housing across the nation



Source: HDAdvisors.

#### **2017 Quick Facts:**

- **Number of Units:** 1,864 (1 percent of stock)
- Decrease of 10 percent in number of units since 2001
  - Only housing type to shrink due to closure or redevelopment of parks

Most communities lack information on the size, value and age of units due to manufactured homes being titled as chattel, or personal property, and not real estate. The homeowner must also own the land under the unit to convert the title to real estate. Most manufactured home residents lease their lots and face limited financing options due to the chattel title including higher interest loans and fewer protections than a traditional mortgage.

A regional assessment of mobile home parks conducted in 2016 found that most parks were categorized as “obsolete” due to:

- Lack of infrastructure and amenities
- Absent or uninvolved park management
- Substandard housing conditions
- Lack of access to employment and services by various modes of transportation

Conversely, the assessment found that the region’s top performing parks had the following:

- Active on-site management
- Attention to aesthetics and amenities
- Property investment from management and the residents
- Closely resembled master-planned communities with connectivity and quality design

Manufactured homes can serve as viable, affordable homeownership opportunities when the neighborhood incorporates these community and design features. As communities are rehabilitated, efforts should be made to increase the quality of life for residents by incorporating these features.



### OTHER HOUSING TYPES

While there is some variety in the county's housing stock, there is a lack of "missing middle" housing. Some of these types, such as townhouses and duplexes, exist in the county today, but lack walkability and connections to the surrounding community. Missing middle housing should be:

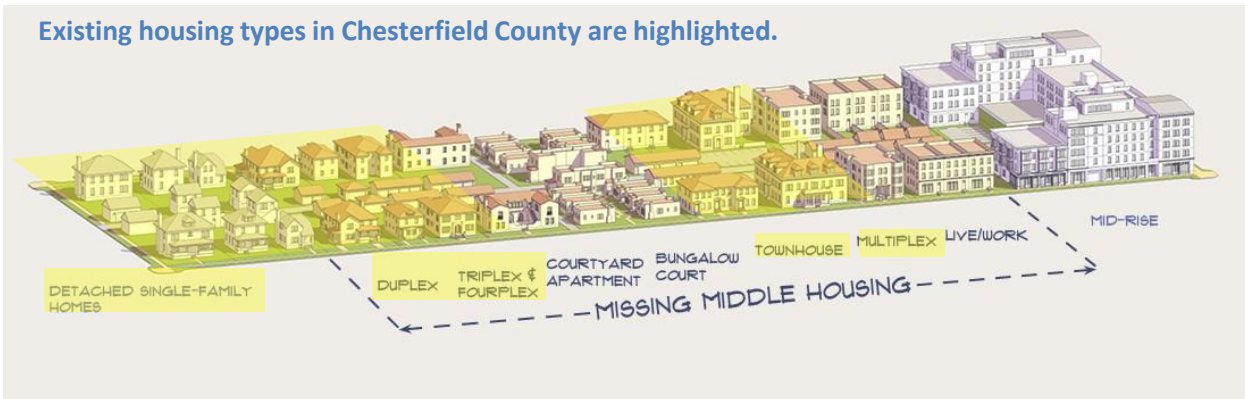
- Designed with smaller lot sizes and in a walkable context.
- Located close to employment centers, services and amenities.
- Offering a wide range of choices that appeal to various household and family types.
- Integrated into existing communities or new developments.
- Providing appropriate transitions from single-family to higher density housing or commercial corridors.

**MISSING MIDDLE** – A range of multi-unit or clustered lots that are compatible in scale with single-family neighborhoods and promote walkable communities.

**COHOUSING** – Clustered homes with shared community spaces.

**HOUSING WITH SUPPORTIVE SERVICES** – Housing options that incorporate supportive services that accommodate the aging population or individuals with disabilities. These types may include independent and assisted living facilities, skilled nursing and memory care, or group homes.

Existing housing types in Chesterfield County are highlighted.



Source: Opticos Design.

Boomer and millennial preferences along with the increase in multigenerational households are driving new, unique housing types. Accessory dwelling units could be a viable option to many households in addressing the needs of these generations by providing separation and privacy while remaining close to family. Another unique type is cohousing, which can be an attractive option across generations as it allows for more community activities and events with flexibility to the needs and values of its residents. Cohousing allows residents to age in place and creates multigenerational living options in an active and engaged community by sharing common areas such as dining areas or recreational space.

In addition to housing variety, there are some options that incorporate supportive services that accommodate the aging population or individuals with disabilities. These types of facilities provide housing and services for a variety of individuals but are often not incorporated into residential communities. Where appropriate, housing with supportive services should be:

- Located in mixed use developments.
- Connected to employment centers, services, amenities and other neighborhoods.
- Provide the same quality of life as other housing types.



### **MARKET TRENDS**

Chesterfield County has a strong housing market and continues to lead the Richmond region in sales growth and new home construction. The Richmond Association of Realtors reported that the region's housing market has also continued to strengthen. The number of total home sales increased, most of which were single-family home resales. Foreclosures have continued to decline since the recession but remain a challenge as they may lead to code violation and property maintenance issues associated with vacant homes that impact adjacent properties.

In 2017, the Home Building Association of Richmond reported that Chesterfield County had the largest share of new home sales in the region, accounting for 37 percent of the regional market. Between 2016 and 2017, the number of new home sales and the average new sale price increased. Overall, homes are currently selling faster and the inventory of active listings continues to fall to historically low levels. These trends indicate a robust market with high demand and tight supply, but they also contribute to challenges for many individuals seeking affordable homeownership opportunities.

Housing Market	2016	2017	Change
<b>All Home Sales</b>	<b>5,583</b>	<b>6,242</b>	<b>+11.8%</b>
Median Sales Price	\$245,000	\$255,000	+4.1%
Average Sales Price	\$283,495	\$291,484	+2.8%
<b>New Home Sales</b>	<b>970</b>	<b>1,131</b>	<b>+16.6%</b>
Average Sales Price	\$399,865	\$414,599	+3.7%

Source: Development Potential Database.

Generational trends have a significant influence on the housing market, particularly with baby boomers and millennials as they have similar desires for integrated, connected communities with amenities. Millennials will remain the driving force in the housing market as they continue to form new households. Millennials are helping the City of Richmond to experience a rebirth of many neighborhoods that are walkable and in proximity to a variety of retail, restaurants, entertainment and community activity areas. Chesterfield County has opportunities to create these types of neighborhoods, but many existing neighborhoods are not integrated and connected with a mixture of uses. In order to attract and retain this population, the county should remain competitive by offering a variety of neighborhood and housing choices. Attracting this population will also help support a diverse and skilled workforce for the county.

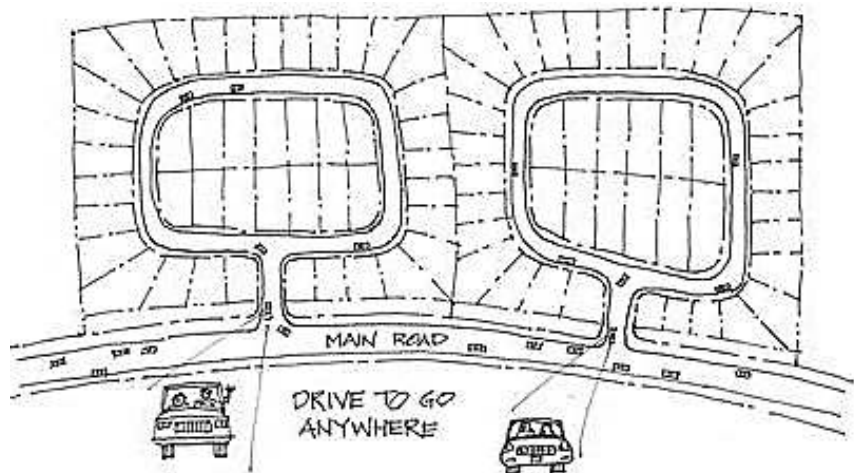


## Neighborhood Types

Along with different housing types, Chesterfield County has a variety of neighborhoods that appeal to a variety of individual preferences. These neighborhoods have been categorized into the following general types based on level of connectivity.

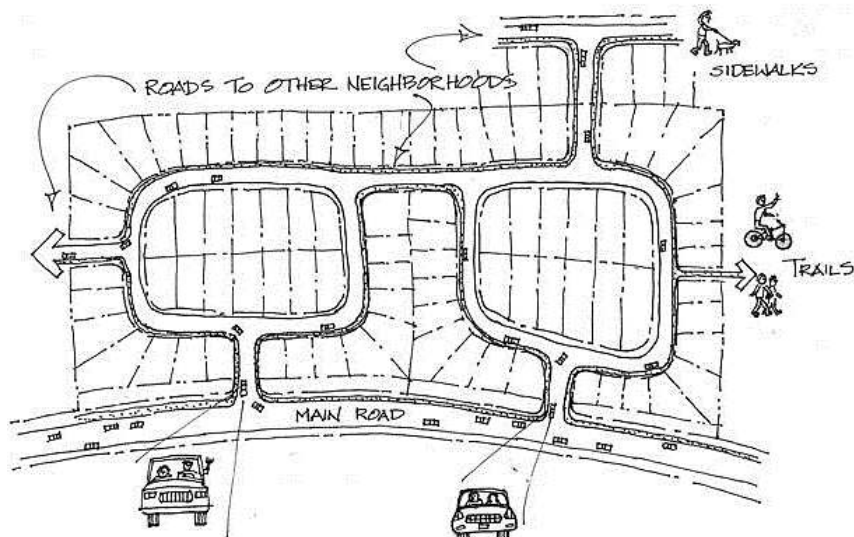
### SEPARATE AND INTERNAL

This type includes neighborhoods that may have internal walkways and circulation. These neighborhoods may provide private amenities for residents within the development and may have other quality design features, but generally lack connections to the surrounding community. Land use and redevelopment decisions around these separate and internal neighborhoods should consider establishing pedestrian and biking connections.



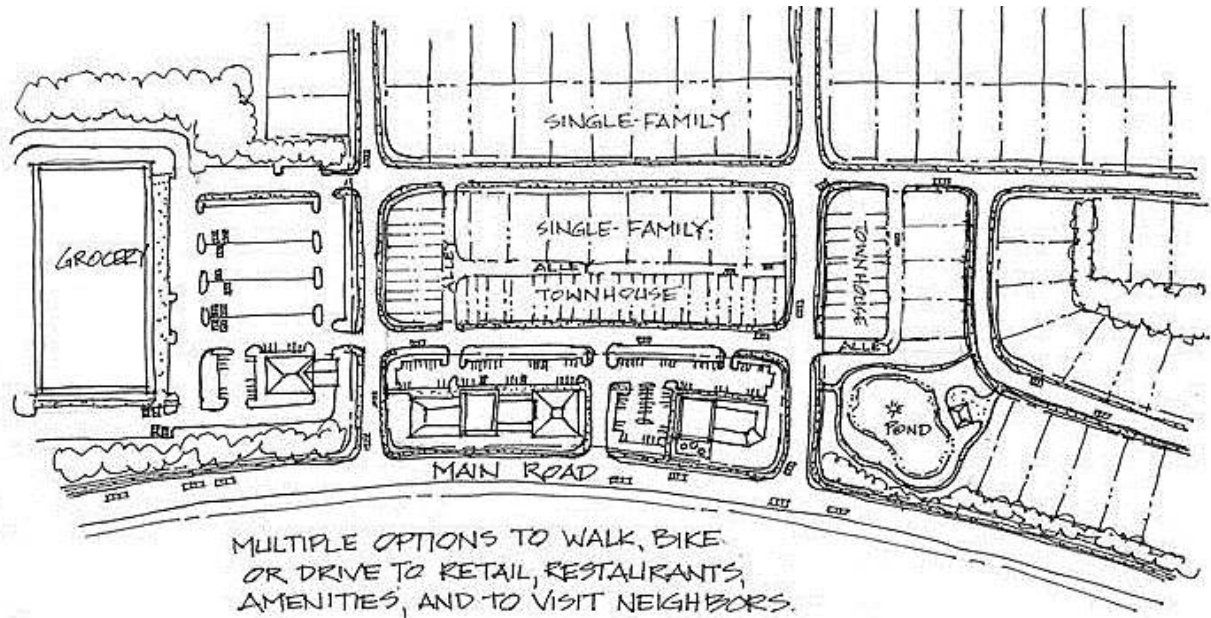
### SEPARATE AND CONNECTED

This type of neighborhood type is designed as a separate development such as a subdivision or apartment complex, but differs in that it provides connections to the surrounding community by way of short drives, biking or walking. These neighborhoods have the potential to become a part of an identifiable community area with appropriate planning.



### **INTEGRATED AND CONNECTED**

This type includes neighborhoods that are designed as mixed use developments or are integrated with surrounding employment centers, services, amenities or other neighborhoods. This neighborhood type can accommodate individuals of all ages and abilities and provides a variety of housing types for a mix of incomes. This type also provides more choices for multigenerational living as it appeals to families with children and individuals wanting to age within their community.



### Design Considerations

These considerations are intended to support and enhance quality of life for current and future county residents. Quality of life describes the health, safety and general well-being of communities. These are desirable components for all neighborhoods regardless of housing type, cost or location. This section serves as a general guide to encourage the use of these design considerations but allows flexibility in how the concepts are implemented with individual developments.

#### **ACCESSIBILITY**

Neighborhoods and individual housing units should incorporate design that accommodates individuals of all ages and abilities. Improved accessibility would allow individuals to age within their community while also providing options for individuals with disabilities. Features could include sidewalks, zero-threshold doorways and showers, low maintenance building materials, first floor master bedrooms, elevators in apartments, and proximity to retail and services or located in mixed use developments.



#### **COMMUNITY IDENTITY**

Designs should provide options to recognize and support neighborhood and community identity that promotes a sense of place and encourages residents and businesses to care for, belong to and promote their community. Features that support unique and diverse identities of areas could include art, signage, community space and streetscaping. Key areas should be identified to promote community identity such as areas that join together neighborhoods, businesses and public facilities. Public facilities such as parks, libraries and fire stations should also be branded to the community identity of the area.

#### **CONNECTIVITY**

Neighborhoods should incorporate safe and convenient connections by various modes of transportation, including pedestrian and bicycle facilities, to promote active living and integration with surrounding neighborhoods, employment centers, commercial areas, public facilities and other services as desired by residents.



#### **QUALITY**

Quality can be achieved by encouraging development that meets and exceeds minimum standards and requirements. Architecture should be varied with identifiable styles that contribute to a sense of place and enhance community identity. Building materials should be attractive, durable and sustainable to support the long-term quality of neighborhoods. Neighborhoods should incorporate focal points and vistas, street lighting, landscaping, visual and functional open space, amenities and other features that facilitate community interaction and promote a quality neighborhood development.



## Affordability

Another important factor contributing to quality of life is housing affordability. The increasing gap between housing costs and household income has created barriers to affordable housing opportunities across the nation and is being seen in the Richmond region and Chesterfield County. Since 2000, the number of cost-burdened households has nearly doubled, impacting owners and renters across all income levels.

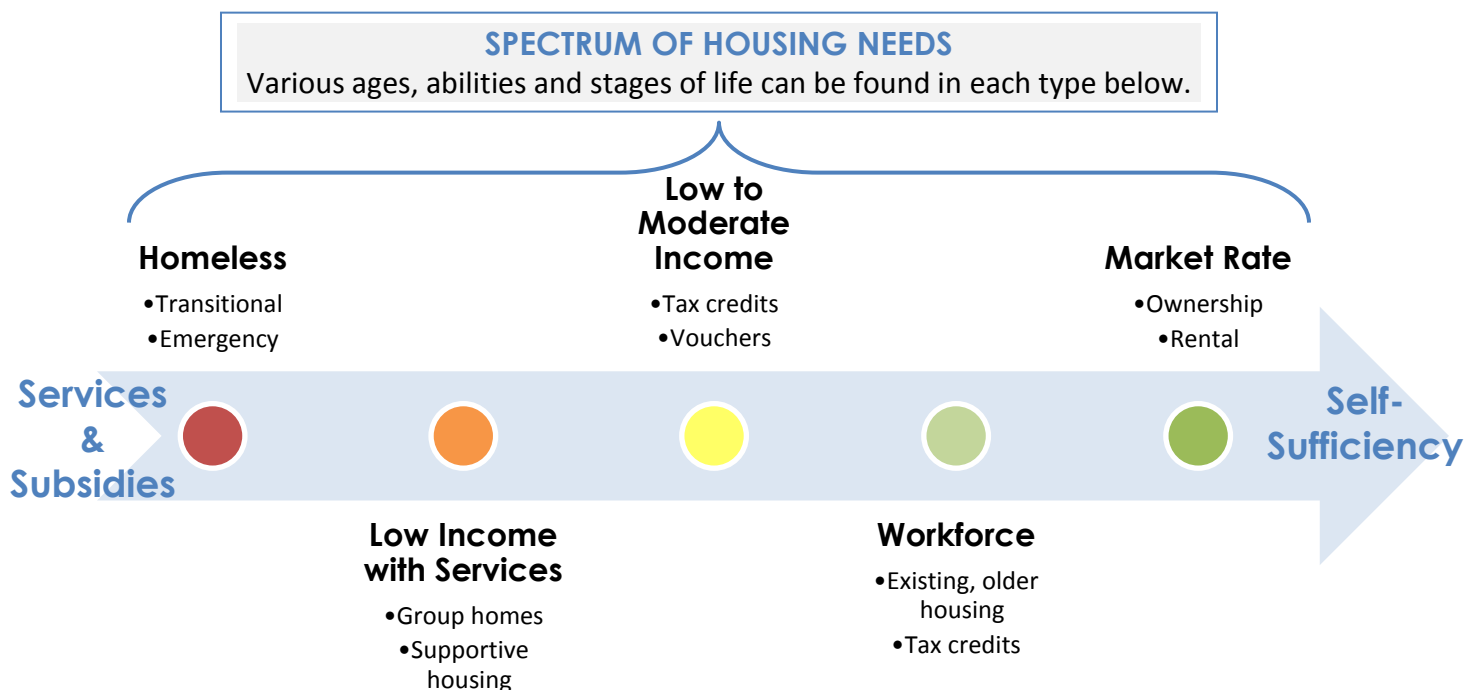
The need for affordable housing impacts a variety of individuals based on household income, regardless of other demographic characteristics. The spectrum graphic below provides a broad overview of the wide range of housing needs from individuals who are homeless and need greater supportive services and housing subsidies to self-sufficient individuals in market rate housing.

Affordable housing options should be encouraged throughout the county to promote integrated communities.

**AFFORDABLE HOUSING** – Housing that is affordable to households with incomes at or below the area median income (AMI), provided that the occupant pays no more than 30% of his gross income for gross housing costs, including utilities.

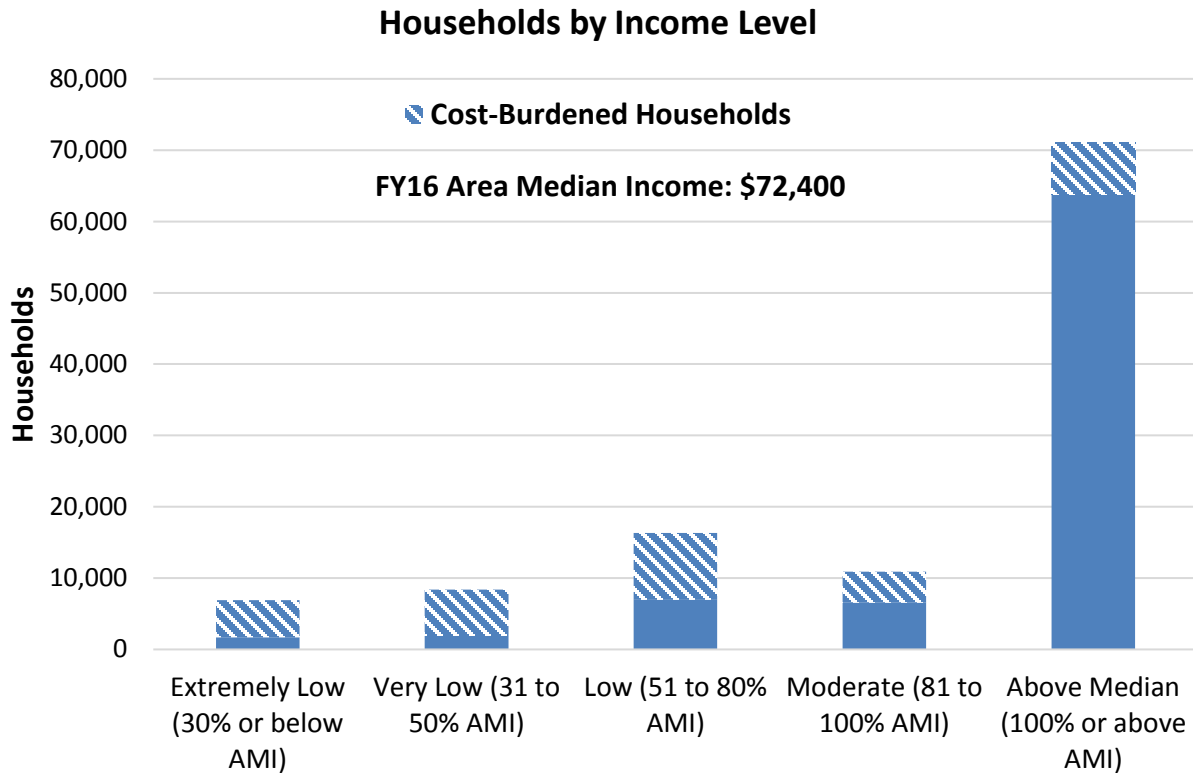
**AREA MEDIAN INCOME (AMI)** – The median income for a family of four in the Richmond metropolitan statistical area, which applies to Chesterfield County, as defined by HUD to determine eligibility for housing programs for each federal fiscal year.

Source: Code of Virginia 15.2-2201, The Department of Housing and Urban Development.





The graph below provides a breakdown of households at various income levels to display the range of affordability needs. This information is provided by the Department of Housing and Urban Development (HUD). Many county households have incomes above the area median income, but for those below the median there are much higher rates of cost burden indicating a lack of affordable housing for lower income households.



Source: Comprehensive Housing Affordability Strategy data released July 2016, U.S. Department of Housing and Urban Development.

The following table compares the number of households to the number of single-family units within an estimated affordable price range. This provides one example of affordability under certain conditions, but many factors can play a role such as income, credit score, down payment ability and other debt or expenses.

- As of 2017, there is a gap of over 20,000 affordable single-family units for households with an income of \$35,000 or less.
- For these households, homeownership is a challenge and rental options may be more attainable.
- 2016 median rent is \$1,137 – requires an annual income of \$45,480.

This indicates that many rental options remain out of reach for households who face challenges to affordable homeownership. While the monthly rent may be similar to the cost of a monthly mortgage payment, there are financial barriers such as having a down payment and good credit score in order to obtain a mortgage.

Household Income & Single-Family Home Affordability			
Household Income*	Estimated Affordable Price Range**	Number of Households*	Number of Single-Family Homes***
Less than \$25,000	Less than \$65,000	13,300	288
\$25,000 - \$35,000	\$65,000 - \$104,000	9,117	1,429
\$35,000 - \$50,000	\$104,000 - \$154,000	15,144	15,303
\$50,000 - \$75,000	\$154,000 - \$232,000	22,985	39,036
\$75,000 - \$100,000	\$232,000 - \$310,000	18,864	23,905
\$100,000 - \$150,000	\$310,000 - \$465,000	22,215	18,650
Greater than \$150,000	Greater than \$465,000	17,283	6,810

\*Source: 2016 American Community Survey 5-year estimates, U.S. Census Bureau.

\*\*Based on assessed values as of December 31, 2017.

\*\*\*Affordable price range was estimated using Zillow's Affordability Calculator.

## WORKFORCE HOUSING

For the purposes of this chapter, workforce housing focuses on moderate-income households, which would include an individual with an annual income of \$40,550. These households do not require low-income housing, but still need affordable homeownership and rental opportunities. Individuals who fall within this income threshold are nurses, police officers, firefighters, teachers and several other essential workers that contribute to a higher quality of life in the county. Workforce housing is an important part of the affordable housing spectrum and should be located near employment centers to provide easier access to jobs and potentially reduce the need for commuting. Additionally, workforce housing should be integrated within existing communities or mixed-use developments to allow for connectivity to commercial areas, public facilities and other amenities. Most of the county's existing workforce housing is in older single-family neighborhoods. These older neighborhoods may lack the amenities and connections that are typically required with new development.



### Special Housing Needs

Along with the need for affordable options, there are a range of housing needs for people of all ages, abilities or those who may require supportive services such as individuals with disabilities or individuals at-risk or experiencing homelessness.

#### AGING IN COMMUNITY

As of 2016, there are over 42,000 individuals age 65 and older in the county. This age group has been experiencing the highest growth, and will continue to grow, over the next several decades. Nearly a quarter of senior owner households are cost-burdened. Senior renter households experience housing cost burden at higher rates than any other age group with 64 percent of households lacking affordable housing. This population may have a range of housing preferences and needs as they retire and grow older, which may include:

- Home modifications such as adding a first-floor master bedroom or other design features that improve accessibility to remain in current home.
- In-home care or supportive services.
  - May result in multigenerational homes as adults take in older parents, often in an attached unit design that offers separation and privacy as needed.
- Downsizing to a smaller home with lower housing costs and less home maintenance.



Individuals may be on a fixed income after retirement meaning that affordable housing is often a desire or a necessity. Affordable, accessible housing that is connected to a range of services, particularly healthcare and other supportive services, and amenities in a walkable setting should be provided to allow individuals the opportunity for active living options within their community.

As of 2017, there were 3,200 age-restricted or age-targeted housing units in the county. These units range from condominiums and apartments to assisted living and nursing/memory care facilities. Providing more housing options for older citizens could also free up traditional affordable homes for other families.

#### INDIVIDUALS WITH DISABILITIES

As of 2016, there were nearly 33,000 individuals with disabilities in the county. Disabilities can take many forms and have numerous implications for housing needs. In 2015, Chesterfield County published the Analysis of Impediments to Fair Housing Choice, a report required by HUD, which found that the demand for units that are both accessible and affordable is outweighing the supply. Many individuals with disabilities, particularly those with serious mental illness and intellectual disabilities, face affordability challenges due to being underemployed or unemployed and living below poverty with incomes solely from social security or a part-time, minimum-wage job.

- \$221 is an affordable monthly rent for an individual receiving only social security income.
- \$377 is an affordable monthly rent for a full-time worker earning minimum wage.
- Housing choice vouchers can help alleviate housing cost burden.



Despite their disabilities, individuals can live successfully and become fully participating members of the community when living in stable, affordable housing with supportive services that is integrated into the community.

### **INDIVIDUALS AT-RISK OR EXPERIENCING HOMELESSNESS**

Homeward is focusing on expanding the HUD definition of homelessness to incorporate at-risk individuals who are living with others in unsafe places, youth aging out of foster care and those who lack stable housing. This new focus closely matches Federal guidelines (McKinney-Vento Homeless Education Assistance Act) for defining and tracking students who are homeless.

- As of 2016-17, 715 students, about 1 percent of all students, were identified as homeless.
- These counts increased sharply during the recession and still have not yet returned to levels seen in the early 2000's.
- About 76 percent of such students were found to be temporarily living "doubled-up" with family or friends while the second most common situation was students living in hotels or motels.

**HOMEWARD** – The planning and coordinating organization for homeless services in the Richmond region.

**HOMELESSNESS** – As defined under the McKinney-Vento Act includes children living in shelters, trailer parks and camp grounds, doubled-up due to loss of housing, runaways, school age unwed mothers in facilities, and sick or abandoned children in hospitals staying long-term due to lack of housing.

Individuals at-risk or experiencing homelessness face many barriers to housing opportunities that may include insufficient income, low credit scores and criminal or eviction history. Overall, there is a need for affordable permanent and transitional housing options with supportive services that allow individuals to transition from homelessness to a sustainable living situation.

### **Existing Programs**

The following programs and resources are offered and available to Chesterfield County and its residents. Most initiatives are at the federal, state and regional level with some county-specific programs. Federal funding is limited and has been decreasing, which may present the need to explore alternative funding sources to continue to provide services and programs as needed.

### **CODE COMPLIANCE**

The Chesterfield County Planning Department has a Code Compliance Office that strives to resolve zoning and code violations, thereby contributing to maintaining clean, attractive and safe neighborhoods. Code violations are primarily addressed on a complaint basis, but a proactive approach is used in specific areas in the county, such as the Jefferson Davis Corridor and Ettrick. These efforts promote the health, safety and general well-being of the community.



Before (left) and After (right) pictures of a code violation being resolved.

### **COMMUNITY SERVICES BOARD**

The Chesterfield Community Services Board (CSB) in partnership with Chesterfield Alternatives, Inc. (CAI) has developed housing opportunities for individuals with disabilities. CAI is a private, non-profit organization whose mission is to work in collaboration with the CSB to promote independent and supportive living for Chesterfield County citizens with mental and developmental impairments by purchasing homes, developing properties and managing facilities.



A group home owned by Chesterfield Alternatives, Inc.

- CAI owns 19 homes that provide housing for individuals with intellectual disabilities and serious mental illness.
- CAI and the CSB have a partnership with Chesterfield County Public Schools where students use technical skills to build a home. This collaboration helps students to gain experience while providing homes for individuals with disabilities.
- CSB provides funding for individuals who have a temporary need for housing support, which may be in the form of payment for rent, utilities, deposits or temporary housing expenditures.
- For individuals enrolled in clinical programs, limited funds are available for long and short-term financial assistance for housing within the community.

### **ENERGY ASSISTANCE**

The Chesterfield-Colonial Heights Department of Social Services administers an energy assistance program, which assists with heating and cooling costs for income-eligible households. In addition, Dominion Virginia Power's EnergyShare program provides energy assistance to low income residents, elderly, individuals with disabilities and military veterans.

### **FAIR HOUSING EDUCATION**

The Virginia Fair Housing Office offers training to help residents and owners understand their rights protected under national and state fair housing laws. Federal law protects against the discrimination based on race, color, national origin, religion, sex, family status or disability. Virginia's law includes the protection of elderliness, which includes anyone age 55 and older.





### **HOME MODERNIZATION GUIDE**

The Chesterfield County Revitalize Our Communities Committee has created a *Home Modernization Guide* to aid property owners in making strategic reinvestments into their home. This helpful document can be found on the county's [web site](#) for free.

### **HOMELESS SERVICES**

The Greater Richmond Continuum of Care coordinates shelter and services across the Richmond region, including Chesterfield County. Shelter beds are available to people regardless of where they lived prior to losing their housing.

### **HOUSING CHOICE VOUCHER**

This program requires households to pay 30 percent of their income towards housing including rent and utilities while the voucher covers the difference between the household's contribution and the actual rent.

- Administered by Virginia Housing Development Authority (VHDA) and contracted out to the Chesterfield-Colonial Heights Department of Social Services.
- Allows the county to make rental housing affordable to approximately 500-600 families.
- Allows for greater choice of where an individual or family can live within a community, which can help improve access to areas with services and amenities.
- Over half of the vouchers in the county are used in single-family homes.

### **LOW INCOME HOUSING TAX CREDIT (LIHTC)**

This program offers tax credits to developers that include some low-income units within residential developments. The amount of credits allocated is based directly on the number of qualified low-income units that meet federal rent and income targeting requirements.



A new quality LIHTC project that was built as a smaller development.

- Administered by VHDA.
- Most LIHTC units are in apartment complexes.
- Encourages smaller developments of about 60-80 units scattered throughout the county to provide affordable rental options in a variety of communities.
- Encourages the use of energy efficient principles, which typically involves quality building materials.
- Allows the locality to provide input on the architecture and location of the development.

LIHTC units should be of similar quality and design and should be integrated into the neighborhood.

### **PROGRAMS SUPPORTED BY CDBG/HOME FUNDING**

A variety of programs are supported using Community Development Block Grant (CDBG) and HOME Investment Partnerships (HOME) funding, which in fiscal year 2016 totaled approximately \$1.5 million. Both programs are administered by HUD and are targeted to residents earning no more than 80 percent of area median income.

With these grants, the county funds programs that provide the following services to low- and moderate-income residents:

- Down payment assistance, housing and/or credit counseling to help first-time homebuyers.
- Foreclosure prevention, intervention and mitigation services for at-risk homeowners.
- Several home rehabilitation programs for homeowners, including substantial home rehabilitation services, critical and emergency home repairs and exterior home repairs including accessibility improvement services.
- Additionally, the county provides funding to a community housing development organization to reduce the purchase price of housing units for first-time homebuyers. These funds are used to reduce the cost of new homes by assisting with closing costs, homeowner education, down payment and home inspection costs.



Before (left) and After (right) pictures of a home rehabilitation completed by Project:HOMES.

### **PROPERTY MAINTENANCE**

The Chesterfield County Department of Building Inspection has a Property Maintenance Division that promotes safe housing and supports quality of life through its Neighborhood Enhancement Program, which ensures residential properties meet the standards of building and zoning codes. This program focuses on selected neighborhoods based on a variety of factors including age and condition.

### **REHABILITATION OF RESIDENTIAL PROPERTIES**

Chesterfield County offers a partial property tax exemption for the rehabilitation, renovation or replacement of residential structures 25 years or older.

- Structures between 15 and 25 years of age may qualify if a structure reflects above normal depreciation.
- The overall program is available to such older structures where improvements increase the assessed value by 10 percent or more.
- Upon approval, the partial exemption will be in effect for 15 years and transfers with the real estate. The amount of the exemption is based solely on the increase in assessed value and does not change over the 15-year period.

### **SENIOR ADVOCATE**

Chesterfield County's Office of the Senior Advocate is the county's leading resource for older adults and individuals with physical and sensory disabilities. The office serves residents of ages 60 and older along with their family members and caregivers. This office helps to connect individuals with housing options, services that assist with home modifications, and supportive services that allow individuals to age in place.



### **TAX RELIEF FOR THE ELDERLY OR DISABLED**

The Commissioner of the Revenue's Office administers a tax relief program on real estate property and mobile homes for individuals over the age of 65 or individuals who are permanently and totally disabled. The tax relief amount is based on the gross combined income of all individuals living in the home. For example, if the household income is \$27,200 or below, then the applicant is eligible for 100 percent tax relief. The amount of tax relief reduces for incomes about this threshold.

### General Neighborhood and Housing Guidelines

The General Neighborhood and Housing Guidelines provide direction for neighborhood and housing related decisions that contribute to a higher quality of life. The Land Use Plan chapter provides a guide for the location of new neighborhoods and recommends a variety of housing choices.

Major considerations used in the development of these guidelines include:

- ❖ Collaboration to maximize impact of neighborhood and housing efforts.
- ❖ Connectivity to employment centers, services, amenities and other neighborhoods.
- ❖ Encouraging use of quality design principles for new residential development.
- ❖ Preserving and revitalizing existing neighborhoods and housing.
- ❖ Promoting a variety of housing choices for a range of incomes, ages and abilities.

The following General Neighborhood and Housing Guidelines should be used when addressing specific residential development and land use issues:

- **Accessibility.** Promote modifications of existing homes and design features in new construction to accommodate individuals of all ages and abilities.
- **Affordable/Workforce Housing.** Support the creation, preservation and rehabilitation of affordable and workforce housing opportunities and choices. The following could be considered:
  - Integration of affordable/workforce housing in market rate developments. Market rate is defined as the price charged in the free market.
  - Architectural compatibility with market rate units.
  - Integration with employment centers, services, amenities and other neighborhoods.
- **Collaboration.** Foster collaboration among governmental agencies, private and nonprofit organizations, and the community to identify funding sources and tools that promote mutually beneficial programs and policies.
- **Community Identity.** Encourage design that provides options to recognize and support neighborhood and community identity.
- **Connectivity.** Encourage safe and convenient connections between neighborhoods to commercial areas and public spaces for drivers, cyclists or pedestrians.
- **Education and Outreach.** Educate the community on existing neighborhood and housing programs and funding opportunities.
- **Integrated, Supportive Housing.** Promote affordable permanent and transitional housing options for individuals with disabilities and individuals experiencing homelessness or housing instability that also accommodates access to supportive programs and services.

- **High Density, Mixed Use Developments.** In accordance with the recommendations of The Land Use Plan chapter, promote high density, mixed-use developments that incorporate a variety of housing options and prices in a pedestrian-oriented design.
- **Housing Preservation, Rehabilitation and Redevelopment.** Support and provide incentives for preserving, improving or rebuilding existing development. Such efforts should enhance existing neighborhoods and be developed in accordance with the recommendations in The Land Use Plan and Revitalization chapters.
- **Housing Variety.** Support a mix and variety of housing choices such as type, size, price and style to attract and retain current and future residents.
- **Neighborhood and Home Maintenance.** Support code compliance, property maintenance and neighborhood enhancement efforts that work with owners to resolve zoning and building code violations to improve the health, safety and well-being of the community. Coordinate and encourage programs to assist homeowners in improving properties.
- **Quality.** Encourage new housing developments to incorporate quality standards for architecture, landscaping and other design features that create unique, attractive places that enhance the community and contribute to a higher quality of life.



# CHAPTER 7: REVITALIZATION

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## Overview

This chapter is the countywide revitalization plan for Chesterfield County. It provides ideas and identifies opportunities to:

- 1) Preserve and improve existing communities
- 2) Protect private investment and property values
- 3) Maintain and enhance a high quality of life

### REVITALIZATION–

The ongoing and long-term process of bringing new life to older neighborhoods and communities, through preservation, rehabilitation, and redevelopment.

Many parts of the county are doing well and have minimal need for revitalization.

Other parts of the county have greater revitalization needs. This chapter provides a shared understanding of countywide revitalization issues, identifying desired outcomes and goals for revitalization, best practices for suburban revitalization and how to focus revitalization efforts. The chapter offers guidance to direct revitalization efforts – providing the bridge between long-term goals and short-term actions.

This chapter emphasizes near-term and practical solutions for revitalization needs. It offers a comprehensive toolkit of revitalization initiatives and guidance for effective implementation.

The Comprehensive Plan is not a plan for funding, staffing or organizational structure. Such matters are handled through the annual budget process and administrative procedures. However, this plan can help to inform and prioritize those decisions.

### **DESIRED OUTCOMES OF THIS CHAPTER:**

- **Prevent and Address Community Decline & and Blight**
- **Leverage Public Infrastructure Investment as a Catalyst for Private Investment**
- **Support Appropriate Public and Private Reinvestment in Established Communities**
- **Partner with the Community, Nonprofits and the Private Sector to Address Revitalization Concerns**
- **Create Tools, Incentives and Programs to Encourage Revitalization Efforts**
- **Support Enhancements to Communities Identified by Residents & and Businesses**
- **Encourage Community Events, Celebrations & and Other Social Pride-Instilling Efforts**

Revitalization efforts should promote communities that are:

- **Clean**: Debris and trash free, with well-maintained homes, businesses, and public spaces (including roads and roadway medians)
- **Connected**: Enjoying healthy community and social connections for people of all ages and abilities
- **Convenient**: Housing, goods, services, jobs, and recreation choices that are available and accessible
- **Resilient**: Capable of thriving in future change
- **Safe**: Enjoying an environment where life, health, and property are protected and well-lighted
- **Stable**: Maintaining an environment with minimal adverse change, long-term desirability
- **Thriving**: Enjoying growth, economic opportunity, community pride and celebration
- **Well-Planned**: Providing sufficient and efficient development and infrastructure

### **GOALS**

In established, aging communities countywide, revitalization efforts seek to:

- Preserve and enhance the quality of life
- Prevent community decline and blight
- Provide equitable access to excellent public facilities, infrastructure and services
- Encourage equitable access to excellent jobs, housing, recreation and commercial opportunities
- Maintain and improve property values, providing countywide benefits
- Promote economic opportunity and private investment
- Empower citizens and community organizations to be effective revitalization partners

### **Background**

#### **KEY TERMS**

*Revitalization* is the ongoing and long-term process of bringing new life to older neighborhoods and communities, through preservation, rehabilitation and redevelopment. *Neighborhoods* are smaller residential areas of one or more subdivisions with shared access and amenities. *Communities* are larger residential and commercial areas with shared access and amenities.

**PRESERVATION** – Maintaining existing development.

**REHABILITATION** – Improving existing development.

**REDEVELOPMENT** – Rebuilding existing development.

#### **WHY REVITALIZATION IS NEEDED**

Revitalization is needed to prevent and address decline in aging neighborhoods and communities. The average house in Chesterfield County is now over 30 years old. Older structures show normal effects of age. Building materials such as siding, roofing, windows and trim wear out. Building designs often do not meet modern needs and preferences. Older commercial development likewise may not meet modern needs and preferences. Infrastructure and public facilities serving these older areas also show the effects of age.

Without purposeful ongoing reinvestment in older neighborhoods and communities, the desirability of these areas is reduced, leading to private disinvestment. Over time, such disinvestment can lead to decline, deterioration and blight.

**BLIGHT** – A building or improvement that, by reason of dilapidation, obsolescence, overcrowding, faulty arrangement of design, lack of ventilation, light and sanitary facilities, excessive land coverage, deleterious land use or obsolete layout, or any combination of these or other factors, is detrimental to the safety, health, morals or welfare of the community.

[Chesterfield County Code of Ordinances § 5-7.3\(a\)](#)

Older neighborhoods typically lack functioning homeowner or neighborhood associations. They often lack the capacity and resources needed to self-govern issues such as property maintenance.

### **PAST REVITALIZATION EFFORTS**

Past county revitalization efforts have been mostly project-based, without an overall plan. These past efforts have been important to help build awareness of revitalization needs and to improve our understanding of tools that can be effective to address such needs.

- **1993:** The Jefferson Davis Corridor Plan served as the county's first revitalization plan for a small area. The Plan established priorities for Community Development Block Grant (CDBG) funding, encouraged neighborhood improvement, and identified the need for strong code enforcement. The Plan recommended business incentives that ultimately led to the creation of Enterprise Zones. Finally, the Plan recognized the importance of community organization, building the capacity of community partners, including formation of the Jefferson Davis Association.
- **1996:** The Enterprise Zone program was established for a larger area that included the Jefferson Davis Highway corridor. This zone provided state and local incentives for commercial and industrial development and has since been replaced by the Technology Zone program, which still exists and offers local incentives for commercial and industrial development.
- **1998:** Using CDBG funds, the county started a proactive code enforcement program focused on older neighborhoods in the Jefferson Davis corridor and Ettrick. This program currently funds code enforcement staff working proactively to resolve thousands of property maintenance violation cases in these older areas.
- **2006:** The county established its first Revitalization Office. This office worked for several years primarily on redevelopment and streetscape projects, including the redevelopment of Cloverleaf Mall. It was instrumental in the formation of the Sustain Our Communities Committee (now the Revitalize Our Communities Committee, or ROCC), a citizen committee focused on countywide preservation and revitalization issues. The office was incorporated into the Economic Development Department, and later disbanded due to staff changes and shifting priorities.
- **2009:** The county began a Neighborhood Enhancement program, a proactive property maintenance inspection effort for entire subdivisions in older communities. This program is still in effect.
- **2012:** The Comprehensive Plan revision included a chapter specifically focusing on revitalization issues. The Plan emphasized public facility and infrastructure investment in older communities, identified five focus areas for revitalization and recommended development of later strategies through Special Area Plans and/or revitalization plans. Thereafter, the county created a revitalization strategy team that brought together key staff from many county departments and agencies. This team worked from 2012 to 2014 to identify strategies and an organizational structure for revitalization efforts.

This chapter builds on the following important foundations of the 2012 Plan:

- The importance of policy guidance for revitalization
- Geographic focus to concentrate limited resources and maximize impact
- Public facility investment as a catalyst for private investment
- Community partnerships
- Property maintenance

- **2014:** The county adopted Blueprint Chesterfield, a countywide strategic plan, which encourages “a collaborative approach to community revitalization” to foster thriving communities.
- **2015:** The county established a new Revitalization Office in the Community Development Division. This office was responsible to coordinate county revitalization efforts, working with community partners and contributing to the planning and zoning process.
- **2017:** The county established the Department of Community Enhancement in the Community Development Division. This Department consolidated license inspection, property maintenance, CDBG and HOME grant programs, and revitalization programs into a unified operating group.
- **2018:** The county’s anti-litter program (renamed “Keep Chesterfield Beautiful”) was incorporated into the Department of Community Enhancement.

### **SUCCESS STORIES**

#### **Mid-Cities Association**

The Mid-Cities Civic Association serves the Bellwood community. In early 2018, the association approached Community Enhancement staff to help coordinate a community improvement campaign. Community Enhancement staff worked with association volunteers and Impact Virginia (a faith-based youth service group) to reach out to residents in six area neighborhoods for various improvement projects. Impact Virginia provided yard work and minor home repair. Soon afterwards, area residents, a non-profit contactor (Greater Richmond ARC), and county staff held a community clean-up day.



Mid-Cities Community Clean-up

#### **Mid-Cities Community Clean-Up Day Results**

Homes Served	238
Trash Removed	7 tons
Tires Removed	12
Vegetative Debris Removed	6 truck loads

Staff later conducted a sweep of these neighborhoods to address remaining property maintenance violations. Informal feedback from the area residents suggests that these efforts have helped foster greater sense of community and “ownership” of property maintenance. This project illustrates the value and impact of community partnerships to help restore hope in aging neighborhoods.

### Rayon Park Subdivision

Rayon Park is a 105-acre subdivision located north of the Defense Logistics Agency, west of Route 1. Even though Rayon Park was subdivided before World War II, the subdivision was never fully developed due to a lack of public wastewater infrastructure and the failure of original septic systems. The area experienced significant disinvestment, decline and blight. In 2006, Rayon Park had:

- 90 housing units
- Average assessed house value of \$112,108
- Average house size of 1,301 square feet

In 2006, the county leveraged CDBG funds coupled with a federal grant to finance the installation of a new public sewer line to serve Rayon Park. Since that time, there has been significant new single-family home construction in the subdivision. This new investment has been a significant improvement over existing conditions. New house construction through 2017 has included:

- 42 new housing units
- Average assessed house value of \$135,910
- Average house size of 1,458 square feet

In addition, an aging strip commercial center was demolished and new shops have been built on the Route 1 frontage of Rayon Park.



Underdeveloped Rayon Park Subdivision



New Construction in Rayon Park

### **LESSONS LEARNED AND BEST PRACTICES**

Suburban revitalization is at the leading edge of community development research and practice. Most established revitalization efforts nationwide have an urban, city, commercial corridor or downtown focus. Urban revitalization best practices (such as transit oriented development, Main Street programs and tax foreclosure programs) are not well-fitted to our suburban area. Other national best practices are more appropriate for Chesterfield County. At the highest level, these include:

- *Strategy:* Revitalization requires a plan of action with measurable outcomes.
- *Coordination:* Revitalization depends on the sustained efforts of citizens, businesses, community groups and county government. For differing interests to successfully work together to achieve long-term and difficult goals, a single point of coordination and communication is necessary.
- *Partnerships:* Revitalization is a shared enterprise, requiring the joint efforts and resources of citizens, businesses, community groups, county government and other government agencies.



- *Place-Based Revitalization:* Revitalization efforts focused in smaller geographic areas are “place-based.” They concentrate limited resources so that revitalization efforts are focused, resources are leveraged and impacts are maximized.
- *Toolkits:* Toolkits are collections of individual revitalization programs, initiatives and services. These tools may be applied to address challenges countywide.

### HOW THIS CHAPTER RELATES TO OTHER KEY COMPREHENSIVE PLAN CHAPTERS

- *Business Development:* This chapter supports and promotes economic opportunity in established communities, through incentives for new development, rehabilitation and redevelopment.
- *Neighborhoods & Housing:* This chapter affirms the need for a range of well-designed housing choices at convenient locations and prices.
- *The Land Use Plan:* This chapter encourages land use compatibility and high-quality, sustainable development.
- *The Public Facilities Plan:* This chapter recognizes the importance of adequate public facilities, and public facility parity / equity to protect investment and the quality of life in our older communities.
- *Environment:* This chapter recognizes the importance of natural resources and how they may be impacted by or incorporated with redevelopment.

**REVITALIZATION AREA** – Areas within, adjacent to, or surrounded by developed areas in significant need of revitalization as determined annually by quantified revitalization indicators.

## Revitalization Indicators

Revitalization best practice concentrates limited resources for maximum impact. For this reason, this plan recommends a place-based approach to focus revitalization efforts. Existing and potential areas of revitalization need may be identified by using revitalization indicators. The following example revitalization indicators are currently readily available, objective, measurable, and reliable. Additional indicators and analysis tools may also be identified. Taken together, they can help identify where revitalization efforts should be focused.

**Example Revitalization Indicators**

Indicator of Revitalization Need	Geographic Basis
Average Daily Attendance	Elementary School District
Building Age	Subdivisions*; Commercial Corridors
Crime Incidents	Subdivisions*; Commercial Corridors
Free and Reduced-Price Lunch Participation	Elementary School District
Housing Cost Burden (owner, rental, total)	Census Tract
Housing Vacancy	Census Tract
Owner Occupancy	Subdivisions*
Property Maintenance Violations	Subdivisions*; Commercial Corridors
Property Tax Assessment Trends	Subdivisions*; Commercial Corridors
Student Transiency	Elementary School District
Test Scores	Elementary School District

*\*May include non-subdivision “road-strip” lots*

Revitalization indicator data is updated and reviewed annually by Community Enhancement staff. Measures of revitalization progress, such as assessment and property maintenance trends, are best observed over time. Indicator and program effectiveness should be evaluated during the next Comprehensive Plan update, or as significant community changes occur.

### **RECOMMENDED APPROACH**

This plan provides a recommended revitalization approach based on:

1. *Countywide* efforts, generally emphasizing quality development and preservation.
2. *Revitalization area* efforts include countywide efforts, generally emphasizing public investment, property maintenance and community partnerships. These areas have an overall greater need for revitalization.
3. *Special Area Plan* efforts within revitalization areas include countywide and revitalization area efforts, generally emphasizing targeted development incentives and redevelopment. Special Area Plan geographies in older parts of the county often have concentrated revitalization needs.

### **Revitalization Themes**

Revitalization themes provide direction and focus, helping to accomplish revitalization goals and desired outcomes. They are the bridge between goals, desired outcomes and action. This chapter emphasizes:

- *Collaboration*: leveraging expertise, relationships and resources within the county organization
- *Community partnerships*: developing and leveraging community expertise, relationships and resources
- *Coordination*: providing a single point of contact and management of revitalization efforts
- *Geographic focus*: concentrating limited resources for maximum impact
- *Market-driven solutions*: understanding market trends and working with public and private-sector partners
- *Property maintenance*: preserving and protecting established communities
- *Public investment*: providing leadership and a catalyst for private investment
- *Quality development*: promoting private investment in and near established communities
- *Redevelopment*: promoting reinvestment in established communities

## Initiatives: The Revitalization Toolkit

Initiatives are actions to achieve revitalization goals and outcomes. The following list of existing and proposed initiatives includes descriptions of how each tool works and contributes to revitalization, and provides recommendations for action. These initiatives offer a practical toolkit of revitalization solutions.

### **COMMUNITY PARTNERSHIPS**

- **Community Organization Support.** The county currently provides limited assistance to help develop and build the capacity of community organizations and seeks to engage community partners such as the Chamber of Commerce. This includes support for the ROCC, asset-based community development (ABCD) initiatives and a community association database.

In the past, the Planning Department staffed a Community Enhancement program that offered close assistance to residents seeking to establish or strengthen neighborhood associations. These tools promote connected communities by empowering residents, as well as business and community organizations, to be effective partners in revitalization. This tool should be strengthened and expanded in revitalization areas.

- **Volunteer Coordination.** Revitalization work is most effective when it leverages the efforts and resources of community partners (e.g., citizens, associations, organizations, groups and businesses). Coordination of such work requires awareness of revitalization needs and the volunteer resources that may address such needs, and management of reliable means to effectively connect the two. Existing county volunteer coordination programs for revitalization should improve communication, forge better connections to address difficult situations and leverage resources of community partners. This tool would promote communities that are connected, by empowering citizens and community organizations to be effective revitalization partners. This tool should be strengthened and expanded for revitalization areas.

### **FUNDING**

- **Community Development Authorities (CDAs).** The Code of Virginia (§ 15.2-5152 et seq.) allows a locality to create a CDA upon petition by landowners in a proposed CDA area. The county currently has three CDAs, one of which serves the Stonebridge project. CDAs may provide public infrastructure supporting new development or redevelopment, and issue bonds to finance such improvements. Bond servicing may be funded through tax increment (i.e., increased real estate tax revenues resulting from property improvements) or special assessments. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities, infrastructure and services, as well as economic opportunity and private investment. This tool should be prioritized for major redevelopment projects in Special Area Plan geographies located within revitalization areas.
- **CDBG Funding.** CDBG is a federal grant program that is geographically restricted to benefit certain lower income areas. Funding availability is limited and subject to variable annual federal appropriation. The county administers this program, providing annual competitive grants to county and non-profit agencies. Funds may be used for public improvements, infrastructure, housing rehabilitation and public services. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities, infrastructure and services, as well as promoting economic opportunity and private investment. This tool should be prioritized for use in revitalization areas.

- **HOME Funding.** HOME is a federal grant program geographically restricted to benefit certain lower income areas. Funding availability is limited and subject to variable annual federal appropriation. The county administers this program, providing annual competitive grants to county and non-profit agencies. Funds may be used for programs promoting home ownership, rental assistance and housing rehabilitation. This tool promotes communities that are attractive and convenient, by preserving and protecting the quality of life and by encouraging equitable access to housing opportunities. This tool should be prioritized for use in revitalization areas.
- **Housing Rehabilitation Grants and Loans.** Through the CDBG and HOME programs, the county works with third party non-profit agencies to provide housing rehabilitation assistance in certain lower-income areas. This support has been limited, typically reaching only a few dozen properties each year. Lower income households often lack up-front capital or the ability to access credit necessary to finance significant rehabilitation work. Tools such as the rehabilitation tax exemption provide a “back end” incentive for such work, but do not address up-front capital needs. One possible solution to address this need would be to expand rehabilitation grant funding. Additionally, the county could seek to provide rehabilitation loans, such as a revolving loan program to be funded by the county and managed by a non-profit housing partner. ~~This~~ These options would require identifying additional funding sources. Rehabilitation grants and loans may help prevent blight and decline. This tool would promote communities that are attractive, resilient and stable, by maintaining and improving property values. The county should expand funding for rehabilitation grants and evaluate offering rehabilitation loans in Special Area Plan geographies located in revitalization areas.
- **Housing Trust Fund.** Housing trust funds are distinct funds established by city, county or state governments that receive ongoing dedicated sources of public funding to support the preservation and production of affordable housing and increase opportunities for families and individuals to access decent affordable homes. Housing trust funds systemically shift affordable housing funding from annual budget allocations to the commitment of dedicated public revenue. While housing trust funds can also be a repository for private donations, they are not public/private partnerships, nor are they endowed funds operating from interest and other earnings. Housing trust funds promote convenient, stable and thriving neighborhoods, by encouraging equitable access to a range of quality housing opportunities. This tool should be considered countywide.
- **Revolving Loan Fund.** As the name implies, monies are intended to revolve out of the Fund in the form of short-term loans to entities acquiring land and back into the Fund through fundraising efforts of the acquiring organizations. For instance, a land trust requiring immediate cash in order to purchase an important property could borrow from the Fund and then repay the full amount with interest over a predetermined period of time through a capital fundraising drive. All loans from the Fund must be repaid in full with interest in order to preserve the value of the Fund. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities, infrastructure and services, as well as economic opportunity and private investment. This tool should be considered countywide.
- **Service Districts.** The Code of Virginia (§ 15.2-2400 et seq.) allows localities to create service districts by ordinance, to levy additional property taxes to fund in-district improvement and maintenance of public services such as infrastructure, sidewalks and streetscaping. The seed money for such improvements may be financed by bonds or other sources. The county has used service districts to fund limited extensions of utility systems in existing developed areas, as well as for streetscape beautification and maintenance. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities,

infrastructure and services, as well as by promoting economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located within revitalization areas.

- **Tax Increment Financing (TIF).** The Code of Virginia (§ 58.1-3245 et seq.) allows localities to adopt an ordinance designating a development project area, and to earmark anticipated increases in tax revenues from such an area to pay the debt service issued to finance public improvements.

TIF is a classic redevelopment tool designed to finance public infrastructure and facilities, to encourage private reinvestment. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities and infrastructure, as well as by promoting economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located within revitalization areas.

- **Tax Increment Financing (Synthetic TIF).** A synthetic TIF is a variation of traditional tax increment financing (TIF) that uses anticipated increases in tax revenues from a specific project (instead of a geographic district) to pay the debt service used to finance public improvements. This tool promotes communities that are attractive, clean, convenient, safe, thriving and well-planned, by providing equitable access to excellent public facilities and infrastructure, as well as by promoting economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located within revitalization areas.

### **INITIATIVES AND PROGRAMS**

- **Business Incentives.** County business incentive programs include Technology Zones, small business assistance and rehabilitation tax exemptions. These tools promote a thriving community, through economic opportunity and private investment. These programs should continue, with marketing targeted for revitalization areas.
- **Community Land Trusts (CLTs).** CLTs are nonprofit, community-based organizations designed to develop and maintain permanently affordable homeownership opportunities for low and moderate-income households. The Maggie Walker CLT currently operates in the county. The CLT creates single-family homes that are sold to qualified buyers while retaining ownership of the land beneath the houses. When a homeowner sells, the CLT and the homeowner “share” the equity created by the increase in market value. The CLT’s share stays in the house and is not added to the sales price. This keeps the home affordable to future qualified homebuyers. The CLT model requires only one subsidy at the start and then makes that home affordable to all future purchasers without additional subsidy. CLTs promote convenient, stable and thriving neighborhoods, by encouraging equitable access to a range of quality housing opportunities. This tool should be considered countywide.
- **Fee Waivers.** The Technology Zone program currently provides application fee waivers for zoning, site plan, and permits for commercial and industrial projects in five current Technology Zones (which significantly overlap with revitalization areas). In addition, there is a partial credit available for water and wastewater connection fees, equal to the minimum connection fee for water and wastewater service for such uses. Fee waivers are an important incentive that helps mitigate the perceived risk of private investment in areas needing revitalization. Currently, fee waivers are not provided for residential projects. Such tools promote communities that are thriving, by encouraging economic opportunity and private investment. Residential fee waivers should be considered as a targeted incentive for Special Area Plan geographies located within revitalization areas.



- **Historic Tax Credits.** Federal and state income tax credits are available for rehabilitation of certain historic structures. The county could encourage use of this tool by participating in the creation of historic districts and/or listing of individual properties on the historic register. There are currently 67 properties in the county that have local, state, and/or federal historic designation. This tool promotes communities that are attractive, resilient and stable, by maintaining and improving property values. The county should evaluate use of this tool countywide.
- **Housing Rehabilitation Zones.** The Code of Virginia (§ 36-55.64) allows localities to create, by ordinance, housing rehabilitation zones, each with a maximum term of ten years. Such zones are intended to encourage residential development, rehabilitation and redevelopment in revitalization areas. State law allows a locality to provide targeted incentives in housing rehabilitation zones (e.g., development application fee reductions, permit process simplification and special development standards). This tool promotes communities that are convenient, thriving and well-planned, by encouraging economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located within revitalization areas.
- **Land Bank.** The Code of Virginia (§ 15.2-7501) allows localities to create by ordinance an entity (such as an authority or a corporation) for the purpose of assisting the locality in converting vacant, abandoned, and tax delinquent properties into productive use. Land banks may strategically acquire title to problem properties, eliminate their liabilities, and transfer these properties to new, responsible owners for development or redevelopment. This tool can promote communities that are convenient, thriving and well-planned, through economic opportunity and private investment. This tool should be considered countywide.
- **Low Income Housing Tax Credit (LIHTC).** LIHTC is a federal tax credit program, administered in Virginia by the Virginia Housing Development Authority (VHDA). LIHTC encourages the development of affordable rental housing by providing developers a federal income tax credit. This tool provides an incentive for private investors to participate in the construction and rehabilitation of housing for low-income families. These tax credits are awarded on a competitive basis which favors applications supported by the locality. Projects must provide a minimum percentage of units that are affordable to lower income households, resulting in a mix of market rate and below-market rate units in the same development. Additionally, this approach can help deconcentrate affordable housing units. This tool promotes communities that are convenient, thriving and well-planned, by encouraging economic opportunity and private investment. LIHTC is potentially available countywide.
- **Opportunity Zones.** Opportunity Zones allow investors to receive federal tax benefits on currently unrealized capital gains by investing those gains (through development or redevelopment projects) in qualified census tracts (Opportunity Zones). Four census tracts in the county have been federally designated as Opportunity Zones: two tracts generally located between Rt. 76 and Hull Street Road, along Rt. 150, one tract in the Bellwood area adjacent to Rt. 1, and one tract in the Ettrick area. This tool promotes communities that are convenient, thriving and well-planned, by encouraging economic opportunity and private investment. This tool is currently limited by federal law to four census tracts.
- **Proactive Rezoning.** The county may proactively rezone property to better position property for development or redevelopment, to incentivize private investment. This tool promotes communities that are well-planned, by promoting economic opportunity and private investment. This tool should be considered for use in Special Area Plan geographies located within revitalization areas.

- **Regulatory Relief.** The county may encourage new development, redevelopment and rehabilitation through various forms of regulatory relief. Regulatory relief may address development standards, process requirements and/or permit and application fees. Such relief may encourage development flexibility while maintaining quality development that is sustainable and beneficial to areas in need of revitalization. This tool can promote communities that are convenient, thriving and well-planned, through economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located in revitalization areas.
- **Rehabilitation Tax Exemptions.** The county offers partial property tax exemptions based on the increased assessed value of improvement or replacement of older buildings. This tool was improved in 2016 to allow longer exemption terms and to simplify the application process. Rehabilitation tax exemptions may be used for residential, commercial, mixed-use and industrial structures. While this program is infrequently used at present, it could potentially help prevent blight and decline through expanded advertising and marketing. This tool promotes communities that are attractive, resilient and stable, by maintaining and improving property values. The county should expand public awareness and access to this existing program, as a countywide tool to encourage preservation.
- **Tax Abatements for New Construction.** The Code of Virginia (§ 58.1-3219.4) allows localities to adopt an ordinance to provide partial real estate tax abatements for new construction in designated redevelopment, conservation or rehabilitation districts. This concept is similar to rehabilitation tax exemptions, except that it would apply to new construction. This tool could serve as a powerful incentive for private investment. It may have property tax revenue implications that should be carefully evaluated. This tool would promote communities that are thriving by promoting economic opportunity and private investment. This tool should be considered for Special Area Plan geographies located in revitalization areas.

### **PROPERTY MAINTENANCE**

- **Blight Abatement.** The Building Inspection Department currently manages unsafe and derelict building removal and spot blight abatement programs. These programs enable removal of dangerous and severely blighted structures. The county funds these programs, obtaining eventual reimbursement through property liens. Blight abatement is an important tool to prevent dilapidation and address safety concerns. These tools promote attractive and safe neighborhoods, by protecting the quality of life and by maintaining and improving property values. These programs should be expanded within revitalization areas.
- **Bulky Waste Removal.** The county has provided limited assistance to neighborhoods located in CDBG eligible areas, using CDBG funds for roll-off dumpster delivery, removal and bulky waste disposal. This program relies on the request, participation and labor of residents, and results in waste removal that helps improve property maintenance. Bulky waste removal can help prevent blight and decline. This tool promotes attractive and clean communities, by protecting and preserving the quality of life. This program should be expanded, with emphasis given to neighborhoods experiencing significant property maintenance issues within revitalization areas.
- **Homeowner Education.** Homeowner education programs inform and equip first-time homebuyers and existing homeowners to successfully maintain their homes. Educational content typically includes topics such as preventive maintenance, budgeting and homeownership responsibilities.

These programs may be offered in a variety of instructional formats and approaches, by the county and/or third-party providers. Homeowner education may help prevent blight and decline. This tool promotes attractive, clean and stable communities and maintenance of property values. This would be a new program, and should be offered countywide as a priority tool to encourage preservation.

- **Proactive Property Maintenance Inspections.** The county currently has two well-established proactive property maintenance inspection programs. These generally target older neighborhoods with significant property maintenance issues. The Neighborhood Enhancement program proactively canvasses entire neighborhoods for property maintenance code violations, focusing on exterior structural problems and a limited range of property violations. The proactive code compliance program applies to certain CDGB-eligible areas, focusing on non-structural property maintenance violations. Proactive property maintenance inspections are an important tool to prevent blight and decline. This tool promotes communities that are attractive, clean, safe and stable, by maintaining and protecting property values. This preservation tool should be strengthened in revitalization areas.
- **Property Maintenance Requirements.** Subject to the limitations of the Virginia Uniform Statewide Building Code, the county may encourage improved property maintenance by adopting and enforcing more stringent property maintenance requirements. Such action would likely require additional funding for inspection and enforcement activities, and/or reprioritization of existing inspection and enforcement activities. This tool promotes communities that are attractive, clean, safe and stable, by maintaining and protecting property values. This preservation tool should be considered for use countywide.
- **Reactive Property Maintenance Inspections.** The county has established countywide reactive (i.e., based on resident complaint) property maintenance programs to address violations of the Virginia Property Maintenance Code, the Building Code, and the Zoning Code; as well as violations of other code issues such as tall grass and inoperable vehicles. Reactive property maintenance inspections are an important tool to prevent blight and decline. This tool promotes communities that are attractive, clean, safe and stable, by maintaining and protecting property values. This preservation tool should be continued countywide.
- **Rental Property Maintenance.** Reactive and proactive property maintenance inspection programs also apply to renter-occupied properties. In addition, renters may file complaints for building and/or property maintenance violations. The Police Department also works closely with apartment managers to promote safe, quality living environments. Rental property maintenance is important to prevent decline and blight. These tools promote communities that are attractive, clean, safe and stable, by maintaining and protecting property values. This tool should be continued countywide. The county should expand public awareness of existing services.

### **PUBLIC INVESTMENT**

- **Public Facility and Infrastructure Investment.** The county plans the funding for public facility and infrastructure investment through the Capital Improvements Program (CIP). The CIP covers three main categories: general government, schools and utilities. Through the strategic allocation of limited funding, the CIP can encourage new development, improvement, reinvestment and/or the replacement of existing public facilities and infrastructure. This tool may promote facility equity and serve as a catalyst for private investment.

This tool promotes public investment and quality development and redevelopment, through equitable access to public facilities and infrastructure. This tool should continue to focus investment in revitalization areas.

- **Streetscape and Gateway Improvements.** Streetscape improvements may include landscaping, community signs, bike and pedestrian ways, and decorative lighting in the public right-of-way. Gateways are the highly visible points of entry to the county, typically located at or near highway interchanges. Such areas are state-maintained to a minimum standard, unless other maintenance arrangements are made (e.g., through Service Districts). Improvement of these areas could promote a significant positive visual impact. Successful improvement projects require initial funding, design, planning, installation, project and contract management and formal long-term maintenance mechanisms (including funding). The county has pursued a few streetscape and gateway improvement projects in the past; however, these projects have been limited due to funding and the need for long-term maintenance. This tool promotes communities that are attractive and clean. This tool should be considered for revitalization areas and Special Area Plan geographies located within revitalization areas.

### **OTHER REVITALIZATION TOOLS**

- **Development Standards.** Development standards may contribute to revitalization by encouraging high-quality development. This tool may promote thriving and well-planned communities, by promoting economic opportunity and private investment. This tool should be carefully considered for Special Area Plan geographies located within revitalization areas.
- **Environmental Revitalization.** The county promotes revitalization of environmental resources such as streams, ponds and reservoirs, as part of efforts to protect local water quality and the Chesapeake Bay. In addition, county efforts to support economic opportunity and revitalization incentivizes infill development and redevelopment. These improvements typically occur in developed areas, and provide opportunities to preserve and improve water quality in comparison to traditional greenfield development by incorporating innovative development features such as low-impact design and minimizing impervious surfaces. This tool may promote clean and resilient communities by preserving and protecting the quality of life. This tool should be continued countywide.
- **Redevelopment.** Redevelopment is an often-complicated process involving issues such as land assembly, demolition, environmental remediation, project design, land use entitlements, developer selection, contract management, infrastructure improvement, creative financing and marketing. Successful large-scale redevelopment projects require specialized expertise and project management capacity. While the county has participated in a few redevelopment projects (such as the redevelopment of the former Cloverleaf Mall property), such work has been largely reactive and project-specific. The county does not currently have the capacity for ongoing, proactive redevelopment project management. Redevelopment is an important revitalization tool to address the difficult challenges of bringing new life to existing larger developments. Redevelopment is also a national best practice to address blight and decline. This tool promotes communities that are thriving by promoting economic opportunity and private investment. This tool should be developed with emphasis on building organizational capacity and identifying funding streams.
- **Revitalization Coordination.** Community Enhancement staff can provide a single point of contact and coordination for countywide revitalization efforts. This function supports and furthers the desired outcomes and goals of this plan. This tool should be continued and strengthened countywide.

- **Revitalization Information.** Community Enhancement staff manage revitalization information resources, including best practice research, revitalization databases and citizen self-service information resources. This work should be expanded to include program evaluation of revitalization indicators, initiatives, and outcomes. These tools support and further the desired outcomes and goals of this plan, by improving citizen awareness and access to existing program and services. These tools should be continued and strengthened to benefit revitalization efforts countywide.
- **Safety Programs.** Public Safety departments provide numerous countywide community safety programs, including neighborhood and business watch, apartment safety liaison, Crime Prevention Through Environmental Design (CPTED), fire safety instruction, Citizen Academies and the Community Emergency Response Team (CERT). These tools promote safe communities by empowering citizens to be effective revitalization partners. These programs should continue, with marketing targeted for revitalization areas.
- **Specific Area Plans.** Community Enhancement staff participate on Specific Area Plan project teams. This tool promotes well-planned communities, protecting the quality of life and promoting quality private and public investment. This program should be continued, with emphasis given to appropriate strategic initiatives for Specific Area Plan geographies located within revitalization areas.
- **Zoning Case Review.** Community Enhancement staff review zoning cases when there is a demonstrable revitalization need or benefit. This tool promotes well-planned communities, by protecting the quality of life and promoting quality private investment (as discussed in greater detail later in this chapter). This program should be continued, focused on revitalization areas.

### Zoning Case Review Guidance

Community Enhancement staff will review the merits of individual zoning cases by using objective criteria – such as the revitalization indicators listed on page RE 6 -- when there is a demonstrable revitalization need or benefit. This review should have the following objectives:

- 1) Zoning should encourage substantial improvement compared to current conditions. Each project should promote development quality and long-term sustainability that is, on balance, superior to existing surrounding development conditions.
- 2) Zoning should encourage development that protects area investment.
- 3) Zoning should be consistent with other revitalization objectives and efforts.
- 4) Zoning review depends on context – different areas have different conditions and needs.
- 5) Development may require further regulatory relief such as variances and waivers. Revitalization project review focuses on the larger goals of revitalization, not strict regulatory compliance.



## Implementation Guidance

Implementation of this chapter is guided by the county, is the shared responsibility of the county and community partners, and requires sustained effort and the dedication of resources. The following Implementation Matrix provides implementation guidance for each revitalization tool. It indicates and/or recommends:

- **Focus:** Where the initiative best fits -- countywide, revitalization areas and/or Specific Area Plan geographies. This recommendation is based on the principle of geographically focusing limited resources in areas of highest need, to achieve maximum impact. However, the use of initiative/revitalization tools may also be appropriate anywhere in the county.
- **Program Status / Recommendation:** Whether the tool is existing, needs to be created, needs to be continued and/or needs to be expanded or improved.
- **Priority:** When the tool should be implemented, based on feasibility and likely impact – listed from 1 (immediate) to 3 (intermediate term).
- **Funding:** Potential funding source(s) for each tool, where known. Stable funding sources beyond county government should be emphasized.

**RHA** – A political subdivision of the Commonwealth of Virginia for general purposes of removing blight and improving blighted areas, through development and redevelopment of housing, public facilities, commercial and other buildings; managing federal housing assistance programs; issuing bonds; making grants and loans; and forming partnerships.

**CDC** – A not-for-profit organization incorporated for programs, services and activities that promote and support community development.

**CHDO** – A private nonprofit community-based organization that develops affordable housing.

**CBDO** – A private nonprofit or for-profit community-based organization that carries out neighborhood revitalization, community economic development, or energy conservation projects.

It should also be noted that there are many possible funding and delivery approaches for various revitalization initiatives. These may include sole and/or shared funding and delivery by:

- Chesterfield County
- Quasi-governmental authorities (such as CDAs, Economic Development Authorities and Redevelopment / Housing Authorities (RHAs))
- Community development entities, such as community development corporations (CDCs), community housing development organizations (CHDOs), and community-based development organizations (CBDOs)
- Civic organizations
- Neighborhood associations
- Contract management by a private company

Finally, revitalization needs may vary by location, timeframe and other factors. Implementation should be flexible to respond to unique needs and changing circumstances.

## Implementation Matrix

Initiative / Revitalization Tool	Geographic Focus*			Program Status / Recommendation				Priority**	Potential Funding Source
	Countywide	Revitalization Areas	Special Area Plans	Existing Program	New Program	Continue Program	Expand/Improve		
Affordable Housing	X	X	X	X		X	X	2	To Be Determined
Blight Abatement		X	X	X		X	X	2	General Fund
Bulky Waste Removal		X	X	X		X	X	1	CDBG; General Fund
Business Incentives		X	X	X		X	X	1	To Be Determined
Community Development Authorities			X	X		X	X	3	Assessments
CDBG Funding		X	X	X		X		1	Federal
Community Land Trust	X	X	X			X		1	CDBG; TBD
Community Organization Support		X	X	X		X	X	2	To Be Determined
Development Standards			X	X		X	X	2	N/A
Environmental Revitalization	X			X		X		1	General Fund
Fee Waivers			X	X		X	X	2	N/A***
Historic Tax Credits	X	X	X		X			3	N/A
HOME Funding		X	X	X		X		1	Federal
Homeowner Education	X	X	X		X			1	To Be Determined
Housing Rehab Grants & Loans			X	X	X	X	X	2	CDBG; <del>TBA</del> TBD
Housing Rehabilitation Zones			X		X			2	N/A***
Housing Trust Fund	X	X	X		X			3	To Be Determined
Land Bank	X	X	X		X			1	To Be Determined
Low-Income Housing Tax Credit	X	X	X	X		X		2	N/A
Opportunity Zones	3 Census Tracts				X			1	N/A
Proactive Property Maint. Inspections		X	X	X		X	X	1	General Fund/CDBG
Proactive Rezoning			X	X		X	X	3	N/A
Property Maintenance Requirements	X	X	X	X	X			2	General Fund
Public Facility & Infrastructure Invest.		X	X	X		X	X	2	CIP
Reactive Property Maint. Inspections	X	X	X	X		X		1	General Fund
Redevelopment	X	X	X		X			3	To Be Determined
Regulatory Relief			X	X		X	X	2	N/A
Rehabilitation Tax Exemptions	X	X	X	X		X	X	2	N/A***
Rental Property Maintenance	X	X	X	X		X	X	1	To Be Determined
Revitalization Coordination	X	X	X	X		X	X	1	General Fund
Revitalization Information	X	X	X	X		X	X	1	General Fund
Revolving Loan Fund	X	X	X		X			1	To Be Determined
Safety Programs	X	X	X	X		X	X	1	General Fund
Service Districts			X	X		X	X	3	Assessments
Specific Area Plans			X	X		X	X	1	General Fund
Streetscape & Gateway Improvements			X	X		X	X	3	Assessment District
Synthetic Tax Increment Financing			X		X			2	Tax Increment
Tax Abatements for New Construction			X		X			3	N/A***
Tax Increment Financing			X		X			2	Tax Increment

Strategic Initiative / Revitalization Tool	Geographic Focus*			Program Status / Recommendation				Priority**	Potential Funding Source
	Countywide	Revitalization Areas	Special Area Plans	Existing Program	New Program	Continue Program	Expand/Improve		
Volunteer Coordination		X	X	X	X		X	3	General Fund
Zoning Case Review		X	X	X		X	X	1	General Fund

\* All listed initiatives and revitalization tools may also have value countywide.

\*\* Priority: 1) immediate (within one year); 2) near-term (within one to three years); and 3 intermediate (within five years, or sooner as revitalization needs and opportunities warrant).

\*\*\* Minimal direct expenditure. May result in unrealized property tax revenue and/or operational impacts associated with providing services without cost recovery that is normally provided by fee revenue.

# CHAPTER 8: HISTORICAL AND CULTURAL RESOURCES

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## Overview

Chesterfield County enjoys the distinction of being an area with one of the longest periods of continuous habitation in the country. In looking towards the future, it is important to understand, and to appropriately preserve and promote the county's rich historical and cultural foundation. Not only can students experience hands-on learning at these historic sites, but Chesterfield County can also increase local business development through tourism.

### DESIRED OUTCOMES OF THIS CHAPTER:

- **Preservation of Historic Places and Structures**
- **Leverage Historic Assets to Create a Sense of Place and Foster Tourism**
- **Support Partnerships and Private Preservation of Historic Resources**
- **Utilize Historic Places for Events, Education and Other Unique Experiences**

## A Brief History of Chesterfield County

The county was originally inhabited by the Appamatuck Tribe, one of many tribes ruled by Chief Wahasonacock. In 1611, Sir Thomas Dale led a group of colonists from the original English settlement at Jamestown to the "Citie of Henricus" located on Farrar's Island. In 1613, Dale seized various lands around the area where John Rolfe cultivated a salable variety of tobacco for English export for the Virginia Company of London. Tobacco became the colony's main export and source of revenue. In 1619, the first iron furnace, and one of the first industrial developments in America, was established on Falling Creek near the James River. Other early American accomplishments included private property ownership, beginning of public education and experiments in representative government.



In March 1622, Chief Wahasonacock's successor, Chief Opechancanough, launched a coordinated attack on area settlements, many of which never recovered and were abandoned. With high profits from tobacco cultivation, however, settlements such as Bermuda Hundred prospered and became the only significant organized settlement in the county until the 1700's.

In 1634 the Chesterfield area became part of the Shire of Henrico, one of the eight original political divisions of Virginia. Tobacco cultivation and coal mining fueled growth which, by 1749, prompted the Virginia House of Burgesses to separate Chesterfield County from Henrico County. The county was named after former British Secretary of State Philip Dormer Stanhope, 4<sup>th</sup> Earl of Chesterfield. The county seat was established at Chesterfield Court House. The original boundary of the county was the James and Appomattox Rivers in the north, east and south and, generally, Skinquarter Creek in the west. During the early and middle 20<sup>th</sup> century, annexations by the City of Richmond and incorporation of the City of Colonial Heights reduced the county to its present borders.

## CHAPTER 8: HISTORICAL AND CULTURAL RESOURCES

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African-American history in the county dates to 1634 when the first Africans were brought to Bermuda Hundred. Through the centuries, African-American churches have served as the center of this community. To date, 28 African-American churches have been identified, and research is ongoing into early African-American schools, graves, businesses and post-Civil War settlements throughout the county. In 1882 the Virginia Legislature passed a bill to charter the Virginia Normal and Collegiate Institute, the nation's first fully state-supported four-year institution of higher learning for African-Americans, in Ettrick. This would become today's Virginia State University.



During the American Revolutionary War, the county courthouse served as a collection point and supply depot for the war effort. This role was strengthened when General Baron Von Steuben established a major military training center in this area in 1780. In 1781, British General Benedict Arnold led a raid along the James River toward Richmond, while General Phillips destroyed the county courthouse and training center. The Virginia Fleet was defeated by Arnold's army at Osbornes, a tobacco inspection station and local shipping center established circa 1761, when his army placed cannons on a high bluff above the river where the fleet's weapons could not reach.

Because of its proximity to Richmond, the county was a Union target from the very beginning of the Civil War. In 1862, the Union Navy attempted to capture Richmond by traveling up the James River. This effort was blocked by the Confederates at Drewry's Bluff. In May 1864, the Union again attempted to capture Richmond, landing General Benjamin Butler's Army of the James at Bermuda Hundred and resulting in two engagements at Port Walthall and one at Swift Creek. Additional significant battles occurred around Chester Station, Woolridge Hill and Drewry's Bluff before the Confederates were able to drive Butler's forces back to the Bermuda Hundred peninsula. After the Battle of Ware Bottom Church on May 20, 1864, both sides established extensive earthworks and fortifications across the peninsula. These were manned until Confederate General Robert E. Lee's retreat from the area in 1865.



### Historic Settlements & Events

Some of the earliest organized county settlements and villages include:

**Citie of Henricus:** established circa 1611 by Sir Thomas Dale

- First English hospital in America, Mount Malady (1612)
- First private land ownership opportunity
- Early experiments in representative government to support economic growth
- First college in America; originally designed to educate both English and Native American children (1618)
- Settlement was destroyed during the Opechancanough offensive and subsequently abandoned (1622)
- Experienced American Revolutionary War raids (1781)
- Location of the Dutch Gap Canal, dug by U. S. soldiers under Union General Benjamin Butler during the Bermuda Hundred Campaign (1864)

**Bermuda Hundred:** established circa 1614 by Sir Thomas Dale

- First incorporated town in America (1614)
- Designated an official port and market town (1691)
- Damaged in the American Revolutionary War (1781)
- Site of state customs house for import/exports (1788)
- First Baptist Church of Bermuda Hundred, the second-oldest continuous African-American congregation in the county (1850)
- Headquarters of Union General Benjamin Butler during the Civil War Bermuda Hundred Campaign (1864)
- Former railroad terminus and shipping port for Bright Hope Railroad (later Tidewater & Western Railroad) (1883)

**Midlothian:** established circa 1730 as a coal mining village, experienced several mining disasters causing loss of life during the 19<sup>th</sup> century

- First commercially mined coal in the nation (1701)
- Raided by General William Phillips during the Revolutionary War (1781)
- First hard-surfaced road in Virginia, ran from the mines at Midlothian to the wharves at Manchester (present-day Midlothian Turnpike) (1807)
- First railroad in Virginia (Chesterfield Railroad to Manchester – gravity line) (1831)
- Oldest continuous African-American congregation in Chesterfield County – First African Baptist Church, known today as First Baptist Church of Midlothian (1846)
- Target of Union Army raid during the Civil War (1864)

**Osbornes:** established circa 1761 by Thomas Osborne as a tobacco inspection station and local shipping center

- Site of American Revolutionary War battle between British General Benedict Arnold and the Virginia Fleet (1781)
- Former railroad terminus and shipping port for Bright Hope Railroad (1869)
- Abandoned when construction of Dutch Gap Canal caused silting along the James River (1880s)

**Ettrick:** established circa 1810 as a milling village

- First bridge across Appomattox River, Campbell's Bridge (1810)
- First cottonseed oil mill in nation (1831)
- Site of Confederate Army retreat under General Robert E. Lee after fall of Petersburg (1865)
- Current home to Virginia State University, oldest state-supported college for African-Americans (est. 1882)

**Matoaca:** established circa 1833 as a milling village

- Named after Chief Wahasonacock's daughter, Pocahontas, whose native name was Matoaka
- Site of Confederate Army retreat under Robert E. Lee after fall of Petersburg (1865)

**Clover Hill (Winterpock):** established circa 1837 as a coal mining village, experienced several mining disasters causing loss of life during the 19<sup>th</sup> century

- Location of the Clover Hill Railroad (subsequently known as Bright Hope and later Tidewater & Western) (1844)
- One of the major coal producing centers on the east coast (circa 1855)
- Abandoned due to competition from other coal mines (1880s)

**Port Walthall:** established circa 1840s as a rail/port town

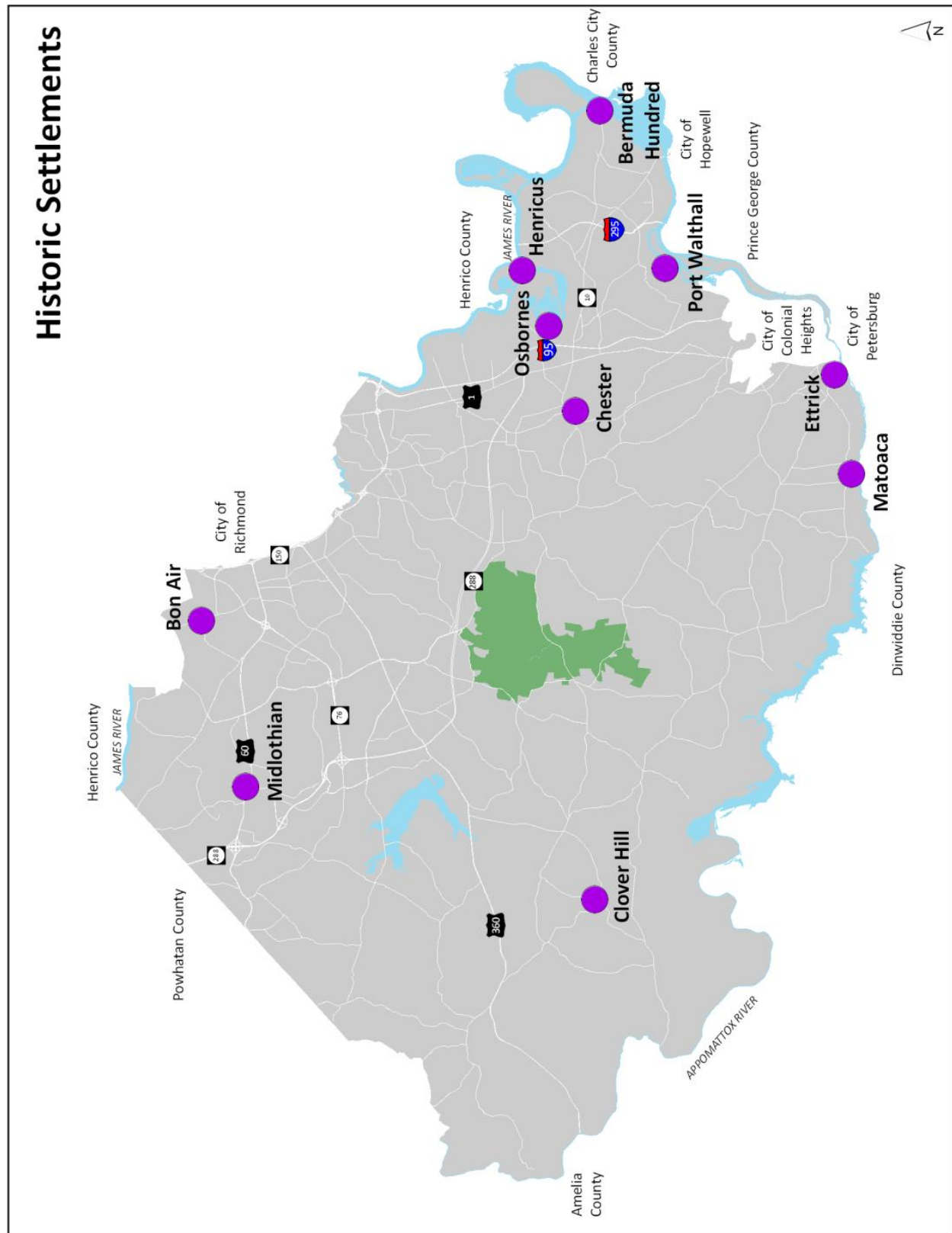
- Location of the branch line terminus of Richmond & Petersburg Railroad (1840)
- Site of Port Walthall Steamboat Company, which carried freight and passengers between ports on the James River then via railroad to Richmond and Petersburg (1845)
- Site of two engagements in May 1864 during the Bermuda Hundred Campaign
- Rail lines were removed during the Civil War, causing decline of settlement (circa 1860s)

**Chester:** established circa 1856 at the intersection of the Richmond/Petersburg and Clover Hill (Bright Hope) railroads

- Established by the same developers of Ashland in Hanover County
- Site of Civil War Battle of Chester Station (1864)
- Location of second bank in county (1903)
- Site of first county public high school, Chester Agricultural High School, forerunner of Thomas Dale High School (1905)
- Location of first county public library (1966)

**Bon Air:** established circa 1877 on a rail line between Richmond and Danville as a resort for wealthy Richmond citizens

- Once boasted three railroad stops, unprecedented for a community of its size
- Location of first private community library, Hazen Memorial (1902)
- First shopping center in county (1949)
- First national historic district in county, created by community (1986)



### Historic Firsts

In addition to those listed previously, additional historic firsts include:

- **1811:** First commercial tramway (the predecessor of railroads) operated in the northern Belmont Road area.
- **1811:** First use of steam engines in the nation at Black Heath Pits in Midlothian.
- **1812:** First school for deaf mutes in America was located at Cobbs Plantation on the lower Appomattox River.
- **1816:** Bellona Arsenal and Foundry in the northwestern section of the county was established as one of the first federal weapons repositories in the nation, later becoming the second largest producer of armaments for the Confederacy behind Tredegar Ironworks in Richmond.
- **1862:** First Medal of Honor awarded to Corporal John Mackie of the U.S. Marine Corps as a result of his actions during the May 15, 1862 Battle of Drewry's Bluff.
- **1921:** First Father's Day was organized by three ladies from Drewry's Bluff.
- **1934:** First wayside park in Virginia was established at the circa 1824 Stone Bridge on Jefferson Davis Highway over Falling Creek.

### Historical & Cultural Tourism

Historical and cultural resources offer unique places for people to visit and learn about the history of the county and the nation. These resources are both publicly and privately-owned, and include federal, regional and local attractions. In addition, the county partners with regional entities such as Richmond Regional Tourism, Virginia Tourism, Petersburg Area Regional Tourism, Henrico County, the Virginia Association of Museums and the Henricus Foundation to promote historical and cultural tourism.



### LOCAL ATTRACTIONS AND DESTINATIONS

The following is a list of attractions and destinations for historical and cultural tourism within the county.

#### **Castlewood**

This circa 1817 plantation house built by Parke Poindexter, clerk of the county court, and has a unique formal 5-part building plan unlike any other recorded historic structure in Virginia.

#### **Chesterfield County Courthouse Square**

The Chesterfield County Historic Courthouse Square includes the 1892 Jail, 1828 Clerk's Office, 1889 Clerk's Office, 1917 Courthouse and a replica of the 1749 Courthouse. The Chesterfield County Museum is located in the replica of the county's circa 1749 Courthouse that was torn down in 1917.



The museum contains exhibits showcasing the county's history. The 1892 jail includes a law enforcement exhibit and allows visitors to experience prisoner accommodations of that period.

### **Civil War Sites**

The Parks and Recreation Department provides protection and interpretation of many earthworks and sites that were a part of the Civil War including Battery Dantzler, Dodd Park at Point of Rocks, the Dutch Gap Canal, Fort Stevens, Fort Wead, Historic Point of Rocks Park, Howlett Line Park, Sergeant James Engle Park, 39<sup>th</sup> Illinois Park and Ware Bottom Church. Drewry's Bluff and Parker's Battery are additional Civil War sites that are part of the Richmond National Battlefield Park system.

### **Eppington Plantation**

This home, built circa 1770, by Francis Eppes VI, a prominent politician from Henrico, was visited frequently by Thomas Jefferson. It was originally comprised of nearly 4,000 acres. Eppington's main architectural significance lies in the design of a main block structure with lower wings that is emblematic of a typical 18<sup>th</sup> century Georgian style design.

### **Falling Creek Bridge**

The bridge over Falling Creek where it passes under Jefferson Davis Highway is one of the earliest bridges in the state. Constructed circa 1824, the bridge played an important early role in linking the cities of Richmond and Petersburg. The bridge fell out of use in 1933 and became Virginia's first wayside park. The bridge was heavily damaged during Hurricane Gaston in 2004.

### **Falling Creek Ironworks Park**

This first iron furnace in America was built in 1619, and subsequently destroyed in 1622 by Native Americans. Several later attempts to revive the ironworks here resulted in mixed success. Archibald Cary also operated a mill in this area in the mid-18<sup>th</sup> century that was destroyed by Benedict Arnold. Trails and a public green were constructed in 2016 and a museum and visitor's center are planned.

### **Henricus Historical Park**

This attraction has stunning views of the James River and offers 18 re-created Colonial and Virginia Native American structures. This living history museum provides encounters with period dressed historical interpreters. Colonial demonstrations include militia drills, cooking, blacksmithing, crop planting and tobacco growing and harvesting. Native American demonstrations include canoe building, hunting skills and tool making.



### **Historical Highway Markers**

This program, begun in 1927, commemorates people, places or events of regional, statewide or national significance. The county is currently home to over 50 of these highway markers.

### **Historic Route 1 Corridor**

Chartered in 1816 to connect the cities of Richmond and Petersburg, the Manchester & Petersburg Turnpike was the second toll road built in the county. This corridor has witnessed numerous historical events from the American Revolution, the Civil War and early suburban development. The many historic landmarks and highway signs attest the rich history of the area.

### **Magnolia Grange**

This Federal-style home was built circa 1822 by William Winfree and is now a museum interpreting 19<sup>th</sup>-century plantation life. The home was named after the circle of magnolia trees that once stood in its front lawn.

### **Mid-Lothian Coal Mines Park**

This park highlights the history of the first commercially-mined coal in America and is located at the site of the former Grove Shaft Mine, where visitors can see the stone ruins of the former mining operation.



### **Pocahontas State Park**

This nearly 8,000-acre park was built by the Civil Conservation Corps, a Great Depression public work relief program. In addition to park amenities such as camping, fishing, boating, hiking, mountain biking, swimming and picnicking, a Civilian Conservation Corps Museum commemorates the workers that shaped the infrastructure of America. An outdoor amphitheater hosts numerous community concerts. A major portion of the Richmond Regional Ride Center, designated as a bronze-level status ride center by the International Mountain Biking Association, is located at Pocahontas State Park.

### **Point of Rocks Historic House & Grounds**

This county park, a local, state and federal historic landmark, offers beautiful views of the Appomattox River from a high bluff overlooking the Port Walthall Channel. This area had a significant role in the Civil War with the historic 1840 home built by Reverend Alexander Strachan serving as a surgeon's quarters for the large military hospital located on the property during Union General Butler's Bermuda Hundred Campaign.

## **CULTURAL AMENITIES**

In addition to historical resources, the county and surrounding communities have many other cultural offerings. Among these include music, arts and neighborhood events throughout the year, as well as museums, art galleries, dance studios and theaters. Performing arts organizations include the Richmond Symphony, Richmond Ballet, Virginia Opera, Theater IV and Theater Virginia, along with numerous school-based choral and theater groups. The region is also home to many television and radio broadcasting facilities. An effort is currently underway to construct the Chesterfield Center for the Arts in partnership with the Chesterfield Center for the Arts Foundation in the Chester area.



### Historical & Cultural Preservation Programs

Historical and cultural resource preservation efforts take place at the national, state and local levels. Several public and private organizations are concerned with historic and cultural resources, ranging from the federal government to local community preservation groups.

#### **NATIONAL REGISTER OF HISTORIC PLACES & VIRGINIA LANDMARKS REGISTER**

As of 2016, there were 20 individual landmarks and six historic districts on the state and national historic registers for the county.

##### **Listing Process**

The *1966 National Historic Preservation Act* created the National Register of Historic Places and mandated that states establish historic preservation offices. The Virginia Department of Historic Resources is the home of the State Historic Preservation Office. This department is responsible for evaluating property nominations to the state and national historic registers. If approved for the Virginia Landmarks Register, the landmark is automatically listed on the National Register of Historic Places. These listings are primarily symbolic, acknowledging the presence of an important resource, and do not place restrictions on the use, regulate improvements to the property or require provision of public access.



##### **Incentives**

A historic preservation easement program is administered by the Virginia Department of Historic Resources. Through this voluntary program, property owners guarantee perpetual protection of a listed resource while still maintaining ownership, use and enjoyment of their property. In exchange, the properties may qualify for federal and state income tax deductions.

Tax credit programs are available that encourage rehabilitation of listed resources by providing credits for incurred expenses by private individuals. Rehabilitation work using these programs must be consistent with national preservation standards.

Matching grants may be available to non-profit organizations and local governments for preservation work to registered landmarks through the Virginia Department of Historic Resources.

More information about state and national landmarks and incentive programs can be found at the [Virginia Department of Historic Resources website](#).

### **CHESTERFIELD COUNTY HISTORIC DISTRICTS, LANDMARKS AND LANDMARK SITES**

As of 2016, there were 48 county-designated landmarks.

#### **Designation**

In 1987, the historic districts, landmarks and landmark sites ordinance was adopted as part of the county Zoning Ordinance. Unlike the state and national listings, the county's landmark designation is designed to protect the architectural and physical integrity of the resource. A resource does not need to be listed on the national or state register to be designated as a county landmark or historic district.



Through this ordinance, a Historic Preservation Committee was established to make recommendations on proposals for new historic district and landmark designations, and to review and authorize changes to designated structures and properties.

Designation is voluntary and is initiated by owners of property having historical or cultural significance. The Historic Preservation Committee and Planning Commission consider the application and make a recommendation to the Board of Supervisors. The Board of Supervisors makes the final determination as to whether or not to designate the resource.

#### **Incentives for County Designation**

An incentive program is administered through the Department of Real Estate Assessments that provides a partial property tax exemption for rehabilitation work on a designated property. This work must increase the assessed property value by at least 25 percent, but no more than \$500,000. The property tax rate is based upon the pre-rehabilitation assessed value for a period of 10 years and is transferable with the property.

More information about the Chesterfield County preservation ordinance and incentive program can be found at the [Chesterfield County Preservation Committee website](#).

### General Historical & Cultural Resources Guidelines

The General Historical and Cultural Resources Guidelines provide direction and support for historical and cultural resource preservation, promotion and enhancement.

Major considerations in the development of these guidelines include:

- ❖ Promoting public awareness of the county's history.
- ❖ Promoting the county's history to enhance tourism and economic development.
- ❖ Supporting voluntary preservation efforts.
- ❖ Supporting appropriate adaptive reuse of historical structures.
- ❖ Integrating preserved areas into developments.
- ❖ Protecting unique architectural and design qualities in historic villages.

The following General Historical and Cultural Resources Guidelines should be used when addressing historical and cultural preservation:

- **Public Awareness and Education.** Consider enhancement and expansion of programs, events and other activities that increase public awareness of the county's historical and cultural resources and their contribution to the region, state and nation. Partner with educational institutions such as Chesterfield County Public Schools, John Tyler Community College, Virginia State University and other relevant organizations to promote county history programming to students.
- **Tourism.** Promote tourism through marketing the county's historical and cultural sites.
- **Historic Designations.** Encourage voluntary local, state and national historic landmark and district designations through incentive programs. Consider designation of only that area necessary to accomplish preservation thereby affording the option for future use of the remaining area.
- **Historic Easements.** Encourage voluntary historic preservation and other easements for preserving important historical and cultural resources.
- **Development Integration of Historical and Cultural Resources.** Encourage preservation, incorporation and integration of historical and cultural resources through design and layout of development projects. Consider development incentives such as reduced parking, setbacks, buffers and other design standards.
- **Adaptive Reuse.** Encourage adaptive reuse of county-designated historic sites and structures in accordance with the recommendations of The Land Use Plan chapter.
- **Incentive Programs.** Encourage the use of local, state and federal incentive programs to promote historic preservation efforts and explore other incentive programs that could be offered.
- **Historic Villages.** Within historic villages as determined through development of Specific Area Plans, consider development standards such as architectural features, landscaping, setbacks and other



design measures that enhance the village character. These historic villages could include Bon Air, Chester, Ettrick, Matoaca and Midlothian.

- **Historic Trails.** Encourage development of interpretive trails that provide access to historical and cultural resources such as along Civil War earthworks and battlefield sites, Lee's Retreat route and waterfront areas.
- **Historic Parks.** Consider development of special purpose parks that provide public access to historical and cultural sites.
- **Maintaining County-Owned Resources.** Encourage proper funding for maintenance and preservation of county-owned historical and cultural resources.
- **Support Cultural Amenities.** Support the provision of cultural amenities such as arts centers, theaters and other similar facilities as a part of mixed-use developments, and in other community focal points.
- **Collaboration.** Continue to foster collaborative relationships with organizations and foundations such as the Chesterfield Historical Society of Virginia, the Henricus Foundation, the Eppington Foundation, the Falling Creek Ironworks Foundation, the Mid-Lothian Mines Foundation, the Chesterfield Foundation for the Arts and other relevant organizations to preserve, maintain, enhance and promote historic and cultural amenities.

# CHAPTER 9: ENVIRONMENT

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## Overview

A wealth of land, air and water resources exists in Chesterfield County, contributing to a high quality of life. These resources are one of many factors that shape development in the county. Innovative designs should incorporate these resources into development to enhance the landscape and community while at the same time accommodating growth and development.

Certain land, air and water resources are protected by federal, state and county laws and regulations. These legal requirements are designed to protect natural resources for the health, safety and welfare of county residents. Understanding the benefits of these resources and the requirements governing them is important to successfully integrate environmental and developmental goals of the Plan. This chapter:

- Provides an overview of the county's land, air and water resources.
- Identifies factors and existing requirements that impact these resources.
- Identifies the relationship between these resources and development.
- Identifies impacts of human activities on these resources.
- Suggests guidance for consideration of these resources into development.



## **DESIRED OUTCOMES OF THIS CHAPTER:**

- **Protection of Important Natural Resources**
- **Recognition and Role of Federal, State and Local Requirements**
- **Environmental Features Incorporated into Development for Active and Passive Recreation**
- **Protection of Life and Property**
- **Promote Farming and Forestry as Viable Industries along with Agri-tourism**
- **Recognition of the Impacts from Development on Natural Resources**
- **Support Protection of Green Infrastructure for Community Mental and Physical Health**

## Green Infrastructure Approach

The Committee on the Future published a report in 2005 titled “Green Infrastructure: Protecting Resources for Future Generations.” This report suggested the county take a strategic and coordinated approach in protecting natural, cultural and historic resources to benefit the quality of life of citizens. Such an approach would tie together many topics addressed in this chapter as well as other chapters of the Comprehensive Plan such as the public drinking water supply, public facilities, land use and bikeways and trails. By planning for green infrastructure in the same manner as planning for gray infrastructure such as road and utilities, the county could take advantage of the ecosystem services provided by nature.

A green infrastructure approach starts with the comprehensive plan and is incorporated throughout the zoning and development process. This approach would also influence public investment in parks and other public facilities as well as develop private partnerships. Natural resources, such as forests, function better when intact and not fragmented, thus it is important that natural communities stay connected across various properties. This can be accomplished by clearly identifying natural resources early in the planning process and offering incentives that ensure the preservation and protection of these resources not only on individual projects, but also across property boundaries. Natural resources can be incorporated into residential and commercial developments as passive or active open space, while also providing important functions such as improving air quality, flood control and providing wildlife habitat.

As the county continues to develop in previously undeveloped areas, natural features such as tree canopy should be encouraged to be retained or protected. Green spaces should be incorporated into all development projects, and wherever appropriate, be made key features of such development. Green spaces in urban, suburban and rural areas will differ from each other, but are important components of each setting.

**GREEN INFRASTRUCTURE** – A strategically planned and managed network of wilderness, parks, greenways, conservation easements and working lands with conservation value that support native species, maintains natural ecological processes, sustains water and air resources and contributes to the health and quality of life for communities and people.

**ECOSYSTEM SERVICES** – Ecosystem goods and services produce the many life-sustaining benefits we receive from nature—clean air and water, fertile soil for crop production, pollination, and flood control. These ecosystem services are important to environmental and human health and well-being, yet they are limited and often taken for granted. – US EPA.

### **Mission of Committee on the Future Green Infrastructure Report:**

To enhance the quality of life in Chesterfield County by incorporating a green-infrastructure plan into the planning process as a critical public commitment to ensure social, economic and environmental benefits for present and future generations.

## Land Resources

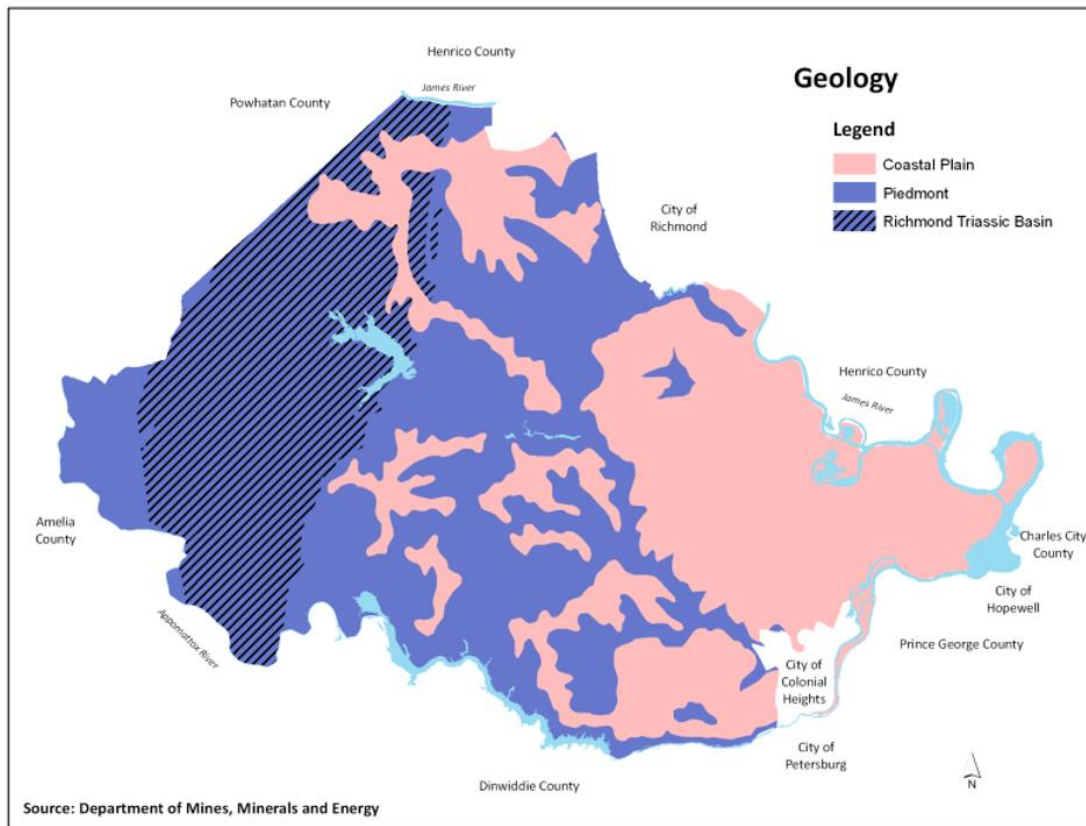
### GEOLOGY, TOPOGRAPHY AND SOILS

The county's terrain rises from sea level on the eastern boundary to 390 feet above average sea level on the western boundary.

Landform regions are areas having similar terrain shaped by a common geological history. Chesterfield County is located in two landform regions, the Piedmont and Coastal Plain. Each of these regions has distinct characteristics in terms of geology, topography and soils. The fall line between the two landforms marks the limits of navigation on the James and Appomattox Rivers and is the approximate location of an ancient shoreline when the sea level was higher than it is today. Steep slopes in both landform regions are subject to severe erosion when disturbed.

The Piedmont landform occupies the largest area of the county, with rolling hills and well-drained soils. An area known as the Richmond Triassic Basin extends into the Piedmont landform and is characterized by soils with the potential to excessively shrink when dry and swell when wet. The Coastal Plain is mostly concentrated in the eastern portion of the county, and is generally flat with moderately to well-drained sandy soils created by the ancient shoreline of the Atlantic Ocean.

Soil types can impact building foundations, drainfields, design of drainage systems and the ability to install low impact design features. In addition, wetland areas are generally characterized by hydric soils which are soils formed by periodic or sustained saturation of water. Wetlands regulations impact development design.



## **MINERAL RESOURCES**

Mineral resources can be categorized into fuel resources, such as coal and natural gas, and non-fuel resources such as sand and gravel mining. While the first commercial coal production in America occurred in Chesterfield County, coal is no longer actively mined in the county. One of the mineral resources mined in the county today is granite.

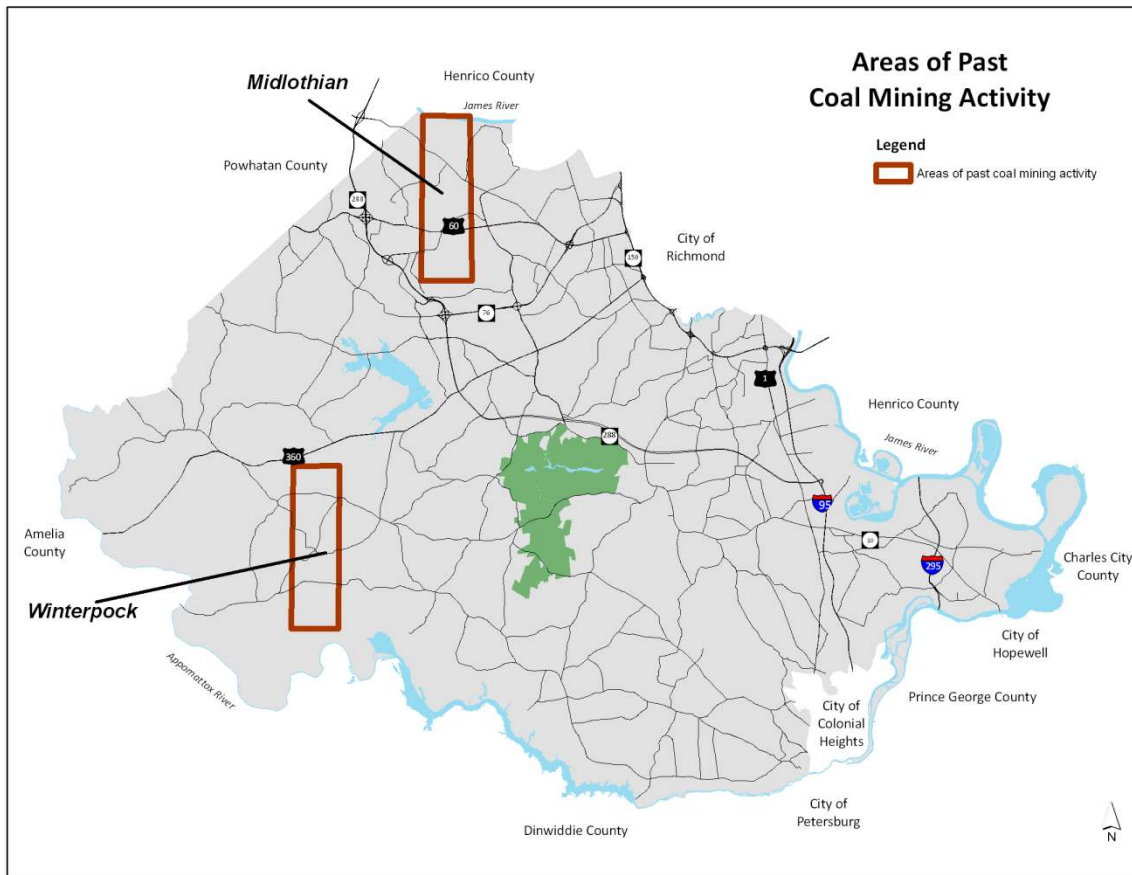
### **Fuel Mineral Resources**

#### **Coal Mining**

Major coal mining production in the county ceased in 1927, leaving many abandoned mines and shafts in the vicinity of the Midlothian and Winterpock areas.

#### **Natural Gas Extraction**

Black shale and coal beds exist in the Richmond Triassic Basin and the Dutch Gap area. In the late 1970's and early 1980's, approximately 20 wells were drilled in the county to test these formations to determine the feasibility of producing natural gas. While several of the exploratory wells were capable of producing natural gas, there was too much water in the wells to make extraction viable. The wells were subsequently capped in accordance with state and county requirements.





### **Non-Fuel Mineral Resources**

Mining of clay, sand and granite is an active part of the county's economy. Mining industries support development activities. These operations are regulated by the Virginia Department of Mines, Minerals and Energy (DMME), the US Department of Labor's Mine Safety and Health Administration (MSHA), as well as by zoning requirements. DMME regulates four mine permits in Chesterfield County, with active mining operations currently underway at three of these sites. The land acreage under permits is approximately 612 acres. Three of the mines are permitted to produce crushed stone for construction aggregate from the Petersburg Granite (Mpg), while the fourth operation is permitted to produce sand and clay, also for the construction industry. Annual production reports indicate a total of about 1.3 million short tons of crushed stone were produced in 2016, with an estimated value of about \$21.4 million. There were a total of 31 workers directly employed by the mining companies in 2016 earning approximately \$1.6 million in wages. A map of all active and past mining permits can be found on the [DMME website](#).

Mineral extraction also creates spin-off jobs in transportation and related industries.

### **FOREST AND-FARMLAND**

#### **Forest**

The Virginia Department of Forestry defines forest as "a plant community in which the dominant vegetation is trees and other woody plants." In Virginia, forests consist primarily of pines and hardwoods. Over the years, the amount of forestland has decreased primarily due to development. The forested nature of the county provides both an economic and aesthetic benefit. Forests provide recreation opportunities, maintain wildlife habitats, create natural reserves and preserve water quality. In addition, timber harvesting is an active industry in the county; the value of the timber sold in 2015 was approximately \$3.4 million. Timbering activities supply products to regional paper and lumber manufacturers.



Based upon 2015 information from the Virginia Department of Forestry:

- Approximately 152,671 acres of forest (55% of the county's land area) existed in the county.
- Approximately 134,035 acres of forest in the county (87% of all forest) were privately owned.
- Of the 95 counties in Virginia, the county ranked 35<sup>th</sup> in value of timber sold and 33<sup>rd</sup> in terms of volume of timber cut.

#### **Farmland**

For purposes of zoning, Chesterfield County defines a farm as a tract of land used for raising agricultural products, but excluding a farm winery; or tract of land on which is kept one or more cows, sheep, goats, horses, chickens, other fowl, rabbits, other farm animals or other small domesticated livestock. There is no definitive source of information regarding the total number of farms and the amount of acreage actively farmed in the county. Farming information can, however, be derived from a variety of sources such as the Census of Agriculture, the county's Land Use Program and the James River Soil and Water Conservation District (District).

In 2012, the Census of Agriculture reported that the market value of agricultural products sold by county farms totaled approximately \$6.4 million. It is also worth noting that farmer's markets are becoming increasingly popular in the county. Further, opportunities exist for the partnering of area farmers and food manufacturers to grow and produce food within the county.

Based upon 2012 information from the Census of Agriculture:

- Approximately 6,900 acres were dedicated to cropland farming (2.6% of the county's land area) producing mainly barley, wheat, hay and corn.
- Livestock production was active and includes cows and calves, chickens, hogs and pigs, goats and alpacas. The amount of land in this category is unknown.
- Other farmland activities focused on equestrian boarding and training, nursery production, and vineyards.

The District provides cost share and tax credit incentives through their Agriculture Best Management Practice program to producers in Chesterfield County. Each year the District has funding available to qualifying producers to help improve thousands of acres of land. This funding provides incentives for improving soil and water quality in the Chesapeake Bay watershed. The District also implements the Virginia Conservation Assistance Program that offers financial assistance to homeowners to promote urban conservation to reduce sediment and nutrient inputs into local waterbodies and the Chesapeake Bay.

As of 2017, approximately 3,600 acres of farmland (agriculture and horticulture) properties were enrolled in the county's Land Use Program.

Some farming may take place in the water to raise fish, shellfish or aquatic plants. There are no known commercial fisheries in Chesterfield County. Aquaculture may take place on private farms and aquaculture research is being performed at Virginia State University.

### **Urban Agriculture**

The field of urban agriculture is also an important type of farming and can take advantage of underutilized properties in urban or suburban settings that may be too small to support traditional farming. Urban farming provides education, health, social and economic benefits to local communities. To increase these benefits in the county, there are numerous local and regional markets such as restaurants, community supported agriculture (CSAs) and farmers' markets that could be explored in partnership with research at Virginia State University.



### **County Land Use Program - Existing Incentives for Forestland and Farmland Preservation**

As of January 2017, approximately 60,000 acres of forestland and farmland (21% of the county's land area) were included in the county's Land Use Program. This voluntary program was established by the **Code of Virginia** to "promote the preservation of land for public benefit." The program provides tax relief to landowners whose property meets certain size criteria, and is used for agricultural, horticultural, forestal and open space uses. A landowner pays taxes on the assessed value of the land

based on use rather than market value. To incentivize landowners to preserve their properties in their natural state, the Land Use Program assesses a tax, known as a rollback tax, on the property owner in certain circumstances when the land use intensifies, the size of the property is decreased below the minimum acreage required for the program, or the property owner rezones the property to a more intensive use.

### **CONSERVATION LANDS**

Approximately 17,000 acres (6% of the county's land area) are owned by local, state and federal governments as parks and research lands or are protected under conservation or open space easements. The character of these areas varies from woods and wetlands to active playing fields.

#### **Parks**

Chesterfield County is home to Pocahontas State Park, the largest state park in Virginia, comprising nearly 8,000 acres, as well as three federal parks totaling 1,400 acres. These federal conservation lands include Presquile National Wildlife Refuge, and two areas within the Richmond National Battlefield Park System, Parker's Battery and Drewry's Bluff. The county owns numerous regional, community, neighborhood and special purpose parks providing both passive and active recreational opportunities and comprising 4,600 acres. The county park system is discussed in more detail in The Public Facilities Plan chapter.



#### **State-Owned Lands**

The Commonwealth of Virginia owns properties across the state for various purposes including research, protection of sensitive resources and public access. State universities own two properties used primarily for agricultural and environmental research in the county. The 400-acre Randolph Farm is an agricultural research facility operated by Virginia State University (VSU) and located in Ettrick along the Appomattox River. Virginia Commonwealth University (VCU) owns 140 acres of property adjacent to the James River in the Meadowville area. The VCU property is an extension of the VCU Rice Center for Environmental Life Sciences, located downriver in Charles City County. The VCU Rice Center specializes in river ecology studies. The Virginia Department of Forestry operates a system of state forests across the state for research, timber management and passive recreation. There is one state forest located in Chesterfield County called the Chesterfield State Forest, and is 440 acres in size. The Department of Game and Inland Fisheries owns and operates Wildlife Management Areas (WMA) for hunting and recreational usage. The Johnson Creek Wildlife Management Area consists of 81 acres located in Chesterfield County, but does not offer public access at this time.



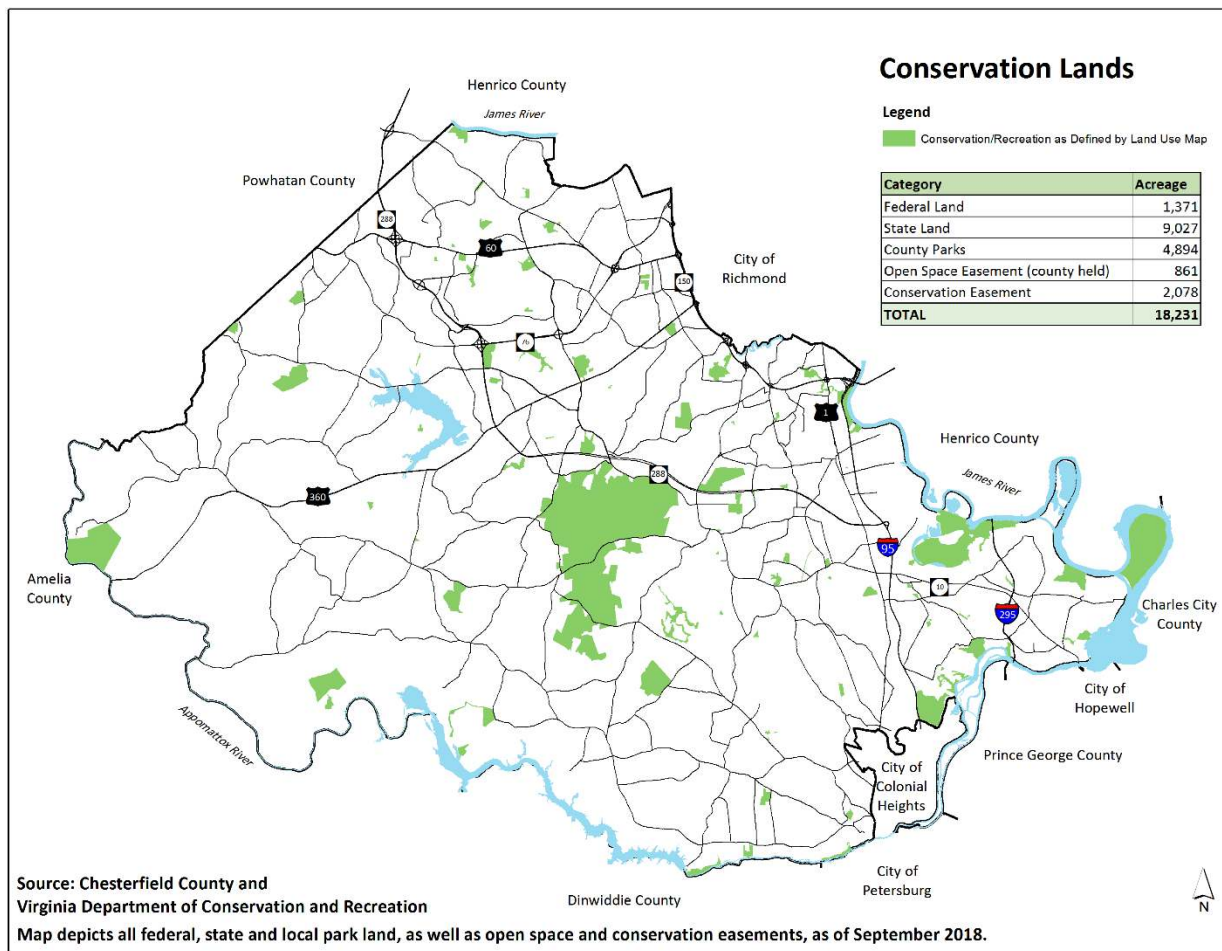


## Conservation and Open Space Easements

Landowners can benefit from federal and state tax programs by voluntarily placing conservation and open space easements on their property. Conservation easements are an agreement between a landowner and a qualified land protection organization, often called a land trust. Open space easements are an agreement between a landowner and a public body, including state agencies, local governments and soil and water conservation districts, among others. In addition, local governments are authorized to acquire and designate property for open space preservation.

Conservation easements protect land in perpetuity from future development. A landowner enters into agreement with an organization to hold the easement, which is recorded with the property deed and runs with the land. Open space easements must last for a minimum of five years, but may also be perpetual. Easement agreements vary from property to property. The use of the property is limited, but continued farming and forestry operations may be allowed. The use of the property under the easement or agreement must conform to the county's Comprehensive Plan.

Approximately 2,600 acres of private land in the county are protected under conservation easements or open space easements. Of the county's 4,600 parkland acres, approximately 1,500 acres are held in conservation easements. In addition to easements, some parkland is protected by deed restrictions and covenants.



### Zoning Tools

In addition to easement programs, the Zoning Ordinance can be used to promote cluster developments that preserve natural, environmental and open space features for the enjoyment of the public. Potential tools include new zoning districts and new design standards to provide guidance to land developers.

### NATURAL HERITAGE RESOURCES

The Virginia Natural Area Preserves Act defines natural heritage resources as “the habitat of rare, threatened, or endangered plant and animal species, rare or significant natural communities of geological sites, and similar features of scientific interest.” The Virginia Department of Conservation and Recreation’s Division of Natural Heritage and the Virginia Department of Game and Inland Fisheries document natural heritage resources.

When permits are required to disturb wetlands, developers are required to provide an inventory of the site’s natural heritage resources in conjunction with the permit application. Through the state and federal permitting processes, determinations are made as to what measures, if any, must be taken to protect any identified natural heritage resources.



Some of the county’s natural heritage resources include:

- The Barking Treefrog (*Hylas gratiosa*) –listed by the State as a threatened species
- The Yellow Lampmussel (*Lampsilis cariosa*)
- Atlantic Sturgeon (*Acipenser oxyrinchus*) – listed by the U.S. Fish & Wildlife Service and the State as an endangered species
- The Ohio River Shrimp (*Macrobrachium ohione*) – prioritized for protection by the State as critically imperiled because of extreme rarity
- Tidal Freshwater Marsh – prioritized for protection by the State as uncommon but not rare
- Virginia Least Trillium (*Trillium pusillum* var. *virginianum*) – listed by the U.S. Fish & Wildlife Service as a species of concern and prioritized for protection by the State as imperiled because of rarity



## **Relationship between Land Resources & Development Infrastructure**

### **FOUNDATIONS**

Building foundation designs can be impacted by soil types. The county's Department of Building Inspection addresses building foundation designs in areas with soils that shrink when dry and swell when wet. The U. S. Department of Agriculture maintains the Web Soil Survey that provides maps of all soil types.

### **PRIVATE INDIVIDUAL ON-SITE WASTEWATER TREATMENT**

Soils and topography affect the ability to install drainfields for private individual on-site wastewater treatment facilities. Installation of a private system must be approved by the Chesterfield County Health Department. All private conventional and alternative onsite sewage systems shall be maintained (including pump-out or inspection requirements) in accordance with county code and state regulations as noted on plats.

The eastern area of the county is generally suitable for the installation of conventional septic systems. Soils in the western area of the county, especially in the Triassic Basin, are generally unsuitable for conventional systems (see map on page EN 3). Where soils are not suitable for conventional systems, alternative on-site septic systems may be installed. These alternative systems process waste for an individual residence.

Approximately 23,500 county residences are on a private individual conventional septic system. The average lifespan of a conventional system is 35 years. The county requires that these systems be pumped out every five years. Current regulations require sufficient acreage and soil conditions that can accommodate a reserve drainfield for a conventional system.

Approximately 730 county residences are on an alternative on-site septic system. An alternative on-site system does not require as much land area as a conventional system. The initial cost for installation of an alternative on-site septic system is higher than that of a conventional system due to the treatment unit and each individual system must be designed by a professional engineer or alternative onsite evaluator. Alternative on-site septic systems also have higher annual maintenance costs due to their complexity.

## **Impacts of Specific Land Uses on Land Resources and Development**

Existing and new development can be impacted by activities that use, or have used, land resources. These activities include coal mines, mineral extraction and landfills. When abandoned and reclaimed, some of these areas also have the potential for adaptive reuse such as sites for alternative and renewable energy.

### **COAL MINE**

DMME manages an Abandoned Mine Lands program to assist in locating and characterizing the hazards associated with abandoned coal mining activities.

Development in the vicinity of abandoned coal mining activities must be sensitive to the potential existence of shafts which can cause sink holes in the earth. Therefore, careful attention must be given to the placement of structures in relationship to past mining activities.

The county maintains maps showing approximate locations of abandoned mines and shafts. This information is used when reviewing development proposals in the vicinity of past coal mining activities and recommendations are made accordingly through the development review process.

### **FUEL AND NON-FUEL MINERAL RESOURCE EXTRACTIONS**

DMME permitting and the county's zoning and development review processes regulate mineral extraction activities in the county. While extractions provide an economic benefit, the activity can impact nearby land uses.

Impacts from and reclamation of extraction sites are addressed through the zoning for a property and the development review process. Impacts from active operations could include dust, noise and vibration from blasting and crushing. Residential uses are especially vulnerable to these impacts. Closed sites should be properly secured and reclaimed.



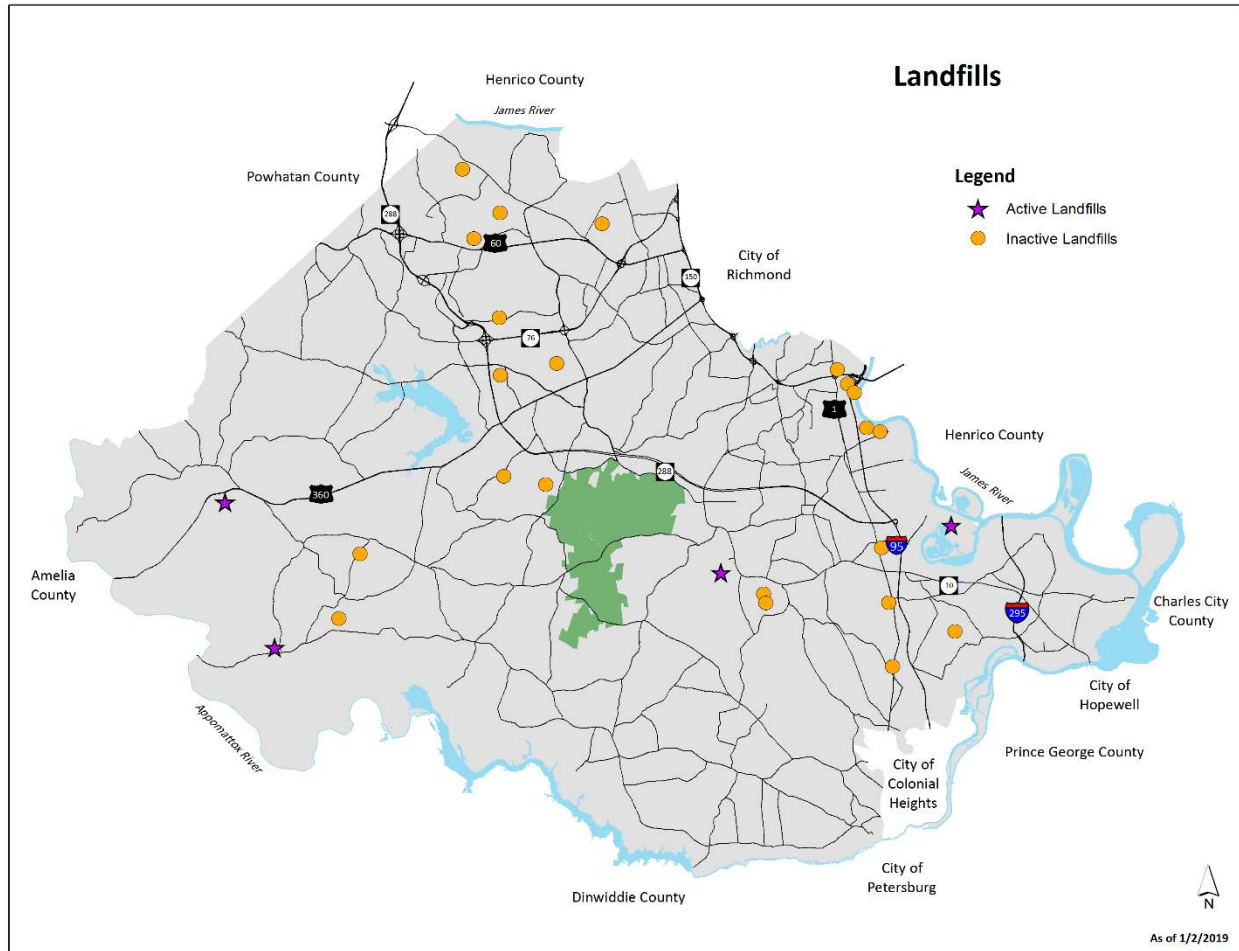
### **LANDFILLS**

Landfills are sites for the disposal of waste and are regulated by the Virginia Department of Environmental Quality. The county also regulates landfills through zoning, the development review process and by county ordinance. There are three types of landfills:

- Sanitary landfills, which accept household, business and industrial waste
- Construction/demolition/debris landfills, which accept land cleared material and construction debris
- Hazardous waste landfills, which are treatment, storage and disposal facilities for hazardous waste

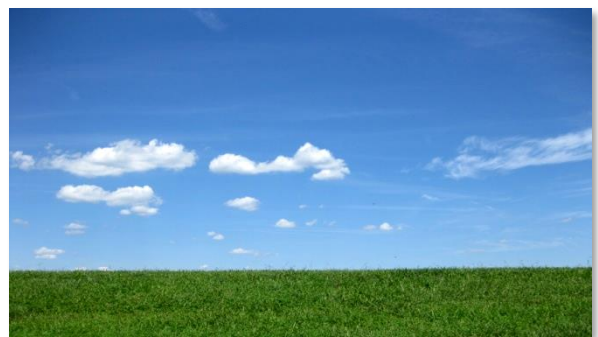
The Central Virginia Solid Waste Management Plan was approved by DEQ on May 31, 2015. The CVWMA is a public service authority for solid waste and recycling for thirteen local governments in central Virginia, including Chesterfield County. The plan defines solid waste management objectives for the service area and also provides an inventory of all active and closed solid waste facilities in the service area.

Impacts and reclamation of landfills are addressed through the zoning and development review processes. Impacts from active operations could include dust, noise, water pollution and odor. Active and closed landfills generate methane gas and leachate. Residential uses are especially vulnerable to these impacts. Closed landfills must be properly secured and stabilized in accordance with applicable legal requirements.



## Air Quality

Air quality is influenced by many elements from a wide geographic area. For example, the air quality of Chesterfield County is affected not only by personal daily actions such as operating a motor vehicle, but also by the emissions of major industries located hundreds of miles away. National Ambient Air Quality Standards are set by the Environmental Protection Agency and air quality is monitored by the Virginia Department of Environmental Quality. Outdoor, or ambient, air is monitored for five pollutants: carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone and particulate matter. Ozone, the primary component in smog, directly impacts citizens' health, particularly those with asthma or emphysema.



Air quality is measured at a regional scale and has steadily improved since 2012 due to collaborative efforts by community leaders. The Richmond region includes Chesterfield County, as well as the counties of Charles City, Hanover, Henrico, Prince George and the cities of Colonial Heights, Hopewell, Petersburg and Richmond. Two of the regional monitoring stations operated by the Department of Environmental

Quality are located in the county: one at Beach and Spring Run Roads, which collects data on ambient ozone levels, and one at the Defense Supply Center on Jefferson Davis Highway which collects data on particulate matter. On May 21, 2012, EPA designated the Richmond region as attainment/maintenance for the 2008 ozone National Ambient Air Quality Standards, which means the area is meeting the applicable air quality standard. In 2013, leaders from the region developed an action plan to promote ongoing good air quality. A 2017 update to the action plan indicates that air quality improvements are continuing in the region due to increases in ridesharing, investment in renewable energy and a reduction in coal-powered electricity.

### Noise

Noise pollution is considered unwanted, disturbing, disagreeable or unpleasant sound. There are two types of noise:

- **Background sounds** such as those created by traffic and mechanical equipment
- **Short-term sounds** such as those created by construction, animals, refuse collection, airports, railroads and outdoor events.

The EPA regulates noise sources such as rail and motor carriers, construction equipment, transport equipment, trucks and motorcycles. Noise generation can also be regulated at the local level.

The Land Use Plan chapter considers noise impacts by discouraging incompatible land uses in close proximity. Further, The Land Use Plan chapter discourages residential uses in areas impacted by the Chesterfield County Airport.

The County Code addresses short-term noise disturbance such as those from garbage collection, radios, televisions, loud speakers and lawn maintenance. The Zoning Ordinance also addresses potential noise impacts through setback and buffer requirements and, in some districts, limitations on hours of operation. Through the zoning process, conditions may be considered to address the potential noise impacts of a specific development proposal.

### Light

Light pollution is the alteration of outdoor light levels due to man-made sources of light. Improperly directed or unshielded light can create a nuisance.

The Zoning Ordinance addresses light pollution, requiring light sources to be directed downward; preventing direct view of light sources from public rights-of-way and residential properties; limiting light intensity; and, in some instances, requiring buffers. Through the zoning process, conditions may be considered to address the potential light impact of a specific development proposal.

## Water Resources

### GROUNDWATER

Groundwater is the water beneath the surface of the earth, and is an important resource for domestic and industrial use. Groundwater is stored in underground formations known as aquifers. Wells are one way to remove groundwater from aquifers. Soil, rock, precipitation and topographical conditions impact the ability and rate of an aquifer to recharge, which is the natural ability of an aquifer to refill with water. Overpumping and overuse of groundwater can lead to the failure of an aquifer and the permanent loss of that water resource.

Aquifers in the Piedmont, Triassic Basin and Coastal Plain have separate and unique characteristics. Generally, wells in the Coastal Plain recharge quickly due to sandy soil conditions, whereas wells in the Triassic Basin do not recharge as rapidly due to rock formations that impede the flow of water into the aquifer. Also, due to rock formations in the Triassic Basin, it is often necessary to drill deep wells and/or to drill at several locations before finding an adequate water supply. In some instances, it is also necessary to have several wells on an individual site to obtain an adequate water supply. Aquifers are subject to pollution from infiltration of stormwater, surface water and contaminants that are dumped onto the ground's surface and filter down into the groundwater.

In Chesterfield County, only residents with private wells obtain drinking water from groundwater. Groundwater in the county is also pumped and used for industrial purposes. Installation of a drinking water well must be approved by the Chesterfield Health District. Approximately 9,000 county residences are on private wells. A residential well must yield a minimum of three gallons per minute to meet county requirements. For any newly created parcel, the county requires a minimum lot size of one acre for the installation of a residential well.

Some of Chesterfield County's groundwater is located in the Eastern Virginia Groundwater Management Area, one of only two groundwater management areas in the state. This Area was created to conserve the use and protect the quality of the groundwater for all areas east of Interstate 95. In 2015, the General Assembly established the Eastern Virginia Groundwater Management Advisory Committee to develop, revise and implement a management strategy for groundwater in the Eastern Virginia Groundwater Management Area. The county submitted a water resource plan in support of the committee's efforts.

### SURFACE WATER

Surface water includes wetlands, streams, lakes, springs, ponds and rivers. Chesterfield County has 92 miles of waterfront along the James and Appomattox Rivers. Twelve of the 92 miles are along Lake Chesdin, created by a dam on the Appomattox River. Approximately 19 miles of the Appomattox River from the Brasfield Dam at Lake Chesdin to where it meets the James River (excluding the Port Walthall Channel) have been designated by the state as a scenic river. This designation





recognizes the natural, scenic, historic and recreational value of this portion of the river and does not imply any land use controls or public access. In addition, thousands of miles of streams exist in the county, as well as hundreds of lakes and ponds. County surface water drains to the James River, which ultimately flows to the Chesapeake Bay. County surface waters are protected by regulation of development activities to control erosion, sediment and stormwater, as well as preserve sensitive buffer areas adjacent to streams and wetlands. County surface waters are also protected under a permit issued to the county by DEQ, which requires oversight of the county's storm sewer system to prevent pollutants from ultimately discharging to our local creeks and rivers. The county also addresses issues of stream and shoreline erosion through the development process. In addition, the county actively works with property owners to address erosion and water quality issues following development through the stormwater infrastructure capital improvement program and support from the county's Department of Environmental Engineering.

### **DOCKS AND PIERS**

Docks and piers are structures built out into the water that allow public or private access to water bodies for safe recreational access such as fishing, swimming or boating. Pillars are submerged into the bottom of the waterbody. Docks and piers are considered water dependent uses and are permitted under the Chesapeake Bay Act. Installation of such structures can prevent shoreline erosion for areas with high use, but must be built with proper design and materials to limit impacts. In addition to impacts from improper materials, structures can also displace aquatic vegetation and introduce shade to waterbodies. The county regulates the permitting of shoreline structures along Swift Creek Reservoir. The Virginia Marine Resources Commission and the Appomattox River Water Authority in coordination with the county regulate the permitting of shoreline structures along Lake Chesdin. The Virginia Marine Resources Commission in coordination with the county regulates the permitting of shoreline structures along all-natural water bodies. Any proposed work in a waterbody (natural or man-made), tidal or non-tidal wetland requires the submission of a Joint Permit Application to the Virginia Marine Resources Commission. (VMRC acts as the clearing house and distributes copies of the JPA to the appropriate Federal, State, and Local agency for their independent review and permitting actions.)

### **DRINKING WATER SOURCE WATERSHEDS**

Swift Creek Reservoir, a source of drinking water, is a 1,700-acre water amenity. The Reservoir is maintained by the Department of Utilities. More information regarding the Swift Creek Reservoir as a drinking water source is found in the Water and Wastewater chapter.

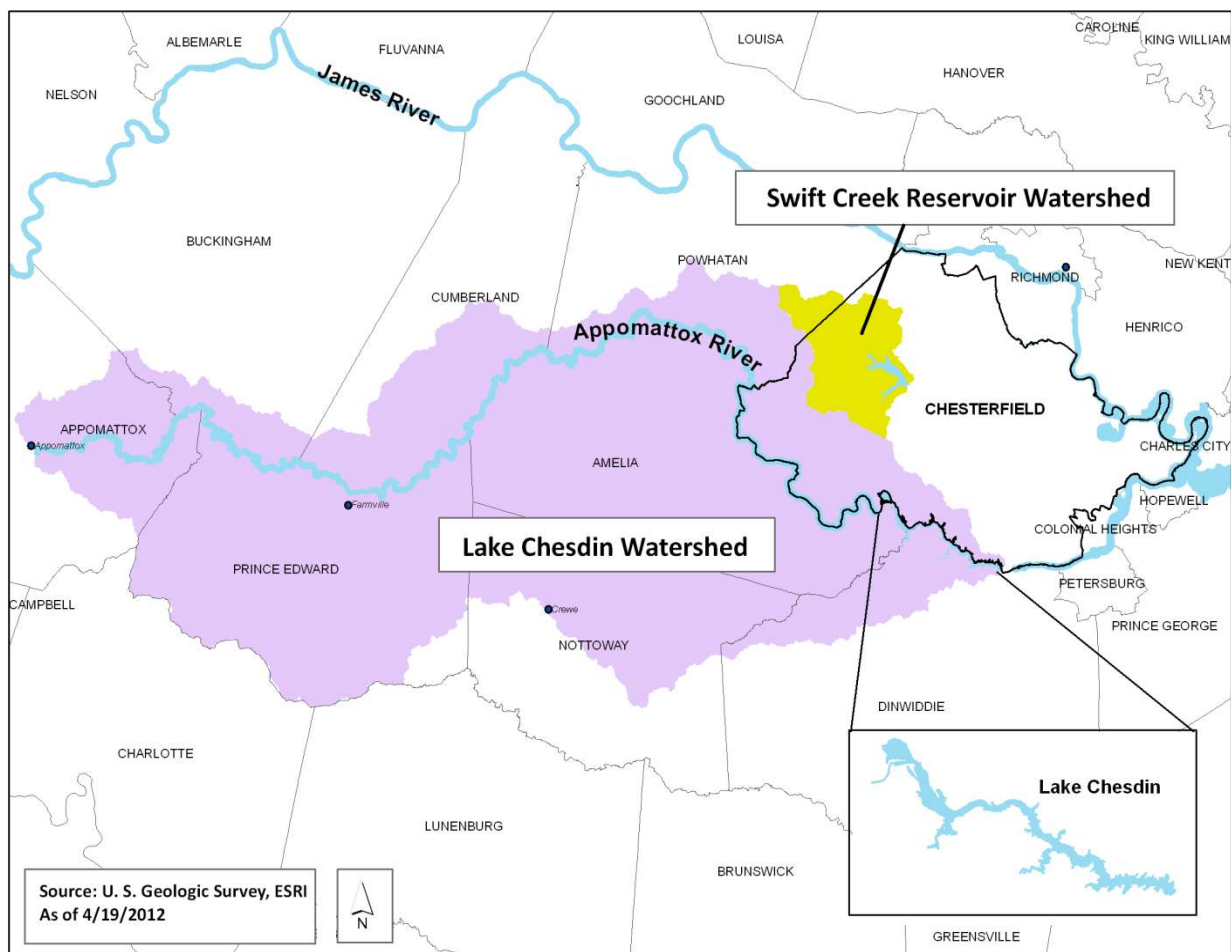
Lake Chesdin, a source of drinking water, is a 3,100-acre water amenity. The Lake is maintained by the Appomattox River Water Authority. More information regarding Lake Chesdin as a drinking water source and the Appomattox River Water Authority is found in the Water and Wastewater chapter.



Until 1985, Falling Creek Reservoir was used as a drinking water source. A combination of water quantity and quality issues made it no longer cost effective to use it as a drinking water source. The Falling Creek Dam is maintained by the Department of Utilities.

In addition to Swift Creek Reservoir and Lake Chesdin, the James River is a third drinking water source for the county. These resources also provide aesthetic and recreational benefits. Drinking water supply and capacity are critical to the growth and development of the county. The county strives to ensure an adequate supply of drinking water. The Water and Wastewater chapter (Chapter 12) contains a comprehensive discussion of water supply demand and projections of the county's water needs.

The Swift Creek Reservoir Watershed comprises approximately 40,000 acres. Approximately 33,000 acres (or 83%) of the watershed lie within the county's boundaries. This enhances the county's ability to protect water quality in the reservoir through proactive measures. The remaining portion of the watershed lies in Powhatan County.



The Lake Chesdin Watershed comprises approximately 854,000 acres. Approximately 65,500 acres (or 8%) of the watershed lie within the county's boundaries, limiting the county's ability to significantly affect the water quality of the reservoir. Lake Chesdin is controlled by the Appomattox River Water Authority of which the county is a member. Further discussion of the role of the Authority is outlined in the Water and Wastewater chapter.

## **FLOODPLAINS**

Floodplains are areas of land along rivers or streams that are periodically flooded as result of precipitation, snow melt and stormwater. Floodplains provide storage capacity for excess water until downstream surface water systems can adequately accommodate the flow. Floodplains that are left in their natural state benefit water quality by providing a buffer between development and the water body. The county's floodplain map was updated by the Federal Emergency Management Agency in 2012. The Zoning Ordinance restricts construction in floodplains to prevent the loss of life and property. Clearing in floodplains that are part of a Resource Protection Area is also limited by the Zoning Ordinance. For areas within the Upper Swift Creek Watershed, clearing in floodplains adjacent to non-Resource Protection Area streams is also limited by the Zoning Ordinance. The Upper Swift Creek Watershed is defined in the zoning ordinance as "all lands in the county located upstream of the Swift Creek Reservoir Dam" and is the portion of the watershed that lies within the jurisdictional boundary of Chesterfield County. The entire watershed for the Swift Creek Reservoir extends into Powhatan County and be viewed on the map on page EN 16.

## **WETLANDS**

Chesterfield has both tidal and non-tidal wetland areas. The United States Army Corps of Engineers and DEQ define a wetland as "areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adaptive for life in saturated soil conditions. Wetlands generally include swamps, marshes and bogs." The Code of Virginia Section 28.2.1300 defines "Vegetated wetlands" as lands lying between and contiguous to mean low water and an elevation above mean low water equal to the factor one and one-half times the mean tide range at



the site of the proposed project in the county, city, or town in question, and upon which is growing any of the following species: saltmarsh cordgrass (*Spartina alterniflora*), saltmeadow hay (*Spartina patens*), saltgrass (*Distichlis spicata*), black needlerush (*Juncus roemerianus*), saltwort (*Salicornia* spp.), sea lavender (*Limonium* spp.), marsh elder (*Iva frutescens*), groundsel bush (*Baccharis halimifolia*), wax myrtle (*Myrica* sp.), sea oxeye (*Borrchia frutescens*), arrow arum (*Peltandra virginica*), pickerelweed (*Pontederia cordata*), big cordgrass (*Spartina cynosuroides*), rice cutgrass (*Leersia oryzoides*), wildrice (*Zizania aquatica*), bulrush (*Scirpus validus*), spikerush (*Eleocharis* sp.), sea rocket (*Cakile edentula*), southern wildrice (*Zizaniopsis miliacea*), cattail (*Typha* spp.), three-square (*Scirpus* spp.), buttonbush (*Cephalanthus occidentalis*), bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica*), tupelo (*Nyssa aquatica*), dock (*Rumex* spp.), yellow pond lily (*Nuphar* sp.), marsh fleabane (*Pluchea purpurascens*), royal fern (*Osmunda regalis*), marsh hibiscus (*Hibiscus moscheutos*), beggar's tick (*Bidens* sp.), smartweed (*Polygonum* sp.), arrowhead (*Sagittaria* spp.), sweet flag (*Acorus calamus*), water hemp (*Amaranthus cannabinus*), reed grass (*Phragmites communis*), or switch grass (*Panicum virgatum*). "Nonvegetated wetlands" are defined as unvegetated lands lying contiguous to mean low water and between mean low water and mean high water, including those unvegetated areas of Back Bay and its tributaries and the North Landing River and its tributaries subject to flooding by normal and wind tides but not hurricane or tropical storm tides. Wetlands provide numerous environmental services. They filter pollution, mitigate flooding, provide a source of groundwater recharge and provide habitat for diverse wildlife and plants.

Chesterfield County wetlands are protected under the Zoning Ordinance, the stormwater ordinance, the erosion and sediment control ordinance, as well as by laws and regulations administered by the Army Corps, Virginia Marine Resources Commission, and DEQ. The Army Corps, Virginia Marine Resources Commission, and DEQ review and issue permits for disturbance of wetlands. These permits may require mitigation of impacts through Water Quality Impact Assessments, stream restorations, provision of compensating wetlands elsewhere, or purchase of credits from an Army Corps or DEQ approved wetlands mitigation bank.

### **COMMERCIAL & RECREATIONAL FISHERIES**

According to the Department of Game and Inland Fisheries (DGIF) there is a commercial harvest on blue catfish in the region with most of the harvest occurring in the main channel of the James River and downstream of the Chesterfield County border. On occasion, a few commercial anglers may be found venturing into the mouth of the Appomattox river. Otherwise, the main uses of the county's aquatic resources are recreational in nature.

### **COMPREHENSIVE COASTAL RESOURCE MANAGEMENT**

Coastal ecosystems reside at the interface between the land and water, and are naturally very complex. They perform a vast array of functions by way of shoreline stabilization, improved water quality, and habitat for fishes; from which humans derive direct and indirect benefits.

The science behind coastal ecosystem resource management has revealed that traditional resource management practices limit the ability of the coastal ecosystem to perform many of these essential functions. The loss of these services has already been noted throughout coastal communities in Virginia as a result of development in coastal zone areas coupled with common erosion control practices. Beaches and dunes are diminishing due to a reduction in a natural sediment supply. Wetlands are drowning in place as sea level rises and barriers to inland migration have been created by construction of bulkheads and revetments. There is great concern on the part of the Commonwealth that the continued armoring of shorelines and construction within the coastal area will threaten the long-term sustainability of coastal ecosystems under current and projected sea level rise.

In the 1980s, interest arose in the use of planted wetlands to provide natural shoreline erosion control. Today, a full spectrum of living shoreline design options is available to address the various energy settings and erosion problems found. Depending on the site characteristics, they range from marsh plantings to the use of rock sills in combination with beach nourishment.

Research continues to support that these approaches combat shoreline erosion, minimize impacts to the natural coastal ecosystem and reinforce the principle that an integrated approach for managing tidal shorelines enhances the probability that the resources will be sustained. Therefore, adoption of new guidance and shoreline best management practices for coastal communities is now necessary to insure that functions performed by coastal ecosystems will be preserved and the benefits derived by humans from coastal ecosystems will be maintained into the future.

In 2011, the Virginia General Assembly passed legislation to amend §28.2-1100 and §28.2-104.1 of the Code of Virginia and added section §15.2-2223.2, to codify a new directive for shoreline management in Tidewater Virginia. In accordance with section §15.2-2223.2, all local governments shall include in the next revision of their comprehensive plan beginning in 2013, guidance prepared by the Virginia Institute

of Marine Science (VIMS) regarding coastal resource management and, more specifically, guidance for the appropriate selection of living shoreline management practices. The legislation establishes the policy that living shorelines are the preferred alternative for stabilizing eroding shorelines.

This guidance, known as Comprehensive Coastal Resource Management Guidance, is being prepared by VIMS for localities within the Tidewater region of Virginia and shared through their Comprehensive Coastal Resources Management Portal (CCRMP). It explicitly outlines where and what new shoreline best management practices should be considered where coastal modifications are necessary to reduce shoreline erosion and protect our fragile coastal ecosystems. This guidance will include a full spectrum of appropriate management options which can be used by local governments for site-specific application and consideration of cumulative shoreline impacts. The guidance applies a decision-tree method using a resource mapping database that will be updated from time to time, and a digital geographic information system model created by VIMS.

### Recommendations

- Refer to the guidance presented in the locality's Comprehensive Coastal Resource Management Portal (CCRMP) prepared by VIMS to guide regulation and policy decisions regarding shoreline erosion control.
- Utilize VIMS Decision Trees for onsite review and subsequent selection of appropriate erosion control/shoreline best management practices: <http://ccrm.vims.edu/decisiontree/index.html>.
- Utilize VIMS' CCRMP Shoreline Best Management Practices for management recommendations for all tidal shorelines in the jurisdiction.
- Consider a policy where the above Shoreline Best Management Practices become the recommended adaptation strategy for erosion control, and where a departure from these recommendations by an applicant wishing to alter the shoreline must be justified at a hearing of the board(s).
- Encourage staff training on decision-making tools developed by the Center for Coastal Resources Management at VIMS.
- Follow the development of the state-wide General Permit being developed by VMRC. Ensure that local policies are consistent with the provisions of the permit.
- Evaluate and consider a locality-wide permit to expedite shoreline applications that request actions consistent with the VIMS recommendation.
- Seek public outreach opportunities to educate citizens and stakeholders on new shoreline management strategies including Living Shorelines.
- Follow the development of integrated shoreline guidance under development by VMRC.
- Evaluate and consider a locality-wide regulatory structure that encourages a more integrated approach to shoreline management.
- Consider preserving available open spaces adjacent to marsh lands to allow for inland retreat of the marshes under rising sea level.
- Evaluate and consider cost-sharing opportunities for construction of living shorelines.



## Impacts of Human Activities on Water Resources

Water pollution means the alteration of the chemical, physical or biological properties of state and local waters that creates a nuisance, harms the public or the environment, or renders such waters unfit for their designated use. Most water quality pollution comes from either "point" or "non-point" sources.

Point sources of pollution come from an identifiable source such as a pipe outlet from a wastewater treatment plant or industrial use. These discharges are regulated through Virginia Pollution Discharge Elimination System permits, which are issued by the state and place limits on the allowable types and amounts of pollutants that may be discharged to state and local waters.

Non-point sources of pollution do not come from an easily identifiable point of discharge. Non-point source pollution occurs when pollutants accumulated on land runoff to surface waters during rain events. Impervious areas, solid surfaces that resist water penetration, contribute to non-point source pollution by causing water to flow in greater volumes and increased speed into stormwater drainage systems and streams. Increased volumes and faster water flows adjust the shape of streams by widening or down-cutting the stream bed and eroding banks. These adjustments degrade aquatic habitat for animals and plants. Stormwater runoff from roads and other paved surfaces also impacts water quality by washing pollutants into local waterbodies. Pollutants include motor oil, pesticides, toxic substances, animal waste, pathogens and soils from construction sites. These pollutants can adversely affect aquatic organisms and fish. Non-point source pollution is addressed by the EPA, DEQ and the county through a combination of stormwater requirements and voluntary programs.

A variety of uses and activities generate pollutants that impact water resources:

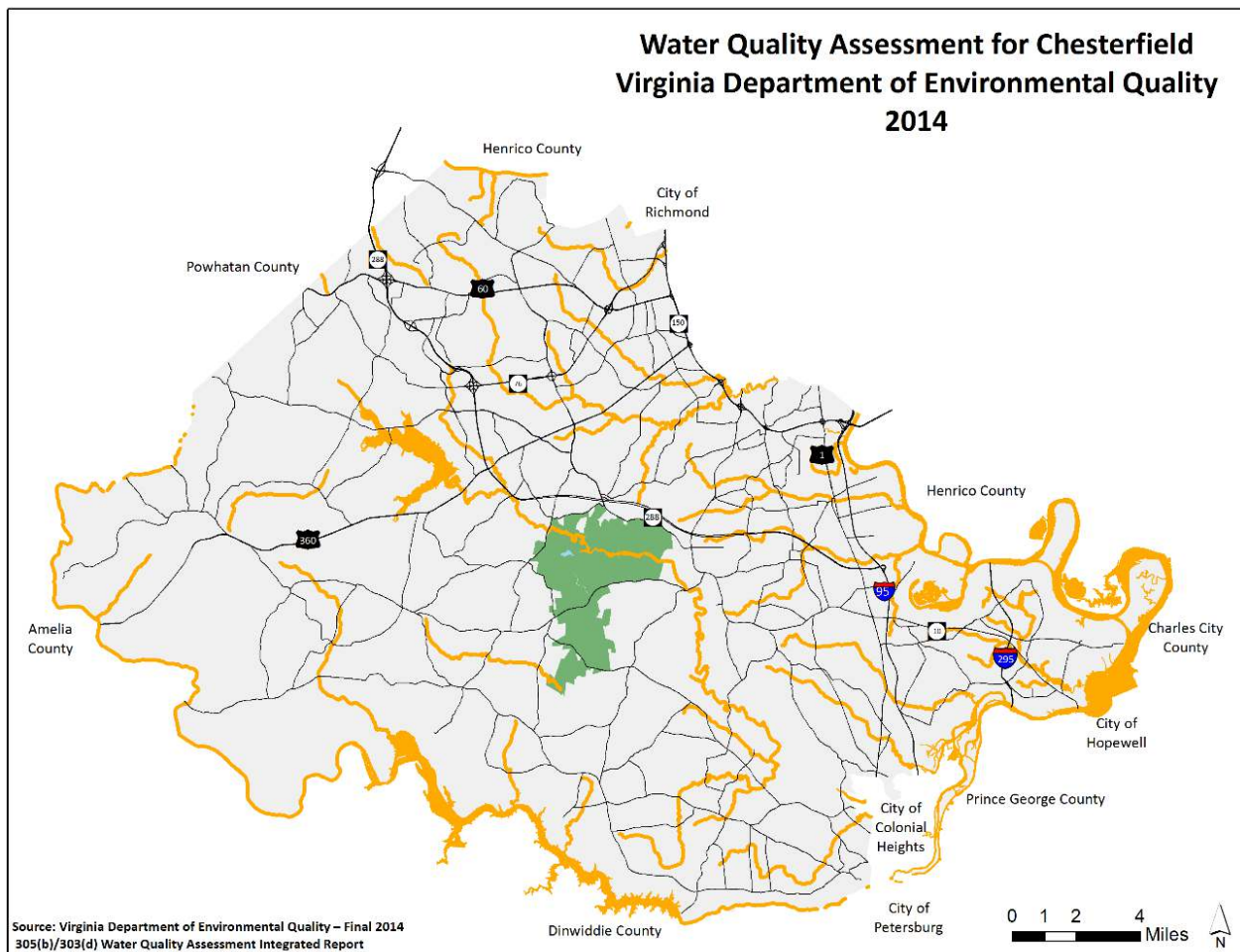
- **Land uses:** fertilizers, pesticides, metals, oil, grease and animal waste
- **Construction Sites:** sediment and petroleum
- **Agriculture:** fertilizers, animal waste and sediment
- **Silviculture or Timbering:** sediment
- **Roads and Parking Lots:** de-icing products, metals petroleum and sediment
- **Golf Courses:** fertilizers, pesticides and herbicides
- **Marinas and Boat Ramps:** petroleum, sewage, trash and sediment
- **Failing Septic Systems:** bacteria and nutrients
- **Discharges to Storm Sewers or Land:** fertilizers, petroleum and detergents
- **Landfills:** groundwater leachate and surface runoff
- **Hazardous Waste**
- **Underground Storage Tanks:** petroleum
- **Stream Bank and Shoreline Erosion:** sediment and vegetation loss.
- **Brownfield and Superfund Sites:** petroleum, chemicals, hazardous waste

## **IMPAIRED STREAMS, LAKES AND RIVERS**

DEQ assesses water quality of the state's streams, lakes, reservoirs and rivers to determine if they are safe for recreation, fishing, wildlife habitat and harvesting shell fish for eating. Further, water bodies used for public drinking water are also assessed. An interactive map of the impaired waters in Chesterfield County can be viewed on the [DEQ Geographic Information System \(GIS\) Application](#).

A water body is considered impaired if any of the following conditions are found:

- It fails water quality standards
- Fish or shellfish are contaminated
- Nutrient levels are high
- Aquatic life is declining.



## Legal Requirements for the Protection of Water Quality

Water quality requirements and monitoring programs are in place to protect water quality from point and non-point source pollution.

### **FEDERAL CLEAN WATER ACT (CWA)**

In accordance with the *Federal Clean Water Act*, Virginia has adopted water quality standards to restore and maintain the chemical, physical and biological integrity of the nation's waters. In Virginia, these standards are administered by DEQ under the authority of the State Water Control Law. Pollution control programs include establishing and updating water quality standards, identifying polluted water bodies, protecting wetlands and issuing discharge permits.



### **VIRGINIA POLLUTION DISCHARGE ELIMINATION SYSTEM (VPDES) AND VIRGINIA WATER PROTECTION PERMIT (VWP)**

The Virginia Department of Environmental Quality regulates water resources and pollution. Various permits are required to regulate uses that have the potential to impact water quality, such as industrial activities, wastewater treatment plants, biosolids applications and livestock feeding operations.

### **STORMWATER MANAGEMENT**

DEQ regulates stormwater through the Virginia Stormwater Management Program (VSMP) and delegated its VSMP authority to the county in 2014. The purpose of this program is to issue permits that authorize the discharge of stormwater during land disturbing activities. These permits require the implementation of measures to control and manage and reduce the pollutants discharged to state and local waterbodies.



In 2014, the county ordinance was amended to include the VSMP. The VSMP requires plan review to meet water quantity and quality requirements and inspections during the land disturbance construction process to ensure water quality protection. The program also requires the long-term responsibility for maintenance of stormwater facilities.

Stormwater discharges from county-maintained infrastructure is regulated by DEQ under a Municipal Separate Storm Sewer System (MS4) permit, which was re-issued December 17, 2014 and is valid for five years. The MS4 permit requires a series of programs to reduce the discharge of pollutants from the storm sewer system in a manner that protects water quality of nearby streams, rivers, wetlands and the Chesapeake Bay.

### **Chesapeake Bay Total Maximum Daily Load (TMDL)**

Because the county's local waters ultimately wind up in, and impact, the Chesapeake Bay, the MS4 permit contains a special condition for the Chesapeake Bay. This special condition requires the county to reduce stormwater discharge of nitrogen, phosphorus, and total suspended solids to the Chesapeake Bay. Chesterfield County has developed a compliance plan to achieve the required reductions. This includes stream restoration, restoration of the Falling Creek Reservoir and retrofitting existing stormwater treatment facilities.

### **EROSION AND SEDIMENT CONTROL ORDINANCE (ESC)**

The goal of the Virginia State Erosion and Sediment Control Ordinance is to control soil erosion, sedimentation and nonagricultural runoff from regulated "land-disturbing activities" to prevent degradation of property and natural resources. The county implements the Virginia State Erosion and Sediment Control Ordinance. The regulations specify "Minimum Standards" which include criteria, techniques and policies that must be followed for all regulated activities. These standards address erosion and sediment control measures as well as control stormwater runoff to ensure that the limits of 100-year floodplains will not be exceeded on roads and storm sewer structures.

In 2016, the General Assembly amended the State Water Control Law, the Erosion and Sediment Control Law and the Chesapeake Bay Preservation Act to consolidate the stormwater management and erosion and sediment control programs. DEQ is drafting new regulations to implement the consolidated program.



### **CHESAPEAKE BAY PRESERVATION ACT**

The Chesapeake Bay Preservation Act ("Act"), adopted in 1988, is designed to protect and improve water quality in the Chesapeake Bay and its tributaries by requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive lands. The two types of Chesapeake Bay Preservation Areas ("CBPA") are Resource Protection Areas ("RPA") and Resource Management Areas ("RMA"). RPAs serve an important water quality function by protecting county water bodies and providing a buffer adjacent to them. The buffer acts to filter runoff prior to entering water bodies. RMAs also include land types that have potential for causing significant water quality degradation or for diminishing the functional value of the RPA if they are improperly used or developed. The entire county has been designated as an RMA.

Post-development phosphorus loads are limited by the Virginia Stormwater Management Program (VSMP) Regulations and County ordinance. Development within Chesapeake Bay Preservation Areas must address water quality protection through preservation of native vegetation to the maximum extent possible, limiting disturbance area and minimizing the amount of impervious cover to that necessary to accommodate the proposed use. In addition, plan of development review, E&S, and stormwater management are required for any land disturbance greater than 2,500 square feet, and pump out of septic

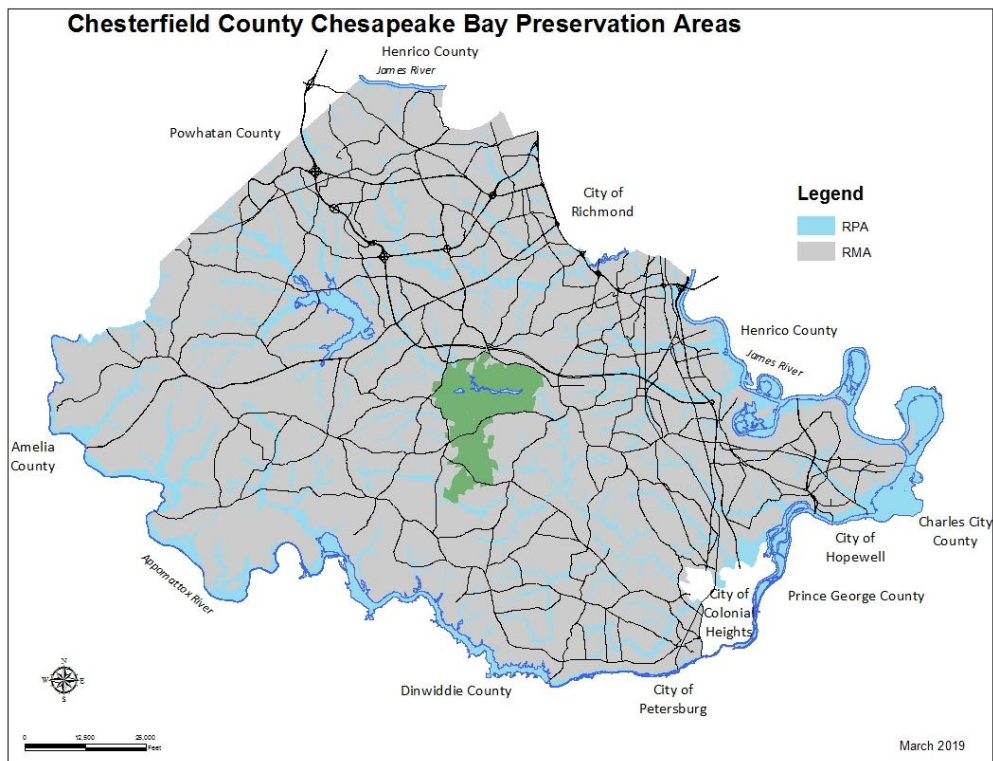


systems is required at least once every five years within CBPAs. Development within an RPA is limited to water dependent uses, redevelopment, or road or driveway crossings, with conditions. In addition, passive recreation facilities, wells, historic preservation and archeological activities, public roads, and public utilities are exempt under certain conditions. All other development proposed within an RPA is prohibited unless an exception is granted administratively or by the Board of Supervisors.



- RPAs include
  - water bodies with perennial flow
  - tidal wetlands
  - tidal shores
  - nontidal wetlands connected by surface flow that are contiguous to tidal wetlands or water bodies with perennial flow
  - other lands determined by the county to be sensitive to impacts which may cause significant degradation to the quality of state waters; and
  - a minimum 100-foot naturally vegetated buffer adjacent to and landward of these components.

RPAs serve an important water quality function by protecting county waterbodies and providing a buffer adjacent to them. The buffer acts to filter runoff prior to entering water bodies. Using site-specific evaluations, the county updates maps showing RPAs. A map depicting the current extent of the RPAs in Chesterfield County can be found online and below.





Best Management Practices (BMPs) are structural and non-structural methods designed to remove pollutants from runoff and minimize flooding and stream channel erosion resulting from development. Best Management Practices can include both wet and dry ponds, drainage swales, sand filters, infiltration trenches and manufactured systems.

### **UPPER SWIFT CREEK WATERSHED REGULATIONS**

In addition to Chesapeake Bay protection measures, the county adopted additional practices designed to address development activities within the Upper Swift Creek watershed for the purpose of protecting the water quality of Swift Creek Reservoir, a source of the county's drinking water. The Upper Swift Creek Watershed is defined in the zoning ordinance as "all lands in the county located upstream of the Swift Creek Reservoir Dam" and is the portion of the watershed that lies within the jurisdictional boundary of Chesterfield County. The entire watershed for the Swift Creek Reservoir extends into Powhatan County and be viewed on the map on page EN 16.



Primarily, the regulation limits residential subdivision development to a post-development phosphorous load of 0.22 pounds per acre per year. Compliance with this requirement could include:

- Preservation of vegetation, soils and wetlands
- Use of natural drainage features and patterns
- Use of low impact site design techniques
- Use of Best Management Practices.

In conjunction with any zoning application in the Upper Swift Creek Watershed, the Zoning Ordinance requires the submission of a Natural Resource Inventory which is an assessment of a site's natural resources such as wetlands, floodplains, steep slopes, hydric soils, habitats, endangered species and other notable features. The inventory is used to assess appropriate design measures that should be taken to protect the reservoir's water quality.

### **Hazard Mitigation**

Many of the programs and regulations discussed in this chapter are aimed at protecting and improving environmental quality but also aid in hazard mitigation efforts to reduce the loss of life and property by lessening the potential impact of future disasters. Chesterfield County must focus on long-term sustainability by identifying short and long-term impacts associated with natural events. The 2017 Richmond Crater Multi Regional Hazard Mitigation Plan recommends specific actions designed to protect residents, business owners and the built environment from hazards that pose the greatest risk. A comprehensive mitigation approach addresses hazard vulnerabilities that exist today and in the foreseeable future. Therefore, projected patterns of future development must be evaluated and considered in terms of how that growth will increase or decrease a community's hazard vulnerability over time.

This Mitigation Plan was adopted by the Board of Supervisors on August 23, 2017. Care should be taken to ensure consistency between the Comprehensive Plan and the Regional Hazard Mitigation Plan. Recommendations in the plan are designed to protect residents, business owners, and the built environment from hazards that pose the greatest risk. These recommendations can be applied to reduce a community's future vulnerability by identifying hazards and enacting local policies to guide growth and development, providing incentives tied to natural resource protection, and providing public awareness and outreach activities.

### General Environment Guidelines

The General Environment Guidelines provide direction for development and land use decisions as they relate to environmental resources.

Major considerations in the development of these guidelines include:

- ❖ Acknowledging existing regulations regarding water quality, floodplains and soils.
- ❖ Promoting protection of land, surface water and groundwater resources for drinking, aesthetic and recreational purposes.
- ❖ Encouraging the incorporation of environmental resources as amenities in new development.
- ❖ Supporting adaptive reuse of land resources formerly occupied by activities such as quarries and landfills.

The following General Environment Guidelines should be used when addressing environmental protection:

- **Development Integration of Environmental Resources.** Encourage development designs which accommodate and incorporate environmental resources as amenities.
- **Innovative Development.** Encourage innovative approaches, designs and practices that protect and enhance environmental resources in new developments. When the guidelines of The Land Use Plan chapter are followed, approaches could include: reduced lot sizes in return for preservation of open space; connectivity of resources; and appropriate recreational uses that make use of these resources.
- **General Development Standards.** Encourage use of innovative development standards and practices that mitigate the impact of stormwater runoff on water quality such as:
  - Low impact design features
  - Limitations on the amount of land cleared during site development at any given time
  - Retrofitting best management practices in older neighborhoods
  - Use of manufactured best management practices
  - Use of best management practices in series
  - Minimize impervious surfaces
  - Development of contingency plans for hazardous spills
  - Preservation of trees
  - Preservation of vegetation in floodplains.

- **Land Use Transitions.** For developments not located within mixed use areas, consider use of environmental features as transitions between different land uses, in accordance with the recommendations of The Land Use Plan chapter.
- **Erosion and Sediment Control.** Encourage greater erosion and sediment control measures during development.
- **Stream and Shoreline Erosion.** Encourage greater protection, restoration and stabilization of streams and shorelines.
- **Steep Slopes.** Encourage preservation of slopes of 20 percent or greater adjacent to natural drainageways.
- **Education.** Consider enhancement and expansion of community, school and library outreach programs to educate the public of daily practices that protect and enhance water resources.
- **Preservation of Resources through Cooperative Efforts.** Encourage public and private cooperation in the preservation and use of environmental resources such as conservation and open space easements and park and recreational uses.
- **Preservation of Resources through Funding Efforts.** Seek funding opportunities for acquiring land and resources that benefit the public. Support proactive acquisition of conservation and open space easements in more highly developed areas of the county to preserve green space.
- **Retrofitting Existing Water Conveyance Systems.** Seek funding to correct environmental deficiencies by retrofitting and establishing stormwater quality facilities.
- **Energy Conservation.**
  - In accordance with The Land Use Plan chapter, promote mixed use developments which incorporate residential and non-residential uses, thereby promoting opportunities for various methods of transportation.
  - Encourage incorporation of energy efficiency in construction and rehabilitation that reduces costs for the owner or renter.
  - Promote developments that incorporate alternative energy sources such as geothermal, solar and wind.
- **Protect Drinking Water Sources.** Support water quality protection measures through the Chesapeake Bay Ordinance, Municipal Separate Storm Sewer System, Erosion and Sediment Control Ordinances and the Upper Swift Creek Watershed regulations.
- **Agricultural and Forestry Uses.** Provide for the preservation of agricultural and forestry uses by supporting conservation and open space easements, tax incentives and programs such as acquisition of development rights which promote rural preservation and support uses such as agri-tourism, farmer's markets, wineries, equestrian activities, community gardens and agricultural festivals.

- **Timber Harvesting to Accommodate New Development.** Consider provisions of adequate erosion and sediment controls for timbering activities related to new land development.
- **Mineral Resource Extractions and Landfills.** Consider the impacts of:
  - New mineral extractions and landfill proposals on existing and future land uses.
  - Existing and former mineral extractions and landfill operations on new development in the vicinity of the operations.
  - Consider proper and safe closure of sites to mitigate long term impacts.
  - Discourage residential development in proximity to mineral extractions and landfills.
  - Discourage new mineral extractions and landfills in proximity to existing and future residential development.
  - Consider methods to notify future property owners of sites previously used for mineral extractions and landfills of past activities and their potential impacts on future land uses.
  - Encourage the adaptive reuse of former mine sites and landfills for uses such as alternative and renewable energy sites.
- **River Corridors.** Promote preservation and enhancement of the scenic, historic, natural and open space qualities of the James and Appomattox Rivers.
- **Waterfront Access.** Support proposals for waterfront access while considering potential water quality impacts of water dependent uses such as docks, piers, boat ramps and marinas.

# CHAPTER 10: THE LAND USE PLAN

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## Overview

The purpose of the Land Use Plan is to serve as a guide for zoning, land use and development-related decisions and does not rezone property or carry regulatory standing. This chapter includes recommendations for the location and density of growth, and general design characteristics for new development. The recommended future land use pattern is closely tied to other components of the Plan such as utilities, public facilities, transportation, economic development and revitalization, as each play an integral part in shaping the county.



### DESIRED OUTCOMES OF THIS CHAPTER:

- **Balanced and Harmonious Land Use Pattern**
- **A Range of Housing, Employment, Services and Lifestyle Choices**
- **Land Development Guidance**
- **Thriving Urban, Suburban and Rural Communities**
- **Coordination with Public Infrastructure Provision**
- **Mixed-Use Centers as Community Focal Areas**

## Buildout Analysis

The 437 square miles of land is arguably the county's most precious resource. How this land is used or preserved will shape the county for future generations. Buildout of the Comprehensive Plan is a theoretical exercise meant for general information purposes in guiding development to an ultimate end state given known factors today. The buildout figures below do not take into account specific property constraints or limitations.

If all land developed per its current zoning and Comprehensive Plan designation, the county would reach a population of 615,000 persons in 246,000 housing units. This represents an increase of 81 percent over 2017. If residential construction occurred at 1,500 units per year, this buildout would be reached in approximately 75 years (by 2092). This figure does not account for potential redevelopment, and assumes rural development in the Rural Residential/Agricultural area.



On the non-residential side, buildout is projected to provide 62 million square feet of commercial space (130% increase over 2017), 55 million square feet of office space (411% increase over 2017), and 112 million square feet of industrial space (227% increase over 2017). These uses would accommodate approximately 419,000 jobs and make the county a net importer of workers. Non-residential buildout would be reached in 200 years at current development levels.

Buildout figures are important only in that they provide perspective as to where and how the county is projected to grow if the Comprehensive Plan is followed. These figures can be used to compare this growth scenario versus other scenarios in order to better understand land use direction and potential impacts on public facilities such as schools, roads, utilities and public safety.

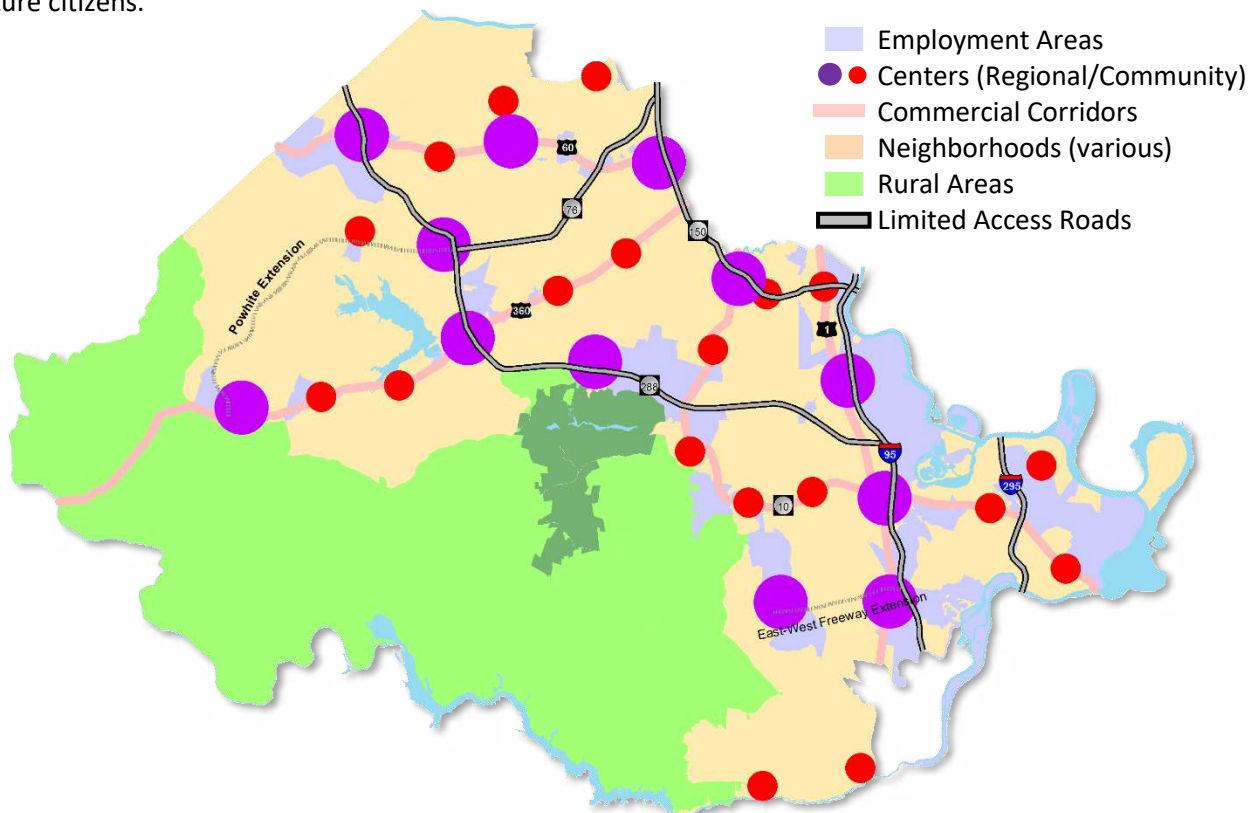


## Land Development Vision

The Land Use Plan chapter provides a development vision as to how the county will utilize its land resources. The Plan envisions a community of lifestyle choices, from desirable, well-designed neighborhoods to high-density and intensity mixed-use centers at strategic locations such as major intersections, to quiet rural communities. Mixed-use centers are built around unique and attractive social gathering spaces that are utilized by residents, businesses and visitors alike. The Plan seeks to protect rural areas for the benefit of future generations, to be areas known for their beauty and productivity. The Plan seeks to protect and promote employment center areas to provide a better balance between homes and jobs. Housing variety is encouraged in well-designed communities that instill pride in their residents and support needs of area businesses. Land uses are connected to each other in a convenient, safe and accessible manner that meets the mobility needs of the community. Some areas of the county are left in their natural state for the protection of the environment and the enjoyment of residents and visitors. The Plan supports reinvestment in older communities so that all are attractive, viable and thriving places for current and future citizens.



### Land Use Plan Vision



## Major Corridors

The county's major roadway corridors are the front doors to its residential communities. They also contain the majority of the county's businesses and services. Development along these corridors should be high quality, connected to adjacent uses and pedestrian-friendly. Corridor speeds should also reflect the desired land uses they contain, as lower speeds generally better support retail areas. Thus, speeds in retail, mixed-use and village areas along corridors should be lowered to better serve local businesses and accommodate pedestrians. The county should work with the Virginia Department of Transportation (VDOT) to identify appropriate and desired speed levels. In addition, parallel roadways should be developed along major corridors such as Routes 60, 360, 10 and 1 to relieve congestion and enhance connectivity between uses. Furthermore, revitalization and redevelopment efforts, programs and incentives should be encouraged along older commercial corridors to attract new investment.



## The Land Use Plan & Zoning

The Plan primarily serves as a guide to the rezoning of land. New development proposals should meet the spirit and intent of the Comprehensive Plan, including the Land Use Plan. Throughout the county, existing zoning may be in direct conflict with the envisioned land use pattern. In these areas, rezoning incentives (such as fee waivers, uses or flexible standards) should be encouraged to bring them into closer alignment with the Plan. In other instances, a development proposal may align with the Plan's land use recommendations, but the timing of development may be such that it is ahead of the county's ability to serve it with appropriate infrastructure. Such instances would work against the Plan's goal of promoting an orderly development pattern and would have fiscal impacts on the county. In certain instances, a development proposal may not exactly fit the land use recommendations of this Plan. When this occurs, the proposal should be looked at considering the entirety of the Plan to see if the proposal meets the overall spirit and intent of the Plan. When a development proposal appears out of character with the Plan, additional mitigation such as increased buffers and use restrictions, should be considered.

The Zoning Ordinance controls the legal right to develop property. Zoning, once approved, is difficult to change outside of property owner desires. Where possible, the Zoning Ordinance should be updated to reflect the vision of the Plan, including new zoning classifications and changes to existing classifications to offer better guidance and direction to property owners. The zoning process should consider the requirements of the Ordinance and the direction of the Plan when analyzing rezoning requests. Major review of the Ordinance should occur with every 5-year Plan revision to support alignment.

Major considerations used in the development of the Land Use Plan Map and Categories include the following:

- ❖ Existing land use patterns
- ❖ Topography and other physical characteristics
- ❖ Existing residential neighborhood densities and lot sizes
- ❖ Ability to provide public water and wastewater in an orderly manner
- ❖ Existing and future transportation facilities
- ❖ Orderly expansion of other public infrastructure and facilities
- ❖ Protecting current and future county airport operations
- ❖ Providing a range of housing, employment and commercial uses
- ❖ Developing activity centers that provide distinct community identities
- ❖ Supporting publicly accessible waterfront development opportunities.

While the boundaries between land uses shown on the Land Use Plan Map are precisely delineated, these boundaries are somewhat flexible when evaluating individual development proposals. Adjustment to these boundaries may be considered during evaluation of specific development proposals. Adjustments should be based upon specific site conditions; opportunities for better land use transitions and site design by expanding the exact boundaries of the land use category designation; and existing and future area land uses.

The Land Use Plan chapter is comprised of two major components:

- General Land Use Guidelines providing direction for the evaluation of development proposals. These guidelines should apply to all land uses on a countywide basis regardless of development type.
- Land Use Plan Map Categories and the Land Use Plan Map providing more specific direction for the evaluation of specific proposals.



*Rendering courtesy of City of McKinney, TX*



## General Land Use Guidelines

The following General Land Use Guidelines should be used when addressing specific development and land use issues:

- **Public Infrastructure.** Coordinate development proposals with the orderly extension and provision of adequate public facilities and infrastructure. Encourage public/private partnerships for provision of needed public infrastructure.
- **Economic Development Areas.** Protect areas designated for employment-generating uses and commercial services from encroachment of residential uses, except in mixed-use developments. Encourage development phasing of sites concurrent with the development of adequate roads and other infrastructure necessary to support the recommended intensity and density of development.
- **Land Use Regulation Streamlining.** Promote land use regulations that are easy to understand and implement by incorporating illustrations, charts and graphics. Align the Zoning Ordinance with the spirit and intent of the Comprehensive Plan.
- **Innovative Development.** Give consideration to unique and innovative development proposals that may not conform to a literal interpretation of the Plan, if the benefits and merits are consistent with the intent of the Plan to achieve a well-designed, integrated and high-quality community served by adequate public facilities and infrastructure.
- **Compatibility and Transition.** Include land use transitions, site design and buffering in development proposals to reduce the impacts between incompatible land uses.
- **Development Integration.** Encourage new development designs to accommodate pedestrian and vehicular interconnectivity with similar existing and future developments, provided that existing developments are not adversely impacted.
- **Quality Design Standards.** Encourage new development to incorporate quality design standards for architecture, landscaping and pedestrian ways that create unique and viable places and enhance the community.
- **Existing Zoning Not in Conformance with the Plan.** Provide flexibility in consideration of zoning amendments when such amendments would bring the zoning and development closer into alignment with the Plan.
- **Land Aggregation/Master Planning.** Encourage land aggregation and/or master planning in instances where development of an individual parcel is constrained due to its size or shape. This should be considered where necessary to conform to land use regulations, achieve land use compatibility or transition or provide adequate transportation improvements.
- **Open Space.** Where open space is provided to compensate for reduced lot sizes or accommodate increased intensity, encourage the long-term preservation and usability of such areas. Use open space and 'green' areas as an option to connect uses.
- **Historic Preservation.** Encourage the preservation of historic sites and structures through their adaptive reuse. Support uses other than those identified on the Land Use Plan Map, provided the uses can be designed and operated to minimize the impact on existing and anticipated area development, and the site or structure is designated as a county historic landmark.

- **Rural Residential/Agricultural and Residential Agricultural Areas.** Promote agricultural related activities in these areas by considering the following:
  - Uses that support agricultural activities, such as farmers' markets and agricultural tourism.
  - Commercial uses for a limited time period with minimal site improvements, provided the uses can be designed and operated to minimize the impact on existing and anticipated area development.
  - Incentives that encourage continued agricultural, forestry and other land conservation activities.
  - Solar facilities through the Conditional Use zoning process to protect adjacent properties, rural character and future potential land uses.
- **Tractor Trailer Service Stations.** Limit the provision of these facilities to areas recommended on the Land Use Plan Map for Industrial, and allow only if impacts on surrounding development are mitigated and the use is in proximity to a limited-access interchange.
- **Timing of Development.** New development should not exceed the capacity of infrastructure necessary to support it. Supporting infrastructure such as roads and public facilities should be provided with new development or development should be delayed until such time as necessary infrastructure is provided or programmed.
- **Placemaking.** Support the incorporation of deliberately designed, flexible social spaces with a variety of activities as a part of new developments and redevelopment proposals. Such spaces could include art sculptures, fountains, plazas, and greens along with supporting shops, entertainment, restaurant and housing uses in a pedestrian-friendly setting. Encourage programming of these spaces for community events and gatherings.
- **Mixed-Use Development.** Support the development of mixed-use projects in appropriate locations. Such developments could be designed to mix uses vertically and/or horizontally, incorporating a variety of activities such as eating, recreation, entertainment and shopping. The Plan looks at mixed-use not necessarily on the individual project level, but on the entire area recommended for such uses. Integration and connectivity between uses, especially by pedestrians, should be emphasized. The county should work with prospective developers through incentives and regulatory flexibility to enable such projects to occur. Typical mixed-use developments should generally not contain automobile-oriented, industrial or low-density residential uses. Shared, decked and flexible parking standards are encouraged, along with a more urban design. Traditional parking lots should be located behind buildings or along the edges of development to support a thriving, dense and connected core of uses. Attractive social gathering spaces and places should be deliberately designed prominent features of these developments. Support the reuse of excess parking in commercial areas, such as in shopping centers.
- **Connectivity.** Support the provision of pedestrian and bicycle connections in new and established communities. Look for ways to connect projects internally and to adjacent uses where appropriate.
- **Housing Variety.** Support a full range of housing types and densities, with higher densities within mixed-use centers. Support small-lot development with usable open space and quality design standards.



- **Open Space & Conservation Easements.** Support requests from property owners to permanently preserve their land through the use of easements, considering the impacts on the future growth and development of the county. Explore incentives, tools and programs to encourage appropriate land preservation.
- **Voluntary Downzoning.** Support property owners who wish to downzone their property, especially where existing zoning is in conflict with the Plan. Consider use of incentives to encourage action.
- **Landfills.** Discourage new public or private solid waste, construction/demolition/debris or hazardous waste landfills within the county. Discourage residential development in proximity to existing landfills, and in proximity to the transportation systems serving the landfills, that does not mitigate or account for the impact of the landfill operations on residential uses.
- **Special Districts.** Create special districts to provide incentives for desired development, redevelopment, and revitalization. Develop special design districts with standards that enhance communities.
- **Waterfront & Riverfront.** Encourage public access to, and usage of, waterfront properties through development proposals. Such usage could include riverfront businesses, conservation/trails and/or community recreation.
- **Urban Development Areas.** The Regional Mixed Use, Community Mixed Use, Residential Mixed Use, High Density Residential and Medium-High Density Residential categories of the Land Use Plan Map are designated as Urban Development Areas pursuant to the Code of Virginia 15.2-2223.1. Incentives for developing in these areas include higher density allowances as described in the land use categories.

## Land Use Plan Map Categories

The Land Use Plan does not rezone property. Rather, the Plan provides guidance for future land use decisions. The Land Use Plan does not impact continuation of existing legal land uses or other uses permitted by existing zoning of individual properties.

### RURAL RESIDENTIAL/AGRICULTURAL

#### Uses

In an Agricultural (A) District, the following uses are appropriate:

- Single-family dwellings on a minimum of 5 acres fronting existing public roads.
- Single-family dwellings on a minimum of 1 acre created through family divisions.
- Single-family dwellings on less than 5 acres in instances where the parcel was created prior to the adoption of the 5-acre requirement.
- Farming and forestry, open space and conservation easements.

#### Utilities

In most instances, single-family dwellings on individual parcels should use individual wells and individual on-site septic systems when public water and wastewater service is not available.

#### Future Development Potential

Since publicly financed infrastructure improvements including utilities, roads, schools, fire stations libraries, parks and other public services are not planned in this area during the life of this Comprehensive Plan, it is anticipated that development for this period will be limited to those uses discussed above. If, however, development proposals include private sector commitments and assurances for the provision of such infrastructure, it may be appropriate to consider those proposals in conjunction with an amendment to the Plan. These assurances and commitments could include private sector financing for major utility upgrades and expansion of the public system; major road improvements; and construction of schools, fire stations, parks and libraries. The Plan amendment would assess not only the specific development proposal, but also the potential influence of the proposal on future growth and development in the area.

### **RESIDENTIAL AGRICULTURAL**

**Density: Maximum of 0.5 dwellings per acre**

#### **Uses**

A combination of agricultural and residential uses is appropriate in this category.

In an Agricultural (A) District, the following uses are appropriate:

- Single-family dwellings on a minimum of 5 acres fronting an existing public road.
- Single-family dwellings on a minimum of 1 acre created through family divisions.
- Single-family dwellings on less than 5 acres in instances where the parcel was created prior to the adoption of the 5-acre requirement.
- Farming and forestry, open space and conservation easements.

In Residential (R) Districts, the following uses are appropriate:

- Single family dwellings on large lots in developments that preserve the rural/forested character along arterial roads and in some instances along collector roads.
- Small-scale farming.
- Subdivisions with lots of 2.0 acres or larger.
- Subdivisions with lots smaller than 2.0 acres if usable open space is provided to maintain the overall density recommendations. Such open space should preserve rural vistas such as ponds, pastures and wooded areas, while providing passive recreational areas (i.e. walking and riding trails).

#### **Utilities**

New subdivision development should use the public water system and individual on-site septic systems.

#### **Development Consideration Adjacent to Existing Neighborhoods**

Densities and lot sizes of existing residentially zoned neighborhoods should be considered when primary access is through an existing neighborhood. New neighborhoods should be designed with high-quality standards, and mitigate potential impacts, so as to promote reinvestment, infill and revitalization of the surrounding area. Opportunities for providing pedestrian and biking connections to existing neighborhoods should be encouraged where appropriate.

### **LOW DENSITY RESIDENTIAL**

**Density: Maximum of 1.0 dwelling per acre**

#### **Uses**

The following uses are appropriate:

- Single-family dwellings on lots of approximately 1 acre.
- Single-family dwellings on lots smaller than 1 acre if usable open space is provided to maintain the overall density recommendations within the Low Density Residential area; and primary access is directly to a major roadway and not through an existing residential development having larger lots than the proposed development.

#### **Utilities**

New subdivision development should use the public water system and either individual on-site septic systems or the public wastewater system.

#### **Development Consideration Adjacent to Existing Neighborhoods**

Densities and lot sizes of existing residentially zoned neighborhoods should be considered when primary access is through an existing neighborhood. New neighborhoods should be designed with high-quality standards, and mitigate potential impacts, so as to promote reinvestment, infill and revitalization of the surrounding area. Opportunities for providing pedestrian and biking connections to existing neighborhoods should be encouraged where appropriate.

### **PHASED SUBURBAN RESIDENTIAL**

**Density: Maximum of 2.0 dwellings per acre**

#### **Uses**

The following uses are appropriate until such time as public utilities and other public facilities are available, as described herein:

- Single-family dwellings on a minimum of 5 acres fronting an existing public road.
- Single-family dwellings on a minimum of 1 acre created through family divisions.
- Single-family dwellings on less than 5 acres in instances where the parcel was created prior to the adoption of the 5-acre requirement.

**PHASED SUBURBAN RESIDENTIAL (CONTINUED)**

**Density: Maximum of 2.0 dwellings per acre**

**Future Development Potential**

To discourage leapfrog development, subdivision development is dependent upon the orderly and incremental extension of the public gravity wastewater lines in accordance with the latest *Chesterfield County Water and Sewer Procedures and Specifications Manual*, and provisions for road improvements and other public facilities to accommodate demands resulting from development. Off-site extension of the public gravity wastewater trunk lines should not exceed a distance of 3,000 feet from the nearest existing gravity line as measured along the most reasonable route, as determined by the Department of Utilities. In addition, residential zoning should be phased, generally from east to west, from existing gravity wastewater trunk lines, such that zoning does not occur beyond 3,000 feet from the location of existing lines at the time of zoning application.

When trunk wastewater lines are within 3,000 feet, the following uses would be appropriate:

- Single-family dwellings on lots ranging between 12,000 and 25,000 square feet.
- Dwellings on smaller lots or condominiums under the following circumstances:
  - Development design and quality enhances the surrounding residential area.
  - Water quality protection is provided for the Swift Creek Reservoir.
  - Primary access is directly to a major roadway and not through an existing residential development having an average lot size larger than that of the proposed development.
  - Compensating usable open space maintains the overall density recommendations.
  - Quality design standards which could include the provision of sidewalks, street trees, site and individual lot landscaping, quality and variety of architectural design, garage orientation and hardscaped driveways.

**Utilities**

New subdivision or condominium development should use the public water and wastewater systems.

**Development Consideration Adjacent to Existing Neighborhoods**

Densities and lot sizes of existing residentially zoned neighborhoods should be considered when primary access is through an existing neighborhood. New neighborhoods should be designed with high-quality residential standards, and mitigate potential impacts, so as to promote reinvestment, infill and revitalization of the surrounding area. Opportunities for providing pedestrian and biking connections to existing neighborhoods should be encouraged where appropriate.



### **SUBURBAN RESIDENTIAL I**

**Density: Maximum of 2.0 dwellings per acre**

#### **Uses**

The following uses are appropriate:

- Single-family dwellings on lots ranging between 12,000 and 25,000 square feet.
- Dwellings on smaller lots or condominiums under the following circumstances:
  - Development design and quality enhances the surrounding residential area.
  - Water quality protection is provided for the Swift Creek Reservoir.
  - Primary access is directly to a major roadway and not through an existing residential development having an average lot size larger than that proposed by the development.
  - Compensating usable open space maintains the overall density recommendations.
  - Quality design standards which could include the provision of sidewalks, street trees, site and individual lot landscaping, quality and variety of architectural design, garage orientation and hardscaped driveways.

#### **Utilities**

New subdivision or condominium development should use the public water and wastewater systems.

#### **Development Consideration Adjacent to Existing Neighborhoods**

Densities and lot sizes of existing residentially zoned neighborhoods should be considered when primary access is through an existing neighborhood. New neighborhoods should be designed with high-quality standards, and mitigate potential impacts, so as to promote reinvestment, infill and revitalization of the surrounding area. Opportunities for providing pedestrian and biking connections to existing neighborhoods should be encouraged where appropriate.

### **SUBURBAN RESIDENTIAL II**

**Density: 2.0 to 4.0 dwellings per acre**

#### **Uses**

The following uses are appropriate:

- Single-family dwellings on lots ranging between 12,000 and 25,000 square feet.
- Dwellings on smaller lots or condominiums under the following circumstances:
  - Development design and quality enhances the surrounding residential area.
  - Primary access is directly to a major roadway and not through an existing residential development having an average lot size larger than that proposed by the development.
  - Compensating usable open space maintains the overall density recommendations.
  - Quality development standards which could include the provision of sidewalks, street trees, site and individual lot landscaping, quality and variety of architectural design, garage orientation and hardscaped driveways.

#### **Utilities**

New subdivision or condominium development should use the public water and wastewater systems.

#### **Development Consideration Adjacent to Existing Neighborhoods**

Densities and lot sizes of existing residentially zoned neighborhoods should be considered when primary access is through an existing neighborhood. New neighborhoods should be designed with high-quality standards, and mitigate potential impacts, so as to promote reinvestment, infill and revitalization of the surrounding area. Opportunities for providing pedestrian and biking connections to existing neighborhoods should be encouraged where appropriate.

### **MEDIUM-HIGH DENSITY RESIDENTIAL**

**Density: Minimum 4.0 to 8.0 dwellings per acre**

#### **Uses**

The following uses are appropriate:

- Various residential types including, but not limited to, single-family, two-family, zero lot line, townhouse, condominium and multifamily dwellings.

#### **Design**

These developments should be integrated with surrounding similar residential projects and commercial centers through site design and provision of road and sidewalk connectivity. Developments should incorporate usable open space. Design standards could include the provision of sidewalks, street trees, site and individual lot landscaping, quality and variety of architectural design, garage orientation and hardscaped driveways.

In addition to the above design standards, incorporation of Traditional Neighborhood Design standards is encouraged. Design standards could include a grid of frequently interconnected internal roads and alleys, sidewalks and public places; dwellings with shallow setbacks adjacent to sidewalks along internal roads having on-street parking; pedestrian-scale streetscape and streetlight design; and other similar features.

#### **Utilities**

New subdivision, condominium or multifamily development should use the public water and wastewater systems.

**HIGH DENSITY RESIDENTIAL**

**DENSITY: Minimum 8.0 to 12.0 dwellings per acre**

**Uses**

The following uses are appropriate:

- Various residential types including, but not limited to, townhouse, condominium and multifamily dwellings.

**Design**

These developments should be integrated with surrounding similar developments and commercial centers through site design and provision of road and sidewalk connectivity. Developments should incorporate usable open space. Standards could include the provision of sidewalks, street trees, site and individual lot landscaping, quality and variety of architectural design, garage orientation and hardscaped driveways.

**Utilities**

New subdivision, condominium or multifamily development should use the public water and wastewater systems.

**RESIDENTIAL MIXED USE**

**DENSITY: Minimum 12.0 dwellings per acre, plus limited integrated commercial**

**Uses**

Generally, an integrated mix of higher-density residential development with some smaller scale neighborhood-serving commercial uses is desired in a village-like setting. Densities should fit the context of surrounding development and have appropriate transitions. The following uses are appropriate:

- Integrated mixture of higher-density residential and limited commercial uses and public spaces located on tracts having sufficient size to accommodate such mixtures. The majority of the development should be residential, and may include units of various types. Non-residential uses should be developed in conjunction with higher-density residential uses.
- Commercial uses should primarily be smaller-scale and serve neighborhood-wide trade areas (Neighborhood Business C-2). Limited commercial uses that serve community-wide trade areas (Community Business C-3) may be appropriate under circumstances that minimize impacts of vehicular traffic on the desired development pattern, provided these should not include automobile-oriented uses such as automobile and automobile parts sales, automobile repair, car washes, drive-thrus and gasoline sales.

**Design**

Uses should be incorporated into multi-story buildings with a minimum of two stories and a general maximum of four stories, with residential uses on the upper floor(s) of a building and non-residential uses on the ground floor (vertical integration). For horizontal integration, non-residential uses should front major roadways with residential uses located behind them, both uses fronting an internal 'main street' and creating a sense of place. Should non-residential uses be developed without residential uses, such non-residential uses should adhere to the development standards that apply to the preferred pattern of integrated residential and non-residential uses.

Flexibility in typical zoning standards should be used to encourage innovative and creative design and high-quality development. Urban or Traditional Neighborhood Design standards should be employed to ensure integration of uses. These designs could incorporate a grid of frequently interconnected roads and alleys, sidewalks and public places having a pedestrian scale with close attention to walking distances between uses; buildings with shallow setbacks and main entrances adjacent to sidewalks along roads having on-street parking; and pedestrian-scale streetscape and streetlight design, signs and other similar features.

**Utilities**

New development should use the public water and wastewater systems.



### **NEIGHBORHOOD OFFICE** **(Not all potential sites identified on Land Use Plan Map)**

#### **Uses**

The following uses are appropriate:

- Professional and administrative offices or similar uses. Typical uses could include doctor, lawyer, accountant and real estate offices.

#### **Development within Residential Areas**

When located within a residential area, such uses should be those that offer professional services primarily to customers from immediate neighborhoods. In this instance, special consideration should be given to ensure compatibility with, and minimize impacts on, existing or future residential development. This should include limiting the size of sites, individual offices and buildings; and employing residential architectural features. (Equivalent zoning category O-1)

#### **Development Adjacent to, but not within, Residential Areas**

When located on sites of limited acreage and depth; fronting an arterial road; and adjacent to, but not within, a residential area, design should provide compatibility with, and minimize the impact on, adjacent residential development. (Equivalent zoning category O-2 Limited)

#### **Sites Not Identified on the Land Use Plan Map**

In addition to the sites shown on the Land Use Plan Map, other locations may be appropriate if located at intersecting collector and/or arterial roads; and are either located within planned subdivision developments or areas shown on the Land Use Plan Map for Rural Residential/Agricultural or Residential Agricultural. In these instances, special consideration should be given to ensure compatibility with, and minimize impacts on, existing or future residential development. This could include minimizing the size of sites and individual buildings; and employing residential architectural features. (Equivalent zoning category O-1)

#### **Utilities**

New development should use the public water and wastewater systems.

### **CORPORATE OFFICE**

#### **Uses**

The following uses are appropriate:

- Professional and administrative offices or similar uses. Typical uses could include corporate headquarters, lawyer, accountant and real estate offices; medical laboratories; and colleges. The size of individual offices is typically larger than that found in a Neighborhood Office area.
- Under certain circumstances, within larger tracts developed for office uses, integrated supporting retail and service uses.

#### **Utilities**

New development should use the public water and wastewater systems.

### **CONVENIENCE BUSINESS (Not all potential sites identified on Land Use Plan Map)**

#### **Uses**

The following uses are appropriate:

- Small-scale limited retail and personal services located near residential neighborhoods; in areas shown on the Land Use Plan for Rural Residential/Agricultural and Residential Agricultural; or within new subdivisions. Uses should be limited to those that attract customers residing in proximity to the area. Typical uses could include convenience stores, drug stores, restaurants or other uses that primarily serve residents' daily needs.

#### **Design**

Special consideration should be given to ensure compatibility with, and minimize impacts on, existing or future residential development. This could include minimizing the size of sites and individual buildings, and employing residential architectural features.

#### **Sites Not Identified on the Land Use Plan Map**

In addition to the sites shown on the Land Use Plan Map, other locations may be appropriate if located at intersecting collector and/or arterial roads and are either located within new subdivisions or areas shown on the Land Use Plan Map for Rural Residential/Agricultural and Residential Agricultural.

#### **Utilities**

New development should use the public water and wastewater systems where available.

### NEIGHBORHOOD BUSINESS

#### Uses

The following uses are appropriate:

- Commercial uses that serve neighborhood-wide trade areas. Such uses generally attract customers residing in neighborhoods within a small geographical area. The size of individual stores is typically larger than that found in a Convenience Business area; and uses are located completely within an enclosed building. Typical uses could include grocery stores, clothing stores, medical clinics, hardware stores, restaurants or other uses that primarily serve weekly or bi-weekly household needs.

#### Utilities

New development should use the public water and wastewater systems.

### COMMUNITY BUSINESS

#### Uses

The following uses are appropriate:

- Commercial uses that serve community-wide trade areas. Such uses generally attract customers living or working within an approximate radius of 10 miles. Typical uses could include large grocery stores, department stores, home centers, limited repair services or other uses that provide goods and services that are purchased on a less frequent basis than those uses in Convenience or Neighborhood Business areas. Limited outside storage and display may occur as accessory to the primary uses.

#### Utilities

New development should use the public water and wastewater systems.

**COMMUNITY MIXED USE**

**DENSITY: Minimum 12.0 dwellings per acre plus integrated commercial**

**Uses**

Generally, an integrated, even mix of higher-density residential development with community serving commercial uses is desired in a town center like setting. Densities should fit the context of surrounding development and have appropriate transitions. These developments are generally more intensely developed than Residential Mixed Use, and less intense than Regional Mixed Use areas. The following uses are appropriate:

- Integrated mixture of concentrated commercial and higher-density residential uses with public spaces, located on tracts having sufficient size to accommodate such mixtures. Residential uses should be developed in conjunction with the non-residential uses. These mixed-use areas are generally located at the intersection of arterial roads.
- Commercial uses are those that serve community-wide trade areas. Such uses generally attract customers living or working within an approximate radius of 5 miles. Typical uses could include large grocery stores, department stores, home centers, limited repair services or other uses that provide goods and services that are purchased on a less frequent basis than those uses in Convenience or Neighborhood Business areas. Limited outside storage and display may occur as accessory to the primary uses. Automobile-oriented uses such as automobile and automobile parts sales, automobile repair, car washes, drive-thrus, and gasoline sales should generally be discouraged in these areas.
- Higher-density residential uses should be located within these mixed-use areas, but should not be the predominate use. These uses could be incorporated and integrated vertically (on the upper floors of a building occupied by non-residential uses on lower floors) or horizontally (within separate buildings from the non-residential uses). If located in separate buildings from the non-residential uses, the site should be designed to fully integrate the residential uses with the non-residential areas through, but not limited to, pedestrian and open space links.

**Design**

Urban or Traditional Neighborhood Design standards should be employed to ensure integration of uses, and achieve high-intensity and density development. Flexibility in typical zoning standards should be used to encourage innovative and creative design and high-quality development. These standards could incorporate a grid of frequently interconnected roads and alleys, sidewalks and public places having a pedestrian scale with close attention to walking distances between uses; buildings with shallow setbacks adjacent to sidewalks along roads having on-street parking; and pedestrian-scale streetscape and streetlight design, signs and other similar features.

**Utilities**

New development should use the public water and wastewater systems.

### GENERAL BUSINESS

#### Uses

The following uses are appropriate:

- Intense commercial uses which normally have outside display and storage areas. Typical commercial uses could include motor vehicle related uses, contractor shops and storage yards, manufactured home sales repair services or other uses that serve customers' specialized needs.
- Light industrial/research and development uses. Typical uses could include various types of laboratories; offices; warehousing; and optical goods, cosmetic, jewelry, musical instruments and artist materials manufacturing.

#### Design

Developments and uses in this category should have adequate screening and buffering to minimize impacts on surrounding properties. Such measures could include increased setbacks, landscaping, and fencing. These uses should not front major corridors, but may be located behind a more appropriate corridor-fronting use (such as office or retail).

#### Utilities

New development should use the public water and wastewater systems.

### REGIONAL MIXED USE

**TARGETED DENSITY: 20.0 dwellings per acre or greater plus integrated employment and commercial uses**

#### Uses

Generally, an integrated urban-style mix of employment-generating uses, destination commercial services and higher-density residential development is desired. The following uses are appropriate:

- Integrated mixture of highly-concentrated corporate office, commercial, light industrial/research and development, and higher density residential uses with public spaces, located on large tracts of land generally at the interchange of arterials and limited access roads. While the uses permitted are generally similar to those recommended within Community Mixed Use areas, Regional Mixed Use areas are generally larger, more densely and intensely developed with structured parking and often occupied by uses having a regional customer draw. The majority of uses within these developments should be commercial, office, research and development, and limited light industrial uses. Residential uses should be developed in conjunction with the non-residential uses.



### REGIONAL MIXED USE (CONTINUED)

- Commercial uses which generally attract customers living or working within an approximate radius of 10 miles or more. Typical uses could include those found in Community Business areas such as grocery stores, department stores, home centers, limited repair services or other uses that provide goods and services that are purchased on a less frequent basis than those provided in other commercial areas. Uses tend to be of a much larger scale than those in other commercial areas. Limited outside storage and display may occur as accessory to the primary uses. Automobile-oriented uses such as automobile and automobile parts sales, automobile repair, car washes, drive-thrus, and gasoline sales should generally be discouraged in these areas.
- Corporate Office and Research and Development uses which provide for major regional employment opportunities. Uses could be in a campus/park setting, or better, designed as part of an urban mixed-use center in conjunction with higher-density residential uses.
- Limited light industrial uses, provided they are not the dominant employment use in these areas and are located and designed so as not to detract from the goal of a walkable urban activity center. Warehouse uses should generally be discouraged.
- Higher density residential uses should be located within these mixed-use areas, but not be the predominate use. These uses could be incorporated and integrated vertically (on the upper floors of a building occupied by non-residential uses on lower floors) or horizontally (within separate buildings from the non-residential uses). If located in separate buildings from the non-residential uses, the site should be designed to fully integrate the residential uses with the non-residential areas through, but not limited to, pedestrian and open space links.

#### **Design**

Urban or Traditional Neighborhood Design standards should be employed to ensure integration of uses, and achieve high intensity and density development. Flexibility in typical zoning standards should be used to encourage innovative and creative design and high-quality development. These standards could incorporate a grid of frequently interconnected roads and alleys, sidewalks and public places having a pedestrian scale with close attention to walking distances between uses; buildings with shallow setbacks adjacent to sidewalks along roads having on- street parking; and pedestrian-scale streetscape and streetlight design, signs and other similar features.

#### **Utilities**

New development should use the public water and wastewater systems.

### CORPORATE OFFICE/RESEARCH & DEVELOPMENT/LIGHT INDUSTRIAL

#### Uses

The following uses are appropriate:

- Corporate office, research, laboratories, and light manufacturing and assembly uses that are generally dependent upon raw materials first processed elsewhere. The uses are located completely within an enclosed building. Typical uses could include corporate headquarter offices and various types of laboratories; warehousing; and optical goods, cosmetic, jewelry, musical instruments and artist materials manufacturing. (Equivalent zoning categories O-2 and I-1).
- Moderate industrial uses when designed, located and/or oriented to ensure compatibility with less intense uses; and are of a nature that has a similar impact as light manufacturing/research and development uses. Typical uses could include furniture, noodle, dairy and sign manufacturing. (Equivalent zoning category I-2).
- Under certain circumstances, within larger tracts developed for industrial uses, integrated supporting retail and service uses.

#### Utilities

New development should use the public water and wastewater systems.

### INDUSTRIAL

#### Uses

The following uses are appropriate:

- Moderate to intense manufacturing uses that are generally dependent upon the processing of raw materials, and uses normally have associated outside storage areas. Typical uses could include paint, tobacco products, paper, rubber, plastic and cement manufacturing; truck terminals; and boat repair.
- Under certain circumstances, and in proximity to limited access interchanges, tractor trailer service stations.

#### Utilities

New development should use the public water and wastewater systems.

**INSTITUTIONAL**

As of the date of the Land Use Plan Map, areas of state-owned property and facilities used for the purposes of higher education or incarceration/detention.

**CONSERVATION/RECREATION**

As of the date of the Land Use Plan Map, federal, state and county parklands, and privately-owned land held in voluntary public or private trust for the purpose of preserving or promoting its natural function, character or historic significance.

## Land Use Plan Map Notes

### AREA NOTES

#### **Chesterfield County Airport Operational and Runway Approach Areas**

To optimize economic development opportunities associated with the Chesterfield County Airport and to protect the airport from the encroachment of incompatible land uses such as those that are sensitive to noise and other impacts from airport operations, the Land Use Plan Map recommendations discourage new residential development in these areas.

Where existing development patterns provide minimal opportunity for alternative land uses, a limited amount of new residential development is suggested, as identified on the Land Use Plan Map. Zoning for new residential development should be limited to the areas suggested for such uses by the Land Use Plan Map. For any new residential development, the following should be considered:

- New dwellings and additions to existing dwellings should incorporate building methods such as soundproofing to mitigate noise impacts.
- Mechanisms should be established to notify future homeowners of the location and possible effects of the airport on residential lifestyles prior to home purchase. These mechanisms could include subdivision plat notes and sales material, and should include deed restrictions or restrictive covenants.

#### **Airport Operational Areas**

Within the Airport Operational Areas shown on the Land Use Plan Map, the following uses should be discouraged:

- Residential
- Residential services such as nursing homes and assisted living facilities.

#### **Runway Approach Areas**

Within the Runway Approach Area shown on the Land Use Plan Map, the following uses should be discouraged:

- Residential
- Residential service uses such as nursing homes and assisted living facilities
- Places of assembly, such as nursery schools, child or adult day care centers, kindergartens and hospitals.

#### **Specific Master Planned/Land Aggregation Areas**

Land uses should be achieved through aggregation and/or master planning to enhance the economic potential of the area; conform to land use regulation; achieve land use compatibility or transition; or provide adequate transportation improvements.

### **Ettrick Gateway Business Area**

Commercial uses should serve customers from surrounding neighborhoods (such as small-scale retail, office and personal services establishments) as well as uses that serve customers commuting by rail (such as hotels, motels, restaurants and motor vehicle rental). With the exception of motor vehicle rental and gasoline sales, typical automobile-oriented uses and outside storage should be discouraged.

Flexibility in zoning standards should encourage innovative and creative design and high-quality development. Automobile-oriented site designs may be appropriate when screened from view along Granger Street, Bessie Lane, and East River Road, east of Bessie Lane by multi-story buildings.

Buildings along Granger Street, Bessie Lane, and East River Road east of Bessie Lane should:

- Be adjacent to, and front, Granger Street, Bessie Lane, and East River Road east of Bessie Lane;
- Have shallow setbacks and main entrances to buildings accessed from sidewalks along Granger Street, Bessie Lane, and East River Road east of Bessie Lane;
- Locate off-street parking behind buildings fronting Granger Street, Bessie Lane and East River Road east of Bessie Lane, and screen the view of parking from Granger Street, Bessie Lane, and East River Road east of Bessie Lane and;
- Provide vehicular access to parking via side roads.

### **Design**

Individual uses, with the exception of hotel, motel, office or grocery store, should not exceed 10,000 square feet of gross floor area. Offices and grocery stores should not exceed 40,000 square feet of gross floor area. Buildings should have a minimum of two (2) stories. Site design should discourage drives between buildings and Granger Street, Bessie Lane, and East River Road east of Bessie Lane. Shared and multi-level parking facilities should be encouraged.

### **Historic Courthouse Design Area**

To ensure visual compatibility and appropriately reflect the historic significance of the Courthouse area, future non-residential development should incorporate similar Federalist and Colonial architectural design features as other non-residential developments in the area. Examples of these include Magnolia Grange, Castlewood, Chesterfield Meadows Shopping Center and Courthouse Commons.

### **Bon Air Land Use Plan Map Notes**

#### **General Notes**

New development in this area should be designed and modeled on the scale of a traditional village center or small community downtown.

Commercial and office buildings should not exceed 12,000 square feet of gross floor area per story. Grocery stores should not exceed 20,000 square feet of gross floor area per story. Buildings should have a maximum of two (2) stories or 30 feet.

Site designs at the intersection of Forest Hill Avenue and Buford Road should include public gathering spaces, such as plazas and/or other community features and focal points.



Typical automobile-oriented uses such as automobile and automobile parts sales, automobile repair, car washes, and gasoline sales should be discouraged. Automobile oriented site designs (such as drive-through windows and parking between buildings and roads) should be discouraged. Shared commercial vehicular access should be encouraged.

Office development should be of a residential design compatible with surrounding neighborhoods.

Flexibility in zoning standards should be supported to allow for innovative and creative design and high-quality development.

### Neighborhood Office

Conversion of existing residential structures for office use should be encouraged with modified development standards for parking, setbacks, lighting and paving requirements for these uses, as appropriate, to facilitate transition to, and compatibility with, adjacent neighborhoods.

### **Midlothian Land Use Plan Map Notes**

Apartments should be discouraged in the Medium-High Density Residential category within the Plan area.

### **Village Core General Notes**

New development in this area should be designed and modeled on the scale of a traditional village or small community downtown. Careful attention should be paid to new development fronting Route 60. Buildings here should be designed and intended for non-residential occupancy of first floors and provide an inviting public streetscape safe and convenient to pedestrians. Building heights within the Village Core should not exceed three stories. Exceptions to the building height limitations, up to five stories, may be considered for projects in mixed use areas that provide additional usable programmable open space beyond what is required in typical ordinance standards. Buildings fronting along Midlothian Turnpike should have a stepback on upper floors so as to avoid a canyoning effect along Route 60. A phasing plan should be submitted with all residential projects that identifies the number of units by type and number of bedrooms to help improve projections and facility forecasting and anticipate impacts of new development on area public infrastructure. Automobile oriented uses and designs should be discouraged.

Residential Mixed Use and Community Mixed Use areas of this Plan vary from the general Comprehensive Plan in that they should be of a minimum of 8 units per acre up to 20 units per acre. Other guiding aspects such as uses and design should be used in reviewing development proposals as found in the general Comprehensive Plan. Higher densities may be considered with the redevelopment of shopping centers if additional public infrastructure is provided. These potential redevelopment opportunity sites include Sycamore Square, Midlothian Station, Ivymont Square Shopping Center, Charter Colony Shopping Center and the Village Marketplace Shopping Center.

New development should be designed on a grid of frequently interconnected roads and alleys, sidewalks and public places having a pedestrian scale with close attention to walking distances between uses; buildings with shallow setbacks adjacent to sidewalks along roads having on-street parking; and pedestrian-scale streetscape and streetlight design, signs and other similar features. Publicly accessible open spaces should be provided with new developments and designed to promote social interaction and activities. Shared access should be encouraged to minimize curb cuts, and cross-

access easements should be provided with new development to connect uses without having to re-enter area roadways.

In areas identified as Village Gateways, special attention should be given to preserving green space at these entrances where possible. Gateway design features, such as signage and landscaping, should be incorporated into projects in these areas to serve as community focal points.

### **SITE SPECIFIC NOTES**

#### **Note 1: Route 60/Huguenot Springs Road**

To preserve historic character and maintain a sense of place at the northwestern quadrant of Midlothian Turnpike and Huguenot Springs Road, development should be sensitive to the historic structures of Bethel Baptist Church and Hallsborough Tavern. Development is encouraged to incorporate the design features of these historic properties, including building scale, architectural design and materials.

#### **Note 2: Powhite Parkway Extended Interchanges and Route 288/Qualla Road Interchange**

The areas around the interchanges of Powhite Parkway with Genito Road; Powhite Parkway with a new road in the vicinity of Duval Road; and Route 288 and Qualla Road should be reserved and developed for Regional Mixed Use and/or Corporate Office/Research & Development/Light Industrial uses. The exact boundaries of such uses should be determined through more detailed site analysis to include available land area, vehicular access and impact on surrounding land uses, and to determine which quadrants are best suited for such development. Development of such uses should occur in conjunction with the construction of Powhite Parkway Extended or the interchange of Route 288 and Qualla Road and the availability of the public utility systems.

#### **Note 3: Chippenham Parkway/Route 10 and Jessup Road/Route 10**

At the northeast and southeast quadrants of Chippenham Parkway and Route 10 and at the northwest and southwest quadrants of Jessup Road and Route 10, land uses other than those shown on the Land Use Plan Map may be appropriate if adequate land is assembled to minimize the impact on surrounding land uses; if high quality, upscale and innovative architecture and site design is employed to provide a positive first impression on visitors and potential investors; if adequate land is assembled to provide direct vehicular access to Route 10 without using internal residential streets; and if mitigating road improvements are provided. Such alternative land uses could include Community Mixed Uses or Regional Mixed Uses.

#### **Note 4: Route 288/Route 360**

Density and intensity of development of the property at the northwest quadrant of Route 288 and Hull Street Road is dependent upon adequate access and mitigating road improvements. Due to the anticipated physical and economic constraints restricting the ability to provide such mitigating road improvements, Regional Mixed Use as shown on the Land Use Plan Map may not be achievable. Under these circumstances, development of less intensive land uses would be appropriate.

### **Note 5: East-West Freeway Interchanges**

Regional Mixed Use would be appropriate around these interchanges. Development should be phased in conjunction with construction of the East-West Freeway, the availability of public utility systems and provision of other public facilities to support the proposed uses.

### **Note 6: Huguenot Road and Bannon Road Block**

In this area bounded by Huguenot Road, Buford Road, Bannon Road and Bon Oaks Lane, land uses other than those shown on the Land Use Plan Map may be appropriate if: the entire block is aggregated and rezoned under a unified plan of development; impacts on surrounding neighborhoods are minimized; and high-quality, upscale and innovative architecture and site design is employed to provide a positive gateway into Bon Air and Chesterfield County. Redevelopment in this area should be of a design that encourages pedestrian accessibility, streetscaping amenities such as street lights and trees, and buildings that employ similar architectural treatments on all facades.

### **Note 7: Huguenot Road between Forest Hill and McRae**

In this area bounded by Huguenot Road, Forest Hill Avenue and McRae Road, in addition to the general notes, consideration may be given to neighborhood retail and service uses.

### **Note 8: Forest Hill and Buford Road**

In the areas generally located 1) between Forest Hill Avenue, Bannon Road, Buford Road and Tinsley Drive and 2) between Forest Hill Avenue, Buford Road and McRae Road, land uses other than those shown on the Land Use Plan Map, such as Residential Mixed Use, may be appropriate if: aggregated and rezoned under a unified plan of development; impacts on surrounding neighborhoods are minimized; and high-quality, upscale and innovative architecture and site design is employed. Development in this area should be of a design that encourages pedestrian accessibility, and streetscaping amenities.

### **Note 9: East line of Jefferson Davis Highway between City of Richmond and Chippenham Parkway**

In this area, industrial should not front along Jefferson Davis Highway, but be oriented internally to the property and be visually screened from Jefferson Davis Highway through landscaping, decorative fencing, or architectural treatment to buildings.

### **Note 10: East of the CSX Railroad and west line of I-95**

In this area, industrial uses should be limited to low-impact I-1 and I-2 uses, with access restricted to Bellwood Road, to minimize adverse impacts on area neighborhoods.

### **Note 11: North and south of Willis Road, east of I-95**

Industrial uses in this area are appropriate if properties are aggregated under a unified plan of development that addresses access and compatibility with remaining residences and neighborhoods.

### **Note 12: Northeast quadrant of Jefferson Davis Highway and Rt. 288**

Uses should be developed under a unified plan of development that addresses access and compatibility with existing residences and neighborhoods. Higher-density residential uses would be appropriate for a limited depth along Jefferson Davis Highway and should be integrated vertically and horizontally with commercial, office and/or service uses primarily designed to serve the needs of nearby residents, businesses and employers.

### **Note 13: Southeast quadrant of Jefferson Davis Highway and Rt. 288**

Non-residential uses may be appropriate if access, transition, and mitigation issues relative to adjacent neighborhoods are addressed.

### **Note 14: Jefferson Davis Highway between Chippenham Parkway and Falling Creek**

Commercial uses may be appropriate under a unified plan of development that includes high-quality design features at this important community gateway. Higher-density residential uses would be appropriate if integrated vertically and horizontally with commercial, office and/or service uses primarily designed to serve the needs of nearby residents, businesses and employers.

### **Note 15: Northeast quadrant of Jefferson Davis Highway and Old Bermuda Hundred Road**

A mix of higher density residential, commercial and service uses may be appropriate in this area if properties are aggregated and/or developed under a unified or coordinated plan that addresses pedestrian and vehicular access between sites and to public roads, integration of uses, and compatibility with surrounding development.

### **Note 16: I-95 and Woods Edge Road Area**

In the area generally located at the northeast quadrant of Interstate 95 and Ruffin Mill Road, Regional Mixed Use may be appropriate if traffic impacts can be addressed appropriately and the proposal is a high quality, innovative example of integrated higher-density at a key gateway.

### **Note 17: Route 60 and Dry Bridge Road Area**

In the area generally located east of Dry Bridge Road, south of Route 60, west of Route 288 and north of the railroad, High Density Residential uses may be appropriate when part of a larger employment center development.

### **Note 18: Route 360 and Otterdale Road Area**

In the area north of Route 360, west of Otterdale Road and south/east of Magnolia Green, Community Mixed Use may be appropriate when designed as a 'village center' at the intersection of Route 360 and Otterdale Road.

### **Note 19: Route 10 and Lewis Road Area**

In the area south of Route 10, east of Lewis Road, north of Carver Heights Drive and generally west of Edenshire Road, Community Business uses may be appropriate when fronting Route 10 and with a limited depth.

### **Note 20: Walmart Way/Old Buckingham Area**

In the area between Old Buckingham Road and Route 60 west of Olde Coach Village, access should not be provided to Old Buckingham Road, nor to West Petty Road.

### **Note 21: Midlothian Turnpike/N. Woolridge Road South East Corner**

In addition to Corporate Office uses, consideration may be given to Neighborhood Business uses.

### **Note 22: John Tyler Community College**

In addition to Institutional uses, mixed use development of High Density Residential and Neighborhood Business uses may be appropriate when incorporated into the overall design of the campus and intended to primarily serve students and staff.

### **Note 23: Westfield Road Area**

New developments in this area should consist of small-lot single-family detached, duplex, triplex, accessory dwelling units, and other housing types that are of similar scale to single family, not townhouse or multifamily, to protect existing single-family neighborhoods in this area.

### **Note 24: Coalfield Road Area**

New developments in this area should be of a compatible scale and design with existing adjacent residential. If residential uses of a higher density are developed adjacent to single-family, adequate buffers should be employed to protect the existing single-family neighborhoods.

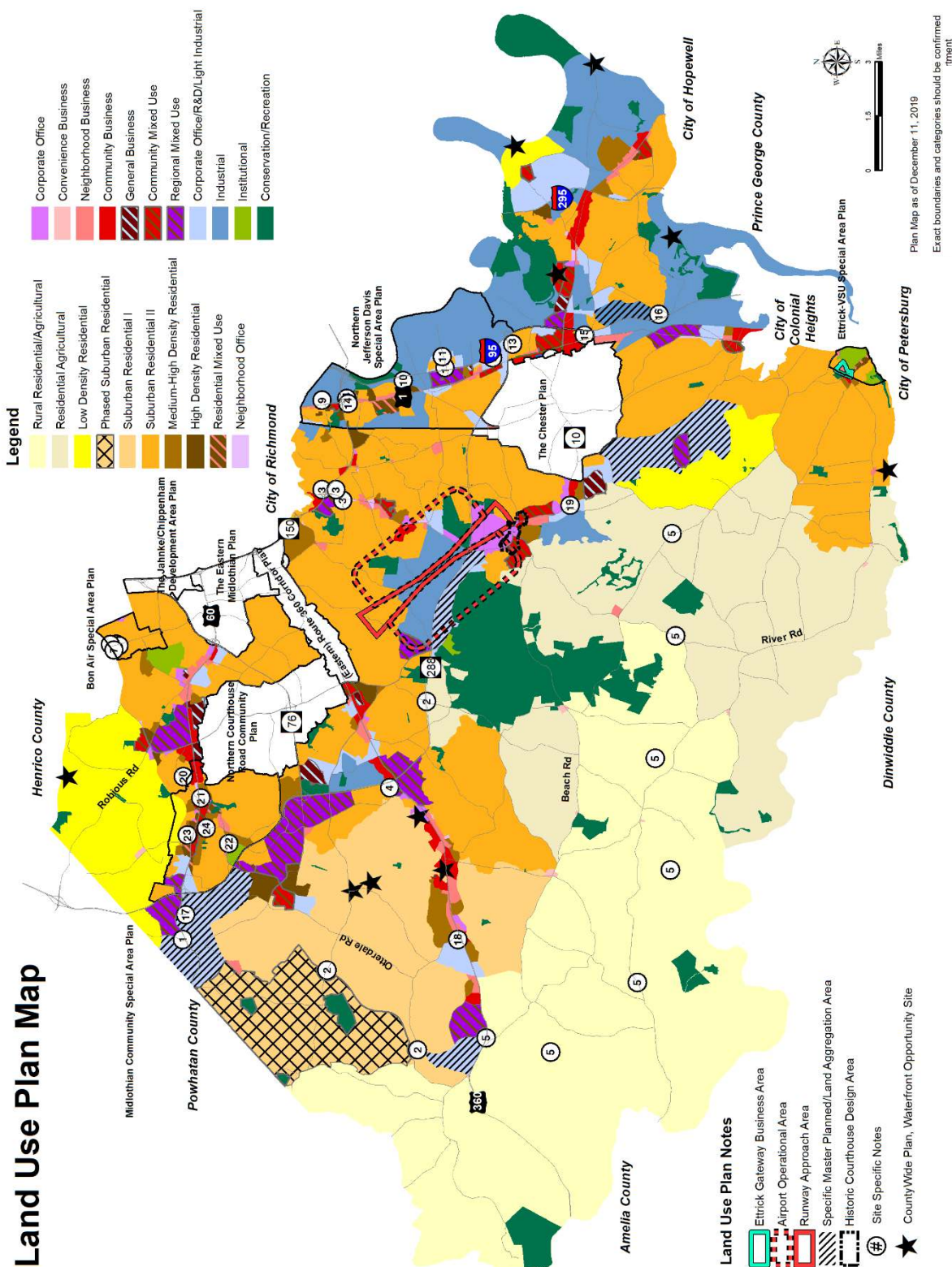
### **Waterfront Opportunity Sites (Not All Potential Sites Identified on the Land Use Plan Map)**

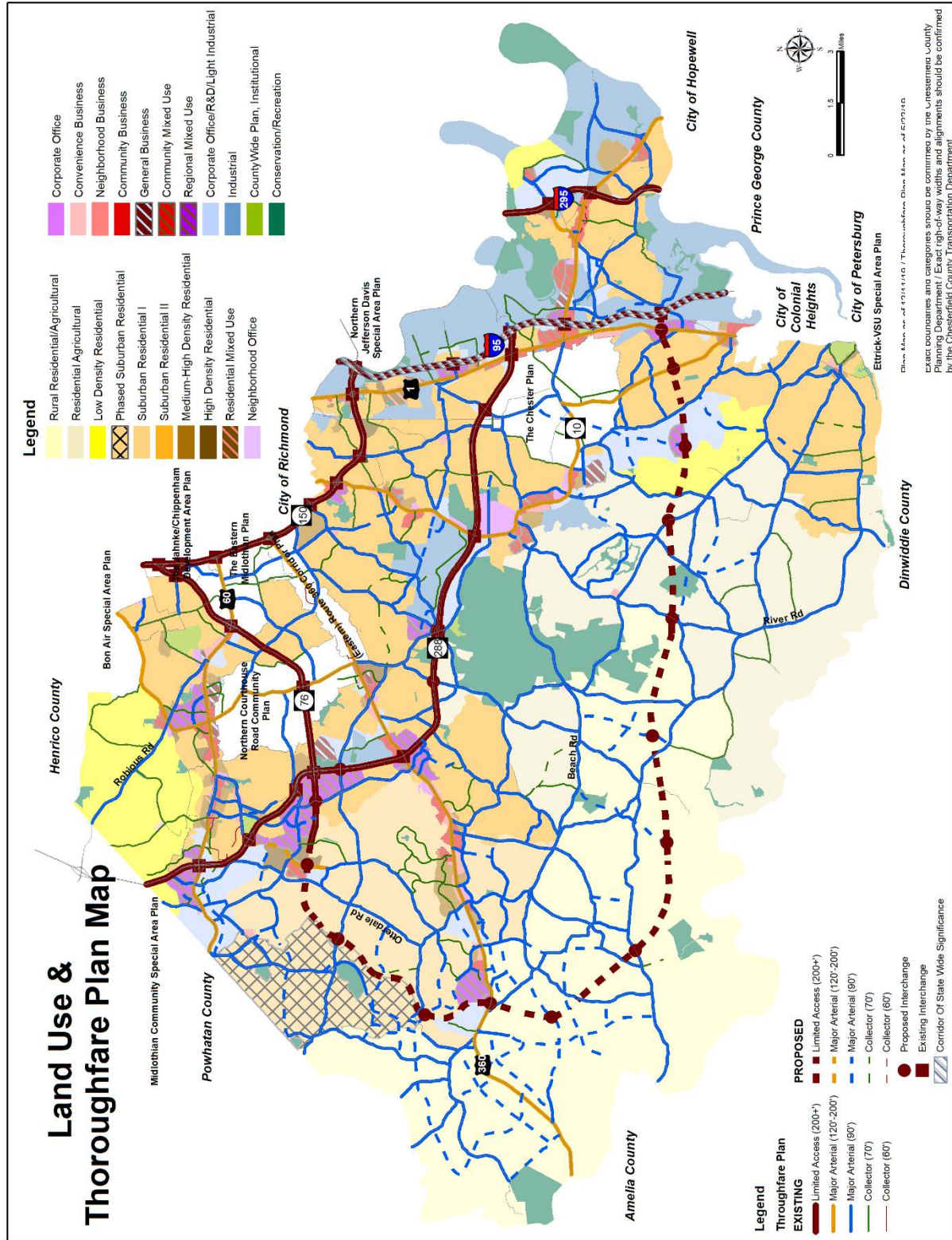
These areas are opportunity sites for alternative land uses to those recommended by the Land Use Plan Map that would capitalize upon their proximity to water and associated water amenities. Integrated mixed-use developments to include various types of residential and commercial should be encouraged. Appropriate uses include those recommended for Community Mixed Use areas. These sites should be designed to encourage year-round use; to capitalize on views and other opportunities offered by their proximity to the water; and in accordance with the guidelines suggested for Community Mixed Use areas.

Some potential Waterfront Opportunity Sites are shown on the Land Use Plan Map. In addition to the sites shown on the Land Use Plan Map, other locations may be appropriate and should be given favorable consideration on a case-by-case basis when a unique development proposal meeting the above-mentioned criteria is presented.

Sites should be developed in compliance with environmental regulations such as the Chesapeake Bay Act to ensure protection of the water resource while also providing public access and enjoyment.







# CHAPTER 11: SPECIFIC AREA PLANS

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## Overview

Chesterfield County has a strong and historic commitment to community and area planning. Planning efforts driven by a great deal of community stakeholder input and support have resulted in the adoption of various specific area plans. These plans address the unique characteristics, opportunities and history of various communities. New specific area planning efforts should continue to emphasize, be based upon, and incorporate extensive community stakeholder input from as many perspectives as possible.

### **SPECIFIC AREA PLANS TO REMAIN IN EFFECT**

The following Specific Area Plans are incorporated by reference into this plan and remain in effect until such time as they may be amended by the Board of Supervisors.

These areas are shown on the Land Use Plan Map and further identified in the adopted plans.

- [The Jahnke/Chippenham Development Area Plan](#) (adopted 1983)
- [\(Eastern\) Route 360 Corridor Plan](#) (adopted 1995)
- [The Eastern Midlothian Plan](#) (adopted 1998)
- [The Chester Plan](#) (adopted 2005)
- [Northern Courthouse Road Community Plan](#) (adopted 2008)

### **SPECIFIC AREA PLANS (NEW)**

The following Specific Area Plans were adopted after the adoption of the 2012 countywide plan, and build upon its framework by providing additional detailed guidance.

- 11.1 [Ettrick Virginia State University Special Area Plan](#) (adopted 2015)
- 11.2 [Bon Air Special Area Plan](#) (adopted 2015)
- 11.3 [Northern Jefferson Davis Special Area Plan](#) (adopted 2018)
- 11.4 [Midlothian Community Special Area Plan](#) (adopted 2019)

### **POTENTIAL FUTURE SPECIFIC AREA PLANS**

In addition to the plans identified above, new Specific Area Plans may be identified by staff, the Planning Commission and/or the Board of Supervisors. The order of completion for these and other specific area plans is determined by the Board. The following are potential new Specific Area Plans, in alphabetical order, identified by the unique features, communities or opportunities they each contain. Until these SAPs are completed, extra consideration should be given to development and infrastructure proposals in these areas.

- Matoaca Village
- Meadowdale/Meadowbrook Rockwood
- Route 10/Chippenham
- Route 288/Powwhite
- Western 360
- Southern Jefferson Davis
- Towne Center
- Western Midlothian



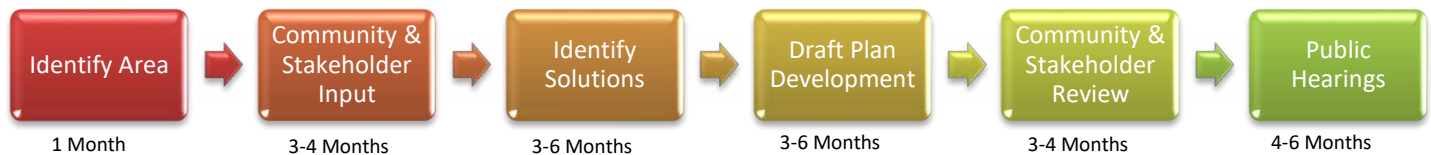
### Recommended Priority of Specific Area Plans

Below is the recommended priority for completion of identified Specific Area Plans based upon factors such as age of area, development pressure and revitalization potential. Actual work timing for each plan will be determined by the Planning Commission and Board of Supervisors as resources are available, and thus, this list is subject to change over the life of this plan.

- **Route 10/Chippenham**
- **Eastern Midlothian**
- **Eastern 360**
- **Towne Center**
- **Route 288/Powwhite**
- **Rockwood Area**
- **Meadowbrook/Meadowdale**
- **Matoaca Village**
- **Western 360**
- **Northern Courthouse**
- **Western Midlothian**
- **Southern Jefferson Davis**
- **Chester**

### SPECIFIC AREA PLAN PROCESS (GENERAL)

The process for developing Specific Area Plans (SAPs) is complex and requires time from the community, internal departments and decision-makers. Each SAP is unique and may require more or less time than the general process outlined below depending on the complexity and number of issues identified. For example, SAPs in revitalization areas will generally have a wider range of issues and community concerns and take more time than SAPs in relatively undeveloped 'green' areas.



### **SPECIFIC AREA PLANS AND THE COMPREHENSIVE PLAN**

Specific Area Plans (SAPs) are not meant to stand apart from the overall Comprehensive Plan. Rather, they apply the goals and guidelines of the Plan in a more focused and specific manner. Some elements of these SAPs are found in Chapter 10 The Land Use Plan and Chapter 16 Implementation. When considering development proposals or projects with Specific Area Plan geographies, recommendations of the SAPs should be considered first, followed by the spirit and intent of the overall Comprehensive Plan.

Specific Area Plans offer area stakeholders an opportunity to guide changes to their community. They also identify infrastructure improvements such as roads, bicycle/pedestrian facilities, water and wastewater extensions, and park improvements specific to that area. They also typically provide detailed design guidance for new development and redevelopment. Emphasis should be given to implementation of Specific Area Plan recommendations.

In addition to specific area plans that require extensive resources to accomplish, other types of efforts may accomplish the same goals in a much faster timeframe. Such tools include redevelopment plans, intersection/placemaking strategies, corridor strategies and others that focus on a very small geography and where change is imminent or expected soon.





# CHAPTER 12: WATER & WASTEWATER

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## Overview

The purpose of the Water and Wastewater chapter is to provide information on the water and wastewater services in Chesterfield County. The chapter also provides guidance and direction for meeting the county's needs based upon the growth and development anticipated by The Land Use Plan chapter.

Currently, needs for water use and wastewater disposal are met primarily by the public water and wastewater systems. Private individual wells and individual on-site septic systems serve some limited development.



Upon adoption of the Comprehensive Plan, a more detailed analysis of the public utility systems will be performed with an update to the *Water and Wastewater Facilities Plan*. Currently, developers are responsible for bearing the cost of water and wastewater line extensions to serve their development. Developers, however, may receive partial reimbursement for constructing lines as discussed in the “Existing Regulations for Public Water & Wastewater” section. The majority of the county's public utility systems were built by developers.

Growth will naturally occur where public water and wastewater are available and private development will often dictate where public water and wastewater services are provided. Proper planning will provide for the orderly and efficient expansion of the utility service areas, while limiting other public facilities needed to support development.

## DESIRED OUTCOMES OF THIS CHAPTER

- **Ensure a resilient, reliable and safe public water supply with growth capacity well into the future**
- **Support an orderly and efficient development pattern**
- **Ensure a reliable and environmentally compliant public wastewater system with growth capacity well into the future**
- **Promote wise use and conservation of treated public water through enhanced community education**
- **Regional cooperation in public water and wastewater provision**
- **Maintain fiscally fit philosophies and Utilities AAA bond rating while ensuring reasonable water and wastewater service rates**
- **Aid revitalization and redevelopment of older communities**

### Public Water and Wastewater

The Department of Utilities (“Department”) operates and maintains extensive water and wastewater systems which include water treatment, storage, transmission and distribution as well as wastewater treatment and collection systems. The county is well positioned to meet current water demands and wastewater flows with sufficient reserve capacity to accommodate the growth anticipated by the Land Use Plan.

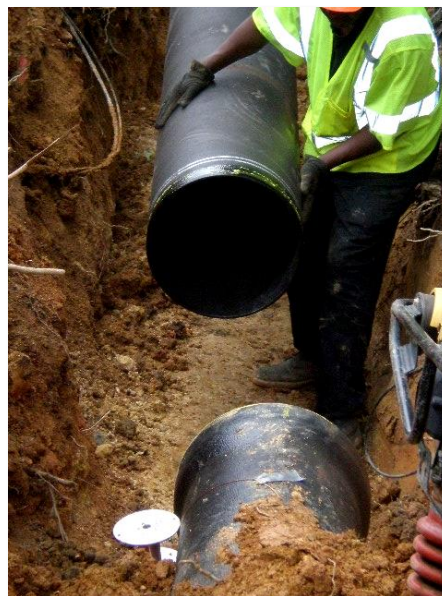
The following is an overview of the Department’s operations:

- Funded solely by connection and user fees and not by the general fund.
- One of only three utilities in the country to have a AAA bond rating from the top three credit rating services.
- Lowest water and wastewater user fees in the Richmond area.
- One of a limited number of governmental water and wastewater agencies that has a budgeting structure to fund replacement of aging infrastructure.
- Owns, operates and maintains water and wastewater treatment plants.
- Member of the Appomattox River Water Authority and the South-Central Wastewater Authority.
- Obtains water from three sources– Swift Creek Reservoir, Lake Chesdin and the James River.
- Maintains approximately 1,946 miles of water lines with over 107,000 water accounts.
- Maintains approximately 2,044 miles of wastewater lines with over 90,000 wastewater accounts.
- Agreements with Richmond for water and wastewater services, and Colonial Heights and Petersburg for wastewater conveyance.
- Through an agreement with Powhatan County, provides a maximum of 572,000 gallons of water per day.
- Through an agreement with Gray Land and Development Company, provides a maximum of 180,000 gallons of water per day and 135,000 gallons per day of wastewater service to specific properties in Powhatan.

The operations of the Department’s facilities are permitted and regulated by the Virginia Department of Health and the Virginia Department of Environmental Quality. These state agencies along with other local, state and federal agencies regulate how public water and wastewater systems are constructed and operated.

### **WATER AND WASTEWATER PLAN**

The county's current *Water and Wastewater Facilities Plan*, last revised in 2013, addresses county-wide water and wastewater system expansions and upgrades. The *Plan* specifies improvements to increase the quality and reliability of the systems and to meet demands due to growth. For utility planning purposes, the update will assume a land use scenario consistent with that performed for the Transportation chapter and will assume full development of the county ("build-out"). The build-out scenario assumes that the county will ultimately be fully developed. While the Land Use Plan Map does not anticipate build-out during the lifecycle of this Comprehensive Plan, evaluation of a build-out potential is necessary to establish a foundation for an adequate water and wastewater network should future land uses differ from those recommended for the Rural Residential/Agricultural area. The build-out scenario assumes development based upon the recommendations of the Land Use Plan, except for that area designated for Rural Residential/Agricultural. To plan for possible future growth in the Rural Residential/Agricultural area and the resulting impact on the road network, a land use scenario was developed assuming that at some time in the future public facilities to include public wastewater service would be available to support alternative land uses. More detail regarding the build-out scenario can be found in the Transportation chapter.



The *Water and Wastewater Facilities Plan* promotes orderly growth and efficient system expansion by using sound engineering practices to ensure future extensions are an integral part of the Department's overall water and wastewater systems. Once the Comprehensive Plan has been adopted, the Department's consultant will begin updating the *Water and Wastewater Facilities Plan*. This technical document assists with the annual review of the Department's 10-year Utility Capital Improvements Program.

### **WATER**

The Swift Creek Reservoir, James River and Lake Chesdin provide an ample water supply to the county's citizens. Treated water from these three sources is interconnected, thereby providing a reliable water distribution system. The county owns 105.5 million gallons per day of water capacity from these three sources and has negotiated with the City of Richmond for an additional 5 million gallons per day to increase capacity to a total of 110.5 million gallons of water per day.



### ***Public Water Sources***

#### **Swift Creek Reservoir**

- Reservoir is approximately 1,700 acres.
- County owns water rights, but the land underneath the reservoir is privately owned.
- Watershed is approximately 40,000 acres with 33,000 acres within the county's boundary.
- Water is treated at the county's Addison-Evans Water Production and Laboratory Facility.
- Facility has capacity to provide 12 million gallons of water per day.
- Facility capacity cannot be increased.
- Facility is a state-certified drinking water laboratory, analyzing approximately 4,000 public water samples each month.

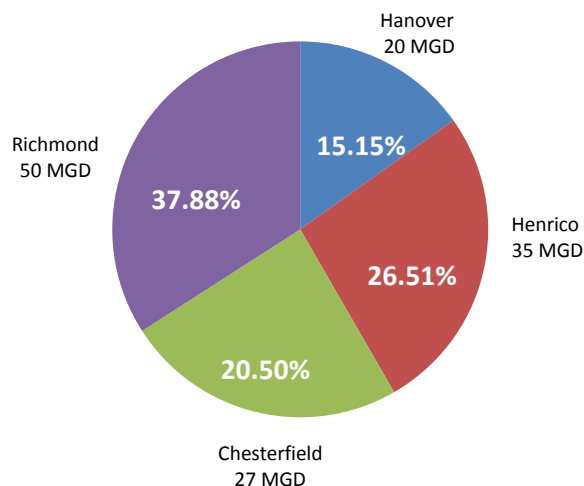
In addition to Chesapeake Bay Regulations, specific water quality measures are in place for that part of the watershed within the county boundary. More detailed information is provided in the Environment chapter.



### James River

- County purchases treated water from Richmond.
- Water is treated at the City of Richmond Water Purification Plant.
- Richmond owns, operates and maintains the plant.
- Plant has capacity to provide 132 million gallons of water per day.
- As of 2017, county has rights to 27 million gallons of water per day. Currently, the county is in the process of constructing a new water pump station, storage tank, and approximately 4.4 miles of water transmission mains.
- These new facilities will allow the county to efficiently utilize an additional 5 million gallons per day supply it has secured from the City of Richmond.

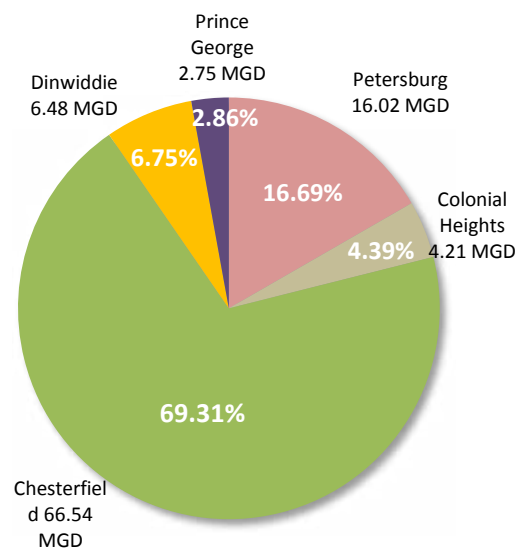
**City of Richmond Water Purification Plant  
Capacity Allocation by Jurisdiction**



### Lake Chesdin

- Lake Chesdin is approximately 3,100 acres, fed by the Appomattox River and owned by the Appomattox River Water Authority.
- Its watershed is approximately 854,000 acres with 65,500 acres within the county's boundary.
- Water is withdrawn and treated by the Appomattox River Water Authority (ARWA).
- The water treatment plant is owned by members of the Authority (Counties of Chesterfield, Dinwiddie and Prince George; and the Cities of Colonial Heights and Petersburg).
- The plant has a capacity to treat 96 million gallons of water per day.
- Chesterfield County has rights to 66.54 million gallons of water per day.

**Appomattox River Water Authority  
Members & Contracted Capacity**



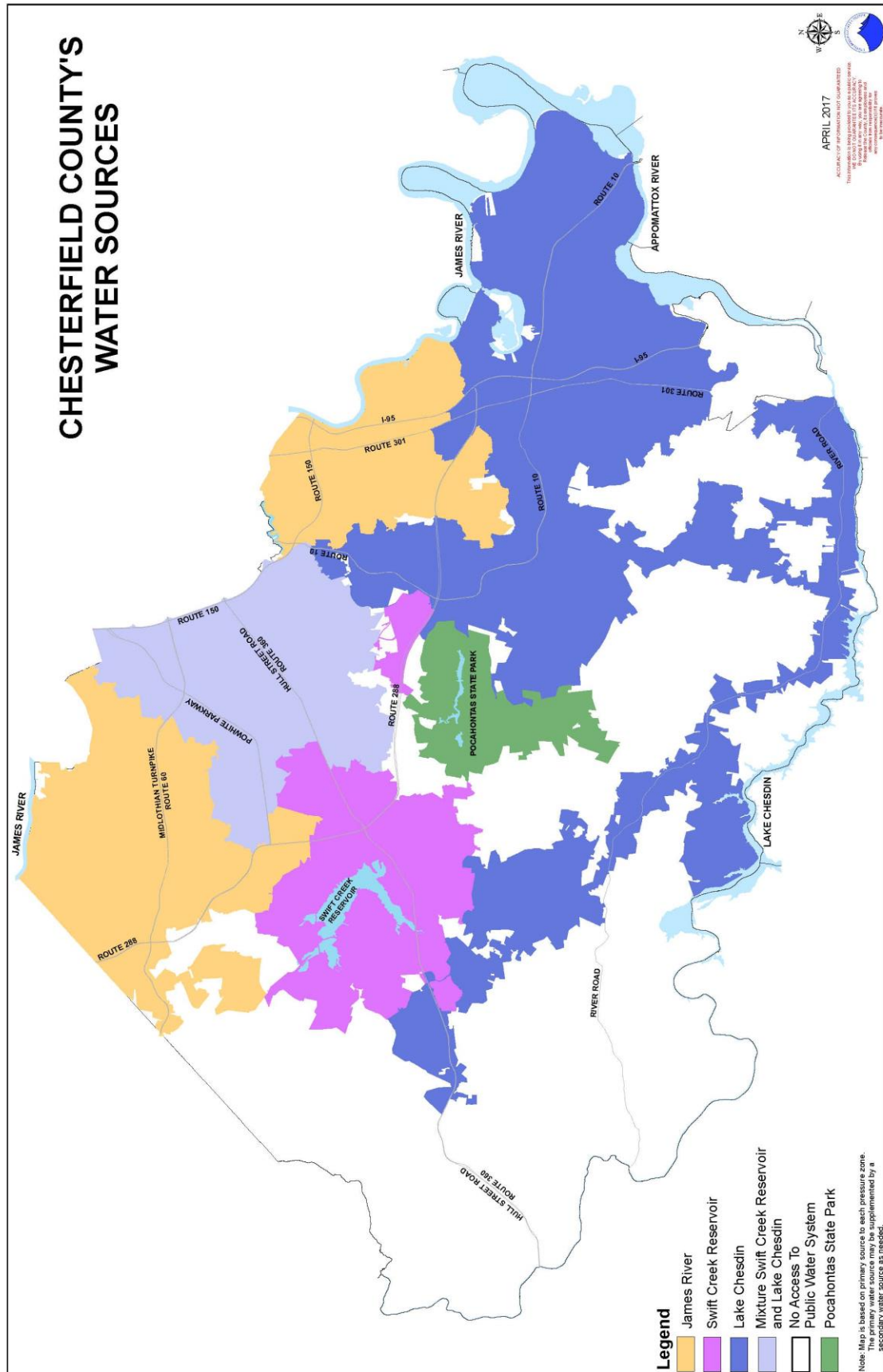


Over the past five years, the annual average water usage from each source is as follows:

- Swift Creek Reservoir –19.74 percent
- James River – 24.12 percent
- Lake Chesdin – 56.14 percent.



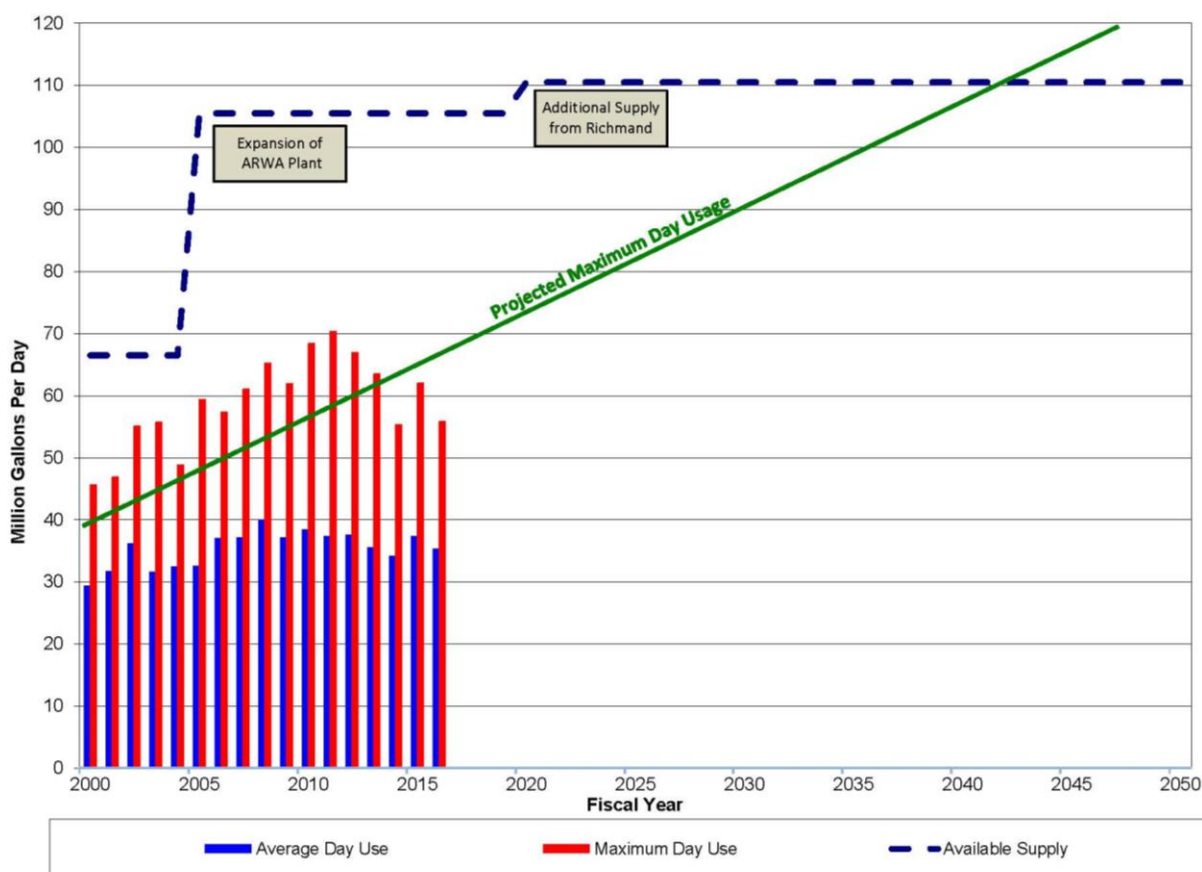
The map on the following page depicts the general location of the water treatment facilities which serve the county and the current boundary of the areas served by the existing lines from each facility. As previously noted, the system is interconnected to allow water distribution throughout the county from any of the treatment plants. The map does not show the ultimate limits of the area that can be served by the public water system. Areas currently served by private wells and individual septic systems are shown as white. See Chapter 9 Environment for further information on the use of private wells and individual septic systems.



### Planning for Future Water Demands

In Fiscal Year 2016, water demands averaged 34.91 million gallons of water per day, while historic peak demand occurred in July 2010, when 70.4 million gallons of water was used. While the average daily and maximum daily water use has decreased slightly over the past five years, it should be noted that during this timeframe the region has experienced higher than average rainfall. The county is currently evaluating the water demands and estimates based on the regional water supply plan that indicate water supplies will be adequate until 2042; the decrease in demand trends resulting from water smart home appliances and conservation efforts may extend this projection several years beyond the original projection.

### Public Water Use & Supply



Future water needs will be met by increasing source capacity and implementing demand management strategies. Because of the limitation on increasing the water supply from Swift Creek Reservoir, Lake Chesdin and the James River, the county plans to evaluate future water sources and determine the availability of additional water sources to maximize system reliability and redundancy.

The drought in 2002 led the state to direct localities to develop a 50-year water supply plan. As a result, the Appomattox River Water Authority retained a consultant to determine if Lake Chesdin could meet future member jurisdictions' water demands. The consultant has completed the draft study, *Regional Water Supply Plan (2007)*, which was incorporated into the Commonwealth of Virginia State Water Resource Plan (2015).

The *Regional Water Supply Plan* suggests several alternatives for increasing the capacity of Lake Chesdin and also recommends implementation of demand management strategies:

- Construction of another reservoir to capture water from the Appomattox River during wet periods to be released to Lake Chesdin, as needed.
- Increasing the overflow elevation of the George Brasfield Dam on Lake Chesdin.

The Department of Utilities and Chesterfield County leaders fully understand and appreciate how critical adequate water supplies are for the county's future. The recent droughts of 2010 and 2012 serve to accentuate the importance of reliable water sources for the health and sustainability of a community. Staff from both the ARWA and the Department of Utilities continuously works with regulatory agencies, engineering consultants and water supply professionals and others to evaluate and develop feasible short- and long-term solutions for enhancing and expanding drinking water sources that will reliably serve the county's needs in the future.

Demand management strategies and low-impact development standards promote water conservation resulting in overall efficiency of system operations and reducing the need for capital investments. Reduction in peak demands lowers total capacity requirements and the cost of providing services. Implementation of strategies by individual utility customers and the county will extend the capacity of the county's water supply. The degree of customer participation will determine when additional water sources are needed.

Customers can implement efficient irrigation practices and install:

- Drought-resistant landscaping
- Efficient irrigation systems with soil moisture and rain sensors
- Micro and drip irrigation systems
- Rain barrels and other innovative rainwater harvesting systems



Chesterfield County will:

- Provide education on efficient irrigation practices, drought resistant landscaping and use of rain barrels and other innovative rainwater harvesting systems.
- Install automated meter reading and advanced metering infrastructure to provide customers access to consumption data and trends more frequently than the current bi-monthly bill.
- Review the utility rate structure for alternative methods of providing incentives for reducing usage.
- Review current development "quality" standards and perspectives to identify opportunities of reducing potable water consumption, i.e., minimizing the need for irrigation.
- Consider more use of low-impact development with lower irrigation demand and opportunities for saving potable water supply for future uses that require it.



### **Water Reclamation and Reuse**

Water reclamation and reuse will likely play a significant role in the county's future water use. Wastewater from the county's treatment plants has the potential to be further treated for reuse to reduce the demands on the existing potable water supply. Treated wastewater can be used for many industrial processes such as cooling. The level of additional treatment depends upon the end use of the water. The Virginia State Water Control Board has developed *Water Reclamation and Reuse* regulations which are administered by the Virginia Department of Environmental Quality.

The immediate benefits of water reuse projects are:

- Saves potable water for uses that require it.
- Less treated wastewater discharge to the James River.
- Reduction in operational costs for the county and users of reclaimed wastewater.

The county has one of the largest water reuse projects in the state through an agreement with Dominion Virginia Power to supply reclaimed water from the Proctors Creek Plant for use in air scrubbers at the Dutch Gap Power Plant. This is an example of potential future opportunities for use of reclaimed water. Additional treated wastewater reuse opportunities are currently being considered by the Utilities Department.

### **WASTEWATER**

County wastewater is treated at four plants: Falling Creek, Proctor's Creek, the City of Richmond and South Central Wastewater Authority. The general service area for these plants is based upon topography. Chesterfield County and Richmond have reciprocal agreements for wastewater service to areas that naturally drain to each other's jurisdiction. The total treatment capacity, exclusive of the City of Richmond's plant, is 41.3 million gallons per day.



### **Public Wastewater Treatment Facilities**

#### **Falling Creek**

- County owns, operates and maintains the plant.
- Plant capacity is 12 million gallons per day.
- Plant capacity expansion may be impractical due to physical land constraints.
- Some wastewater from Richmond is treated at this plant.



### Proctors Creek

- County owns, operates and maintains the facility.
- Facility capacity is 27 million gallons per day.
- Facility treatment capacity will be expanded to 54 million gallons per day and the expansion will be phased. The first phase will increase the plant's treatment capacity to 34 million gallons per day and is anticipated to be complete by 2032.
- Facility provides laboratory services for county treatment plants and tests related to the Industrial Wastewater Pre-Treatment Program.

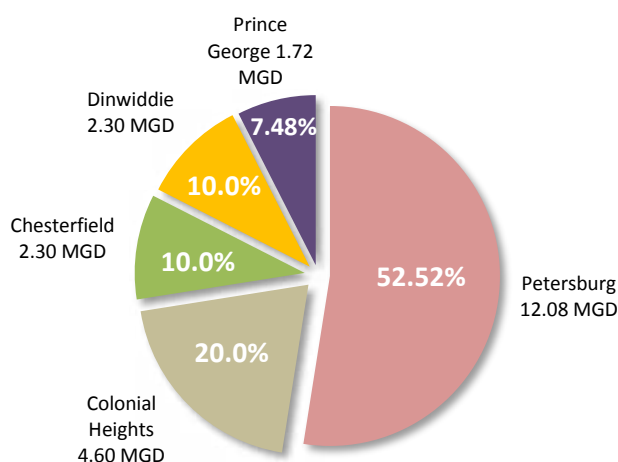
### Richmond

- City owns, operates and maintains the plant.
- Plant capacity is 70 million gallons per day.
- Some of county's wastewater is treated at this plant.

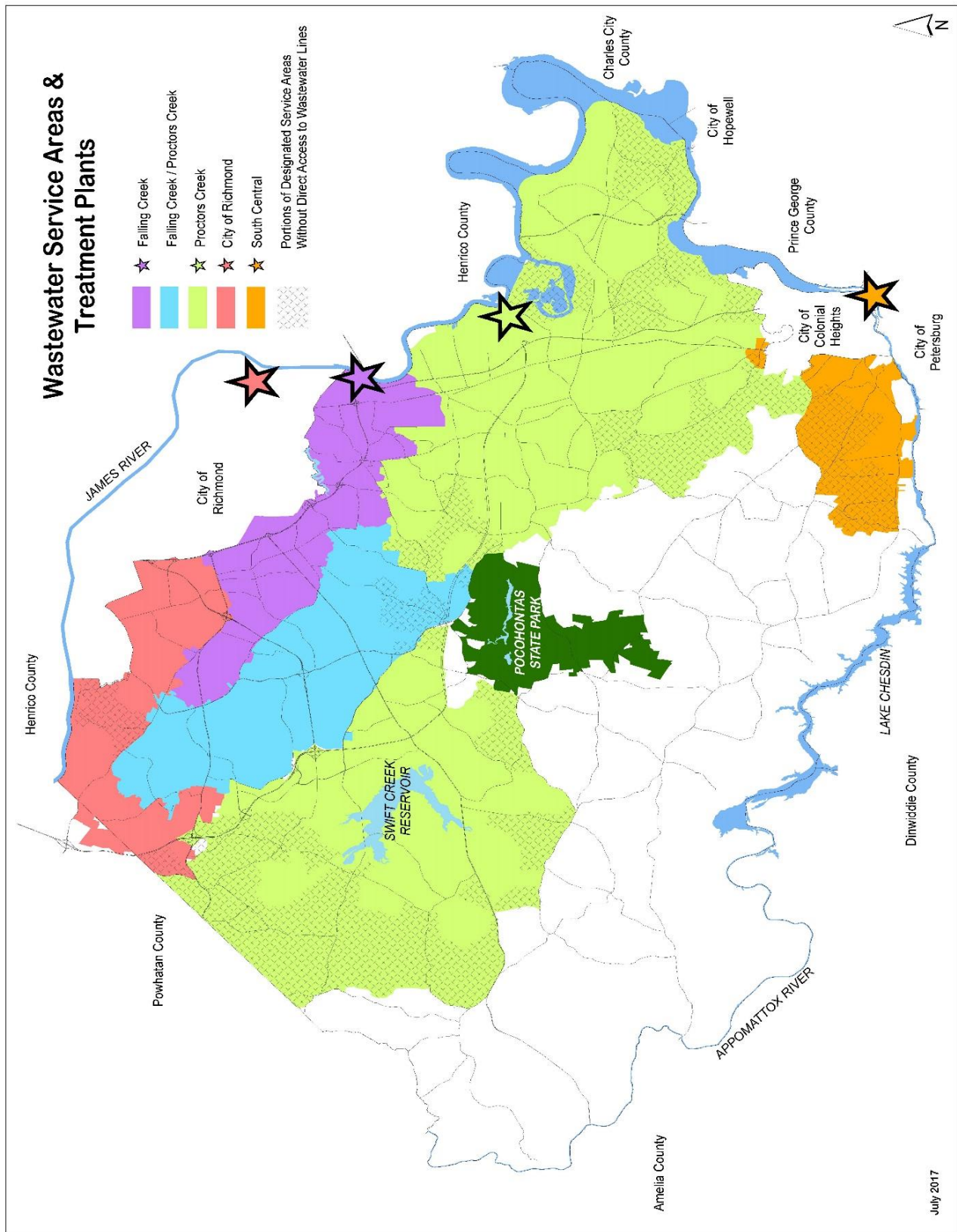
### South Central Wastewater Authority

- South Central Wastewater Authority operates and maintains the plant.
- Plant is owned by members of the Authority.
- Plant capacity is 23 million gallons per day.
- County has rights to 2.3 million gallons per day of plant's capacity.
- Plant could be expanded to 32 million gallons per day.

### South Central Wastewater Authority Members & Contracted Capacity



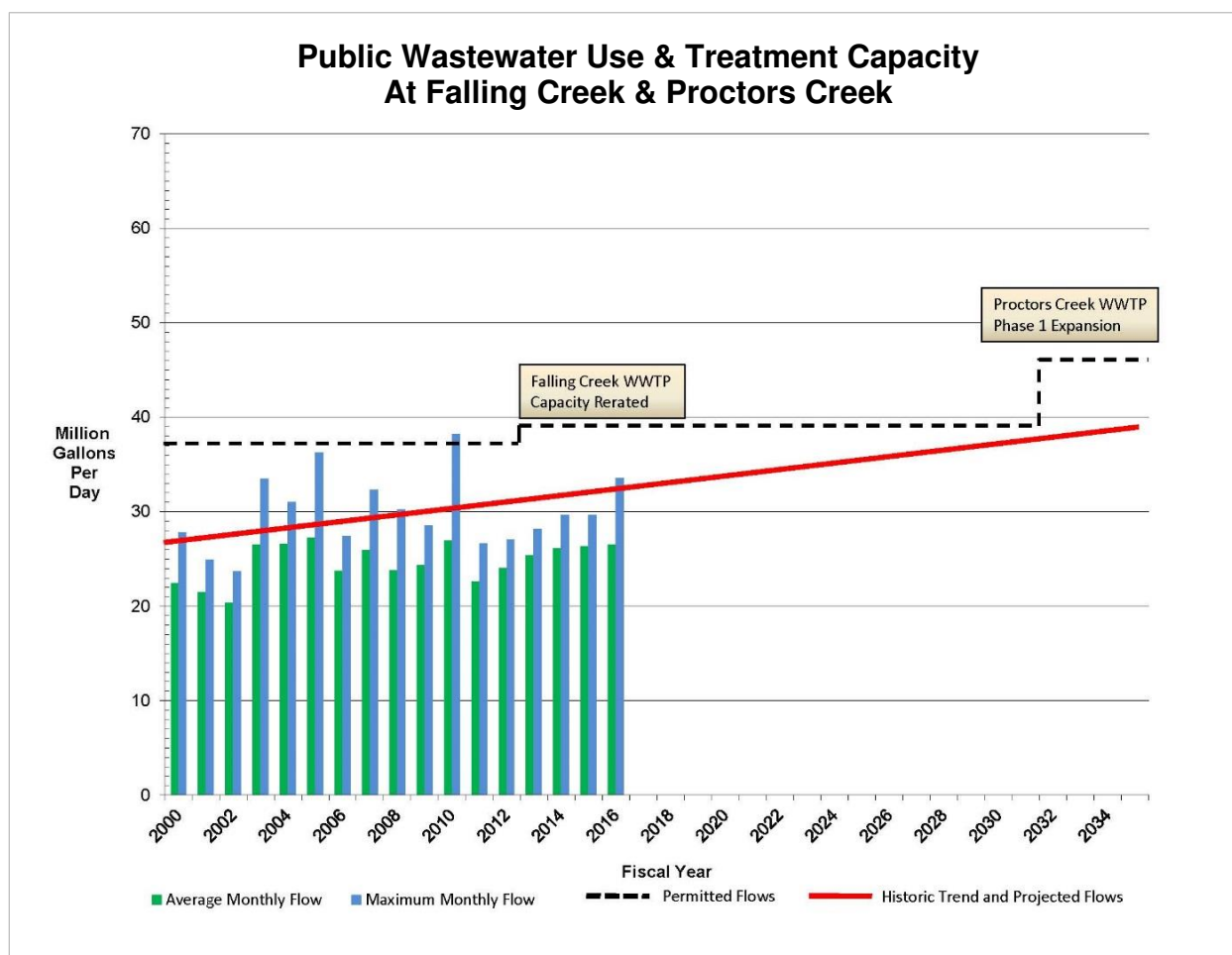
The map on the following page depicts the general location of the wastewater treatment facilities which serve the county and the current boundary of the areas served by the existing lines to each facility. To address capacity limitations at the Falling Creek Treatment Plant, flows from the northern Falling Creek area can be directed to, and treated at, either the Falling Creek Treatment Plant or the Proctor's Creek Treatment Plant.



### Planning for Future Wastewater Service

The wastewater agreement with the City of Richmond does not specify the amount of county wastewater that will be accepted into their system. The county plans a phased expansion of the Proctors Creek Plant increasing the total capacity of wastewater treatment, exclusive of the Richmond plant, to 68.3 million gallons per day.

The Virginia Department of Environmental Quality regulates the amount of nutrients, primarily nitrogen and phosphorus, which can be discharged to surface waters from wastewater treatment plants. Each locality has a nutrient allocation that may be discharged which impacts the amount of wastewater that can be treated. The county's permit allows the Proctor's Creek Facility and Falling Creek Plant a total nitrogen waste load of 564,952 pounds per year and a total phosphorus waste load of 45,817 pounds per year. While the county plans to increase the total hydraulic capacity to 66.0 million gallons per day, the total waste load allocations will remain the same. Both treatment plants are being upgraded to meet nutrient removal standards. With this capability, wastewater treatment should be adequate well into the future. Details related to the *Federal Clean Water Act*, the Virginia Pollution Discharge Elimination System and the Virginia Water Pollution Permit process can be found in the Environment chapter.



## Existing Regulations for Public Water & Wastewater

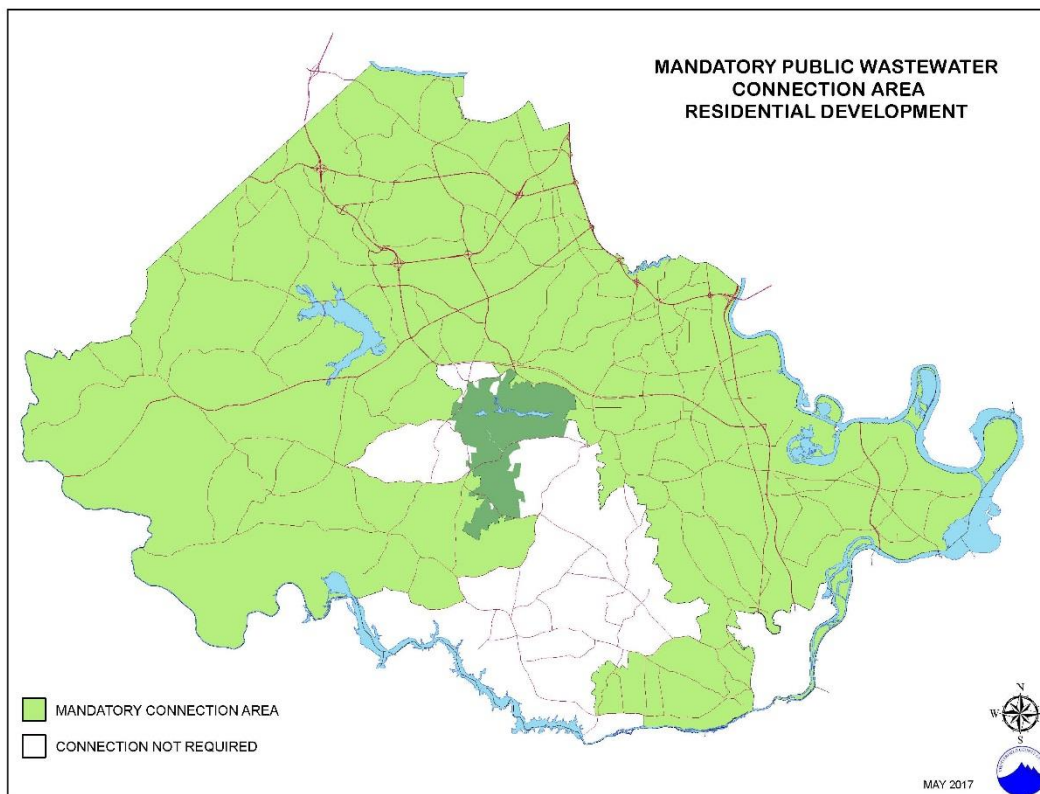
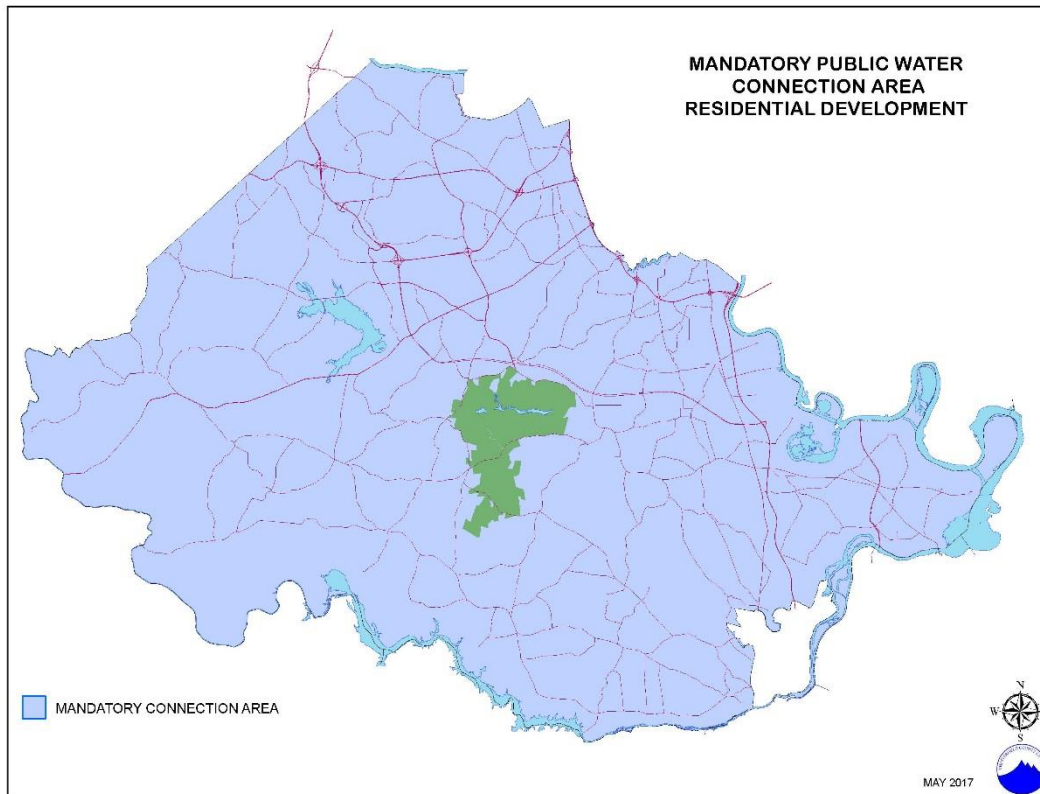
### **MANDATORY CONNECTIONS**

Mandatory connection areas were adopted with previous Comprehensive Plan amendments and are designed to address orderly growth and development patterns. County Code provides that connections to the public water and wastewater systems are generally required for development under the following circumstances:

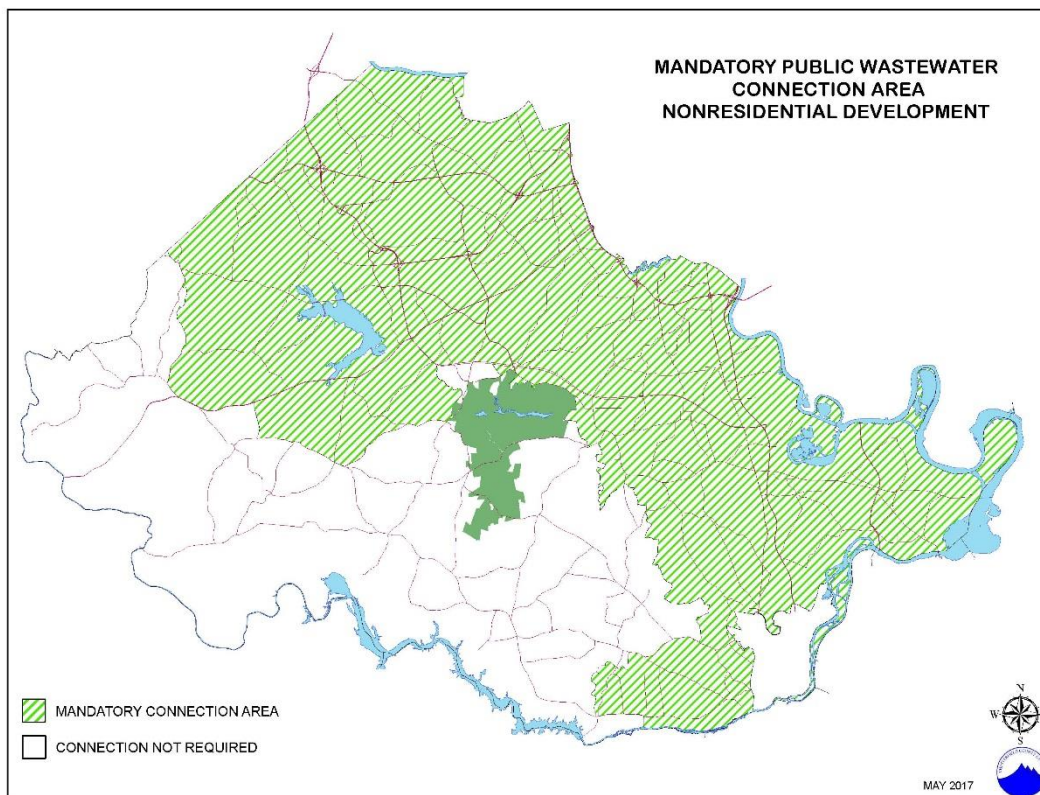
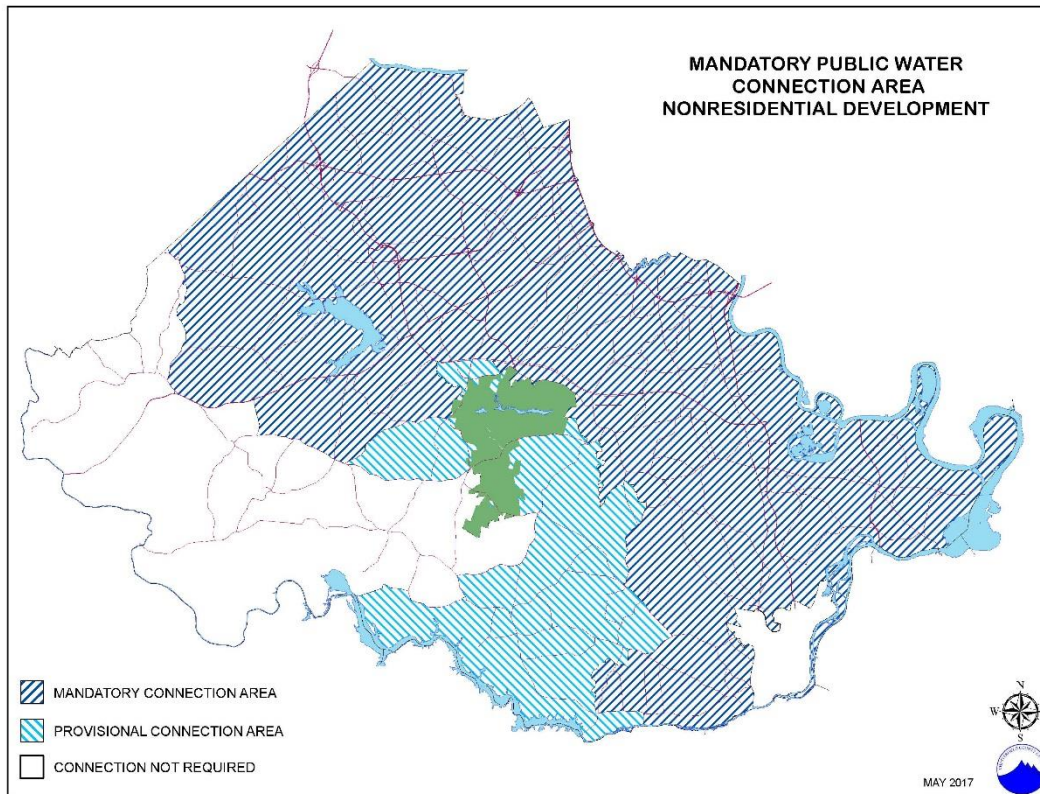
- For residential:
  - Property line is within 200 feet of a water line unless the required on-site service line is greater than 400 feet;
  - Located within a lot subdivision recorded with the requirement for connection;
  - Located within a lot subdivision which is located in the area shown as “required” on the residential public water and wastewater connection areas on the GIS map that receives after March 12, 2014 either:
    - Preliminary plat approval; or
    - Final plat approval where there are 50 or fewer lots and the subdivider has chosen not to submit a preliminary plat; or
  - Located in a multifamily development.
- For nonresidential:
  - Located in the area shown as “required” on the nonresidential public water connection areas on the GIS map; or
  - Located in the area shown as “provisional” on the nonresidential public water connection area on the GIS map and the property line is within 200 feet of a water line; and
  - Located in the area shown as “required” on the nonresidential public wastewater connection area on the GIS map.

The maps depicting the geographic areas described above are provided on the following pages.

The County Code does provide for certain individual parcel exemptions or exceptions based upon specific conditions. In addition, under the County Code the Board of Supervisors may grant exceptions to these mandatory connection requirements under certain circumstances through a public hearing process.







### **UTILITY EXTENSIONS**

Utility extensions must be in the best interest of the utility system with respect to effective design and the health, safety and welfare of citizens. The private sector, such as developers, is responsible for extending, and bearing the cost of, public water and wastewater infrastructure necessary to serve their developments. For residential development, off-site extension of any public water or public gravity wastewater trunk line shall not exceed a distance of 3,000 feet from the nearest existing line as measured along the most reasonable extension route, as determined by the Department Director. This limitation shall not preclude extension to accommodate a mixed-use development that has a primary component of non-residential uses, as determined by the directors of Planning and Utilities.

Consistent with their Facilities Plan, the Department may require a developer to install larger lines than those required for the specific development. In return, the developer is eligible for refunds from the Department derived from connection fees generated by the development. The developer may also receive refunds in a similar manner for off-site utilities installations when it meets the criteria within the County Code.

### **SPECIAL DISTRICTS**

County Code allows the Board of Supervisors to establish special districts for public water and wastewater extensions and services. These districts include:

- Assessment districts to fund extension of the public systems into developed areas experiencing issues with private on-site wells or septic systems or to undeveloped or partly developed areas. The Utilities Department funds the extensions with the property owners repaying the Utilities Department through a supplemental assessment applied to the property.
- Development districts to promote economic development in areas where it is not practical for individual property owners to pay for the cost of extensions. The county funds the extension through the capital improvements program with property owners repaying the county when the property is developed. Given that the county's investment is for an indefinite period of time with speculative return, the county has not recently created any of these districts.

## **Private Water and Wastewater**

### **INDIVIDUAL ON-SITE WELLS**

Private wells are regulated by the Chesterfield Health District and discussed in Chapter 9 Environment.

### **INDIVIDUAL ON-SITE WASTEWATER SYSTEMS**

Private on-site wastewater systems are regulated by the Chesterfield Health District and discussed in Chapter 9 Environment.

### **PRIVATELY OWNED/OPERATED COMMUNITY WATER AND WASTEWATER TREATMENT FACILITIES**

The evolution of the county's water and wastewater treatment facilities reflects an efficient trend away from dispersed smaller facilities to fewer, larger facilities serving large areas. The county does not support the use of water and wastewater facilities serving multiple users which are owned and operated by private entities. The potential risks associated with operational failures resulting in environmental consequences, rate inequities and business failures are significant and could result in undue financial remedies at public expense. It is critical that the county continue to maintain the public centralized treatment approach to ensure orderly growth and development, protect public health, protect the environment and ensure fiscal accountability to citizens.

## General Water and Wastewater Guidelines

The General Water and Wastewater Guidelines provide direction for the orderly extension of the public systems when addressing specific development proposals, preserving the water supply and protecting the environment.

Major considerations in the development of these guidelines include:

- ❖ Acknowledging the guidelines of The Land Use Plan chapter relative to the use of public systems.
- ❖ Acknowledging existing regulations regarding protection of water quality and the impact of those regulations on wastewater treatment.
- ❖ Supporting the guidelines of the Environment chapter relative to the protection of water quality.
- ❖ Continuing operational practices that contribute to the Department of Utilities' financial stability and AAA bond rating from each of the top three credit rating services.

The following General Water and Wastewater Guidelines should be used when considering water and wastewater decisions:

- **Public Water and Wastewater Line Extensions.**
  - Support development that is consistent with The Land Use Plan chapter with respect to use of the public water and wastewater systems.
  - Discourage development that is inconsistent with The Land Use Plan chapter relative to use of the public water and wastewater systems and could place a strain on the public utilities systems.
  - Consider the impacts of developments proposing to extend water and wastewater systems through undeveloped areas potentially spurring growth and development inconsistent with the recommendations of The Land Use Plan chapter.
- **Financial Stability.** Consider the impacts of decisions on the financial stability of the public water and wastewater systems.
- **Business Development and Revitalization.** Seek sources of funding to address utility infrastructure needs for Economic Development Opportunity Sites, Technology Zones and Revitalization Areas, identified in the Business Development and Revitalization Strategy chapters.
- **Private Sector Financing of Public Utilities.** Continue to require the private sector, such as developers, to bear the cost of public water and wastewater infrastructure to serve new developments.
- **Water Quality.** Support efforts to continue to protect the quality of the county's drinking water sources, as outlined in the Environment chapter.
- **Regional Cooperation.** Encourage continued regional cooperation in providing public water and wastewater infrastructure and acquiring additional capacity necessary to meet future growth and development needs.

- **Water Supply.** Evaluate measures and aggressively pursue capacity improvements recommended by the *Regional Water Supply Plan* to ensure adequate water supply well into the future.
- **Water Reuse.** Promote opportunities for industries in the vicinity of the wastewater treatment plants to partner with the county to use treated reclaimed water, saving potable water for needed human consumption and uses that require it.
- **Reduction in Water Demands.** Provide incentives to reduce irrigation usage and consider utilizing more low-impact development criteria while maintaining “quality” development.
- **Education.** Consider enhancement and expansion of community, school and library outreach programs to educate the public on water conservation practices related to the use of rainwater harvesting for irrigation and drought-tolerant landscaping. Include fiscal impacts and an emphasis on water as a finite resource with examples of the challenges experienced in other regions in the country and around the world.

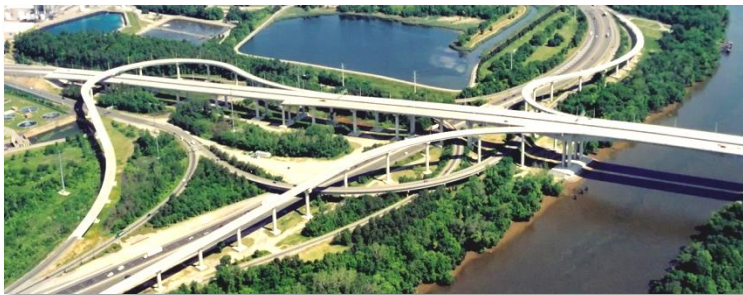


# CHAPTER 13: TRANSPORTATION

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## Overview

The Transportation chapter provides general guidance for transportation decisions and for accommodating growth and development as indicated in The Land Use Plan, improving safety, efficiency, and accessibility countywide. Modes of transportation in the county include roads, an airport, trains, pedestrian and bicycle facilities, and limited bus service. Although a more balanced multimodal transportation system (i.e., multiple modes of transport, such as automobile, rail, and bus) is recommended, the automobile is anticipated to be the dominant mode of travel in the county well into the future. This information will be reevaluated in conjunction with each five-year update of the Comprehensive Plan.



Although a more balanced multimodal transportation system (i.e., multiple modes of transport, such as automobile, rail, and bus) is recommended, the automobile is anticipated to be the dominant mode of travel in the county well into the future. This information will be reevaluated in conjunction with each five-year update of the Comprehensive Plan.

Regional and statewide travel is projected to increase concurrently with the growth of the county's population. The number of trips into the county is expected to increase as the population grows and employment expands. According to 2015 commuting pattern data from the U.S. Census Bureau, about 53,000 people live and work in Chesterfield County. Approximately 109,000 individuals live in the county, but commute elsewhere for work, primarily Henrico and Richmond. Additionally, about 78,000 workers commute into Chesterfield for work from the surrounding region. Over time, this commuting pattern may change with additional employment opportunities in the county, resulting in fewer county residents commuting to other jurisdictions and more people entering the county for employment.

In addition to commuting patterns, socioeconomic factors such as the aging population, number of individuals with disabilities, vehicle availability and declining household income have an impact on transportation needs. According to the 2016 American Community Survey, there are over 43,000 individuals age 65 and older and over 33,000 individuals with disabilities in the county. The senior population is projected to grow to nearly 89,000 by 2040. Additionally, 3 percent of county households do not have a vehicle and 27 percent have one vehicle available as of 2015. According to the 2015 Consumer Expenditure Survey by the Bureau of Labor Statistics, transportation is the second largest expense for households in the nation. As incomes are declining, households may become more limited in what they can afford. These socioeconomic trends may increase the need for a variety of mobility options. Changes in technology may also have an impact on future needs with increasing options for shared-use transportation and the future of vehicle automation.

### **DESIRED OUTCOMES OF THIS CHAPTER:**

- **Create a Safe & Efficient Multimodal Transportation Network**
- **Support Mobility Options for All Ages & Abilities**
- **Promote Context Sensitive, Innovative Designs**
- **Support Comprehensive Funding Strategies**
- **Enhance Connections Between Community Destinations**
- **Support Business Development Efforts**
- **Support Proactive Right-of-Way Acquisition for Major Roadways**



## **Transportation Vision**

Chesterfield County strives to create a balanced, efficient, multimodal transportation network that provides all users with the ability to reach their destinations safely. This chapter is meant to guide future development of the county's transportation network including, roads and highways for motorized and non-motorized transportation including transit, bicycle and pedestrian networks. While roadways are recognized as the backbone of the county's transportation network, alternate modes of transportation will need to be incorporated to meet mobility challenges of the future. Innovations in mobility and technology continue to evolve presenting a range of creative solutions such as on-demand transit options including ridesharing, bike-sharing and car-sharing. Autonomous vehicles with the ability to communicate with each other and the roadside infrastructure are just on the horizon and have the potential to transform how people travel in the future. These types of solutions in conjunction with coordinated land use policies will ensure the transportation network continues to develop in a sustainable pattern that supports the county's mobility goals. Chesterfield County will need to stay informed on emerging technologies and practices while proactively exploring ways to implement them where applicable to meet the diverse transportation needs of the county well into the future.

## **Roads-Thoroughfare Plan**

In 1932, the county's roads, like roads in most other Virginia counties, became part of the Virginia State Highway System which is managed and maintained by the Virginia Department of Transportation (VDOT). As the county grew and prospered, roads were constructed to accommodate residents and commerce. Between 1998 and 2006, over 200 miles of roads were built, primarily within new county subdivisions, the most of any Virginia locality during that period. As of 2016, VDOT maintains approximately 1,900 miles of roads in the county.



The county proactively plans for road improvements and new transportation facilities based upon anticipated growth and development as suggested on the Land Use Plan Map. Road improvements are made either by the public or private sector. Public sector projects are initiated when traffic conditions, such as congestion or safety, warrant the need and as funding becomes available. Private sector improvements are typically provided in conjunction with development based upon the impact of the project.

The Transportation Department develops a Thoroughfare Plan as part of the Comprehensive Plan. The Thoroughfare Plan identifies the backbone network of existing and proposed roads necessary to reasonably accommodate anticipated traffic generated by development of the entire county at the time of build-out. In addition to widening existing roads, construction of many new roads will be necessary to accommodate future growth. The Plan includes extension of a beltway system with two limited access roads: Powhite Parkway from Charter Colony Parkway to Hull Street Road; and the East-West Freeway from Route 360 to Interstate 95.

The *Code of Virginia* requires that a comprehensive plan show corridors of regional or statewide significance, as defined by the Commonwealth Transportation Board in the *Statewide Transportation Plan*. Interstate 95 that extends through the county is designated as a Corridor of Statewide Significance. To qualify, the corridor must meet all of the following criteria:

- Involve multiple modes (highway, rail, inter-regional transit, airport, water port) or is a freight corridor and extends beyond an individual region
- Connect regions/states/major activity centers
- Provide a unique statewide function and/or address statewide goals.

### **MODELING DEVELOPMENT**

Development of a Thoroughfare Plan typically includes traffic modeling. The Transportation Department uses a countywide travel demand model to forecast traffic based upon a specific land use scenario. The results of the modeling include anticipated traffic volumes and levels of service which are used to assist in determining the need for new roads and the widening of existing roads.

#### **Land Use Assumptions**

For transportation planning purposes, a land use scenario was used that assumes that the county will ultimately be fully developed (“build-out”). Build-out is expected to take many, many years. The Land Use Plan does not anticipate build-out during the lifecycle of this Comprehensive Plan. However, evaluation of a build-out potential is necessary to establish a foundation for an adequate transportation network should future land uses differ from those recommended for the Rural Residential/Agricultural area. The build-out scenario assumes development based upon the recommendations of the Land Use Plan, except for that area designated for Rural Residential/Agricultural. To plan for possible future growth in the Rural Residential/Agricultural area and the resulting impact on the road network, a land use scenario was developed assuming that at some time in the future public facilities to include public wastewater service would be available to support alternative land uses.

The build-out scenario assumes the following land uses for the Residential/Agricultural area:

- Neighborhood Business uses along Route 360
- Regional Mixed Uses at the interchanges of a proposed East-West Freeway
- Residential development of 2 units to the acre in the remaining area.



The build-out scenario for the Rural Residential/Agricultural area is anticipated to yield approximately 111,000 residential units and 41 million square feet of commercial/industrial uses. It should be recognized that the build-out scenario will exceed current local, state and federal funding for road infrastructure that functions at desired levels of service, therefore, resulting in increased road congestion.

## **Road Network Assumptions**

The existing road network and road improvements committed to by public and private funding were initially evaluated to assess their ability to accommodate anticipated traffic generated by the build-out scenario.

The modeling also assumed various communities' desires to retain the unique character of their area by maintaining some roads in their existing conditions, even if the result would be congestion. These roads include:

- Route 60 through the Village of Midlothian
- Route 10 through Chester Village
- Buford Road
- Forest Hill Avenue
- Old Gun Road
- Old Buckingham Road
- Winterfield Road
- Ruffin Mill Road from Ashton Park Drive to Ramblewood Drive
- River Road through the Village of Matoaca

The Transportation Department evaluated the outputs from the modeling which included traffic volumes and levels of service. The Department then determined reasonable road improvements (improvements to existing roads and construction of new roads) necessary to accommodate the forecasted traffic. The number of lanes modeled is not the number that currently exist, but rather the lanes that may be necessary to support build-out development. The roads were then classified based upon their function and right-of-way width necessary to accommodate the number of lanes for the anticipated traffic volume.



**Level of Service (LOS)** is a measure of traffic flow operations on a specific road segment. There are six levels of service categories, A through F, used to evaluate roads. Levels of Service A through D are generally considered acceptable, while Levels E and F are considered congested and undesirable.

Roadway LOS	General Operating Condition
A	Best operating condition, considered free flow of traffic
B	Reasonably free-flowing conditions
C	Stable, though constrained constant flow of traffic
D	Traffic conditions approaching unstable flow and little capacity
E	Unstable traffic conditions with no extra capacity
F	Worst traffic conditions, highly-congested and demands exceed capacity

**Road Classifications** are based upon factors such as traffic volumes and trip type (local or regional). The right-of-way necessary to accommodate the lanes of pavement for each road classification is then established. Additional right of way width for each classification may be needed for utility relocations, environmental mitigation, grade changes, turn lanes, intersection improvements, transit, and bicycle and pedestrian facilities. The county uses four categories of functional classifications:

- Limited Access roads accommodate high-speed traffic with limited or no access to adjacent property, have some degree of separation of opposing traffic flow, and are generally accessed by interchanges. These roads typically have a right-of-way width of 200 feet, generally accommodating six travel lanes. Interchanges may require 90 to 100 acres of right-of-way. Additional right of way may be needed to accommodate additional lanes of pavement or collector-distributor roads at interchanges.
- Major Arterial roads accommodate high volumes of traffic, and provide primary connections between neighborhoods and employment/retail centers and to limited access roads. The county has two classifications for major arterials, the first having a right-of-way width of 90 feet, generally accommodating four travel lanes, and the second having a right-of-way width of 120 to 200 feet, generally accommodating six to eight travel lanes.
- Collector roads route traffic to and from major arterials and accommodate traffic within and between neighborhoods and commercial/industrial developments. The county has two classifications of collector roads, the first having a right-of-way width of 60 feet, generally accommodating two travel lanes, and the second having a right-of-way width of 70 feet, generally accommodating two or four travel lanes.
- Local roads accommodate low traffic volumes within and between neighborhoods and commercial/industrial developments. These roads typically have a right-of-way width of 50 to 60 feet generally accommodating two travel lanes. New local roads are not identified on the Thoroughfare Plan. The need for these roads will be determined on a case by case basis through the development review process.





### **STREET DESIGN**

Roads and streets play a critical role in shaping communities. They are the primary way in which different land uses and communities are connected. Past development has created a pattern of disconnected land uses and neighborhoods that are centered around the automobile. Good road design is a balancing act and should accommodate the predominant modes of transportation in a given area, both now and in the future, while mitigating the impacts on surrounding properties and the environment. As noted in the overview, many socioeconomic factors impact the mobility of a community. Road design that takes multiple users into account can provide a more equitable and efficient transportation network. However, this is not possible or appropriate in every area. For example, including pedestrian facilities on a low-volume, rural road may not be desirable, feasible or a good use of funds. General street and road design concepts and examples of various road types and layouts are discussed and illustrated below. Where appropriate, policies and ordinances should be revised and/or developed to encourage context-sensitive road designs. For example, a decision-making tool should be developed by staff that guides staff and private developers in making design decisions. This tool should take several factors into account including future land use, forecasted traffic volume, and vehicular and non-vehicular crash statistics.

#### **Context Sensitive**

Good road design should consider the context of development around the road – whether it is residential or commercial in nature and whether the road is in an urban, suburban or rural setting. Road design will look different for each of these cases, but should acknowledge all potential users and future land use. In addition to providing safe, efficient means to travel, roads should add social and economic value to the community it serves. Appropriate streetscaping through use of landscaping, lighting, wayfinding and other amenities can assist in creating desirable public spaces. Other design considerations should include pedestrian/bike crossings and facility widths.

#### **All Ages, All Abilities**

Roads should provide a means of transportation for everyone including persons with disabilities. The preferred facility in a suburban setting to accommodate a wide variety of users is a paved shared-use path. This single facility can comfortably be used by those who walk, jog, ride a bike or use a wheelchair or stroller. Facility design should incorporate ADA accessibility principles and standards.

#### **Grid Street Design**

Planning road grids in more intensely developed areas such as mixed-use projects is desirable in creating a more walkable place. In suburban settings, it is desirable to develop parallel roadways to relieve congestion along major highways and reduce cut through traffic in neighborhoods. Block lengths should be considered to best accommodate both pedestrians and drivers alike. This grid or parallel road system should provide maximum connectivity between various land uses and offer mobility options to users.

#### **Access Management**

Efficient access management practices should be encouraged to keep traffic moving and make it safer for pedestrians. Practices such as the frequency, location and spacing of driveways and medians should be established for both new and redeveloping corridors. Access management can reduce crashes, increase traffic flow and make it easier to access uses along a corridor.



### **Safe Intersections for All**

Intersections of roads are often barriers to safe walking and biking. Many roads are built with sidewalks, but it is not possible to safely cross the road without a pedestrian actuated signal, signage and/or road markings. Existing intersections should be redesigned and standards for new intersections should be established to encourage biking and walking, especially in areas where sidewalks currently exist or if the intersection appears on the Bikeways and Trails Plan.

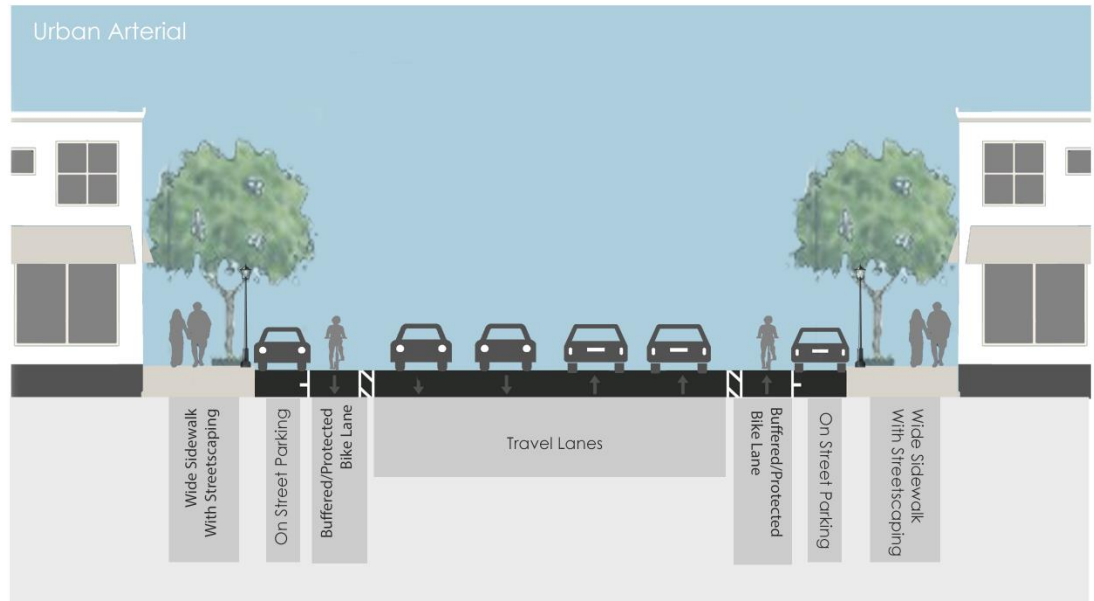
### **Bikeways and Trails Plan and Special Area Plans**

The Bikeways and Trails Plan Map, found in Chapter 14, provides the framework to create a network of trails and roads that will serve as the backbone for safe, comfortable and convenient routes for people to bike and walk for transportation or recreation needs. The Specific Area Plans, found in Chapter 11, further refine the Bikeways and Trails Plan network by identifying specific locations and facility types. In addition, Specific Area Plans may recommend sidewalks, neighborhood byway routes and treatments and/or intersections and crossing improvements. In addition to this network, other roads and trails should be built to access the network. This street design section strives to promote roads that serve as connections to the Bikeways and Trails Plan network.

Cross sections on the following pages serve as examples or general templates for the design of roads. Some cross sections depict multiple options for bike/pedestrian accommodations. Each situation is unique with possible utility, environmental, social or other constraints. These recommended cross sections should be modified to address unique situations and community character, with the intent to safely and comfortably accommodate all users.

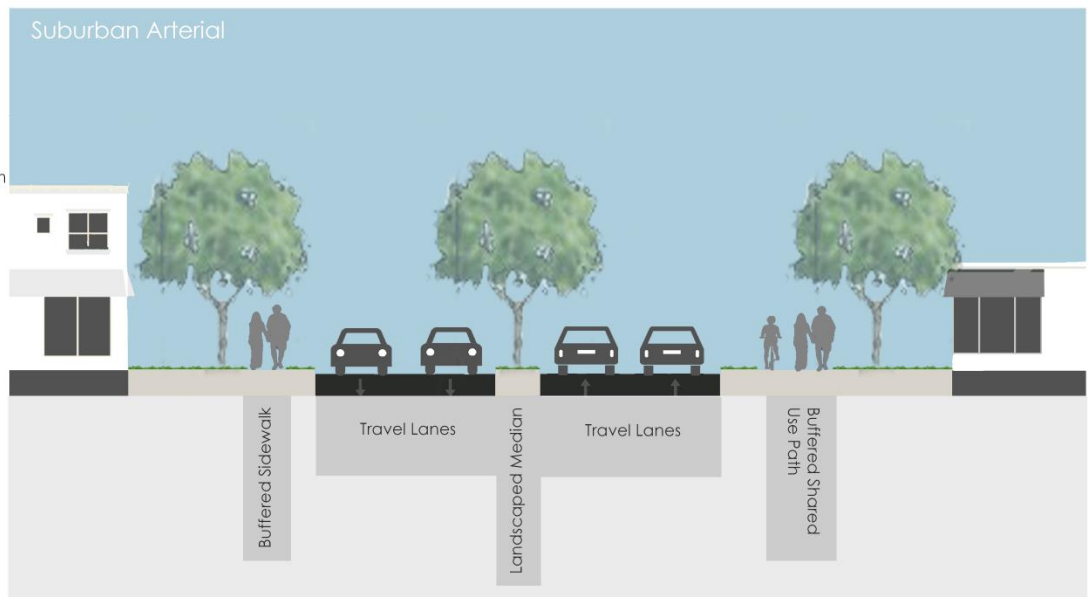
## Urban Arterial Design Features:

Wide Sidewalks - 10' Minimum  
Street Trees  
Pedestrian Lighting  
Benches and Trash Cans  
On Street Parking  
Buffered/Protected Bike Lane  
11' Travel Lane Width  
Pedestrian Signals and Crosswalks



## Suburban Arterial Design Features:

Buffered Sidewalks - 5' Minimum  
Buffered Shared Use Path - 10' Minimum  
Landscaped Median  
12' Travel Lane Width  
Pedestrian Signals and Crosswalks  
at Key Intersections



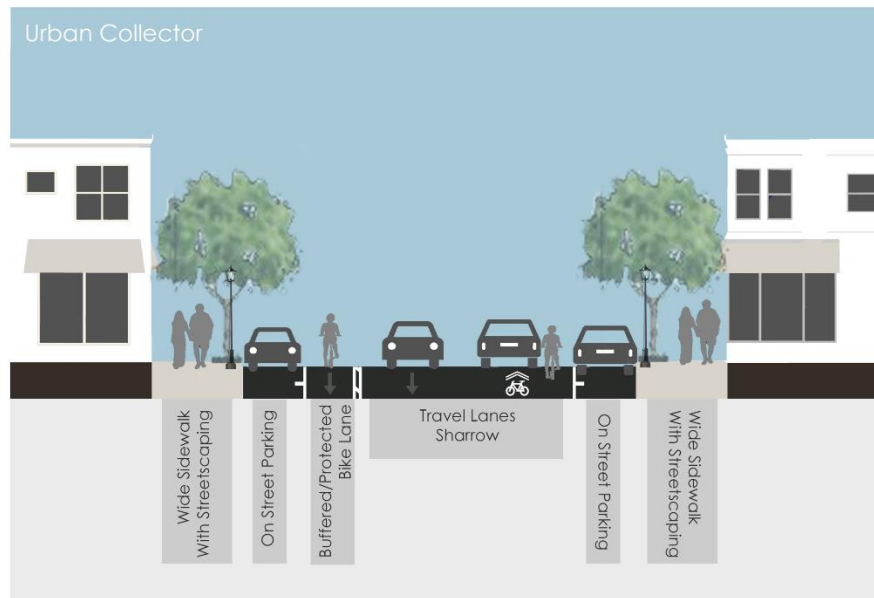
## Rural Arterial and Rural Collector Design Features:

- 5' Paved Shoulder
- or
- 5' Bike Lane plus 5' Paved Shoulder
- 12' Travel Lane Width



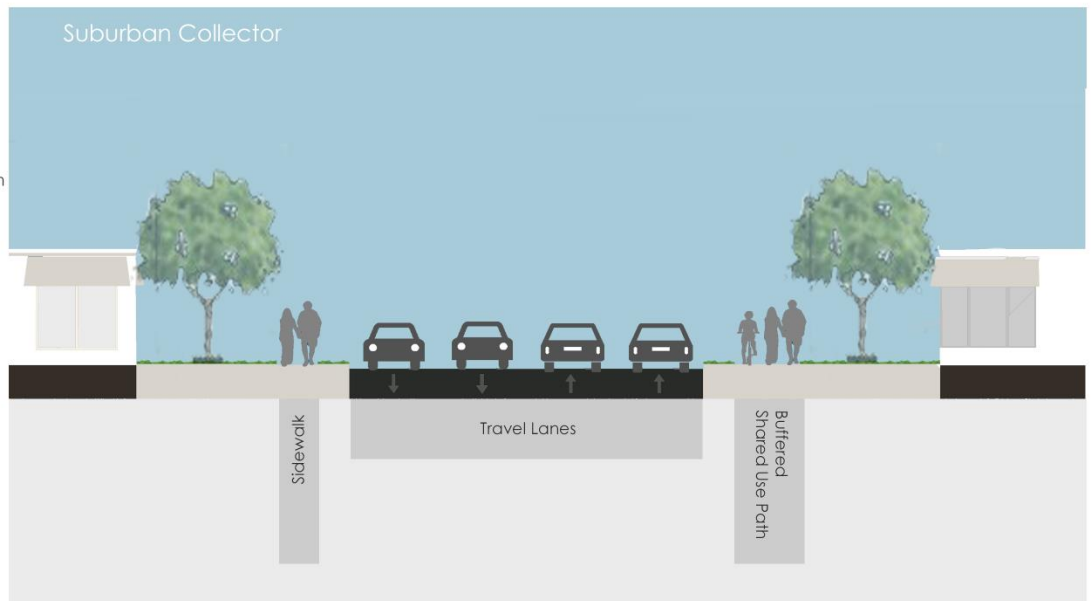
## Urban Collector Design Features:

- Sidewalks - 6' Minimum
- Street Trees
- Pedestrian Lighting
- On Street Parking
- On Road Bike Facility
- Buffered/Protected Bike Lane
- or
- Sharrow
- 11' Travel Lane Width



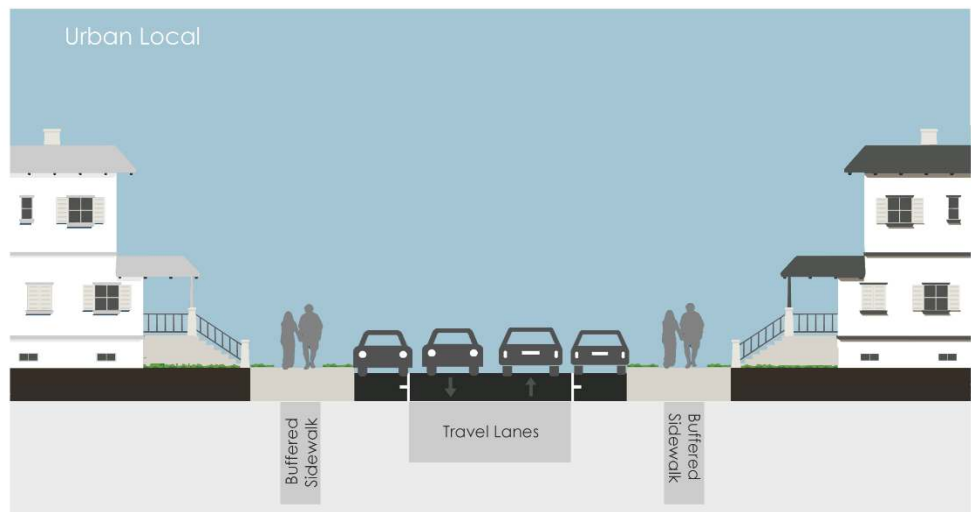
### Suburban Collector Design Features:

Buffered Sidewalks - 5' Minimum  
Buffered Shared Use Path - 10' Minimum  
11' Travel Lane Width



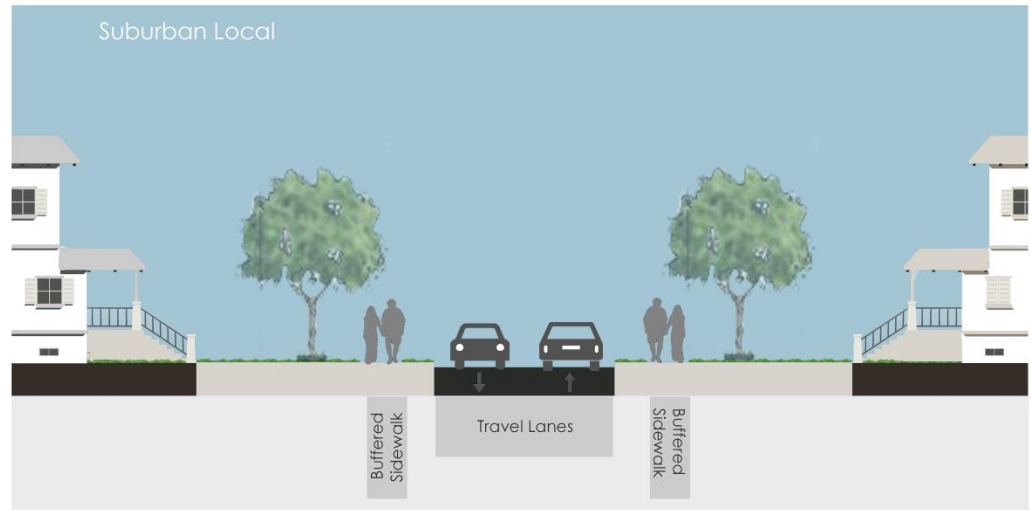
### Urban Local Design Features:

Buffered Sidewalks - 6' Minimum  
On Street Parking  
Neighborhood Byway and Signage  
10' Travel Lane Width



### Suburban Local Design Features:

Buffered Sidewalks - 5' Minimum  
Neighborhood Byway and Signage  
11' Travel Lane Width

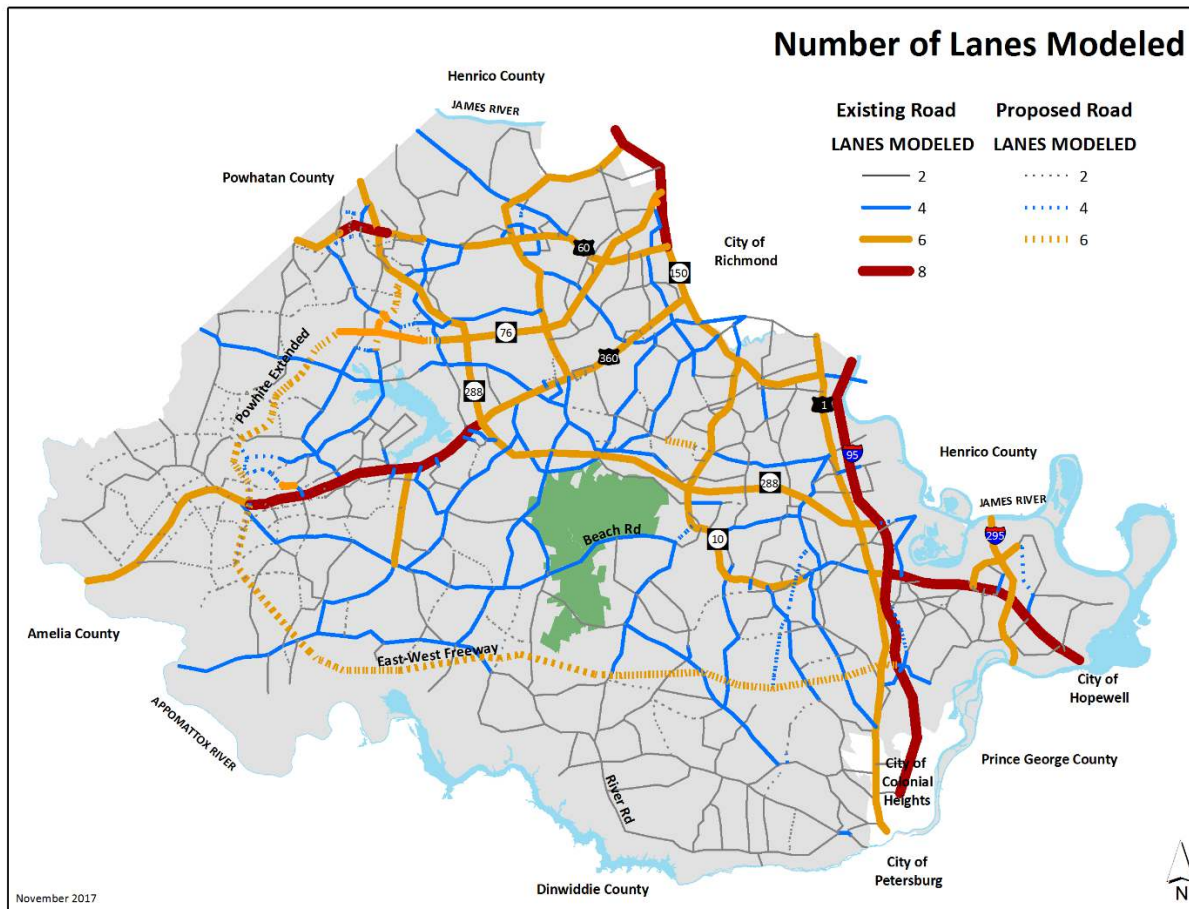


### Rural Local Design Features:

11' Travel Lane Width  
Drainage Ditches







## MODELING RESULTS

A Thoroughfare Plan was developed based upon the results of the modeling and the Transportation Department's evaluations. Solving all peak hour traffic congestion by increasing road capacity is not always the right solution. Sometimes, the negative impacts of road widening on adjacent properties or the benefits of economic development outweigh achieving acceptable levels of service. To that end, the Thoroughfare Plan does not address all projected capacity needs. It is expected that the long-term build-out scenario will result in various levels of congestion, including Levels of Service E and F. However, implementation of the Thoroughfare Plan should provide a reasonable level of mobility.

As previously noted, the Thoroughfare Plan identifies the backbone network of roads necessary to reasonably accommodate anticipated traffic resulting from development of the entire county at the time of build-out. Generally, the Plan will be implemented in phases as development occurs.

The Thoroughfare Plan is a general guide. During the development review process that may include more detailed analysis, the Transportation Department may recommend modifications to the road network, road alignments and rights-of-way widths, provided the adjustments meet the spirit and intent of the Comprehensive Plan.

### **How A Road is Created**

Developing a roadway from a line on a map takes a great deal of time, and is usually based upon the needs of development in the area. The generalized timeline below shows the major steps. Right-of-Way acquisition for the roadway is typically done through negotiations with property owners.



### **Intersection Improvements**

Based upon forecasted traffic volumes, existing intersections may need to be grade separated or converted to an alternative intersection configuration. Grade separated intersections are those that bridge one road over or under another road. Some example alternative intersections include Restricted Crossing U-Turns (RCUT), Median U-Turn (MUT), and Displaced Left-Turn (DLT). Some of these intersections are:

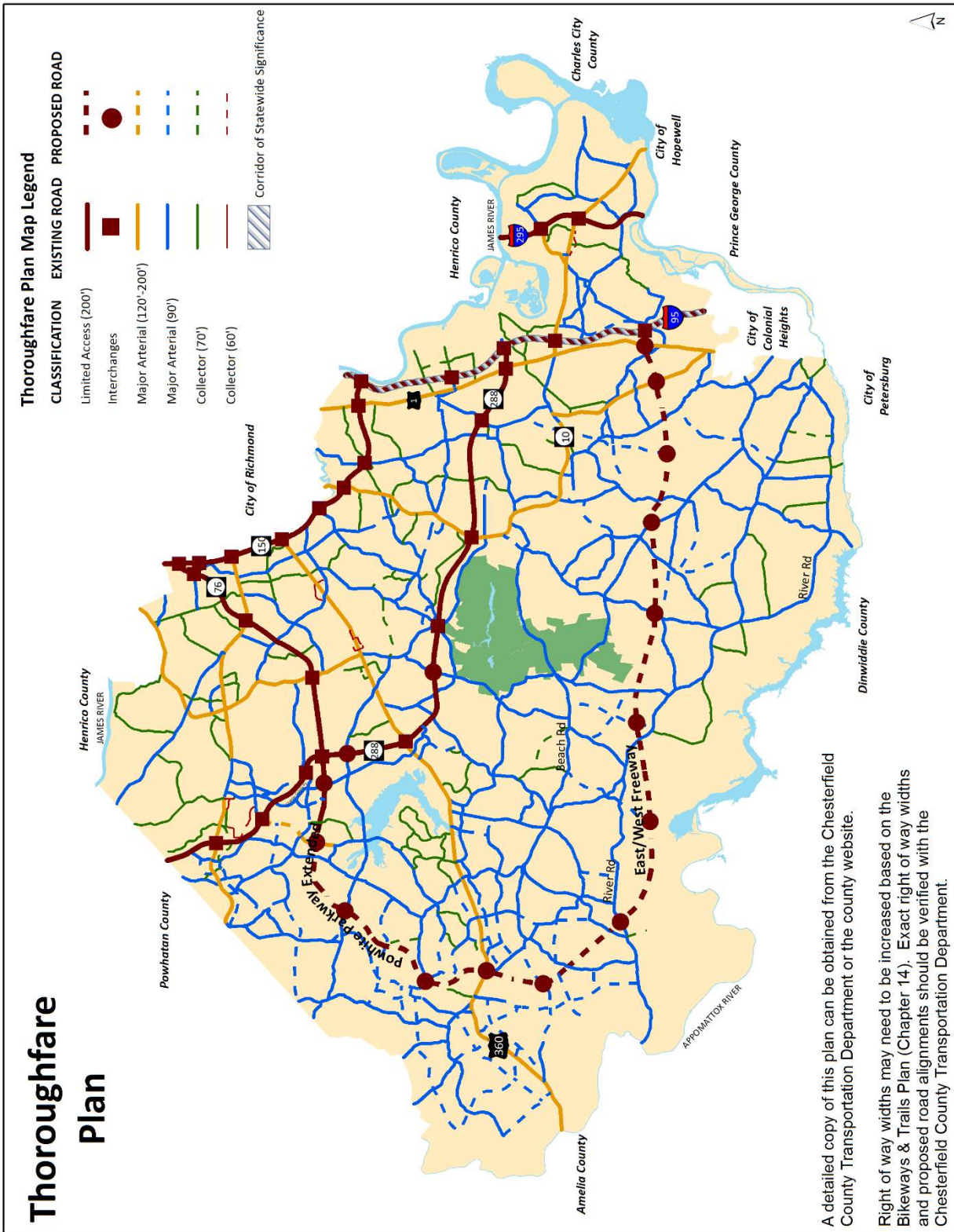
- Route 60/Huguenot Road/Courthouse Road
- Route 360/Courthouse Road
- Route 360/Old Hundred Road/Commonwealth Centre Parkway
- Route 1/Route 10
- Route 10/Meadowville Road/Old Bermuda Hundred Road.

Roundabouts are also becoming more prevalent in the county, with single-lane roundabouts being the preferred alternative at a number of high-accident intersections, including Genito Road at Otterdale Road, Matoaca Road at Hickory Road, and Old Hundred Road at Otterdale Road. Further information on roundabouts can be found [here](#).

More information on various types of intersections and their design can be found [here](#).

### **Powwhite Parkway Extension**

The Powwhite Parkway Extension to Woolridge Road Extended, Woolridge Road Extended, the widening of Woolridge Road to Otterdale Road and the widening of Otterdale Road to Hull Street Road should be a priority for the county. The Powwhite Parkway Extension should only be constructed when necessary to accommodate established traffic demands, and then only when it is a public priority. Tolls are undesirable.



Click [here](#) to access an interactive Land Use & Transportation Plan Map



### **FUNDING**

The *Code of Virginia* requires that a cost estimate for road improvements be provided in comprehensive plans. For the purposes of this planning effort, improving existing roads to achieve an acceptable of Level of Service D or better by the time of build-out is estimated at approximately \$6.8 billion in construction costs.



Funding for road improvements predominantly comes from taxes, primarily gasoline tax. These funds are augmented through bond referendums, cash proffers and the Capital Improvement Program. Road improvements are sometimes completed in conjunction with major development. The majority of road funds for localities throughout the state are allocated by the Commonwealth Transportation Board. These funds are administered by the Virginia Department of Transportation. In 2016, the average cost to widen a road from two lanes to four lanes was \$12.8 million per mile, and to widen a road from two to six lanes was \$17.3 million per mile. Over the next six years, local, state and federal funds

for county road construction improvements are anticipated to average approximately \$26.5 million per year. The county aggressively competes with other jurisdictions for funding from various programs. The Transportation Department evaluates road capacities, accident information and development patterns to justify funding for improvements to the most deficient road sections.

The Board of Supervisors, jointly with the Virginia Department of Transportation, annually establishes priorities for the construction and improvement of secondary roads in the county through the adoption of a Secondary Road Six-Year Improvement Plan (SSYP). The Board of Supervisors also annually adopts county priorities for primary and interstate road improvements, and requests the Commonwealth Transportation Board (CTB) to fund the priorities. The CTB establishes statewide priorities by allocating funding through the adoption of a Six-Year Improvement Program. The projects listed on the following page were approved in June 2017 for the FY 2018 – 2023 SSYP. A summary of unfunded transportation needs from the FY 2017 – 2021 Adopted Capital Improvement Plan is provided on page TR 20.

**COMMONWEALTH  
TRANSPORTATION BOARD  
(CTB)** – The CTB consists of 17 members appointed by the Governor to oversee transportation projects and initiatives for Virginia.

In 2015, the Office of Intermodal Planning and Investment (OIPI) developed the Statewide Transportation Needs Assessment process as part of the VTrans Multimodal Transportation Plan (VMTP). The VMTP, along with the VTrans Vision Plan make up the overall statewide Transportation Plan, VTrans2040. State code requires the county's Comprehensive Plan to be consistent with VTrans. The VTrans needs being addressed by each Six-Year Improvement project are summarized on the following page. Additional VTrans2040 information can be found [here](#).

In 2014, House Bill 2 was signed into law, requiring development of a prioritization process (SMART SCALE) for projects funded by the CTB. The purpose of SMART SCALE is to fund the appropriate transportation projects through a prioritization process that evaluates each project's merits using key factors including improvements to safety, congestion reduction, accessibility, land use, economic development and the environment. SMART SCALE requires the CTB to develop and implement a quantifiable and transparent

prioritization process for making funding decisions for capacity enhancing projects within the VDOT Six-Year Improvement Program.

The ***Code of Virginia*** permits the CTB to make an equivalent matching allocation, through the Revenue Sharing Program, to any county of up to \$5.0 million in funds to construct, maintain, or improve primary and secondary highway systems. In 2014, Chesterfield County adopted an additional vehicle registration fee to generate \$6 - 7 million annually to invest in the state's Revenue Sharing program, which matches local funding put towards road improvements dollar for dollar.

In most instances, the cost of new road construction and improvements to existing roads to mitigate traffic impacts from individual development is borne by the private sector. Road improvements necessary to adequately serve significant economic development sites may be too expensive for a single developer, necessitating special funding through a Transportation District or Community Development Authority. These districts or authorities generally place an additional tax on property within an identified area such as those identified as "Economic Development Opportunity Sites" in the Economic Development chapter.

A Transportation District ("Powhite Parkway-Charter Colony Parkway Interchange Service District") has been established by the Board of Supervisors to improve transportation services primarily for the CenterPointe, Waterford and Acropolis Developments. The District will provide funds to construct an interchange at the intersection of Powhite and Charter Colony Parkways and widen a part of Powhite Parkway. The road improvements identified in the District should be constructed as soon as funding is available.

A Community Development Authority ("Lower Magnolia Green Community Development Authority") has also been established by the Board of Supervisors to assist in addressing the traffic impact for part of the

### **COMMUNITY DEVELOPMENT AUTHORITY (CDA)**

– A financing tool available to local governments that establishes a separate, special assessment district that enables partnership with the private sector to provide infrastructure or services.

### **PUBLIC/PRIVATE TRANSPORTATION ACT (PPTA)**

– adopted in 1995 by the General Assembly, a partnership between the public and private sector to share costs of traditionally publicly-owned assets.

Magnolia Green Development. The Authority will assist in financing the widening of Woolridge Road from Otterdale Road to the four-lane section of Woolridge Road across the Swift Creek Reservoir. The county is responsible for bearing the cost of acquiring the necessary right-of-way and permits. Additional financing could include cash proffers or appropriations from other sources, as determined by the Board of Supervisors. Developers will also assist in financing or constructing improvements as development occurs. The road improvements identified in the Authority should be constructed as soon as funding is available. Design plans and right-of-way acquisition is complete for the Woolridge Road section with construction started in the summer of 2018.

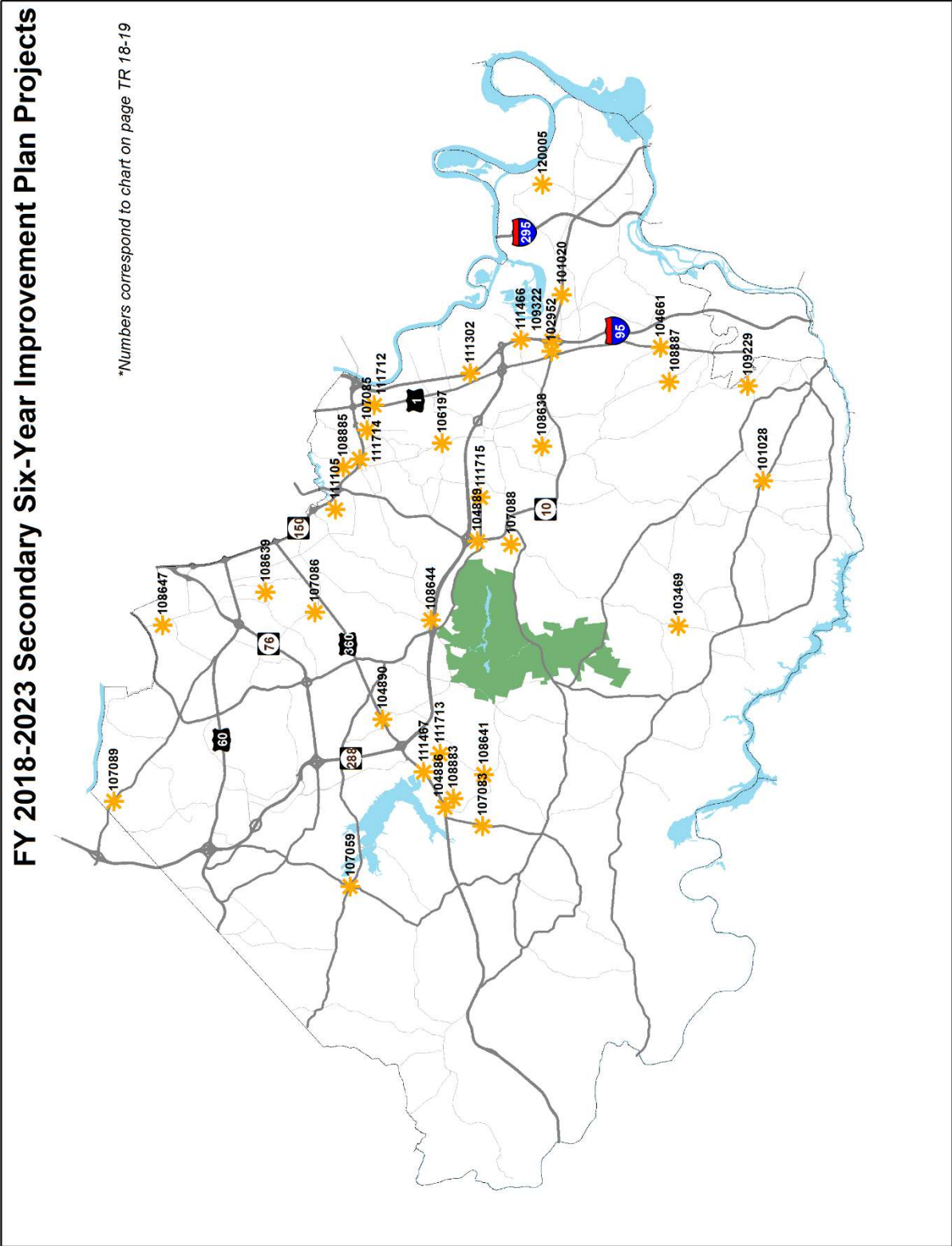
Providing adequate funding for transportation improvements improves the quality of life of the community, public safety and supports economic growth. Such investment should be balanced between the needs of newer and established communities, and between traditional roadway and alternative mobility infrastructure. Sustained, predictable funding allows better planning of improvement projects.



### Chesterfield County Secondary Six-Year Improvement Plan Projects FY18 – FY23

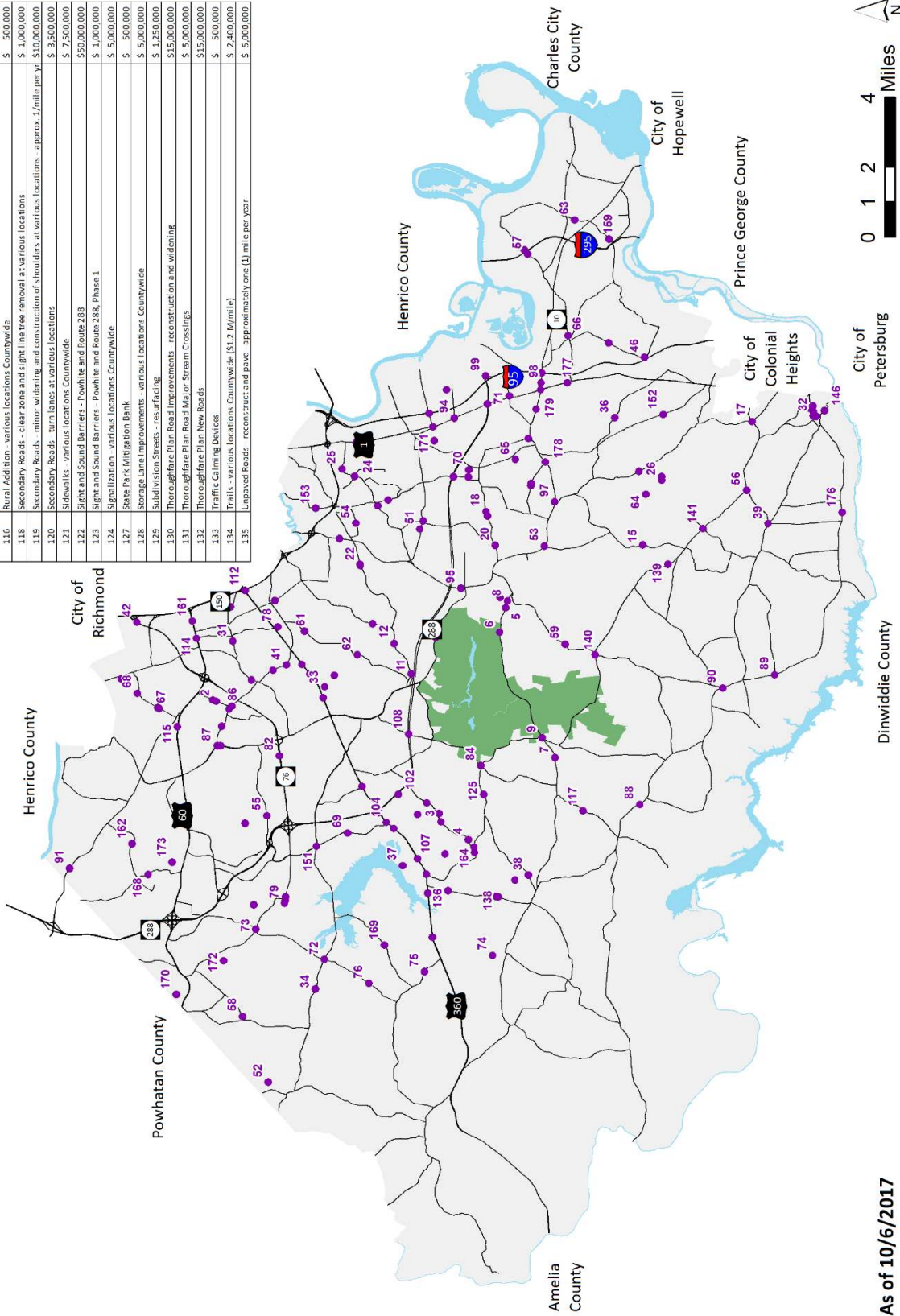
VDOT UPC#	Location	Type	Status	Estimate	VTrans2040 Need
<b>111105</b>	Stratton Park Pedestrian Improvements	Pedestrian Improvements	PE Underway	\$1,100,000	UDA
<b>109322</b>	I-95 at Route 10	Interchange Improvement	PE Underway	\$10,000,000	CoSS, UDA, Regional Network
<b>111302</b>	I-95 Bridge over Reymet Road	Bridge Rehabilitation	PE Underway	\$11,000,000	SGR
<b>111466</b>	I-95 from Route 10 to Route 288	Interstate Widening	PE Underway	\$28,770,000	CoSS, UDA, Safety, Regional Network
<b>108887</b>	Harrowgate Road/Cougar Trail	Pedestrian Improvements	FY2020	\$890,000	Safety, Regional Network
<b>104661</b>	Route 1 at Happy Hill Road & Route 1 at Woods Edge Road	Intersection Improvement	RW Underway	\$7,705,000	UDA, Safety
<b>111712</b>	Route 1 (Marina Drive to Merriewood Road)	Sidewalk	FY2022	\$2,083,000	UDA, Safety, Regional Network
<b>101020</b> <b>110393</b>	Route 10 (Bermuda Triangle Road to Meadowville Road)	Roadway Widening	RW Underway	\$54,191,000	UDA, Safety, Regional Network
<b>102952</b>	Route 10 (Route 1 to I-95)	Roadway Widening	RW Underway	\$9,000,000	UDA, Safety, Regional Network
<b>104889</b>	WB Route 10 (Whitepine Road to Frith Lane)	Roadway Widening	PE Underway	\$12,000,000	UDA, Regional Network
<b>111467</b>	SB RT 288 to WB US 360 Off-Ramp, US 360 at Chital Drive	Roadway Widening, PNR Lot	PE Underway	\$14,562,000	UDA, Safety, Regional Network
<b>104886</b>	US 360 at Spring Run Road	Intersection Improvement	PE Underway	\$3,000,000	UDA, Safety
<b>104890</b>	US 360 (Lonas Parkway to Castle Rock Road)	Roadway Widening	PE Underway	\$6,400,000	UDA, Safety, Regional Network
<b>111713</b>	Bailey Bridge Connector (Bailey Bridge Road to Brad McNeer Parkway)	New Roadway Construction	FY2020	\$22,960,000	UDA, Safety, Regional Network
<b>101028</b>	Matoaca Road at Hickory Road	Intersection Improvement	RW Underway	\$3,025,000	Safety
<b>107059</b>	Genito Road at Otterdale Road	Intersection Improvement	RW Underway	\$3,928,000	UDA
<b>107083</b>	Winterpock Road (US 360 to Royal Birkdale Parkway)	Roadway Widening	PE Underway	\$16,000,000	UDA, Safety, Regional Network
<b>109229</b>	Lakeview Road at Branders Bridge Road	Intersection Improvement	FY2021	\$3,427,000	Safety
<b>103469</b>	Nash Road Bridge over Rita Branch	Bridge Replacement	PE Underway	\$2,877,000	SGR
<b>107088</b>	Nash Road Extension (Beach Road to Route 10)	New Roadway Construction	PE Underway	\$19,000,000	UDA, Regional Network
<b>106197</b>	Hopkins Road at Kingsland Road	Intersection Improvement	PE Underway	\$3,400,000	Safety
<b>108885</b>	Hopkins Road (Bonniebank Road to S. Melody Road)	Sidewalk	FY2020	\$967,000	Safety, Regional Network

VDOT UPC#	Location	Type	Status	Estimate	VTrans2040 Need
<b>111714</b>	Cogbill Road/Hopkins Road/Chippenham Parkway	PNR Lot	FY2022	\$2,945,000	Safety, Regional Network
<b>107085 111299</b>	Dundas Road (Meadowdale Boulevard to Strathmore Road)	Bridge Replacement and Pedestrian Improvements	PE Underway	\$9,519,000	SGR, UDA, Regional Network
<b>107086</b>	Hicks Road (Mt. Gilead Boulevard to Cardiff Lane)	Roadway Reconstruction	RW Underway	\$3,100,000	UDA, Safety
<b>108644</b>	Belmont Road (Whitepine Road to Courthouse Road)	Roadway Reconstruction	PE Underway	\$3,638,000	UDA, Regional Network
<b>108641</b>	Bailey Bridge Road (Spring Run Road to Sunday Silence Lane)	Spot Widening	PE Underway	\$3,820,000	Regional Network
<b>108639</b>	Elkhardt Road (Ruthers Road/Pocoshock Road to Tillers Ridge Drive)	Roadway, Pedestrian, Bike	PE Underway	\$4,110,000	UDA, Safety, Regional Network
<b>107089</b>	Robious Road (County Line to Robious Forest Way)	Roadway Widening	RW Underway	\$7,250,000	UDA
<b>T20005</b>	N. Enon Church Road (Route 10 to Meadowville Technology Parkway)	Roadway Widening	FY2022	\$4,215,000	UDA, Safety, Regional Network
<b>108638</b>	Ecoff Avenue (Ken Drive to Ivywood Road)	Spot Widening	PE Underway	\$4,260,000	Safety, Regional Network
<b>108647</b>	McRae Road (Forest Hill Avenue to Rockaway Road)	Sidewalk	PE Underway	\$4,200,000	UDA, Safety
<b>111715</b>	Courthouse Road (Salem Church Road to Courts Complex Road)	Mixed-Use Trail	FY2022	\$1,200,000	Regional Network
<b>108883</b>	Deer Run Road (Chital Drive to Key Deer Drive)	Sidewalk	FY2022	\$550,000	UDA, Safety
<b>FY = Fiscal Year</b>					
<b>PE = Preliminary Engineering</b>					
<b>RW = Right-of-Way Acquisition</b>					
<b>CN = Construction</b>					
<b>PNR = Park and Ride</b>					
<b>CoSS = Corridor of Statewide Significance</b>					
<b>UDA = Urban Development Area</b>					
<b>SGR = State of Good Repair</b>					



FY2018-2022 Transportation Unfunded Requests

Number	Project Description	Estimated Cost
35	GRTC Express Service	\$ 2,000,000
77	Park-and-Ride Facilities/Commuter Rail Lots	\$ 2,000,000
116	Rural Addition - various locations Countywide	\$ 500,000
118	Secondary Roads - clear zone and sight line tree removal at various locations	\$ 1,000,000
119	Secondary Roads - minor widening and construction of shoulders at various locations - approx. 1/mile per yr	\$10,000,000
120	Secondary Roads - turn lanes at various locations	\$ 3,500,000
121	Sidewalks - various locations Countywide	\$ 7,500,000
122	Sight and Sound Barriers - Powhite and Route 288	\$50,000,000
123	Signalization - various locations Countywide	\$ 1,000,000
124	State Park Mitigation Bank	\$ 500,000
127	Storage Lane Improvements - various locations Countywide	\$ 5,000,000
128	Subdivision Streets - resurfacing	\$ 1,250,000
130	Thoroughfare Plan Road Improvements - reconstruction and widening	\$15,000,000
131	Thoroughfare Plan Road Major or Stream Crossings	\$ 5,000,000
132	Thoroughfare Plan New Roads	\$15,000,000
133	Traffic Calming Devices	\$ 500,000
134	Trails - various locations Countywide (\$1.2 M/mile)	\$ 2,400,000
135	Unpaved Roads - reconstruct and pave - approximately one (1) mile per year	\$ 5,000,000



## Transit

Alternative modes of transportation such as buses, carpools and rail enhance mobility. While the county's current low-density suburban development pattern is not conducive to traditional transit, the Land Use Plan Map as recommended in Chapter 10 supports higher density mixed use activity centers that could be linked by transit as they develop in the future. As an example, the Virginia Department of Rail & Public Transit recommends densities of at least 10-25 persons/jobs per acre to support fixed route bus service, a density supported in Residential Mixed Use, Community Mixed Use and Regional Mixed Use land use categories.

### TRANSIT OPTIONS

Land use patterns vary across Chesterfield County from regional commercial and business centers, to inner-ring suburbs and office parks, to low-density residential subdivisions. Much of the county's population lives in rural and suburban areas, but travels to jobs downtown or other regional employment centers. Many people also need to travel from homes in the urban core to jobs in the suburbs. A wide range of transit options could be explored to help meet the diverse transportation needs of Chesterfield County. Alternatives range from fixed bus service, on-demand service and bus rapid transit. An overview of each potential transit alternative that could be explored within the county is summarized in the table below.

Alternative	Additional Information/Considerations
<ul style="list-style-type: none"> <li>• <b>Fixed Bus Service</b> <ul style="list-style-type: none"> <li>- <b>Local Fixed-Route Service</b> <ul style="list-style-type: none"> <li>○ Very infrequent to very frequent service, all day service</li> <li>○ Makes frequent stops</li> <li>○ Operates in mixed traffic</li> </ul> </li> <li>- <b>Deviated Fixed Route Service</b> <ul style="list-style-type: none"> <li>○ Operates along a fixed route at fixed times, but may deviate from route within a limited distance to collect/drop off passengers who have requested the deviation</li> <li>○ Provides flexibility to reach dispersed riders as the ridership base and more transit-supportive land use patterns are established over time</li> </ul> </li> <li>- <b>Enhanced Local Service</b> <ul style="list-style-type: none"> <li>○ Generally, service every 15 or 20 minutes all day</li> <li>○ Relatively infrequent stops at main activity centers</li> <li>○ Provides greater access and reliable service on key regional corridors where transit-oriented development opportunities may ultimately support BRT service later in the future</li> </ul> </li> <li>- <b>Express/Regional Routes</b> <ul style="list-style-type: none"> <li>○ Provides long-distance regional connections via high-speed facilities</li> <li>○ Supports commute trips to/from suburban activity centers</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Could be implemented in phases</li> <li>• Provide stops near neighborhoods, commercial areas, hospitals, colleges, etc.</li> <li>• Infrastructure enhancements are required to optimize performance: <ul style="list-style-type: none"> <li>- Additional pedestrian infrastructure (sidewalks and paved shoulders) to provide access to potential transit locations</li> <li>- ADA compliant stops placed in accessible and walkable areas</li> <li>- Installation of traffic signals and right-turn lanes at intersections where buses will be turning around for safety and schedule adherence</li> </ul> </li> <li>• Park and ride lots should be located at the end of transit lines to provide access to transit services</li> </ul>



<ul style="list-style-type: none"> <li>- <b>Paratransit</b> <ul style="list-style-type: none"> <li>○ Available to pre-qualified user bases, especially for people with disabilities and the elderly (i.e. Access Chesterfield)</li> <li>○ Federal law requires paratransit service be offered to those within ¾ mile on both sides of any fixed route service</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Bus Rapid Transit (BRT)</b> <ul style="list-style-type: none"> <li>○ Frequent service (10 or 15 minutes)</li> <li>○ Infrequent stops (every 0.5 to 1.5 miles)</li> <li>○ Stations with off-board fare collection and real-time arrival information</li> <li>○ High-capacity vehicles</li> <li>○ Traffic signal priority and dedicated lanes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Long-term alternative           <ul style="list-style-type: none"> <li>○ Short-term actions to begin fixed route service on corridors where no service currently exists should be considered to build ridership, if ridership is strong, could help make the case for future BRT investments</li> <li>○ Will likely occur along corridors with transit-oriented development and may be concentrated at potential higher density locations</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Microtransit or Demand Responsive Services</b> <ul style="list-style-type: none"> <li>○ For areas outside fixed route service areas, or in place of fixed route where it is not cost effective</li> <li>○ Door-to-door demand responsive service with no eligibility screening</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Could become feeders to public transportation core routes           <ul style="list-style-type: none"> <li>○ Addresses the "first-mile, last-mile" problem – the gap at the start and end of every trip that is difficult for traditional transit operators to serve in a cost-effective way</li> </ul> </li> <li>• Feasible option to provide coverage to low-density corridors or rural dispersed communities</li> <li>• Typically, privately owned and operated</li> <li>• High level of flexibility</li> <li>• Tailor operations to match travel behavior</li> <li>• Selective service offerings – focused on very limited routes or areas</li> <li>• More amenities and services</li> <li>• Various providers such as Uber, Lyft, Leap Transit and others</li> </ul>

The Greater RVA Transit Vision Plan provides long-term transit recommendations summarized in the subsequent section. A short-term step is to complete a public transportation feasibility study to identify corridors and types of service that are viable options for transit in the nearer term. Initial studies should be data driven, examine land use and transportation together, and include the following key items:

- Determine overall goals for the recommended service:
  - Maximize ridership – provided along high-density corridors and provides more frequent, high-ridership service
  - Maximize coverage – provided along lower-density corridors, may provide lower-ridership but more area coverage
- Key factors evaluated for corridor selection should include the ability to implement incrementally (beginning where transit service exists), length of the corridor and service to key origins/destinations
- Recommendations should include the type of transit service, frequency of service, transit stop locations, day-of-week/time-of-day schedule, operational and capital costs, etc.

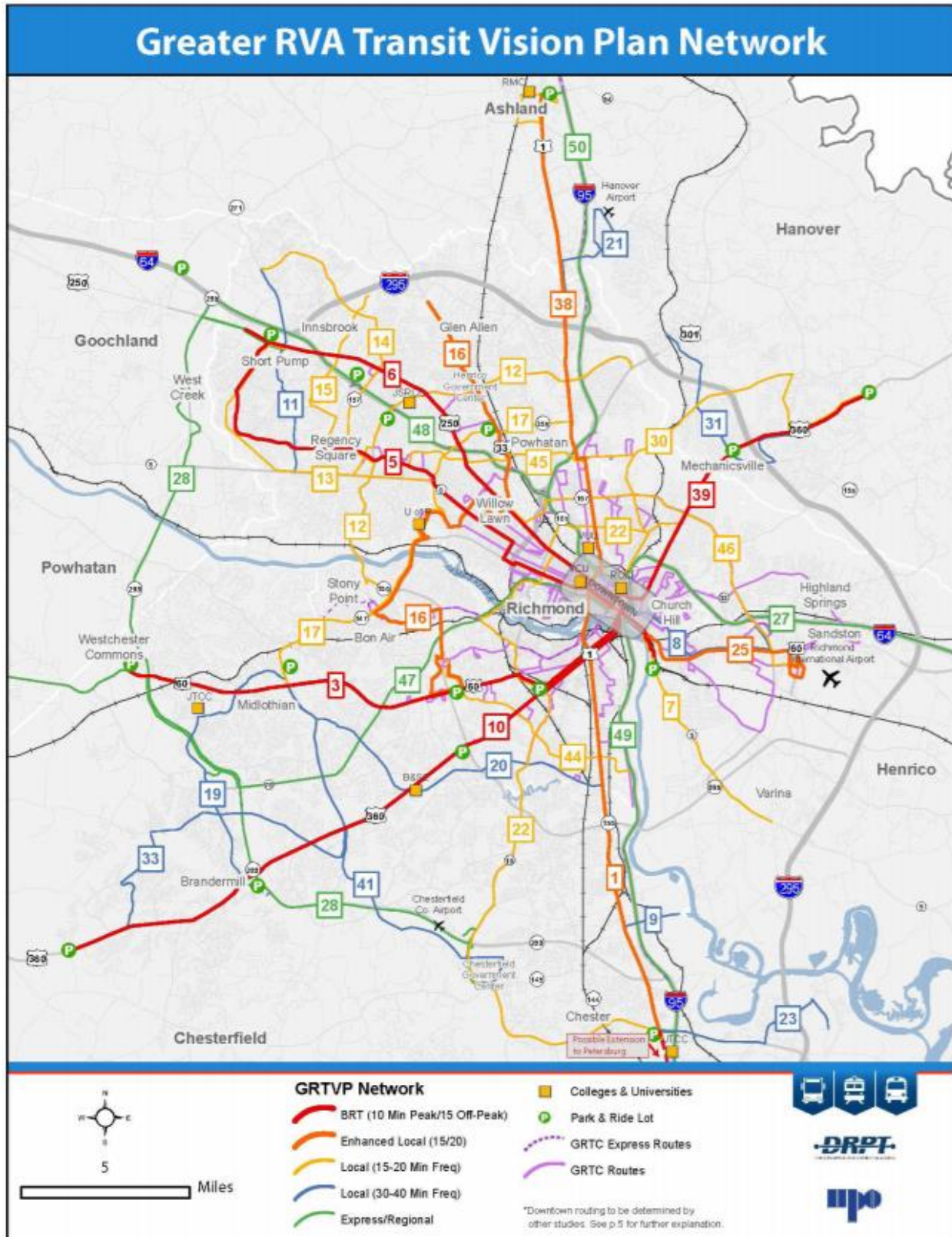
Key next steps and the identification of funding sources (local, state and federal) should be defined by the county to implement short-term transit recommendations.

### **GREATER RVA TRANSIT VISION PLAN**

This vision plan was initiated by the Virginia Department of Rail and Public Transportation (DRPT) and the Richmond Regional Transportation Planning Organization (RRTPO) and was developed in collaboration with all jurisdictions in the RRTPO region. The purpose of this vision plan was to assess the transportation system and make transit recommendations for the next 20 years for the Richmond region. Year 2040 recommendations and additional information on the Greater RVA Transit Vision Plan can be found [here](#).

Specific recommendations in the vision plan for Chesterfield County include:

- Local route network in northern and central Chesterfield County.
- Recommendations for Bus Rapid Transit:
  - Along Midlothian Turnpike to Westchester Commons.
  - Along Hull Street to Magnolia Green.
- Recommendations for Enhanced Local Bus Service:
  - Along Jefferson Davis Highway to John Tyler Community College.
- Include feeder routes for bus rapid transit to/from western Hull Street.
- Route 288 identified as a key radial route through the region and was recommended as an express/regional route.
- Additional Park and Ride Lots throughout the region to facilitate BRT and express route access. Specific park and ride lots in the county have been funded through SMART SCALE and are described in a subsequent section of this chapter.



### **BUS SERVICES**

#### **Greater Richmond Transit Company (GRTC)**

Greater Richmond Transit Company (GRTC), a major provider of bus service in the Richmond region, was established in 1973. GRTC was originally owned by the City of Richmond. In 1989, the county acquired half of ownership in an effort to address regional transportation needs. Henrico County was offered ownership opportunity, but chose not to participate. The overall direction of GRTC is guided by its Board of Directors, consisting of equal representation from Richmond and Chesterfield. For more information on GRTC routes, click [here](#).

#### **Petersburg Area Transit (PAT)**

Petersburg Area Transit (PAT) predominantly operates in the Petersburg, Colonial Heights and Hopewell areas and extends to the Ettrick and Virginia State University area. In partnership with Greater Richmond Transit Company (GRTC), PAT also provides service to other destinations accessible by GRTC. This combination of routes enhances accessibility of the southern area of the county to and from surrounding jurisdictions and Fort Lee. For more information on PAT routes, please click [here](#).

#### **RideFinders**

[RideFinders](#) is a division of the Greater Richmond Transit Company (GRTC) that helps match commuters having similar work locations and hours who wish to share rides. Ride sharing includes private carpools and van services.

#### **Access Chesterfield**

Access Chesterfield, a county coordinated and funded van program, provides transportation services to low-income, disabled and elderly county residents. In Fiscal Year 2017, the county appropriated approximately \$1.7 million for Access Chesterfield. Under the current program, residents with medical or employment related needs are transported to areas within the county and the cities of Richmond, Petersburg, Hopewell and Colonial Heights. The service can also be used for trips that are not medical or employment related; however, travel is limited to within the county. There were approximately 8,500 registered Access Chesterfield passengers who accounted for a total of 56,182 trips in Fiscal Year 2017 (July 1, 2016 through May 6, 2017).

### **PARK AND RIDE LOTS**

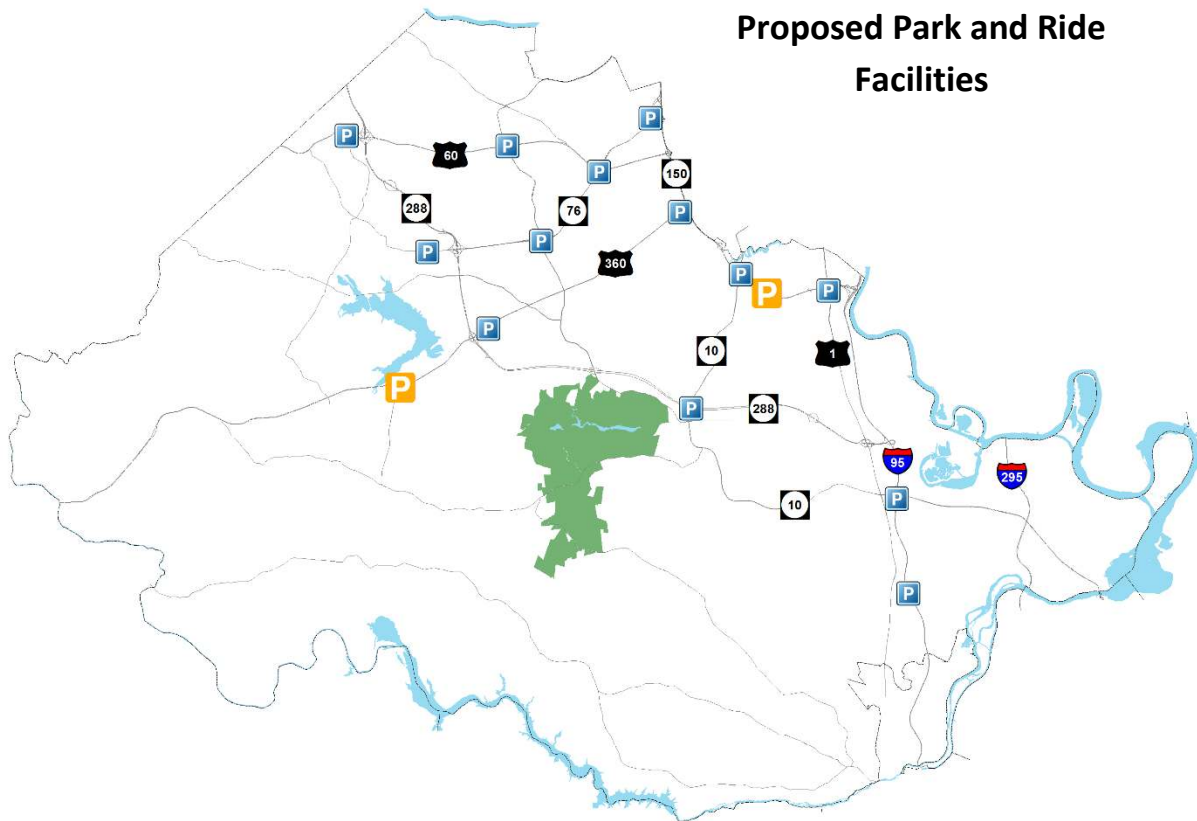
Park and ride facilities provide collection points for travelers to transfer from the private individual automobile use to transit, carpool or vanpool. When conveniently located and carefully planned and implemented, park and ride facilities are integrated into the overall transportation network and can encourage a shift from the single-occupant vehicle to transit or other alternative modes.

VDOT developed a Park and Ride Investment Strategy in 2014 for the Richmond region and identified the candidate park and ride locations based on regional travel patterns. The following locations were deemed the most feasible for a park and ride lot in Chesterfield County with two being programmed and included in the VDOT Six-Year Improvement Program:

- Hopkins Road near Chippenham Parkway
  - A 140-space park and ride lot is programmed (VDOT UPC 111714) to be constructed on Chesterfield County property (Fulghum Center) south of Cogbill Road, east of Hopkins Road. Planned amenities will include bike racks with an awning, lighting, and space for a vehicle charging station. A sidewalk on Cogbill Road from the park and ride lot to Hopkins Road is also included to connect to the existing sidewalk system along Hopkins Road and provide access to various uses along the corridor. Pedestrian accommodations at the intersection of Hopkins Road and Cogbill Road will be included to facilitate pedestrian crossings at the traffic signal. Funding is programmed to begin preliminary engineering in Fiscal Year 2020 with a project estimate of \$2,945,000.
- US 360 near Winterpock Road
  - A 150-space park and ride lot at US 360 at Chital Drive is programmed as part of the SB RT 288 to WB US 360 Off-Ramp improvement project, with a total estimate of \$14,562,000 (VDOT UPC 111467). The park and ride lot will be constructed on Chesterfield County property (Career and Technical Center) and will include bike racks with an awning, lighting, and space for a vehicle charging station. Preliminary engineering is currently underway with construction estimated for Fiscal Year 2023.
- I-95 at Woods Edge Road (Exit 58)
- Courthouse Road near Powwhite Parkway
- I-95 near Route 10 (Exit 61)
- Jefferson Davis Highway near Chippenham Parkway
- Route 288/Route 10
- Route 288/Route 360
- Route 288/Powwhite Parkway
- Route 288/Route 60
- Route 60/Huguenot Road
- Route 60/Powwhite Parkway
- Powwhite Parkway/Jahnke Road

The Greater RVA Transit Vision Plan also recommended additional park and ride facilities throughout the region to facilitate bus rapid transit and express route access and long-term transit recommendations.





### **PASSENGER RAIL SERVICE**

A passenger rail station, Ettrick Station, located in the southeastern part of the county, is owned by CSX Transportation and leased by Amtrak. Amtrak trains run daily, providing passenger service by two routes:

- Carolinian/Piedmont service between New York City and Charlotte with stops in Philadelphia, Washington, Richmond and Ettrick.
- Silver Service/Palmetto service between New York City and Miami with stops at various locations along the east coast such as Washington, Charleston, Jacksonville and Orlando.



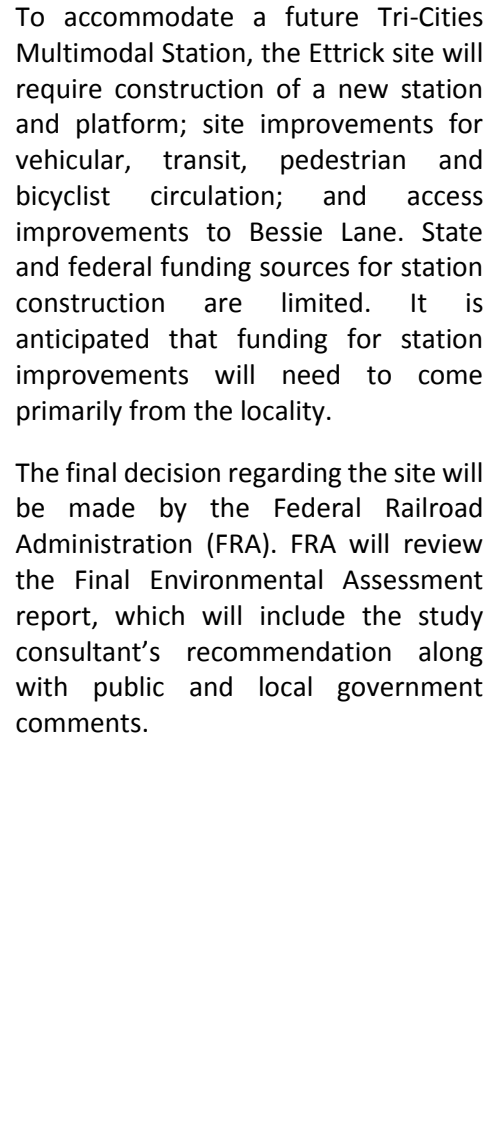
The *Intermodal Surface Transportation Efficiency Act of 1991* authorized planning and development of high-speed rail corridors nationwide. The Richmond region is located on one of five original national corridors, the Southeast High-Speed Rail (SEHSR) corridor from Washington to Raleigh. The SEHSR corridor plan proposes improvements in two phases:

- Washington to Richmond (Main Street Station)
- Richmond (Main Street Station) to Raleigh with planned stops in Ettrick.

At the request of the City of Petersburg, the Tri-Cities Metropolitan Planning Organization (MPO) has conducted an environmental assessment of potential sites for a future multimodal station location to serve Tri-Cities. The Tri-Cities Multimodal NEPA Study began with an evaluation of all potential sites with suitable track configuration and parcel availability. During the study process, the potential sites were pared down to three sites: Boulevard, Ettrick and S. Collier. These three sites have been fully evaluated as part of the EA. As of August 2017, all three sites are viable options for a future station location. In addition to the EA, a Transit Oriented Development (TOD) Analysis was conducted to look at the economic viability of the sites. Based on the results of the EA and TOD analysis, the study consultant has ranked the three sites relative to the following criteria: access, TOD potential, environmental impacts, land use and transportation integration, and implementation and operation. The Ettrick site is the study consultant's recommended site. Key features of the Ettrick site are listed below:

- It is the least expensive option.
- It has the least environmental impacts.
- It requires minimal operational changes from Amtrak as it is the current station location.
- It is consistent with the Ettrick-VSU Special Area Plan and a key component to the revitalization of Ettrick, a substantial area ripe for development and redevelopment.
- It is within walking distance of Virginia State University and the Multipurpose Center, providing students, faculty and visitors with easy access to train service.
- Relative to S. Collier, it is closer to the urban core; therefore, is more accessible by the majority of the population.
- It requires minimal investment towards public infrastructure.

**ENVIRONMENTAL ASSESSMENT (EA)** – The formal process required by the National Environmental Protection Act, which is used to predict the environmental consequences (positive or negative) of large, federally, funded proposed projects. It includes analysis of impacts to traffic, socioeconomic groups, cultural resources and the natural environment.



## **Other Transportation Modes**

### **AIRPORTS**

Richmond International Airport (RIC), a full-service airport with over 150 daily flights, is located 15 to 30 minutes from most areas in the county. It is owned and operated by the Capital Region Airport Commission. The Commission, which was established in 1975 and is governed by representative from area jurisdictions including Chesterfield County, directs the growth, operation and business activities of RIC. The airport has evolved into one of the most modern and well-equipped airports in the eastern United States.



Chesterfield County Airport (FIC) is located at the Route 288 and Route 10 interchange, within two miles of the County Government Center. The airport is designated by the Federal Aviation Administration (FAA) as an official general aviation reliever airport for Richmond International Airport (RIC). FIC has a 5,500-foot runway with an Instrument Landing System and associated lighting that provides all-weather operations. There are plans for expansion of the runway. Additional information regarding the Chesterfield County Airport can be found in the Business Development and Public Facilities Plan chapters.

### **WATER PORTS**

The Richmond region is within 100 miles of the Port of Virginia at Hampton Roads. It is the third largest container port and offers the deepest shipping channels on the United States east coast. The Port of Virginia is a hub for the world's leading international shipping companies, with global service from more than 75 international shipping lines and 3,000 sailings annually to 100 countries.

The Port of Richmond is in close proximity to the county, and easily accessible by rail or truck. The Port is a domestic and international freight and distribution center serving the mid-Atlantic region. As an alternative to truck freight shipment, barges carry goods and material between Hampton Roads and Richmond. This barge service removes truck container traffic off local roads and highways. The Port of Richmond currently handles 6,000 shipping containers a year, which removes about 12,000 truck trips a year from the roads.



## General Transportation Guidelines

The General Transportation Guidelines assist in planning, coordinating and implementing a multimodal transportation system for the county that is consistent with the values of the community, and assist in formulating recommendations for specific development proposals.

Major considerations in the development of these guidelines include:

- ❖ A safe, efficient and effective transportation system.
- ❖ A transportation system that supports existing and future development patterns.
- ❖ Multimodal transportation and mobility needs for people and commerce.
- ❖ Bicycle and pedestrian accommodations in the planning and design of road improvements, where appropriate.
- ❖ Acquiring rights of way to accommodate travel demands including future multimodal transportation infrastructure.

The following General Transportation Guidelines should be used when addressing specific development proposals and when making other transportation decisions:

- **Funding.** Seek any and all funding opportunities for planning, coordinating and implementing a comprehensive transportation system.
- **Levels of Service.** Monitor levels of service relative to traffic congestion changes to assist in identifying and prioritizing needed transportation improvements. Strive to achieve Level of Service D or better on all Thoroughfare Plan roadways.
- **Safety.** Provide improvements to roadways that enhance safety, such as widening, shoulder extension, turn lanes and intersection improvements. Reconstruct rural roadways to increase safety.
- **Zoning and Development Proposals.** Support development proposals that:
  - Manage density and land uses based upon more detailed studies than those done for the Comprehensive Plan. Such proposals should provide for mitigating transportation improvements that adequately address the traffic impact of the proposed development.
  - Provide for road improvements and right-of-way dedications in conformance with the Thoroughfare Plan.
  - Demonstrate that an acceptable level of service will be achieved with the provision of agreed upon and committed transportation improvements.
  - Limit the number of direct accesses and proposed road intersections along major arterial and collector roads.
  - Provide access management that meets or exceeds VDOT guidelines, and emphasizes appropriate local access while balancing traffic safety and road capacity.
  - Achieve development integration in accordance with The Land Use Plan chapter to improve local traffic movements and pedestrian accessibility.



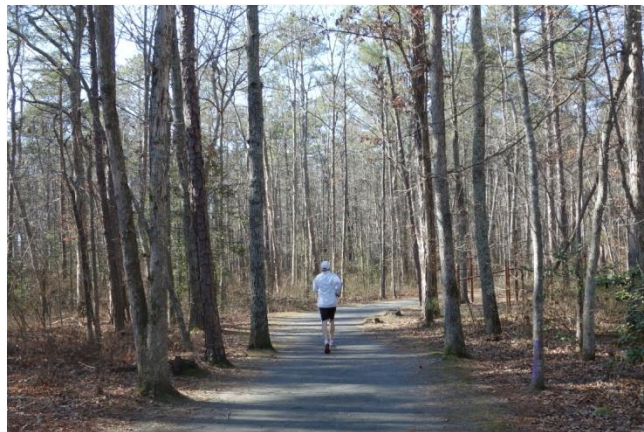
- Look for improvements with development in accordance with the Bikeways and Trails plan.
- Encourage Park-and-Ride lots at appropriate locations that maximize their use.
- **Context-Sensitive Design.** Encourage context-sensitive designs in areas designated on the Land Use Plan Map for compact development or mixed-uses.
- **Connectivity.** Encourage new developments to provide bikeways, sidewalks and other pedestrian facilities where appropriate.
- **Proactive Acquisition of Important Right-of-Way.** Support the acquisition of major roadway rights-of-way in advance of development.
- **Transit.** Support long-term transit accommodations where appropriate in accordance with the Greater RVA Transit Vision Plan which was approved by the MPO of which the county is a member. Complete the short-term step of conducting a public transportation feasibility study to identify corridors and types of service that are viable options for transit in the nearer term.
- **Special Area Transportation Needs.** Consider detailed transportation planning in conjunction with the development of Specific Area Plans.

# CHAPTER 14: BIKEWAYS & TRAILS

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## Overview

The Bikeways and Trails Chapter provides general guidance for the location and facility design for bicycle, pedestrian and equestrian facilities. Developing a safe and accessible non-motorized network is an important part of keeping Chesterfield County an attractive, desirable and healthy place to live, work, shop and recreate. These facilities have a broader impact than simply improving the safety of people who walk, bike and drive; they are economic development tools that attract new business, provide tourism destinations for visitors and aid in the physical and mental health



of residents. This chapter addresses both transportation and recreational needs of the community while protecting and providing access to environmental and cultural features unique to Chesterfield County. Implementation of the Bikeways and Trails Plan will provide a safe and comfortable network to walk and bike as viable alternative transportation choices and connect residential areas to destinations such as shopping, services, parks, libraries, jobs and schools.

This chapter includes recommendations for bicycle and pedestrian facilities associated with road projects as well as facilities that are more park-like in nature. It is the intent of this chapter to combine transportation and recreation elements of biking and walking to create a safe network to best serve the public, as well as provide opportunities for the equestrian community. A bikeway is defined as an improvement designed and designated to accommodate bicycle travel whether within a road, shared-use path, trail or other approved facility. A trail is defined as an off-road, linear corridor with public access for recreation or transportation. This chapter uses the term facility to refer to either on-road facilities such as bike lanes or off-road facilities such as trails.

### **DESIRED OUTCOMES OF THIS CHAPTER:**

- **Create a Network of Safe & Convenient Bicycle & Pedestrian Routes Throughout the County**
- **Support Bicycle & Pedestrian Connections Between Live, Work, Shop and Play Areas & Public Facilities**
- **Promote Healthy Lifestyles & Tourism Efforts By Linking Communities to Historic/Cultural Assets & Natural Areas**
- **Guide the General Location & Design of Bicycle & Pedestrian Facilities**

### **HOW TO USE THIS CHAPTER**

This chapter of the Comprehensive Plan provides guidelines and recommendations that should be implemented when considering development proposals or public infrastructure projects. The general location of the non-motorized network has been identified on the Bikeways and Trails Plan. Rezoning, development proposals and public facility and infrastructure projects should align with this plan by providing facilities to accommodate and enhance the network. Residential or commercial development,

as well as public facility improvements, should build additional non-motorized facilities to link to the network. Additional and more specific facilities may be recommended through Specific Area Plans, the Neighborhood Connector Study, revitalization efforts and Safe Routes to Schools projects, and should enhance the overall network.

The development community (private sector) will play an important role in the building of the network. As part of private sector development, facilities should either enhance existing or dedicate and construct new facilities, in accordance with guidelines from this chapter when a facility from the Bikeways and Trails Plan is within or adjacent to new development. In addition to constructing facilities that are part of the mapped network, it is important to provide safe connections to the network.

Developers could also consider end-of-trip facilities that would enhance their project's desirability for walking and biking for residents, customers or employees.

### **PLANNING EFFORTS**

Chesterfield County has been exploring the concept of bikeways, trails, greenways and linear parks for many years. The first Bikeways Plan was adopted by the Chesterfield County Board of Supervisors in 1989 with a focus towards on-road facilities. The Parks and Recreation Department has also written several plans including the Greenway Master Plan in 1993, updated as the Greenways and Trails Strategic Plan in 2003. The most significant effort exploring these issues was the Committee on the Future's 2005 Green Infrastructure Report. This report envisioned a high quality of life for Chesterfield County's residents by incorporating natural areas into urban, suburban and rural development. The protection of natural areas, or green infrastructure, was recommended for multiple benefits including wildlife habitat, environmental protection as well as community health and recreation. Additionally, Chesterfield County's strategic plan, *Blueprint Chesterfield*, sets five goals to serve as priorities for county decision making. While all of the goals relate to this chapter, several goals, including Healthy Living and Well Being, Safety and Security, and Thriving Communities and Environmental Stewardship are directly linked.

There are numerous state and regional efforts in which Chesterfield County is an active participant regarding non-motorized transportation. The Virginia Department of Conservation and Recreation produces the Virginia Outdoors Plan, an important component of which is the Virginia Outdoors Demand Survey that analyzes recreational trends for the state and region. In 2011, trails for hiking and walking were identified as the most needed recreational facility (66 percent), and trails for bicycling the third most needed facility (57 percent) according to respondents in the Richmond Region. The Virginia Outdoors Plan supports local projects and seeks to coordinate regional and state projects. The Richmond Regional Transportation Planning Organization (RRTPO) developed the Richmond Regional Bicycle and Pedestrian Plan in 2004. As a follow-up to that effort, the RRTPO is establishing a regional bicycle and pedestrian work group. This group will focus on regional planning and efforts to expand the opportunities for bicycling and walking as core components of the transportation network, including regional discussions on Complete Streets policies and implementation strategies. The Crater Planning District Commission is currently updating the Tri-Cities Metropolitan Planning Organization (MPO) Bicycle and Pedestrian Plan for the Tri-Cities area, including southern Chesterfield County. Chesterfield County coordinated with surrounding locality efforts, especially along jurisdictional boundaries, in developing this chapter and the network recommended by the Bikeways and Trails Plan considered, and aligns with, surrounding plans.

### **COMMUNITY INPUT**

In the summer of 2014, a series of district workshops and an online survey were conducted to gauge the interest and support for walking and biking in Chesterfield County. Workshops and meetings were attended by over 300 citizens and the survey was taken by over 1,000 citizens. In addition, approximately 700 citizens were reached by staff attending community events.



The public outreach showed that there is an interest in walking and biking in Chesterfield County, with 88 percent of the online survey respondents wanting to walk more and 93 percent wanting to bike more than they do now. The community identified that the strongest barrier to walking and biking in Chesterfield County was not feeling safe on roads and not having enough dedicated facilities for walking and biking, including pedestrian actuated signals, crosswalks and connected sidewalks. The survey asked respondents to rank different types of walking and biking facilities. By far the most popular facility type was a shared-use path. Most people identified themselves as “interested, but concerned” bicycle riders - people who are looking for safe, dedicated infrastructure for bicycling. Analysis of all public input led to this chapter’s recommendation of a shared-use path network and supporting on-road bike facilities.

### **POTENTIAL NETWORK USERS AND NEEDS ASSESSMENT**

Analyzing the type of user and their needs aided in design guidance of this chapter and the recommended locations on the Bikeways and Trails Plan. Chesterfield County has a diverse population and geography and the network should accommodate as many different users as feasible given site and project-specific constraints.

Walking for pleasure is the predominant form of outdoor activity that households participate in statewide (82 percent) as reported from the 2011 Virginia Outdoors Demand Survey. Public input for this chapter included interest in safely walking to particular destinations such as retail, restaurants and public facilities. Pedestrians vary in ages and abilities, therefore, universal design should be employed to accommodate the greatest number of users. Facility design should consider various types of pedestrians including people who walk or jog, parents walking with strollers, people walking with leashed dogs, hikers and handicapped users.



Bicycling has been increasing in popularity across the nation. Facility designs should accommodate people of all ages and skill levels. As with walking, public input included interest in safely biking to particular destinations such as retail, restaurants and public facilities. People who bike fall into various categories with varying needs depending upon ability and can be described in three general categories. People who are “strong and fearless”, or the experienced riders who are willing to cycle in almost any traffic condition would benefit from on-road bicycle facilities. This group makes up a small percentage of those who ride bikes, typically less than 5 percent. People who are “enthused and confident” are willing to ride in traffic, but prefer dedicated bike infrastructure and will seek routes with less traffic, even if the route is longer. This group would benefit from both on-road and off-road bicycle facilities. People who are “interested, but concerned” describe a majority of those who took the Chesterfield County survey (approximately 60 percent) and often include families and youth. They are people who want to bike more than they do now, but prefer not to ride in traffic and are most comfortable on separate bike paths or physically protected bike lanes.



Photo by Jim Waggoner



Photo courtesy of Tobacco Heritage Trail

Horseback riding is another way to enjoy the outdoors and be physically active. Chesterfield County has a growing equestrian community with numerous horse boarding and riding facilities, especially in the southern and western portions of the county. Pocahontas State Park features the Bright Hope Equestrian Center that can be rented for shows and special events, and includes equestrian trails. Horses could be allowed on specific facilities in the rural portions of the county. Equestrian users prefer a separate, soft-surfaced trail. Other features necessary for equestrian use include horse trailer parking and access, higher railings on bridges, tie-ups and water troughs at rest areas and specialized signage to alert all users of equestrians at crossings.



## Bikeways and Trails Plan

### Bikeways and Trails Plan Goal:

Create and maintain a comprehensive network that will provide alternatives to vehicular transportation, safely link people to destinations within and outside the county and encourage and support an active lifestyle for all ages and abilities

The network consists of routes that provide the community with viable transportation options as well as recreational opportunities and will allow people to walk or bike safely to places within the county and to neighboring localities. There are two general route types identified on the Bikeways and Trails Plan:

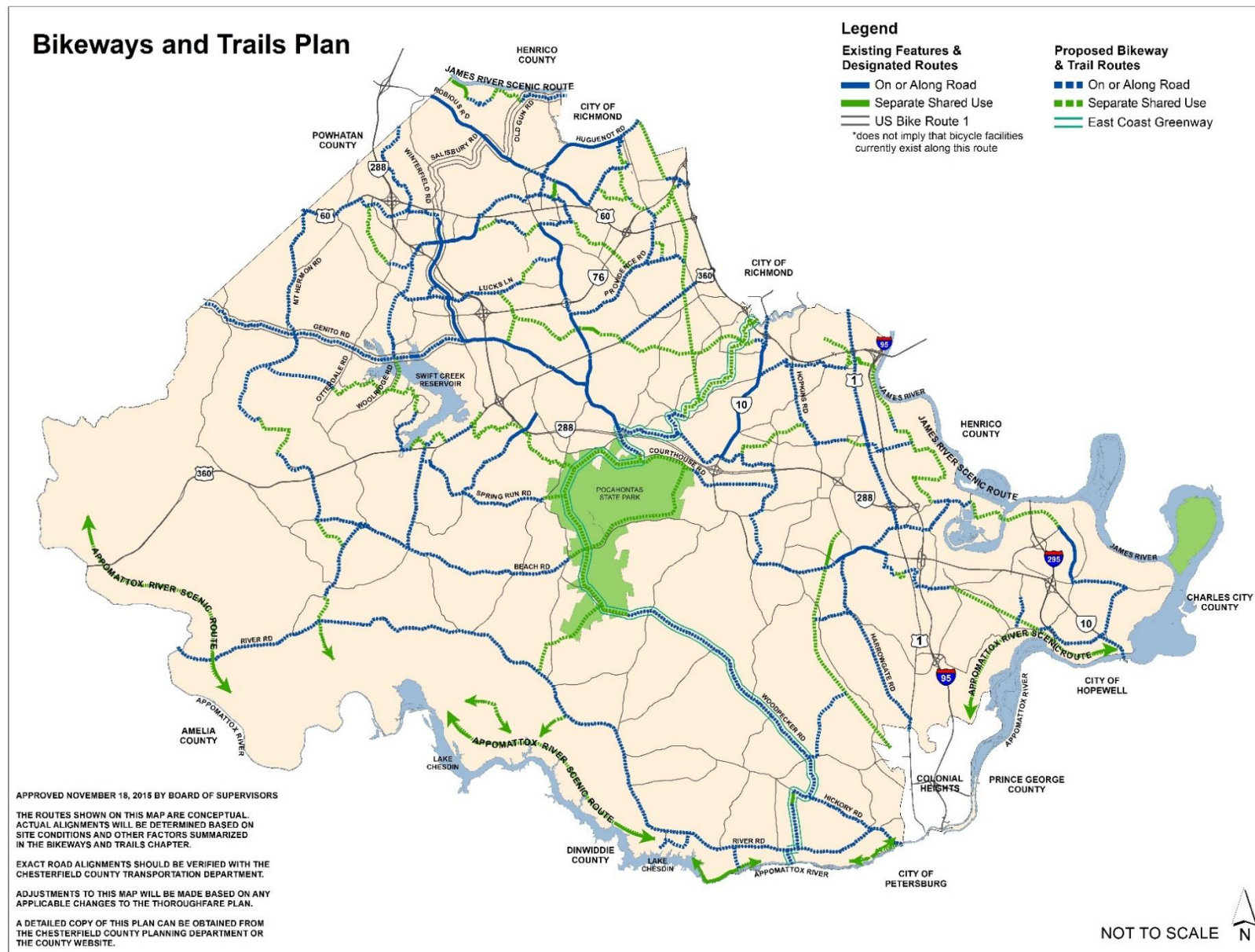
- **Off-road routes** that are park-like and depicted by green lines
- **On/along road routes** that are associated with a road and depicted by blue lines

The preferred facility of the Bikeways and Trails Plan should be a paved shared-use path to accommodate both bicycle and pedestrian users. Generally, where shared-use paths cannot be provided, sidewalks with on-road bicycle facilities (within rights of way) should be considered. When roadway improvements are being designed, reasonable accommodations to enhance the safety of pedestrians and bicyclists should be included in the plans, if feasible, as dictated by project purpose, project site constraints and project budget. It is the intent of the Plan to accommodate both bicyclists and pedestrians along all identified routes. Equestrian users should be accommodated in the rural portion of the county in proximity to the equestrian population.

General route locations are shown on the Bikeways and Trails Plan; exact alignments of these routes will be determined at the project design level. Facility selections will be determined based on numerous factors including, but not limited to, vehicle volumes, speed and land use. Facility design will be in accordance to design guidelines in this plan as well as land availability and feasibility. Some roadways already have existing bike lanes and may serve as a connection between route segments. Due to the high speed and volumes on some routes with existing infrastructure, bike lanes should be redesigned with collaboration from VDOT to provide users with a greater level of protection from motor vehicle traffic.

The Bikeways and Trails Plan is not reflective of current conditions and does not imply that a road is conducive for pedestrians and bicyclists to use at this time, but is the ultimate planned network sought by this plan from a countywide perspective. The distinction between the off-road and on/along road sections on the Plan is for general planning purposes and may change at the design level. Solid lines indicate existing facilities and dashed lines indicate proposed facilities, as the legend indicates. The map focuses on long-distance connections and intentionally omits circuit trails and short connector trails within federal, state and county parks.

Sidewalks are not identified on the map, but this plan does acknowledge the importance of sidewalks in the community. While not preferred, sidewalks can also provide important and safe connections for people who ride bikes in certain situations.



### **Bikeways and Trails Plan Implementation Focus**

This section is intended to provide county staff, developers, the community and landowners a guide for implementation of the Bikeways and Trails Plan. The implementation focus was determined by several factors including the availability of right-of-way, population needs and density and connection of destinations. The implementation focus was also informed by public input garnered from public meetings and online comments throughout 2014 and 2015. The public response and support varied in different areas of the county. The Bikeways and Trails implementation accomplishments should be evaluated on an annual basis and the implementation focus should be updated on the same cycle as the Comprehensive Plan.

#### **PROJECT PLANNING AND IMPLEMENTATION PROCESS**

Following the adoption of this chapter, detailed planning and design for individual segments of the network will take place over time. This process will include additional input from the community regarding funding, impacts and design. This detailed planning process will begin with an inventory and analysis of existing conditions and land ownership of the proposed facility segment including discussions with property owners. Environmental and cultural resource concerns will also be identified at this stage, as well as other concerns.

The proposed network will be adjacent to various land uses throughout the county. The network should always consider and protect the private and public property that it parallels or crosses including single-family homes, agricultural lands, commercial businesses and industrial lands. Facilities should be designed in consultation with each property owner to minimize impacts. Design features to mitigate impacts may include, but are not limited to, planted buffers or fencing between the facility and the adjacent property.

There are four general methods of obtaining public access for development of the network: donation, purchase, land dedication and easements. It is anticipated that the network will be located on both public and private property, and each segment will be designed and negotiated to best meet the needs and desires of the network, community and property owners. Perpetual easements dedicated for bikeway or trail facilities will be taxed in accordance with state law and county ordinances. Eminent domain, though an authorized tool of the county, should be extremely limited in usage to develop this network. The county will work with property owners and on a project-by-project basis for the most beneficial outcome for all.

#### **EXISTING CONDITIONS**

There are approximately 40 miles of existing facilities found on the Bikeways and Trails Plan. These include roads with bicycling facilities and county parks with existing trails and land configuration that would be conducive for connecting those trails beyond the park boundary. Courthouse Road, Robious Road and Iron Bridge Road are examples of roads that have existing bicycle facilities. Mid-Lothian Mines Park, Chester Linear Park and Matoaca Park are examples of parks that could serve as linear connections. Not all existing facilities reflect optimal conditions and may need upgrading in the future. Existing facilities can be viewed on the Bikeways and Trails Plan as solid lines.

### **IMPLEMENTATION FOCUS**

The implementation of this chapter will focus on two key areas:

- **Connections to Pocahontas State Park**  
Pocahontas State Park is centrally located in Chesterfield County and serves as a major destination for outdoor recreation for both citizens and tourists alike. In addition, the proposed alignment for the East Coast Greenway will pass through Pocahontas State Park. Equestrian access should also be considered in all projects connecting to the state park. Establishing safe bicycle connections from the north, west and east are all implementation focus projects.
- **Northern Jefferson Davis Highway area**  
The Northern Jefferson Davis Special Area Plan has identified the need for additional park space and to make the area safer for biking and walking. Improving the bicycle and pedestrian access along the Route 1 corridor, including trails along Falling Creek and the James River Conservation Area are implementation focus projects.

In addition to these two focus areas, other projects that improve bicycle and pedestrian access may be considered as identified in Specific Area Plans, revitalization areas or to make safe connections to schools and other public facilities. The Capital Improvement Program (CIP) may outline specific projects to accomplish this implementation focus.



### **FUNDING AND MAINTENANCE**

The proposed 362-mile network will consist of various facility types ranging from on-road bicycle lanes to paved shared-use paths. At this time, approximately 48 miles of the plan have been constructed or are being constructed as noted in the phasing section. The cost for new construction of the Plan facilities may cost \$250,000 - \$1,000,000 per mile. The cost is dependent upon many factors that include, but are not limited to, facility type, topography, environmental impacts, right-of-way and/or easement acquisition, utility relocation and construction. For example, a gravel trail located on county property with no property acquisition or utility relocation will cost less than a paved shared-use path associated with a road project requiring property acquisition and utility relocation. In some cases, on-road bike accommodations may be achieved on existing roads through the use of pavement markings, installation of delineators, signage, or combination thereof by removing or narrowing travel lanes. Such modifications would need to maintain an acceptable vehicle level of service and receive VDOT approval. The retrofitting of bike accommodations may cost \$30,000 – \$60,000 per mile.

Funding for this network will be a part of the annual budget process which is a public process and community input should determine, in large part, the funding ability for this network in consideration of other community needs. Potential sources of funding to implement the Bikeways and Trails Plan could include:

- Capital Improvement Program
- Grants
- Bond Referendums
- Public-Private Partnerships
- Fundraising Events
- VDOT Revenue Sharing
- Congestion Mitigation Air Quality (CMAQ – Federal)
- Transportation Alternative Projects (Federal)

Other alternative funding options, such as user fees or donations may be considered to pay for construction and maintenance of the network.

Maintenance of the network will depend upon the location of the facility. Any facility in the Virginia Department of Transportation (VDOT) right-of-way will be maintained by VDOT. The Parks and Recreation Department will be responsible for the maintenance of facilities located outside of the VDOT maintained right-of-way or within county easements.



## **Local and Regional Context**

The Bikeways and Trails Plan was prepared in context of other local, regional and statewide trends and projects as discussed in the following section.

### **U. S. BIKE ROUTE 1**

U.S. Bike Route 1 (USBR 1) is a touring bicycle route designated by the American Association of State Highway and Transportation Officials (AASHTO) in 1982. Approximately 274 miles of this route are in Virginia, with 20 miles passing through Chesterfield County. The route is shown on the Bikeways and Trails Plan. Any changes to this route must be presented to AASHTO through VDOT. The route is signed and a map of the route is available online. This is a popular route for both local and visiting cyclists. The plan recommends improving portions of USBR 1 shown on Robious Road, Charter Colony Parkway and Genito Road; however, the plan does not recommend improvements along Old Gun Road, Salisbury Road or Winterfield Road.

### **OTHER PUBLIC TRAILS**

In addition to the trails offered in Chesterfield County parks, other public trails can be found at state and federal parks. Pocahontas State Park has more than 64 miles of trails available for users of all skill levels of hiking, mountain biking and horseback riding. For hikers, there is a total of 5.5 miles of trail for hiking only, including a paved trail for those with disabilities. There are 8 miles of hiking only trails planned. There are more than 25 miles of directional mountain biking trails including traditional single-track, machine-built flow trail and hand-cycle friendly trails. These trails, along with the James River Parks System trails in the City of Richmond, combine to form the bronze level Richmond Regional Ride Center, a mountain biking destination officially certified by the International Mountain Biking Association (IMBA). As of 2018, an additional 15 miles of single-track intermediate and advanced level trail were under construction. Approximately 33 miles of multi-use trails and forest roads exist for hikers, bikers and equestrians. Federal park sites include the Presquile Wildlife Refuge (visitation by appointment only) and two areas within the Richmond National Battlefield Park System, Parker's Battery and Drewry's Bluff. Several miles of trails at these sites offer interpretation of the natural environment as well as the history of the Civil War.

### **PRIVATE TRAILS**

Many neighborhoods offer a trail system as an amenity to residents. While these trails are not open to the general public, they serve as an important biking and walking network for residents in their neighborhoods as well as potential future connections to the overall county network.

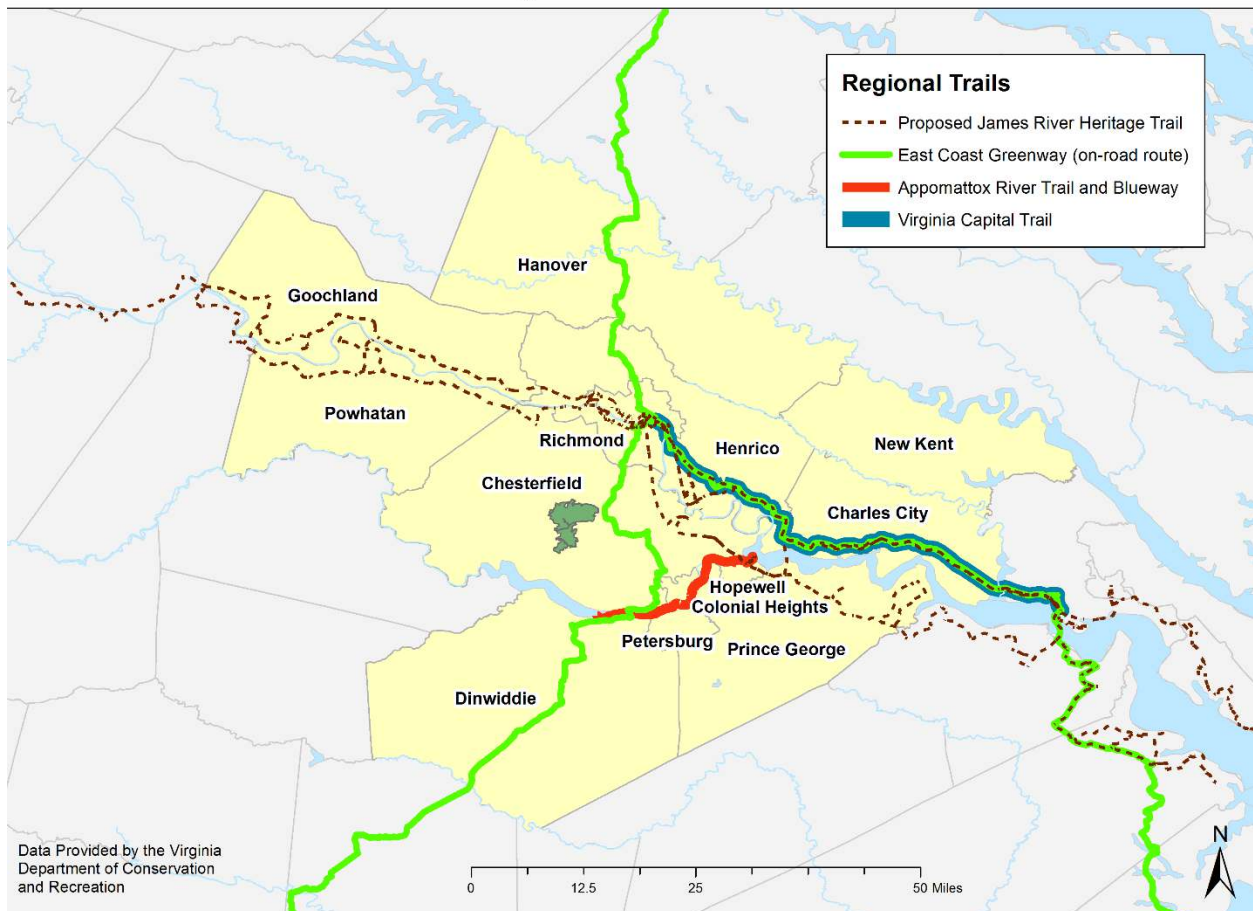
### **REGIONAL TRAIL EFFORTS**

There are several regional trail efforts that are planned to pass through Chesterfield County, including the East Coast Greenway, the Appomattox River Trail and the James River Heritage Trail. The vision of the East Coast Greenway is to develop a 2,900-mile trail system from Maine to Florida for people of all ages and abilities. This effort is spearheaded by the East Coast Greenway Alliance (ECGA). The East Coast Greenway route passes through Chesterfield County and plays an integral role in the proposed network. On the



following map, the current East Coast Greenway on-road route is depicted. The proposed off-road route can be found on the Bikeways and Trails Plan. The East Coast Greenway also is planned to connect the two sites of the Richmond Regional Ride Center - Pocahontas State Park and the James River Park System in the City of Richmond. The Friends of the Lower Appomattox River (FOLAR) completed a master plan for the Appomattox River Trail in 2017. This plan envisions a 23-mile trail from the George F. Brasfield Dam to the confluence of the Appomattox River with the James River that occurs on both the northern and southern banks of the river with a system of bicycle and pedestrian bridges. Approximately 11 miles of this trail are complete, including approximately 2 miles in Chesterfield County. The James River Heritage Trail is a proposed statewide trail following the James River from the Allegheny Mountains to the mouth of the Chesapeake Bay. This trail system is envisioned not only for bicyclists and hikers, but also for paddlers and fishermen to enjoy the water. Chesterfield County borders 35 miles of the James River and can play a role in this statewide trail. To the north and east of Chesterfield County, the Virginia Capital Trail is a 52-mile paved trail that follows the Scenic Route 5 corridor connecting Richmond to Jamestown. Regional efforts are underway by the Tri-Cities Metropolitan Planning Organization (MPO) to study the feasibility of a connection of the Appomattox River Trail (ART) to the Virginia Capital Trail.

### Regional Trail Efforts



## General Bikeways and Trails Guidelines

The General Bikeways and Trails Guidelines assist in planning, coordinating and implementing the network for the county, and assist in creating recommendations for specific development proposals.

Major considerations in the development of these guidelines include:

- ❖ A safe, accessible, connected and convenient network for people of all ages and abilities that provides walking and biking access to neighborhoods, schools, parks, libraries, places of work and commercial areas.
- ❖ A network that enhances the general health, mobility choice, desirability and high quality of life in all areas of the county, including equestrian access in appropriate locations.
- ❖ Coordination between various agencies responsible for constructing and maintaining the network.
- ❖ Ensuring extension and enhancement of the network through appropriate recommendations in development proposals.
- ❖ Protecting and enhancing environmental and cultural features through the sensitive design of facilities.

The following General Bikeways and Trails Guidelines should be used when addressing specific development proposals as well as when making facility decisions.

- **Road Project Evaluation.** Consider pedestrian and bicycle accommodations with all road projects.
- **VDOT Coordination.** Coordinate with VDOT to improve pedestrian and bicycle safety on existing roads through efforts including, but not limited to, installing pedestrian-actuated signals, bicycle loop detection at signals, annual repaving projects, standardizing signage and pavement marking for bicycle lanes and regular maintenance and debris removal. Most of the roads in the county are managed and maintained by VDOT. Proposed pedestrian and bicycle facilities as well as road and intersection improvements must adhere to VDOT standards and specifications. A VDOT maintenance agreement will be required for any private improvements within rights-of-way.
- **Policy Revision.** Develop or revise policies that would address the provision of facilities in new developments.
- **Funding.** Consider various sources of funding to construct and maintain the network.
- **Incentives.** Support the creation of incentives to encourage private-sector development of the network and connections to the network.
- **Data Collection.** Partner across departments and with state and regional partners to collect usage data along routes.
- **Connect Neighborhoods.** New subdivision developments should provide pedestrian and bicycle connections to existing or planned adjacent subdivisions.

- **Public Project Coordination.** All new county infrastructure, public facility construction and improvements including, but not limited to, water and wastewater lines, stream restoration and other stormwater projects, schools, parks, libraries and buildings with public access, should address pedestrian and bicycle amenities, as well as network connections.
- **Specific Area Plans and Safe Routes to Schools.** The Specific Area Plan and Safe Routes to Schools processes should include the identification of local facilities that provide connections to the countywide network.
- **Revitalization.** Improve existing bicycle and pedestrian infrastructure and enhance connections in conjunction with revitalization efforts.
- **Proactive Acquisition.** Work cooperatively with property owners to proactively acquire right of way for facilities identified on the Bikeways and Trails Plan.
- **Facility Impacts and Design.** Impacts of facilities on residential development should be mitigated through the location and design of the facility at the time of development to the greatest extent possible.
- **Regional Coordination and Partnerships.** Continue to communicate and partner with the Richmond Regional and Crater Planning District Commissions, participating localities, Pocahontas State Park, other state and federal agencies as well as national, regional and local nonprofit organizations to build, maintain and promote the network while ensuring regional continuity.
- **Bicycle Parking and Storage.** Bicycle racks should be installed at public and private destinations for safe, short-term bicycle storage. Large employers and multifamily developments should consider long-term storage, such as bike rooms.
- **End-of-Trip Facilities.** Consider the provision of end-of-trip facilities, such as showers and locker rooms, at key mixed-use development projects in support of pedestrian and bicycle facilities.
- **Pedestrian and Bicycle Civic Group.** Support the establishment of a citizen group to serve as a link between the community and the government on various pedestrian and bicycling issues including volunteer efforts for trail building, advocacy, maintenance and educational programming.
- **Public Information.** Provide route information in various formats including printed and digital media to promote safe and enjoyable use of the network.
- **Law Enforcement and Public Safety.** Incorporate crime reduction measures and strategies into facility design and support the expansion of Police Department efforts to patrol trails and other areas on bicycles for increased public safety as well as citizen-led patrol efforts.
- **Tourism.** Partner with Richmond Regional Tourism and other organizations to construct, maintain and promote both long distance cycling opportunities such as the East Coast Greenway and U.S. Bike Route 1, and special bicycle destinations such as the Richmond Regional Ride Center at Pocahontas State Park. Market network facilities for cycling/running events. In appropriate areas, consider establishing partnerships to promote agri-tourism and equestrian trail riding to include special events.

### **Bikeways and Trails Plan Facility Guidance**

The Bikeways and Trails Plan proposes a system designed to not only maximize the safety and comfort of people who bike and walk of all ages and abilities but to also protect and enhance environmental and cultural resources. While a shared-use path is the preferred facility type, implementation of a shared-use path may not be feasible in every context due to right-of-way constraints, excess cost or environmental concerns, among other factors. When a shared-use path is not feasible, a sidewalk with an on-street bicycle facility is the preferred alternative. This network also aims at improving the safety of the motorist by providing safe alternative places for people to walk or bike.

#### **CRIME PREVENTION AND LIABILITY MANAGEMENT**

All facilities should be planned and designed with the health, safety and welfare of the public in mind. Each trail project will actively engage public safety officials and follow Crime Prevention Through Environmental Design (CPTED) guidelines established for reducing crime in designed spaces.

Currently, the Parks and Recreation Department works in close cooperation with public safety departments to provide critical information to dispatchers and personnel including park maps, access points and security measures added on-site. This cooperation and communication will continue and expand to include the facilities proposed in this plan. In addition, all facilities should be appropriately signed, provide access points for emergency response vehicles and consider the installation of call boxes in isolated areas or areas where cellular phone service is limited.

Virginia has both a State Tort Claims Act and a Recreational Use Statute that provide certain protections to public and private entities from liability claims related to recreational uses on lands that they own, or for which they have provided easements. Private landowners who have land adjacent to a trail are also protected by trespassing laws. For both public and private parties, insurance policies can provide added protection.

#### **ENVIRONMENTAL AND CULTURAL RESOURCE CONSIDERATIONS**

In addition to designing a network that is sensitive to private property, it is important to consider environmental and cultural resources in the design process. Chesterfield County is rich in environmental, cultural, historical and agricultural features. Environmental features include rivers, streams, wetlands, floodplains and associated riparian buffer areas including wildlife habitat and sensitive vegetation. Historic resources include historic settlements, cemeteries and battlefields. Agricultural features may include crop land, livestock and forestal lands. All federal, state and local regulations shall be followed in the design, construction and maintenance of the network. A properly designed network can provide a chance for enhancement of resources as well as an opportunity to incorporate educational moments into the recreational experience of the user. This often can be accomplished by adjusting the alignment of the facility to avoid sensitive areas while still providing a visual connection for the user. Additional information regarding the protection of resources can be found in Chapters 8 (Historical and Cultural Resources) and 9 (Environment) of the Comprehensive Plan.

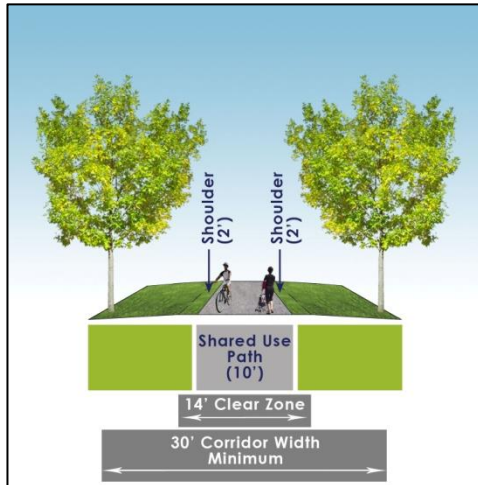
#### **CROSS-SECTION ILLUSTRATIONS**

The following section illustrates and defines each facility type, and describes considerations about when and where to place each facility type. The cross-sections illustrate the proposed dimensions along a segment of the facility or along the roadway. Accessible intersections with signaled and marked crossings will be equally important to the overall safety and comfort of users of the network.



**Off-Road Facility Typical Section****Shared-Use Path**

Paths that are shared by pedestrians, joggers, wheelchair users, skaters, bicyclists and other non-motorized transportation mechanisms. The surface of the path should be firm, stable and slip resistant, which can be paved or firmly packed aggregate to appeal to a variety of user groups and ages.

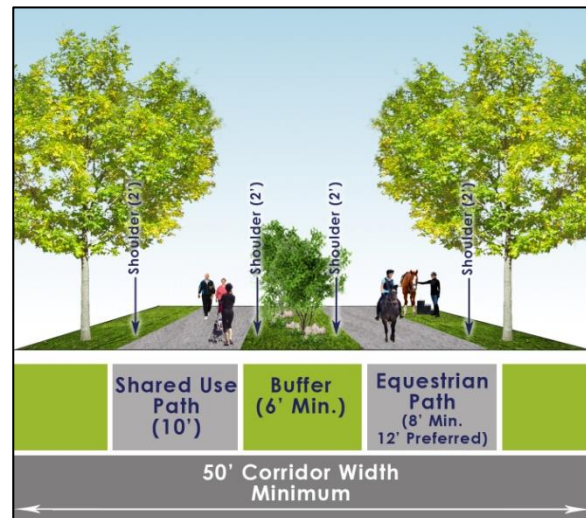


*Considerations for facility placement:* Shared-use paths can be located in proximity to natural features such as stream and river corridors or manmade features such as rail or utility lines. In addition to providing an alternative mode of transportation and a place for recreation, these paths can also raise awareness of the natural and cultural environment with interpretation signs and exhibits. Paths and bridges should be designed and constructed for emergency vehicle access.

**Shared-Use Path and Equestrian Path**

Two paths located within the same corridor to accommodate bicycle and pedestrian traffic as well as equestrian traffic. The paths should be separated with a visual buffer to limit conflicts.

*Considerations for facility placement:* A dual shared-use path and equestrian path configuration should be used in appropriate rural settings where the equestrian community is located and provide connections to popular equestrian destinations such as Pocahontas State Park.



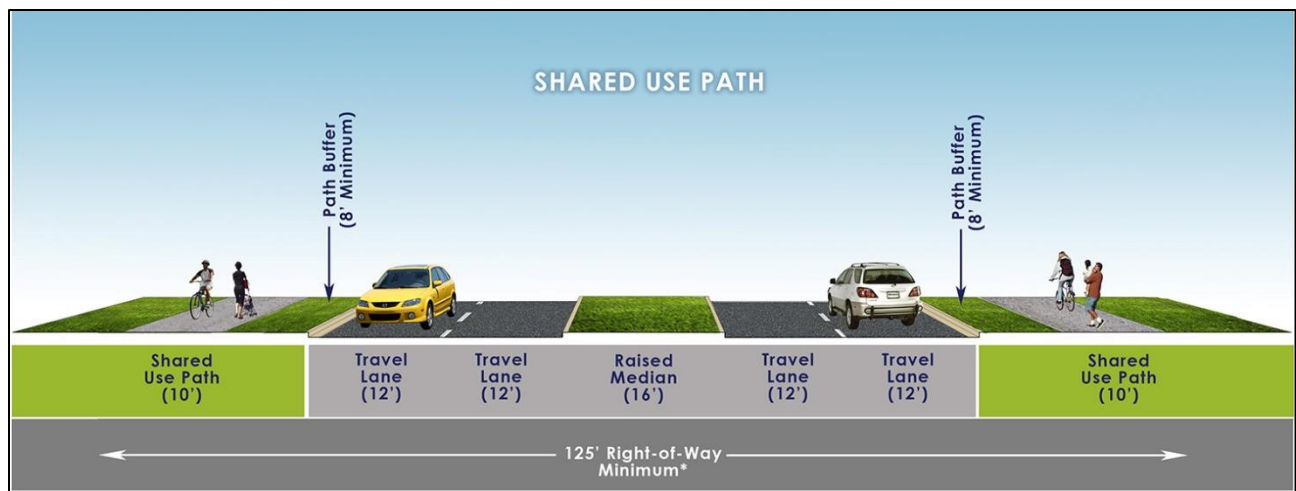
## On/Along Road Facility Typical Sections

All typical sections depicted in the following illustrations are based on a four-lane divided roadway (excluding the paved shoulder typical section which is based upon a two-lane roadway). The Thoroughfare Plan will be amended to accommodate facilities within the ultimate rights-of-way from 10 feet up to 35 feet. The incorporation of these facilities within public roads will have a significant impact on right-of-way acquisition, utility relocation and construction cost.

The following sections provide general guidance based on VDOT standards, but are subject to change. The Bikeways and Trails Plan does not specify the type of facility to be provided. That decision will be made when design and construction of the facility is undertaken. Any facility within a VDOT maintained area will need to be reviewed and approved by VDOT.

### **Shared-Use Path**

Paths shared by pedestrians, joggers, wheelchair users, skaters, bicyclists and other non-motorized transportation mechanisms and separated by motor vehicle traffic by a barrier or open space. The surface of the path should be firm, stable and slip resistant, which can be paved or firmly packed aggregate to appeal to a variety of user groups and ages.



*Considerations for facility placement:* Shared-use paths work well on rail trails, park and recreation areas and alongside major roadways (separated by a buffer). A network of shared-use paths can connect residential communities with commercial areas, parks, schools and other destinations. This facility can be found on the Suburban Arterial and Suburban Collector cross sections found in the Transportation Chapter.

## Sidewalk and Protected Bike Lane

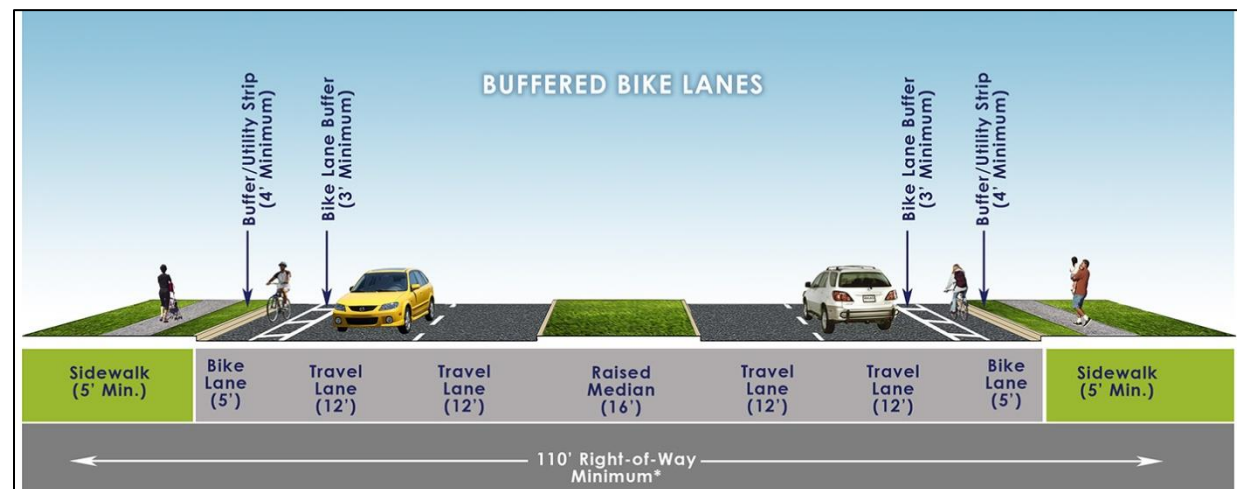
A sidewalk for pedestrians, paired with an on-road bike lane that is physically separated from motor vehicle traffic lanes by a curb, on-street parking, raised concrete median, landscaped buffer or other various methods. Protected bike lanes can be one-directional on both sides of a street or two-directional on one or both sides of a street.



*Considerations for facility placement:* Protected bike lanes give bicyclists a higher level of comfort on high-speed, multi-lane, higher-volume roadways as well as on low-speed streets with high pedestrian traffic in urban-like settings. This facility can be found on the Urban Arterial and Urban Collector cross sections found in the Transportation Chapter.

## Sidewalk and Buffered Bike Lane

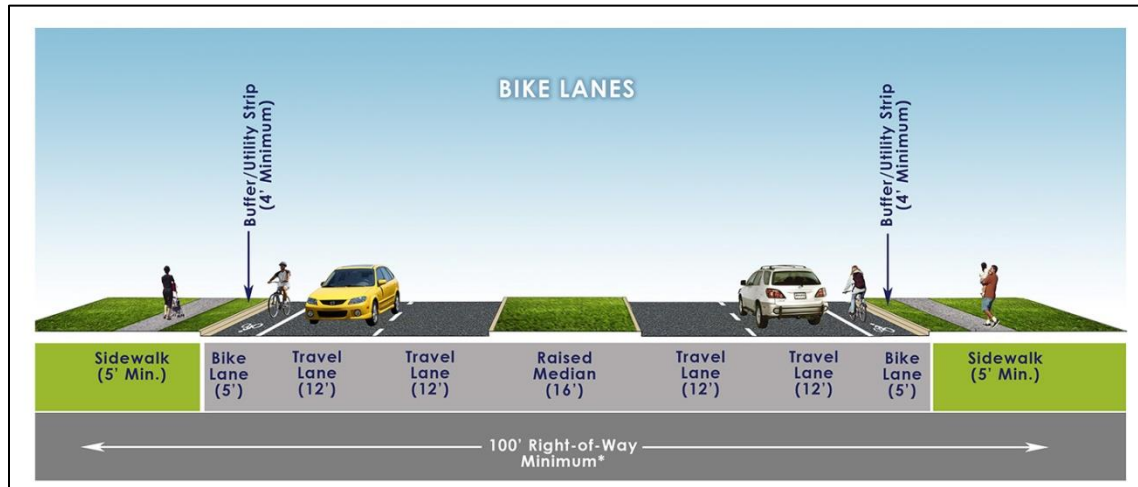
A sidewalk for pedestrians, paired with an on-road bike lane that provides bicyclists with a lane exclusively for bike travel and an additional striped buffer zone separating the lane from motor vehicle traffic.



*Considerations for facility placement:* Buffered bike lanes are suggested for low-speed roads and adequate width to implement the buffered lanes (usually eight to 11 feet). This facility can be found on the Urban Arterial and Urban Collector cross sections found in the Transportation Chapter.

## Sidewalk and Bike Lane

A sidewalk for pedestrians, paired with a portion of the roadway marked by pavement markings (such as lines, arrows and bicycle symbols) and signage (where appropriate), intended preferentially or exclusively for one-way bike travel. Bike lanes are usually adjacent to the traffic lane intended for the same direction of travel, unless the lane is a contra-flow lane, where the bike lane would be adjacent to the traffic lane intended for the opposite direction of travel.

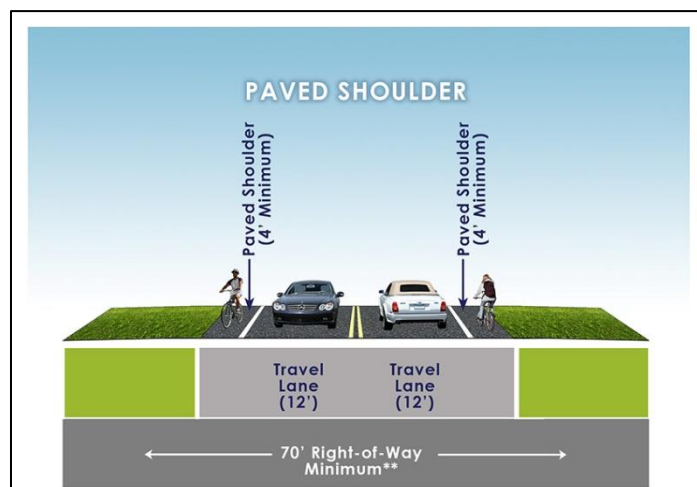


*Considerations for facility placement:* Bike lanes are one of the most prevalent bike-travel facility types because they can be used on a variety of roadway types, but are not appropriate on high-speed, high-volume roads without a protective buffer separating bicyclists and motor vehicle traffic. This facility can be found on the Urban Arterial, Urban Collector, Rural Arterial and Rural Collector cross sections found in the Transportation Chapter.

## Paved Shoulder

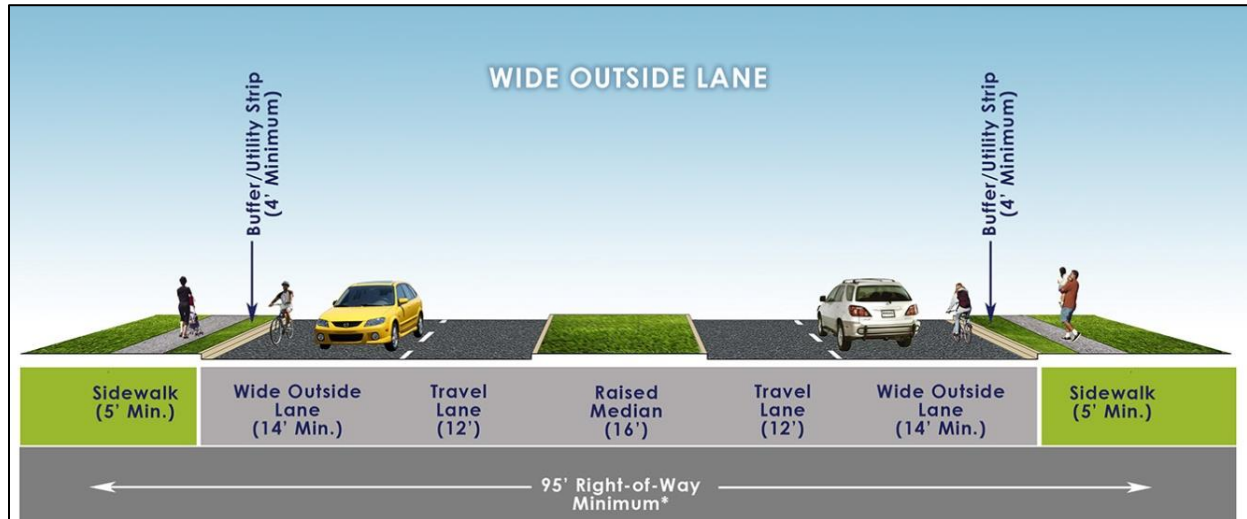
A paved shoulder is located outside of the motor vehicle travel lane and can be used by people who bike to travel comfortably and conveniently in areas where more robust facilities are not appropriate.

*Considerations for facility placement:* Paved shoulders should be at least four feet wide and work best on rural roadways. This facility can be found on the Rural Arterial and Rural Collector cross sections found in the Transportation Chapter.



## Sidewalk and Wide Outside Lane

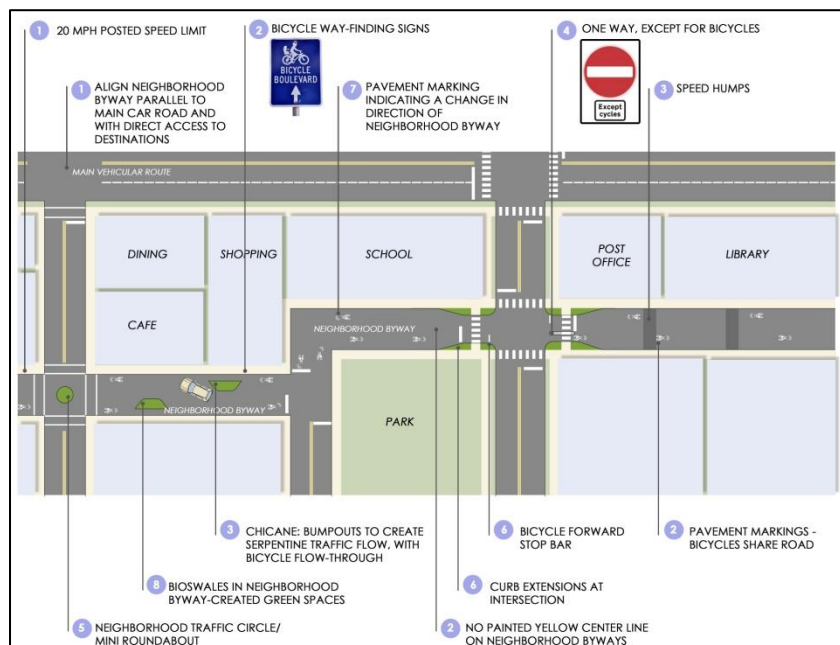
A sidewalk for pedestrians while increasing the width of the outside lane of traffic in order to give cars and bicyclists more space to comfortably travel in the same space, especially in areas where variance between vehicle and bicycle speeds increases.



*Considerations for facility placement:* Wide outside lanes work best on roads where bike lanes cannot be added due to space or other limitations, but lane width can be increased to 15 feet maximum on low-speed and low-volume roads. This facility can be found on the Urban Collector cross section found in the Transportation Chapter.

## Neighborhood Byway

A neighborhood byway is a low-speed, low-volume local roadway (such as an internal subdivision road) that has traffic calming measures in place to discourage through trips by motor vehicles to create safe, convenient walking and biking routes. Other measures such as signage and pavement marking are incorporated into the design. Any neighborhood byway improvements within VDOT maintained right-of-way or easements will need to be reviewed and approved by VDOT.





*Considerations for facility placement:* These routes may be used to aid in providing safe crossing of busy streets and provide improved access to commercial areas. They may also incorporate environmental features to manage stormwater and other concerns.

### **FACILITY SIGNAGE GUIDELINES**

Any successful walking, biking or equestrian facility must have clear signage that is easy to see, read and understand. Ideally, signs are cohesive in their placement and design so people can easily identify their location and are able to follow the route. Signs are also important for the overall safety of the user and should be closely designed, located and maintained with input from the Chesterfield Fire and EMS and Police Departments. Three basic sign categories exist for non-motorized facilities: regulatory, warning and wayfinding (also known as guide signs). These categories are described and illustrated below.

**Regulatory signage** advises the user on required behaviors such as stopping and crossing locations, where bikes may use full lanes and when to yield to pedestrians.

#### *Considerations for Regulatory Signage:*

- Often legally required and enforceable
- Standardized sizes and designs
- Locations set by national, state or local codes
- Most signage found in the Manual on Uniform Traffic Control Devices (MUTCD) prepared by the American Association of State and Highway Transportation Officials (AAHSTO)



**Warning signage** highlights potential dangers such as sharp curves, steep slopes and railroad tracks ahead.

#### *Considerations for Warning Signage:*

- Can be legally required
- Standardized sizes and designs (although localities can add their own warning signage)
- Locations often set by national, state or local codes; should be placed in advance of the hazard
- Most signage found in the MUTCD



**Wayfinding, or guide signs** direct users along the proper route, identify current locations and other potential destinations and mark mileage, parking and other amenities.

### *Considerations for Wayfinding Signage:*

- Non-mandatory signage intended to aid users
- Some standard sizes and designs, but can vary by location and include creative design
- Designs should be uniform throughout the facility
- Off-road facility signs may include mile markers, trailblazers, entrance signs and rule signs



Typical Off-Road Shared Use Path Wayfinding Signage



Typical Along/On Road Wayfinding Signage

### **TRAILHEAD AND PARKING AREA GUIDANCE**

Trailheads are places for users to convene, rest and gather information. Trailheads are recommended at locations that are considered primary access points to the network and can be co-located with other public facilities such as a park, school or library that can provide adequate parking and perhaps other amenities such as restrooms. All trailheads should provide necessary signage as well as site furnishings such as bike racks, benches, drinking fountains and trash receptacles. As with design of the entire network, trailheads should also follow CPTED standards. Trailheads should not negatively impact neighborhoods or private property to the greatest extent practicable. Exact locations of trailheads are not identified in this plan but will be developed in conjunction with the phasing of the system and community input.



# CHAPTER 15: THE PUBLIC FACILITIES PLAN

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## Overview

The Public Facilities Plan (the Plan) makes recommendations regarding the provision of public facilities needed to serve existing and planned population growth through the efficient, equitable, safe and accessible delivery of public services in accordance with the recommendations of the Comprehensive Plan and identified levels of service. This chapter also recognizes and supports community facilities built and operated by other private and non-profit entities. Together, these facilities are an important aspect of maintaining a high quality of life for county residents, businesses and visitors. The Plan prioritizes locating compatible public facilities within the same building or on the same site as an efficient use of limited county resources (co-location).



The Plan helps to guide the acquisition, location and construction of public facilities in accordance with the Comprehensive Plan. To this end, the Plan identifies levels of service, general locations, sizing and site criteria to guide needed public service improvements. The Plan is also used to guide substantial accord determinations for new facilities as required by the ***Code of Virginia***. In addition, the Plan is a key resource for developing the county's Capital Improvement Program – the five-year fiscal programming document for public facility provision.

It should be noted that the levels of service identified in this chapter generally apply to locations outside of the Rural Residential/Agricultural and Residential Agricultural areas. These rural areas currently do not have, and are not planned to have the same levels of service as the more developed and developing areas of the county. However, the Plan does recognize that existing rural public facilities have parity with newer facilities in more developed areas of the county.

The Plan also identifies regional, community and neighborhood-scale facilities in the Parks and Libraries sections. Regional scale facilities are larger, while neighborhood-scale are smaller.

The Plan provides facility recommendations that address service needs within the next 20 years. Due to changing external and internal factors affecting these recommendations, the Plan and its recommendations should be updated every five years in conjunction with the overall Comprehensive Plan.

The Plan does not address funding ability, responsibility or capability, debt capacity, or other financial concerns or issues. That said, the county will evaluate funding sources and make recommendations to the Board of Supervisors regarding the allocation of available resources for the provision of capital facilities through the annual Capital Improvement Program (CIP) and related budget processes. Furthermore, this document does not address staffing, programming, design, equipment or other operational factors. Facility location recommendations should be viewed as general to promote flexibility in site acquisition processes. Facility recommendations are not listed in any kind of priority order. Prioritization and funding of facilities should be determined by the Board of Supervisors, with staff recommendations, and citizens through separate processes outside the scope of this guiding document.





### **DESIRED OUTCOMES OF THIS CHAPTER:**

- **Support Efficient, Equitable & Effective Provision of Public Facilities and Services**
- **Identify Appropriate Level of Service Standards**
- **Provide Guidance to New, Replacement and Renovated Facilities**
- **Use Public Facility Provision as Catalyst for Development & Redevelopment Efforts**
- **Support Private Sector Efforts & Partnerships in Community Service/Facility Provision**
- **Provide Guidance to the Capital Improvement Program (CIP)**

The Public Facilities Plan is divided into several sections based on the department responsible for providing that particular public facility or service. The sections of the Plan are:

- Fire/Emergency Medical Services
- Police
- Sheriff's Office
- Libraries
- Public Schools
- Parks and Recreation
- General Services (Government Center, Aviation Services, Solid Waste, Fleet Management)
- Mental Health & Social Services
- Telecommunication Facilities.



Many departments use The Public Facilities Plan as their department's master plan for facility needs, while some departments have their own adopted master plans, including:

- Aviation Services – *Airport Master Plan*
- Sheriff's Office – *Community Corrections Master Plan*
- General Services – *Government Center Master Plan*
- Parks & Recreation – *Parks & Recreation Master Plan.*



This Public Facilities Plan provides additional guidance to these departments. With the adoption of this Plan, each department master plan should be reviewed and aligned with the recommendations of the overall Comprehensive Plan.

Major considerations used in the development of The Public Facilities Plan include the following:

- ❖ Existing and future land use patterns
- ❖ National and state standards for levels of service goals
- ❖ Adequate facilities and service coverage
- ❖ Lifespan and lifecycle of facilities
- ❖ Parity of facilities and services
- ❖ Fiscal responsibility
- ❖ Community-based facility investments promoting reinvestment and revitalization

Many factors impact the need for public facilities, such as:

- Changing demographics, especially the aging of the community
- Growth rate and location
- Land use pattern and density
- Community expectations
- Changing technologies
- Changing regulations at the federal, state and local levels

The Public Facilities Plan chapter is comprised of two major components:

- General Public Facilities Guidelines providing direction for the general evaluation of public facility proposals. These guidelines should apply to all public facilities regardless of type.
- Facility Recommendations that provide more detailed information including levels of service standards, new facility location guidance, new facility recommendations and other criteria specific to the type of facility being proposed.

### APPROVING NEW PUBLIC FACILITIES

New public facilities are vetted through a site evaluation process involving the requesting department along with other county departments to identify appropriate potential sites. A formal report is prepared by the planning department for the requesting department to use when making a site selection. This report is a high-level review of sites to inform the department of any major issues associated with public use of that site.

Once a site has been selected by the requesting department, negotiations are held with the property owner to determine if they are willing to sell their property and at what price. Once a contract has been developed, but prior to its closing, the facility is required to receive either zoning or substantial accord approval according to the *Code of Virginia*. These public processes ensure that the community has an opportunity to review proposals for facilities and that the facility itself is in compliance with the recommendations of the Comprehensive Plan. In addition, any significant expansion or change to an existing public facility also requires zoning or substantial accord approval.

In some instances, developers or property owners may offer to dedicate land for public facilities or provide for actual construction of a facility that would then be leased or sold to the county for operation. Such facilities and sites, if deemed acceptable by the county, should comply with the recommendations of the Comprehensive Plan and meet the needs of the department operating the facility.



### General Public Facility Guidelines

The following General Public Facilities Guidelines should be used when addressing the provision of new public facilities and related land use issues:

- **Data-Driven Facility Provision.** Base public facility provision and improvement decisions upon documented and objective assessments of need, demand, capacities, fiscal responsibility and the recommendations of the Comprehensive Plan.
- **Co-Location.** Co-locate, as a priority, public facilities wherever possible and appropriate. Co-locate utility improvements such as, but not limited to, pump stations, water towers, etc., with public facility sites. Look for ways to create shared spaces in facilities for use by other departments where appropriate.
- **Facility Maintenance as a Priority.** Support funding priorities that properly maintain existing facilities. Facility condition should be analyzed on a regular basis in support of a systematic, ongoing, preventative maintenance program. Facility improvements should use quality design and construction that provide long-term cost savings.
- **Sustainable Facility Design.** Incorporate green building design and other energy-efficient practices in the construction, renovation and operation of public facilities. Encourage facilities to be designed to reduce energy needs, water consumption, waste and stormwater runoff.
- **Site Acquisition.** The county should acquire new public facility sites in advance of, and/or in conjunction with, development and acquire land adjacent to existing public facility sites planned for renovation or replacement when land becomes available. These acquisitions should be accomplished using sound real estate principles and practices and in accordance with applicable laws, regulations and policies. Consider the impacts of new facilities in relation to growth as identified in The Land Use Plan chapter. Construction of new facilities should take place in areas contiguous to existing developed areas.
- **Linear Parks & Trails.** Incorporate and link appropriate public facilities through sidewalks, trails and other similar accommodations.
- **Buildable Land.** Base facility site requirements on the concept of “buildable land”. Consider modification in the amount of required site area where existing public facilities are to be replaced or renovated within the established communities in which they are located. This calculation excludes required buffers, setbacks and other development restrictions, as well as areas with steep slopes, wetlands, Resource Protection Areas, stormwater ponds and other physical constraints to the use of the property.
- **Transportation Improvements.** Locate facilities where the road network is safe and adequate, or the roads are improved in conjunction with development or renovation of the facility. Other transportation improvements, such as traffic signals and turn lanes, may also be needed.
- **Public Utilities.** Connect public facilities to public water and wastewater systems, where appropriate.

- **Rezoning Proposals & Facility Impacts.** Provide information on the impacts on public facilities of specific development proposals during the zoning process.
- **Unplanned Facility Needs.** Consider public facilities outside of the recommendations of this document in conjunction with amendments to the Comprehensive Plan.
- **Facility Parity.** Support parity in the quality, capabilities and provision of public facilities throughout the county.
- **Facilities and Revitalization.** Use public facility provision, parity and similar investments as one aspect of an overall approach to revitalizing communities. Support renovations to existing facilities in established communities that facilitate parity. These public investments into established communities should be used to spur private investment in these areas as well. When existing facilities reach a condition where it is more economically feasible to replace the facility rather than renovate it, these new facilities should be rebuilt on, or as close as possible to, the existing site to maintain service to the community.
- **Unused Facilities.** Re-use abandoned or unused facilities in a cost-effective manner. If the facility is deemed no longer usable for any public facility usage, the facility should be declared surplus and sold with revenue going towards new facility construction.
- **Facility Locations.** Proposed facility locations as shown on Facility Recommendation maps display general facility locations and should not be used for specific location identification.
- **Community Resource Centers.** Purpose-built or leased Community Resource Centers (CRCs) should be pursued as a model of multi-department service and program delivery to the community in a cost-effective and efficient manner. In this approach, CRCs could have a primary function of a library, indoor recreation center or human services center while also including space for other community needs. For example, a library facility as a CRC could include space for parks and recreation programs, human service provision and/or other department service/program provision. These multi-use facilities would allow greater access to services and programs in proximity to communities. This approach should also be more cost-effective in that multiple agencies, and even compatible non-profit entities, could make use of CRC space rather than each agency pursuing their own space needs. Designs for CRCs should be appropriate to the programs and services they would house, the communities they would serve and be flexible to the needs of multiple county departments.
- **Partnerships.** Where appropriate, pursue partnerships with private and non-profit agencies to assist in the development of necessary community facilities and infrastructure.
- **Community Identity.** Consider the naming of public facilities as an element of placemaking and to foster positive community identity through high quality design. Involve the public in facility naming where appropriate.
- **Facility Impacts on Community.** Identify ways to mitigate potentially negative impacts on adjacent properties and neighborhoods when considering new or expanded public facilities.

## Fire & Emergency Medical Services

### OVERVIEW

The mission of Fire & Emergency Medical Services (EMS) is to protect life, property and the environment through a comprehensive fire and life safety program that ensures an adequate and timely response to emergencies.

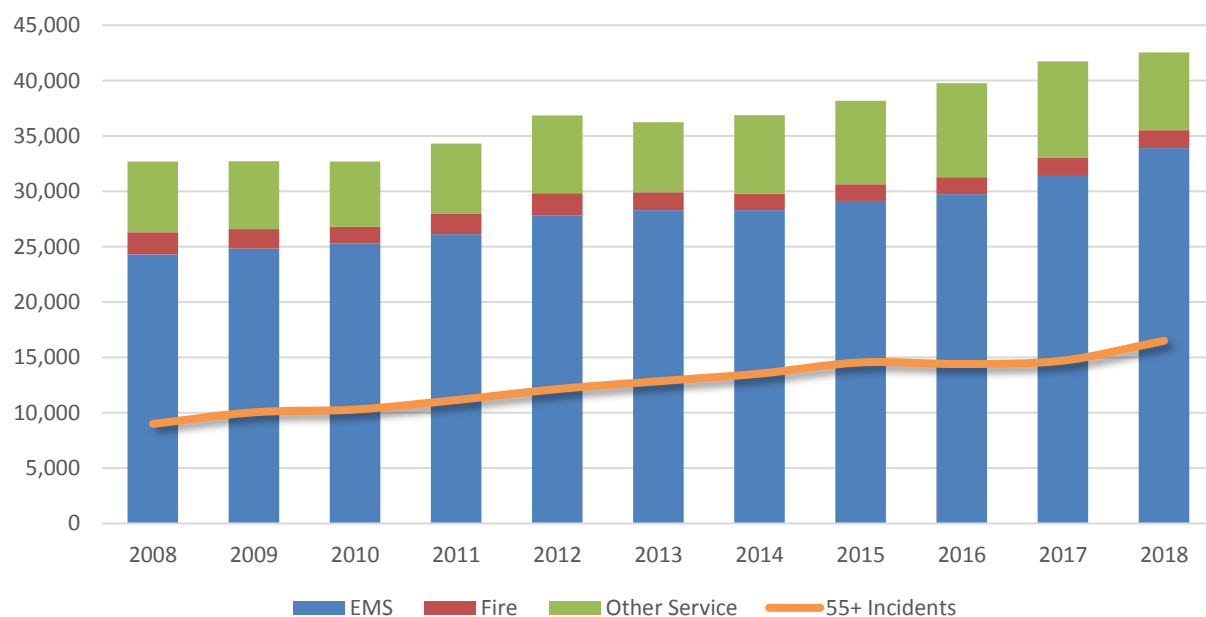
In FY 16, personnel and equipment from 22 fire stations responded to a combined 39,756 incidents. The number of incidents has increased 60 percent between 2001 and 2016, significantly faster than the county's population increase of 27 percent. Of the total incidents reported in 2016, 75 percent were medical emergencies and 24 percent were fire-related. It is expected with the general aging of the population that medical emergency incidents will continue to increase faster than the rate of population growth over time, causing a significant impact to Fire/EMS services for at least the next decade.



In addition to the 22 fire facilities, seven volunteer rescue stations supplement county EMS transport units. These facilities include Bensley-Bermuda (2 stations), Forest View (2 stations), Manchester (2 stations) and Ettrick-Matoaca (1 station).

Fire & EMS also maintains inter-jurisdictional agreements with several surrounding localities to provide and receive additional coverage when needed.

Incidents Per Fiscal Year



#### **RECOMMENDED LEVEL OF SERVICE STANDARDS**

The following levels of service are based upon professional industry experience and recommended standards.

##### **Urban Zone**

- **Fire Response:** Fire/EMS response goal is 7 minutes from receipt of call in the Emergency Communications Center (ECC) to arrival of first responding unit. Fire/EMS facilities should be strategically located to provide 4 minutes or less travel time for the first arriving engine company at a fire suppression incident, and 8 minutes or less travel time for deployment of an Effective Firefighting Force (first alarm assignment) at a fire suppression incident.
- **EMS Response:** Fire/EMS response goal is 7 minutes from receipt of call in the ECC to arrival of first responding unit. Fire/EMS facilities should be strategically located to provide 4 minutes or less travel time for the first responding unit equipped with an Automatic External Defibrillator or higher-level capabilities at an emergency medical incident.

##### **Rural Zone**

- **Fire Response:** Fire/EMS response goal is 12 minutes from receipt of call in the ECC to arrival of first responding unit. Fire/EMS facilities should be strategically located to provide 9 minutes or less travel time for the first arriving engine company at a fire suppression incident, and 13 minutes or less travel time for deployment of an Effective Firefighting Force (first alarm assignment) at a fire suppression incident.
- **EMS Response:** Fire/EMS response goal is 12 minutes from receipt of call in the ECC to arrival of first responding unit. Fire/EMS facilities should be strategically located to provide 9 minutes or less travel time for the first responding unit equipped with an Automatic External Defibrillator or higher level capabilities at an emergency medical incident.

##### **Effective Firefighting Force (First Alarm Assignment)**

The effective firefighting response force to protect a typical 2,000-square-foot single-family dwelling from fire is 17 firefighters responding on firefighting equipment capable of performing rescue operations, fire suppression, forcible entry, ventilation, EMS and aerial operations.

#### **FACTORS INFLUENCING OPERATIONS & TIMING FOR NEW FACILITIES**

Priority should be given to address operational changes, service gaps and changing community conditions. New stations, expansion of existing stations, additional equipment and improved road infrastructure are recommended strategies to address reliability and capacity shortfalls. The need for Fire/EMS facility construction is based on the following parameters:

- Demand exceeds existing facility's service capacity
- Addressing service gaps
- Analysis of increasing call volumes within the district
- Growth and development trends within the district

- Growth and development outside of the current station coverage
- Road connectivity and geographic barriers such as Pocahontas State Park
- Changes in community fire risk, demographics – especially an aging population, construction methods, construction materials or introduction of a special risk.

In specific circumstances, it may be necessary to work with federal and state government or private entities such as health care providers to address operational impacts. Such examples could include:

- Weight-restricted bridges can prevent passage of ambulances, fire engines and/or ladder trucks.
- Access and transportation to hospitals originating from locations in the southern and western sections of the county require long transport times, which impacts the availability of emergency transport resources in these areas.
- Availability of emergency shelters within the county during events requiring home evacuations. Support efforts to utilize high schools as potential emergency shelters such as by installing emergency generators in such facilities.

#### **RECOMMENDED SITE CRITERIA**

- If a Fire/EMS facility is co-located with another public facility, the site must be designed with separate ingress/egress and parking to prevent interruption to Fire/EMS station operations. Flexibility to site acreage should be provided when considering co-location. Recommended co-location opportunities could include, but need not be limited to, facilities for Police, Parks, Libraries, Water Towers, Schools, and Telecommunications facilities.
- New facility sites should have at least 3 buildable acres and accommodate a 3-bay facility. The location of Fire/EMS facilities has a significant impact on ability to serve a geographic area. Under certain circumstances, the ability to provide service may warrant modification to site criteria.
- Stations should be located with quick access to a major arterial roadway and, if possible, located near two major arterial roads offering both north/south and east/west travel.

#### **FACILITY RECOMMENDATIONS**

The effective delivery of Fire/EMS is dependent upon properly trained personnel, safe and properly maintained equipment, and strategically located and properly maintained facilities that are properly sized to accommodate personnel. The following recommended facilities includes a combination of new facilities and renovation/replacement/relocation of existing facilities to ensure proper service delivery to the public.



**Current Need**

- **Magnolia Green Station:** new facility in the vicinity of Otterdale Road and Woolridge Road. Addresses coverage gap and demand issues. Property identified and acquired.
- **Five Forks Station:** new facility in the vicinity of Courthouse Road and Route 288. Addresses coverage gap and demand issues. Property identified and acquired.
- **Relocate/Replace Matoaca Station:** current station is not adequate to the service demands and physical requirements of a professional station. Locate new station in the vicinity of Matoaca Road and Hickory Road.
- **Relocate/Replace Midlothian Station:** current station is not adequate to the service demands and physical requirements of a professional station. Locate new station in the vicinity of Midlothian Turnpike and Winterfield Road. Property identified and acquired.
- **Renovate/Replace Dutch Gap Station:** current station requires additional space and renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Clover Hill Station:** current station requires additional space and renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Buford Road Station:** current station requires additional space and renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Eanes-Pittmann Public Safety Training Center:** current facility requires replacement of mobile wall partitions, renovation of classroom spaces and updates to audio/visual systems to adequately support the education mission.

**Future Need**

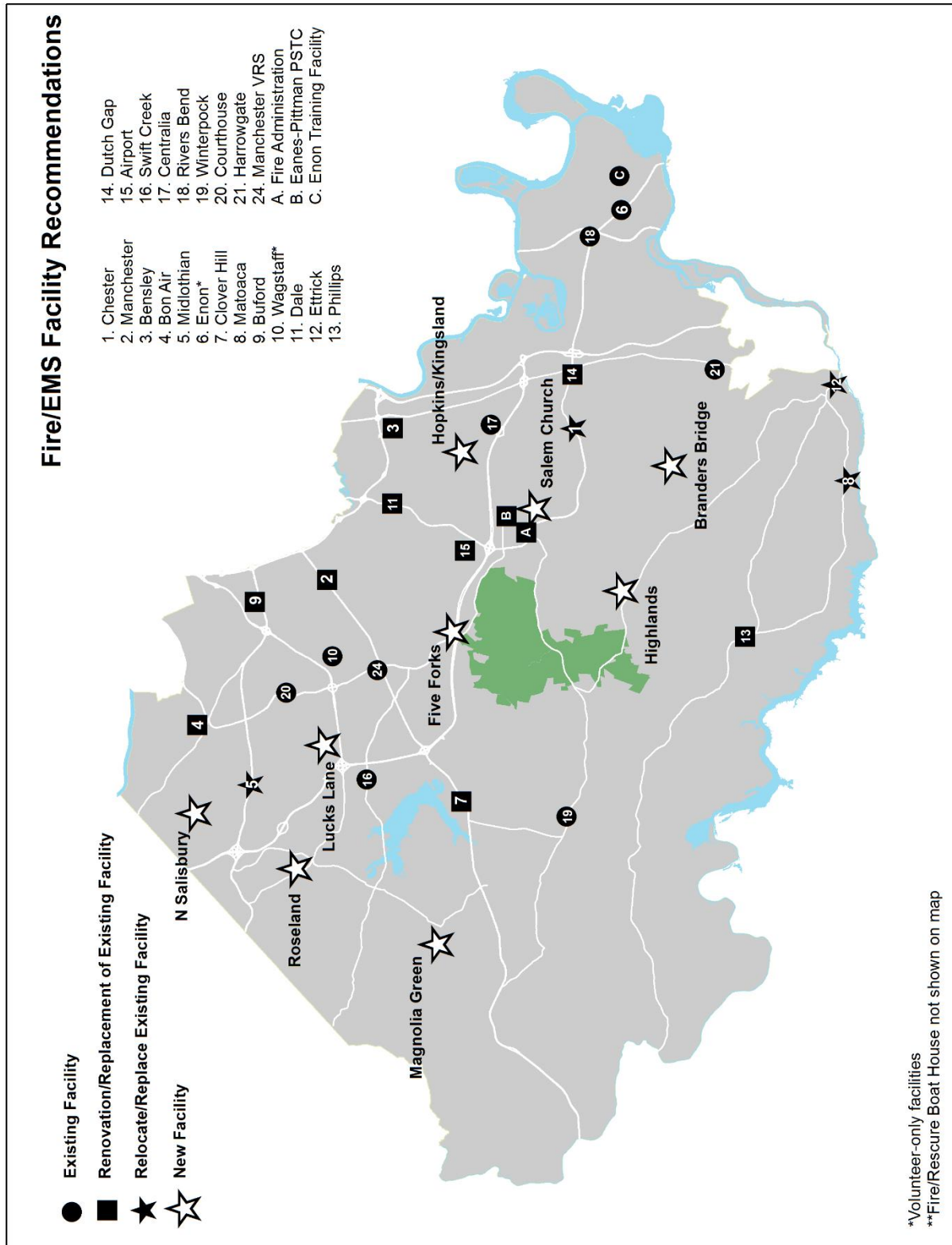
- **Roseland Station:** new facility in the vicinity of Old Hundred Road and Brightwalton Road. Addresses coverage gap and demand issues.
- **Relocate/Replace Ettrick Station:** current station is not adequate to the service demands and physical requirements of a professional station. Locate new station in same general area.
- **Renovate/Replace Manchester Station:** current station requires additional space and renovation of major building systems and interior spaces to adequately support personnel.
- **Highlands Station:** new facility in the vicinity of Nash Road and Woodpecker Road. Addresses coverage gap. Property identified and acquired.
- **Renovate/Replace Chester Station:** current station is not adequate to the service demands and physical requirements of a professional station. Locate new station in same general area.
- **Salem Church Station:** new facility in the vicinity of Salem Church Road and Centralia Road. Addresses coverage gap and demand issues.

### FIRE & EMS

- **Renovate/Replace Airport Station:** current station requires renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Dale Station:** current station requires renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Bon Air Station:** current station requires additional space and renovation of major building systems and interior spaces to adequately support personnel.
- **Lucks Lane Station:** new facility in the vicinity of Lucks Lane and Walton Bluff Parkway. Addresses coverage gap.
- **North Salisbury Station:** new facility in the vicinity of Winterfield Road and Salisbury Drive. Addresses coverage gap and demand issues.
- **Hopkins/Kingsland Station:** new facility in the vicinity of Hopkins Road and Kingsland Road. Addresses coverage gap and demand issues.
- **Branders Bridge Station:** new facility near intersection of north/south and east/west planned arterial roads west of Branders Bridge Road and south/east of Bradley Bridge Road. Addresses coverage gap and demand issues.
- **Renovate/Replace Bensley Station:** current station requires renovation of major building systems and interior spaces to adequately support personnel.
- **Renovate/Replace Fire & EMS Administration Building:** current facility requires additional space and interior renovation to meet growing service demands and adequately support personnel.
- **Renovate/Replace Phillips Station:** current station requires renovation of major building systems and interior spaces to adequately support personnel.
- **Joint Public Safety Boat Storage Facility:** construct a storage facility to house the police boat and fire/rescue boat on the James River for rapid deployment and protection from weather. The joint public safety facility should be located on the James River between the I-295 bridge and the Allied Road/Bermuda Hundred area. This location will provide sufficient distance from Henrico County's public safety boat storage facility at Osborne Landing to provide an integrated and coordinated approach for regional protection of waterfront properties, maritime commerce and other watercraft operating along the James River.
- **Enon Public Safety Training Center:** construct new facilities for education, instructor support and storage of fire apparatus, along with restroom/locker facilities for personnel.

### **Recommended Road Improvements**

- **Airport Station:** construct a fire service or public road from the end of Airfield Drive to Cogbill Road to improve station response area.

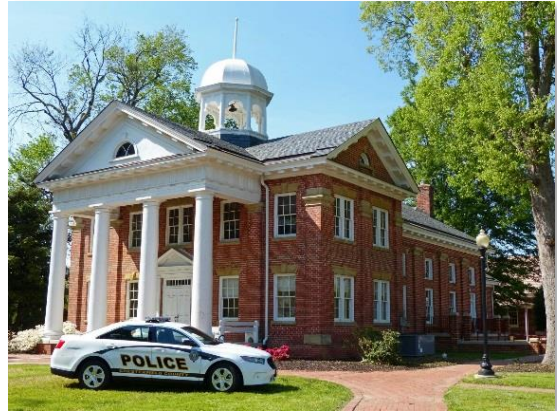


## Police Services

### OVERVIEW

The mission of the Police Department is:

- To serve the people of Chesterfield County with integrity and professionalism
- To protect the quality of life, safety, and security of our diverse community through proactive enforcement efforts and effective crime prevention strategies
- To lead the community in solving problems and building partnerships.



The Police Department is responsible for developing and implementing crime and crash prevention strategies and for reporting and investigating those that occur. This includes routine patrols of roadways and navigable waters.

“Brick and mortar” facilities are important to police operations and contribute to a community member’s perception of safety. The effectiveness and efficiency of police service, however, is correlated to the total number of police officers in a locality and the geographic structure of patrol beats. There are 1.58 officers per 1,000 residents in the county today; the goal is to grow the department to 1.8 officers. In addition to formal district stations, the Police Department operates additional facilities throughout the county that enhance police presence and aid department operations.

In 2017 the Police Department responded to 121,000 calls for service.

### RECOMMENDED LEVEL OF SERVICE STANDARD

- Provide district police stations and facilities that are strategically located to maximize effective and efficient public safety activities.
- Achieve a staffing level of 1.8 officers per 1,000 residents.

### FACTORS INFLUENCING OPERATIONS & TIMING FOR NEW FACILITIES

- Growth and location of increasing county population
- Changing socioeconomic conditions
- Roadway volumes
- Staffing and retention

**RECOMMENDED SITE CRITERIA**

- Flexibility to site acreage should be provided when considering co-location. Recommended co-location opportunities could include Fire/EMS stations.
- District station sites should have at least 3 acres of buildable area.
- Specialty functions, such as evidence storage, should be contained in the Government Center and of an appropriate site size to meet the needs of the department.
- District stations should be located to easily serve multiple beats, preferably at the center of their respective patrol area.
- District stations should be located in high-visibility areas with direct access to a major arterial road and, if possible, located near two major arterial roads offering both north/south and east/west travel.
- Community Policing Offices should be located in leased space, commercial centers or other community focal points where needed.

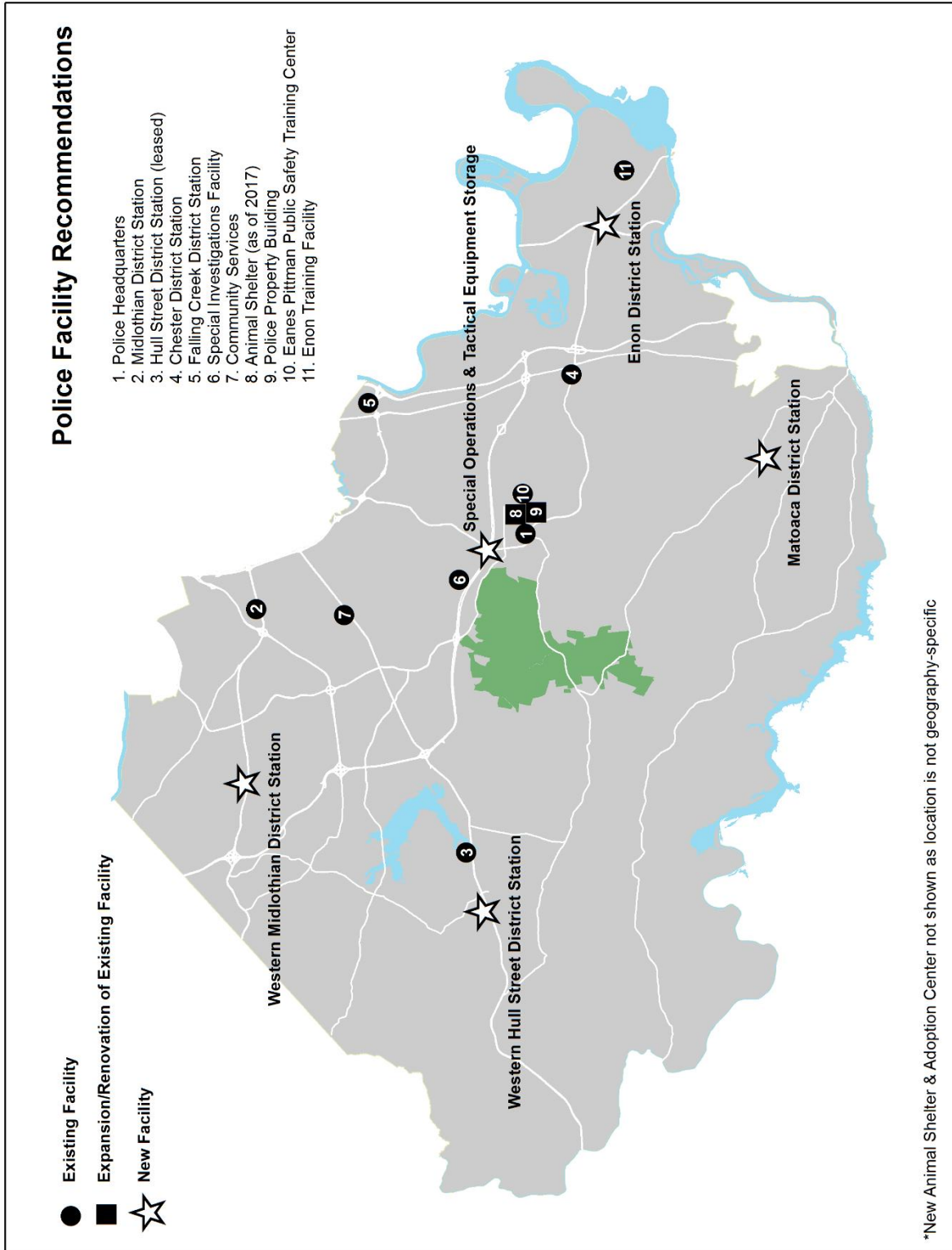
**FACILITY RECOMMENDATIONS****Current Need**

- **Western Hull Street District Station:** currently located in temporary space, this station should be located near Hull Street Road west of Woodlake Village Parkway.
- **New Animal Shelter and Adoption Center:** in a high-visibility area with direct access to a major arterial roadway.

**Future Need**

- **Special Operations Facility:** to house the Police K9 Section and other special operations units. This need could be fulfilled by renovating the current Animal Shelter after it is vacated.
- **Police Property Building:** evaluate the need for expansion of existing facility.
- **Special Operations & Tactical Equipment Storage:** close to Police Headquarters (in the vicinity of Iron Bridge Road and Route 288) to store specialized equipment and specialized tactical vehicles.
- **Western Midlothian District Station:** This station should be located near Midlothian Turnpike west of Huguenot Road to accommodate growth and development in this area.
- **Enon District Station:** in the vicinity of Interstate 295 and Route 10 to address coverage and service gaps that result from community growth and development.
- **Matoaca District Station:** in the vicinity of Woodpecker and Matoaca Roads to address coverage and service gaps that result from community growth and development.
- **Joint Public Safety Boat Storage Facility.** See Fire/EMS section – construct a storage facility to house the police boat and fire/rescue boat on the James River between the I-295 bridge and Bermuda Hundred area.





## Sheriff's Office Services

### OVERVIEW

The Sheriff's Office protects Chesterfield County residents by providing for the safe and secure detention of persons entrusted to the Sheriff's custody. Though this department has many different functions, this section focuses on the provision of adult detention facilities.

There are two jail facilities that the county uses to detain inmates; the county jail located in the Government Center and the Riverside Regional Jail Authority (RRJA) complex in Prince George County.



As of fiscal year 2017, the county's jail held an average of 306 inmates while an additional 771 inmates were held at the RRJA facility.

As the county's population continues to grow, additional demands on jail space will occur. Between regional agreements with RRJA and the county's local jail facility, there is currently adequate space to house the county's anticipated inmate population.

### RECOMMENDED LEVEL OF SERVICE STANDARDS

- Maintain a minimum jail rated capacity of 250 beds, or up to a level authorized by the Virginia Department of Corrections.
- Maintain the Virginia State Standard for detention cells at 70 square feet per person for the first inmate (single occupancy) and 45 square feet for each additional inmate in a cell.

### RECOMMENDED SITE CRITERIA

Site size and location of new detention facilities is one of the most complex, controversial and potentially capital-intensive planning challenges. Considerable public, political and professional participation is required to ensure an acceptable solution to siting and building new detention facilities. Assuming availability of funds for capital investment, site selection criteria include, but are not limited to, the following suggestions:

- Sites must be of sufficient size to accommodate the detention facility, Sheriff's offices, recreation yards, buffer area and expansion capability.
- Sites must provide surveillance capability, sight and sound separation from the neighboring land uses, and permit the design of a modern facility according to accepted jail practices and standards.
- Sites must be accessible to at least one major arterial road.

### **SHERIFF**

- Future jail facilities should be located as close as possible to the county's courts and Government Center. Sites should be well buffered from adjacent development.

### **ADDITIONAL RECOMMENDATIONS**

- Maintain inter-jurisdictional agreements for use of the Riverside Regional Jail located in Prince George County. Continue the policy of sending inmates to the regional jail in accordance with service agreements.
- Continue to work with judicial system on providing alternatives to incarceration such as the Home Incarceration Program.
- Work with partner agencies such as Mental Health to identify post-incarceration programs for those suffering from mental illness to reduce recidivism.

### **FACILITY RECOMMENDATIONS**

#### **Current Need**

- Continue monitoring jail capacity trends. Conduct jail capacity and planning study.
- In conjunction with the departments of Mental Health Support Services and Social Services, pursue an inmate intake and recovery facility separate from the county jail and within or near-to the Government Center Complex. Facility would house recovery, work release, workforce and weekend confinement programs. Facility should be designed to include an intake area, courts holding area and Magistrate's office and move those functions from the county jail. Facility should also be designed to accommodate post-incarceration programs.

#### **Future Need**

- Evaluate results of planning studies and take appropriate actions.

## Libraries

### OVERVIEW

The Chesterfield County Public Library's (CCPL) mission is to help customers transform information into usable knowledge.

CCPL's 252,000 active card holders (77% of county population) collectively borrow approximately 2.3 million print and digital items, and ask 305,000 questions of library staff each year. In addition to this traditional use and regular day-to-day traffic, CCPL customers also reserve various library meeting room spaces approximately 119,000 times annually for individual and group study, collaborative work, community meetings, or to attend any of the 4,000 high-quality learning programs offered each year. Put into perspective, each county resident, on average, borrows approximately 10.5 items annually, and 47% of card holders actively use dedicated branch library meeting room spaces. CCPL services have expanded beyond their traditional role of only providing access to information and materials. Today, CCPL partners regularly with other county agencies, as well as various community groups, to provide client, group and community meeting space and to support artistic, cultural, informational, social and technical programs and services. The library system also provides critical support during emergency situations and has programs to support economic development and revitalization efforts. With easy access to computer work stations, software tools, e-books and e-catalog, information databases, 3D printers, maker-spaces, arts & crafts tools and wireless internet access; CCPL is a primary source of technology services and resources to county residents, especially those who may lack such access in their homes.



The county's 10 branch libraries are the primary platform for county residents to access library services and resources. According to current data, only one CCPL facility meets the recommended 0.82 square feet per-capita standard. The current system average square foot per capita is 0.5 with half of CCPL's facilities falling below this system average. The lack of properly sized facilities has hindered and will continue to hinder the customer's ability to effectively access library facilities and in turn library services and resources. The following chart shows the correlation between facility size defined by square feet per capita and facility use defined by visits per capita.

General observations indicate that CCPL branches above 0.5 square feet per capita (Bon Air, Central, Ettrick-Matoaca, La Prade, North Courthouse) show a marked (25%) increase in visits per capita when compared to branches that fall below 0.5 square feet per capita (Chester, Clover Hill, Enon, Meadowdale, Midlothian). More specifically, the volume of visits to Midlothian and Bon Air exceeds the size of the facility; while at Clover Hill the population of users within the branch area far exceeds the facility size. In other words, smaller facilities relative to the populations they serve inhibit the customers' ability to access library services and resources.

Public Library Statistics – Fiscal Year 2017*								
Branch	Year Built	Acres	Size (square feet)	Population <sup>1</sup>	Visitors / Capita	Sq Ft / Capita	Needed Sq Ft	Sq Ft Shortfall
Bon Air	1975	3.5	15,000	20,425	9.6	0.73	16,479	-1,749
Central	1977	8.9	29,700	25,699	8.2	1.16	21,073	0
Chester	1996	4.0	15,500	39,961	4.2	0.39	32,768	-17,268
Clover Hill	1994	5.7	15,100	62,174	3.1	0.24	50,983	-35,883
Enon	1992	2.0	4,100	14,493	3.3	0.28	11,884	-7,784
Ettrick-Matoaca	1975	2.5	8,000	15,644	4.0	0.51	12,828	-4,828
La Prade	2001	23.4	20,000	33,491	6.0	0.60	27,463	-7,463
Meadowdale	2008	2.3	20,000	46,217	4.0	0.43	37,898	-17,898
Midlothian	1987	3.8	15,000	34,729	6.0	0.43	28,478	-13,478
North Courthouse	2016	11.6	20,000	35,343	1.6	0.57	28,981	-8,981
<b>Total</b>			<b>162,400</b>	<b>328,176</b>	<b>4.6</b>	<b>0.49</b>	<b>269,104</b>	<b>-106,704</b>

\*Note: All branches except for Central were closed on Thursdays during this period

1: Population derived from housing units nearest by drivetime radius to each branch

2: Facility was only open from January-July 2016

### **RECOMMENDED LEVEL OF SERVICE STANDARDS**

The proposed Level of Service (LOS) standard will meet the needs of the community and is based upon the following two factors:

- Public service standards developed by the Library of Virginia based upon local and regional benchmark data that recommend facility size and service level targets needed to deliver the quality library services CCPL customers expect to receive.
- Professional architectural/engineering standards designed to calculate the right amount of facility square-footage needed to provide and deliver enough library furniture, spaces, technology, collections and services to meet the current and future library needs of the population in each branch geographic area.

When used together, these two factors provide CCPL an effective, verifiable standard to ensure that library facilities are built at the right size and in the right location to provide the right volume of library facilities, services and resources to the local community, today and in the future. The CCPL level of service standard is expressed as follows:

- Provide 0.82 square feet of library floor space per capita, per branch, per area (minimum 20,000 square feet, maximum 40,000 square feet) to accommodate customer demands for meeting room space, collaborative space, learning space, consulting space, stack space, staff space and other library



### LIBRARIES

service space. This standard is supported by the Library of Virginia's benchmark recommendations and is mirrored in national public library benchmark data. This factor is also derived and verified through professional architectural/engineering calculations.

- Provide the right number of facilities in the right locations to allow easy, 10-minute relative drive time access to the greatest number of users by branch location.
- Provide 3 items per capita, 2.5 print items and 0.5 electronic materials.

### **FACILITY TYPES**

To accommodate modern, effective community library needs, along with future demand, the library system recommends establishing and maintaining the following types of library facilities:

**Community Library:** 20,000 square-feet to include a standard print collection (30-50,000 items), large multipurpose meeting room, smaller meeting spaces and specialty learning areas. Layout, furniture and finishes should be tailored to the needs of the community it serves.

**Regional Library:** 35,000-40,000 square feet that includes all features of the community library with additional space for a larger, more comprehensive print collection (60-80,000 items), expanded meeting spaces with more options and equipment, and specialty areas to accommodate equipment and learning tools to support collaborative work. These facilities support community and neighborhood libraries and may also accommodate after-hours access for events on a fee basis.

**Neighborhood Library:** Opportunities may arise to locate library operations in conjunction with other public and/or private facilities (Community Resource Centers) to supplement the above main system facilities. In such circumstances, satellite library facilities of 5,000-7,000 square feet of flexible space may be appropriate and could include limited material collections and services tailored to the needs of the nearby community. Options could include technology focus, print material focus or learning by appointment with a librarian focus. These facilities would be most appropriate in activity centers with walkable access to nearby communities and in support of other community and regional libraries. These facilities should not be developed in place of community or regional facilities.

### **RECOMMENDED SITE CRITERIA**

- Flexibility to site acreage should be provided when considering co-location. Recommended co-location opportunities could include, but need not be limited to, facilities for Schools, Parks, Mental Health/Social Services and/or Fire/EMS. When developed as part of a Community Resource Center, flexibility to site acreage and square-footage should be given to accommodate proposed use of facility by all users.
- New facility sites should have at least 6 acres of buildable area, with consideration for additional acreage to accommodate future expansions.
- Facilities should be located with convenient access to a major arterial road and, if possible, located near two major arterial roads offering both north/south and east/west travel.
- Facilities should include connections to pedestrian, bicycle and public transportation networks where possible.

**FACILITY RECOMMENDATIONS**

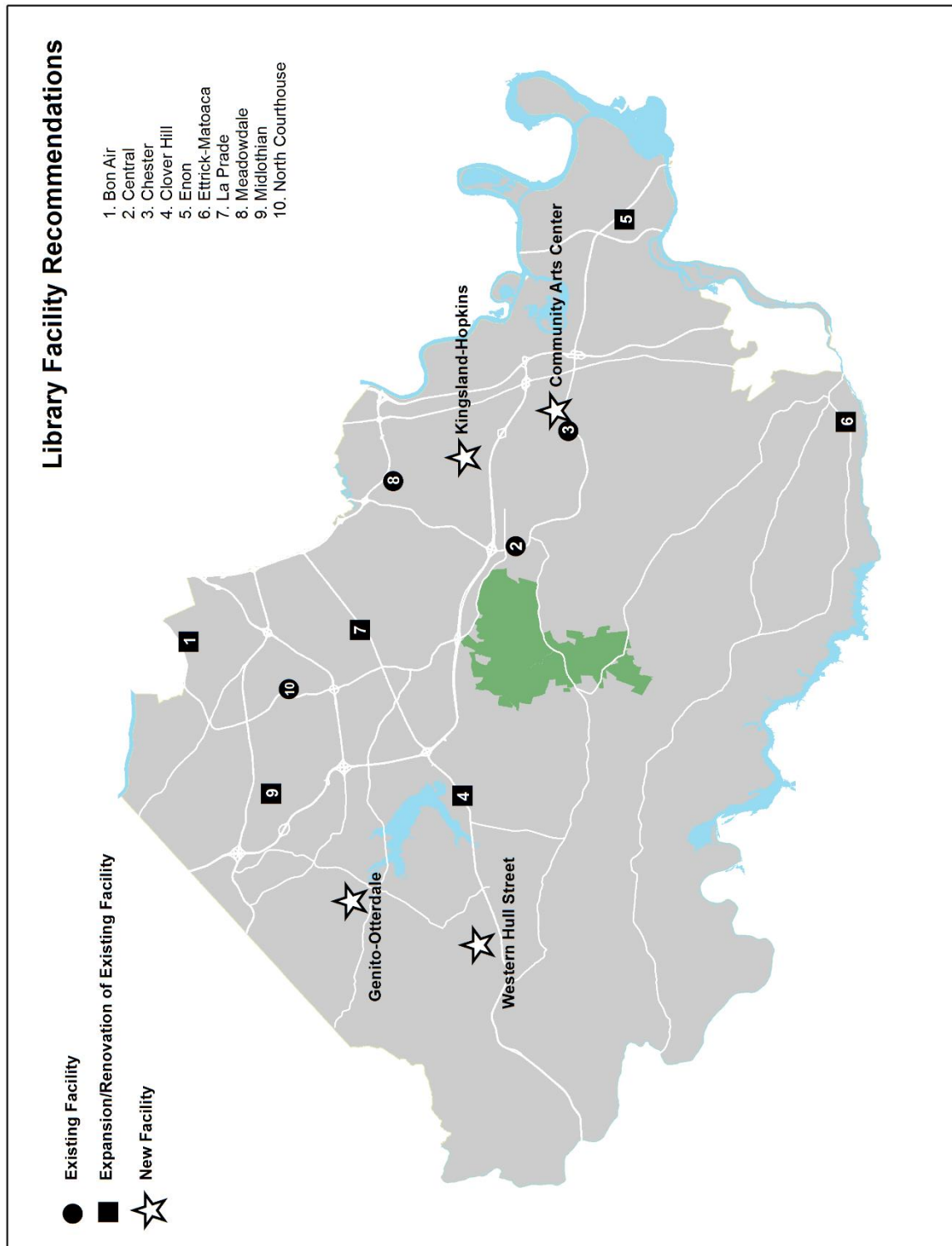
Priority is given to expanding existing libraries to at least 20,000 square feet and expanding others to at least 35,000 square feet over the construction of additional facilities. Expanding existing library facilities or building new facilities from the ground up is preferable to repurposing non-library facilities. Preference should be given to one-story library facilities to avoid increased costs. However, two-story facilities should be considered where site constraints or co-location opportunities are present.

**Current Need**

- **Expand/Replace Midlothian Branch:** expand the current facility to 35,000-40,000 square-feet or what the property will allow. Addresses demand issues related to current population levels and anticipated increases in population in this area of the county.
- **Expand/Replace Clover Hill Branch:** expand the current facility to 35,000-40,000 square-feet or what the property will allow. Addresses demand issues related to current population levels and anticipated increases in population in this area of the county.
- **Expand/Replace Enon Branch:** expand the current facility to 20,000 square-feet or replace with new facility at or near current site. Addresses equity and demand issues related to current population levels and anticipated increases in population in this area of the county.
- **Expand/Replace Ettrick-Matoaca Branch:** replace existing facility with a 20,000 square-foot facility at or near current site. Addresses equity and demand issues related to increases in population anticipated in this area of the county.
- **Community Arts Center:** new facility adjacent to Chester Branch Library. Public-private partnership effort to provide unique event space for programs.
- **Expand/Replace Bon Air Branch:** expand the current facility to 20,000 square-feet or what the property will allow. OR construct new **Robious Branch** facility at 20,000 square-feet at reserved property. Either option would address demand issues in this area of the county.
- **Expand La Prade Branch:** expand the current facility to 35,000-40,000 square-feet or what the property will allow. Addresses demand issues related to anticipated increases in population in this area of the county.

**Future Need**

- **Western Hull Street Branch:** new 20,000 square-foot facility in the vicinity of Otterdale Road and Hull Street Road. Addresses service gap and demand issues related to increases in population anticipated in this area of the county.
- **Genito-Otterdale Branch:** new 20,000 square-foot facility in the vicinity of Genito and Otterdale Roads. Addresses service gap and demand issues related to increases in population anticipated in this area of the county.
- **Kingsdale-Hopkins Branch:** new 20,000 square-foot facility in the vicinity of Kingsdale, Chester and Hopkins Roads. Addresses demand issues in the Chester and Meadowdale branches.



## Public Schools

### OVERVIEW

High performing, high quality public schools contribute to the quality of life and economic vitality of Chesterfield County. The importance of providing school facilities equitably to all county residents is paramount, as is finding ways to plan and adapt to future needs on the basis of anticipated trends in demographics and technology. Additionally, the Comprehensive Plan calls for a greater focus on linking schools with communities by providing greater access, flexible designs and locations that better meet the needs of the communities in which they are located.



In addition to ensuring sufficient and appropriate educational space for our students, it is the responsibility of the school division to properly maintain all facilities and to promote parity and equity among all schools.

Although parity among all schools is desired, the plan recognizes that schools in the county have been built over time in response to school age population demands. As neighborhoods have been approved and emerged, certain areas of the county have created a demand for schools sooner than other areas. As a result, as of 2012, county schools range in age from just under 100 years to just over two years.

This large disparity in facility ages inherently yields newer schools offering more current, and in many cases more advanced, opportunities for students and the communities they serve. The county should strive to create and maintain parity among all schools by either fully modernizing schools on a scheduled basis or replacing the facilities as each reaches the end of its useful asset life.

### **Program (Functional) Capacity**

Chesterfield County Public Schools uses a facility's program capacity to measure facility usage. Program capacity is an industry concept that accounts for the building's design capacity and incorporates classroom space limitations created by various state and federally regulated programs such as Special Education, Title 1 and Headstart. These programs contain certain mandates limiting classroom sizes, reducing available classroom space in the facility. Program capacity figures change on an annual basis depending upon program requirements and state/federal mandates, and do not include temporary trailer space.

### **Design Capacity**

Design capacity is based upon a building's physical size and the amount of classroom space. This figure does not include programming requirements which place limitations on class sizes, reducing the number of students that can be accommodated in individual classroom spaces.

**Elementary Schools**

The county has 38 elementary schools enrolling 26,000 students in kindergarten through 5<sup>th</sup> grade. The county's elementary schools have a combined program capacity of nearly 27,000 students for a systemwide utilization of 96 percent in the 2012-13 school year. Elementary schools enroll an average of 678 students each and are an average of 40 years old. Program capacity and enrollment for individual schools is subject to change. Annually, this information is published in the Capital Improvement Program (CIP) and the school division's Financial Plan.

2012/13 Elementary Schools					
Name	Year Built	Design Capacity	Program Capacity	Enrollment	% of Program Capacity
Alberta Smith	1993	759	693	691	100%
Bellwood	1965	620	502	421	84%
Bensley	1954	640	624	570	91%
Beulah	1928	640	525	609	116%
Bon Air	1962	644	608	618	102%
Chalkley	1962	840	781	852	109%
Clover Hill	1986	759	759	790	104%
Crenshaw	1987	759	720	706	98%
Crestwood	1962	690	628	541	86%
Curtis	1959	966	868	694	80%
Davis	1964	759	588	629	107%
Ecoff	1990	920	838	760	91%
Elizabeth Scott	2007	943	907	835	92%
Enon	1928	621	536	469	88%
Ettrick	1967	680	552	528	96%
Evergreen	1987	1,104	1,026	1,030	100%
Falling Creek	1964	720	584	678	116%
Gates	1983	874	898	733	82%
Gordon	1979	805	753	685	91%
Grange Hall	1922	851	812	764	94%
Greenfield	1975	690	628	609	97%
Harrowgate	1959	640	542	432	80%
Hening	1959	874	841	779	93%
Hopkins	1975	600	528	588	111%
Jacobs Road	1987	759	697	636	91%
M. Christian	1995	820	695	706	102%
Matoaca	1937	500	474	464	98%
Providence	1986	759	651	591	91%
Reams Road	1968	759	615	500	81%
Robious	1970	828	769	688	89%
Salem Church	1970	805	725	559	77%
Spring Run	1999	943	865	804	93%
Swift Creek	1983	759	733	831	113%
Watkins	1966	828	876	1,013	116%
Weaver	1994	759	733	722	98%
Wells	1975	735	710	688	97%
Winterpock	2007	943	917	828	90%
Woolridge	1990	759	720	747	104%
System	1972	29,354	26,921	25,788	96%



**Middle Schools**

The county has 12 middle schools enrolling 14,000 students in 6<sup>th</sup> through 8<sup>th</sup> grades. The county's middle schools have a combined program capacity of 15,200 students for a systemwide utilization of 92 percent in the 2012-13 school year. Middle schools enroll an average of 1,165 students each and are an average of 39 years old. Program capacity and enrollment for individual schools is subject to change. Annually, this information is published in the Capital Improvement Program (CIP) and the school division's Financial Plan.

2012/13 Middle Schools					
Name	Year Built	Design Capacity	Program Capacity	Enrollment	% of Program Capacity
Bailey Bridge	1991	1,725	1,553	1,488	96%
Carver	1997	1,495	1,275	1,059	83%
Elizabeth Davis	2008	1,518	1,284	1,159	90%
Falling Creek	1966	1,403	1,181	1,211	103%
Manchester	1964	1,518	1,319	1,469	111%
Matoaca*	1975	1,702	1,438	1,122	78%
Midlothian	1924	1,449	1,292	1,208	93%
Providence	1968	1,219	1,027	839	82%
Robious	1971	1,541	1,364	1,317	97%
Salem Church	1971	1,288	1,077	829	77%
Swift Creek	1979	1,173	1,021	1,023	100%
Tomahawk Creek	2008	1,518	1,355	1,267	94%
System	1973	17,549	15,186	13,991	92%

\*Matoaca Middle School includes 2 campuses, the data shown here is for the combined campus.

**High Schools**

The county has 11 high schools enrolling 18,700 students in 9<sup>th</sup> through 12<sup>th</sup> grades. The county's high schools have a combined program capacity of 19,600 students for a systemwide utilization of 96 percent in the 2012-13 school year. High schools enroll an average of 1,702 students each and are an average of 30 years old. Program capacity and enrollment for individual schools is subject to change. Annually, this information is published in the Capital Improvement Program (CIP) and the school division's Financial Plan.

2012/13 High Schools					
Name	Year Built	Design Capacity	Program Capacity	Enrollment	% of Program Capacity
Bird	1978	2,254	1,958	1,835	94%
Community	1948	621	547	319	58%
Clover Hill	2010	1,978	1,750	1,781	102%
Cosby	2006	1,978	1,750	2,063	118%
James River	1994	2,346	2,041	1,982	97%
Manchester	1992	2,484	2,119	1,894	89%
Matoaca	2002	1,771	1,524	1,837	121%
Meadowbrook	1963	1,748	1,538	1,630	106%
Midlothian	1984	1,840	1,574	1,406	89%
Monacan	1979	1,886	1,674	1,372	82%
Thomas Dale*	1964	3,082	2,750	2,259	82%
System	1982	22,342	19,579	18,732	96%

\*Thomas Dale's capacity and enrollment figures include the 9<sup>th</sup> Grade Annex (former Chester Middle School). This annex was built in 1941 and has a capacity of 899 students.

#### **OVERALL SYSTEM RECOMMENDATIONS**

- Provide more community-oriented schools that act as neighborhood anchors and support community use of the facilities after school hours.
- Coordinate economic development and revitalization efforts with school revitalization and replacement as one aspect of an overall community revitalization strategy.
- Adequately maintain all facilities including schools, administrative buildings, auxiliary spaces, sports fields, playgrounds and other school division spaces. Maintenance should ensure that all facilities are safe, properly functioning as designed, support learning for students, create efficient and effective working spaces for employees and support community activities.
- Revitalization is a full modernization of the facility which includes extensive renovation to bring the building up to current codes and standards, while enhancing the overall learning environment. This would include replacement of, or upgrades to, building components including handicapped accessibility, HVAC, roof, electrical, windows, flooring, ceiling lighting, and current technology infrastructure and internal reconfiguration of space to support educational programs. Revitalization may include the construction of new space to provide adequate program areas. Also included would be external upgrades and renovations to enhance the appearance and condition of the exterior of the facility to enhance the surrounding community. The goal of facility revitalization is to make an existing facility comparable to a new building.
- Replacement entails building a new school facility either on the same site (preferred) or at a new location within existing attendance boundaries. A school facility would be replaced at the end of its useful life when it becomes more economically attractive in the long term to replace that facility than to continue major repairs or to revitalize it.
- Assess facility needs on the basis of current conditions and enrollment as well as projections of future growth and enrollment.
- Provide modular classroom buildings to temporarily address insufficient student capacity and/or instructional programs such as special needs. Use these structures for temporary (1-3 year) spikes in enrollment and not as permanent classroom space. These temporary structures should be removed from school sites as soon as permanent classroom space is available. Temporary modular classroom buildings should be located on school sites in areas that support instruction and to the extent possible located away from highly visible areas.
- When appropriate, school facilities should be co-located with other public facilities for maximum efficiency. Flexibility to site acreage will be provided when considering co-location.
- Continue to encourage and expand joint-use agreements between school and county agencies for use of school facilities and grounds.
- Encourage private sector cooperation in the acquisition and siting of new school facilities through the acceptance of developer proffers of buildable land suitable for school locations in conjunction with review of development proposals, provided the proffered land has been evaluated through the site selection process.

- Ensure compatibility of land uses adjacent to existing schools and reserved school sites.
- Improve student access and safety by coordinating the construction of roads, sidewalks, bike paths and/or pedestrian trails to and from schools. Extend this linkage to other nearby public facilities such as parks, libraries and community centers.
- When possible, consider using multistory building configurations for new construction and additions to middle schools and high schools to reduce site requirements.

### **RECOMMENDED THRESHOLDS FOR FACILITIES**

Assess system utilization and identify facilities that are, or are projected to be, over capacity.

- Consider whether individual facilities are projected to be over capacity for a temporary (1-3 years) or long-term period. If temporary, use temporary expansion strategies including modular classrooms.
- Base decisions regarding the timing and location of new schools and school additions on a comprehensive analysis of need, fiscal impact, and availability of adequate resources.
- Consider the program capacity level as the threshold to trigger redistricting, building additions and/or new school development according to the following recommendations at the individual school level:

Recommendations at Various School Capacity Levels		
% of Program Capacity	Recommendation	Action
Less than 90%	Monitor capacity levels.	Consider redistricting to capture enrollment from other districts as needed.
91% to 100%	Recommended school capacity.	No action.
101% to 110%	Monitor capacity levels. Determine if enrollment trend is a short-term or long-term occurrence.	1. Redistrict if long-term. 2. Begin planning for additional space needs or new school construction if trend is long-term.
111% to 119%	Approaching threshold capacity. Determine if enrollment trend is a short-term or long-term occurrence.	1. Redistrict. 2. Begin planning for additional space needs or new school construction if trend is long-term.
120% and Over	School is operating over capacity. Determine if enrollment trend is a short-term or long-term occurrence.	1. Redistrict. 2. Expand school capacity. 3. Construct new school.

## Elementary School Recommendations

**New Facilities:** 600 - 750 students (design capacity).

### **RECOMMENDED SITE CRITERIA**

- New facilities should be a minimum of 20 acres.
- Facilities should be located with direct access to at least one collector road.
- Athletic facilities, practice areas and playgrounds provide students and communities with a connection to and sense of identity with school facilities. All schools will be constructed with their own athletic facilities, practice areas and playgrounds. Community access and organized recreational usage of these outdoor facilities is encouraged as appropriate.
- New facilities should be located within residential areas and not along major arterial roads or non-residential areas.

### **FACILITY RECOMMENDATIONS**

#### **2014-2020**

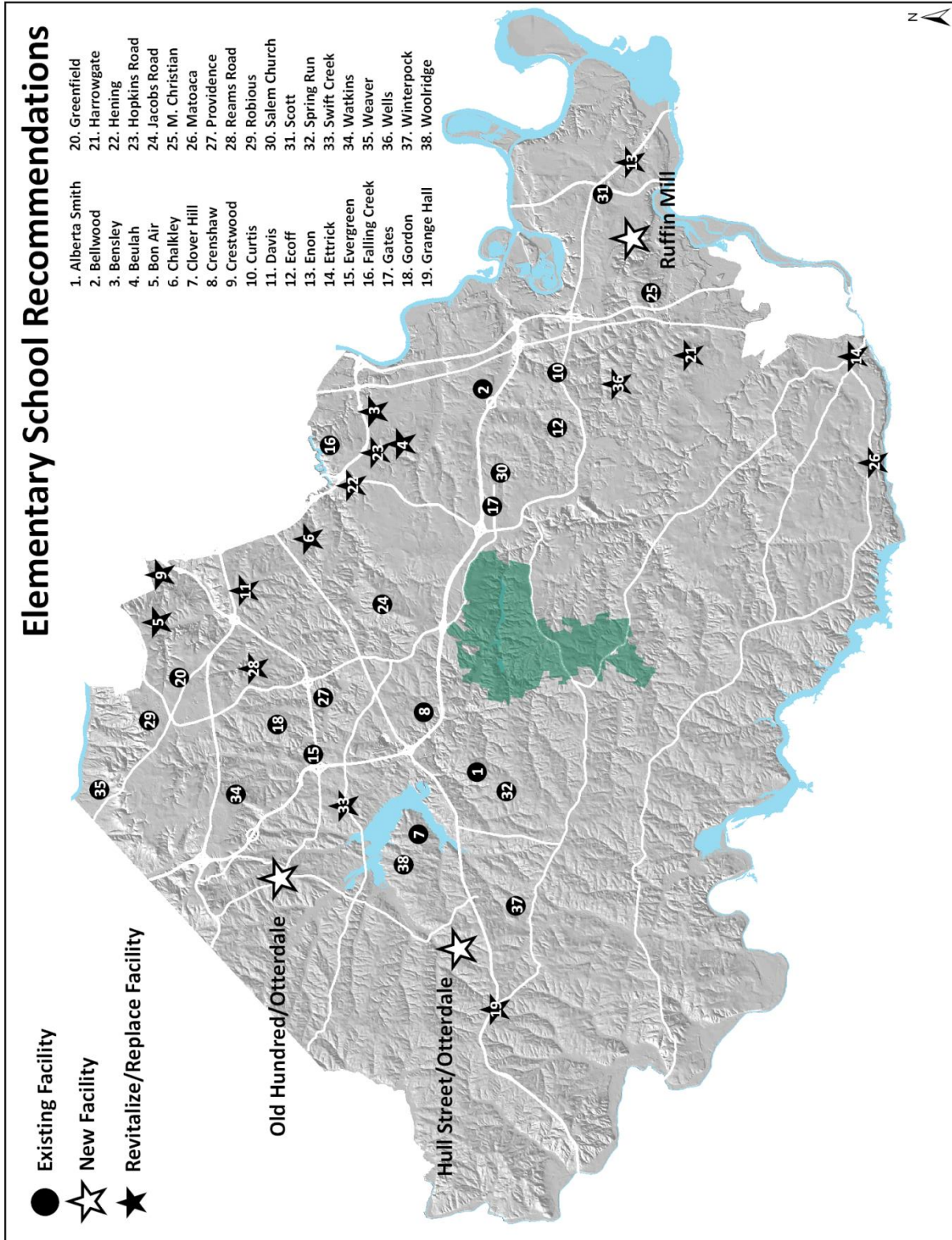
- **Revitalize/Replace:**
  - Beulah
  - Crestwood
  - Enon
  - Ettrick
  - Harrowgate
  - Matoaca
  - Reams
- **New Facility:**
  - **Old Hundred/Otterdale:** in the vicinity of Old Hundred and Otterdale Roads, north of Genito Road and south of Midlothian Turnpike

#### **Post 2020**

- **Revitalize/Replace:**
  - Bensley
  - Bon Air
  - Chalkley
  - Davis
  - Grange Hall
  - Hening
  - Hopkins
  - Swift Creek
  - Wells



- **New Facilities:**
  - **Hull Street/Otterdale:** in the vicinity of Hull Street and Otterdale Roads, east of Skinquarter Road and south of Duval Road.
  - **Ruffin Mill:** in the vicinity of Ruffin Mill Road, Enon Church Road and Ramblewood Drive.



## Middle School Recommendations

- **New Facilities:** 900 – 1,100 students (design capacity).

### RECOMMENDED SITE CRITERIA

- New facilities should be a minimum of 40 acres.
- Facilities should be located with direct access to at least one major arterial road where feasible.
- Athletic facilities, practice areas and playgrounds provide students and communities with a connection to and sense of identity with school facilities. All schools will be constructed with their own athletic facilities, practice areas and playgrounds. Community access and organized recreational usage of these outdoor facilities is encouraged as appropriate.
- New facilities should be located along major arterial roads and not within residential areas.

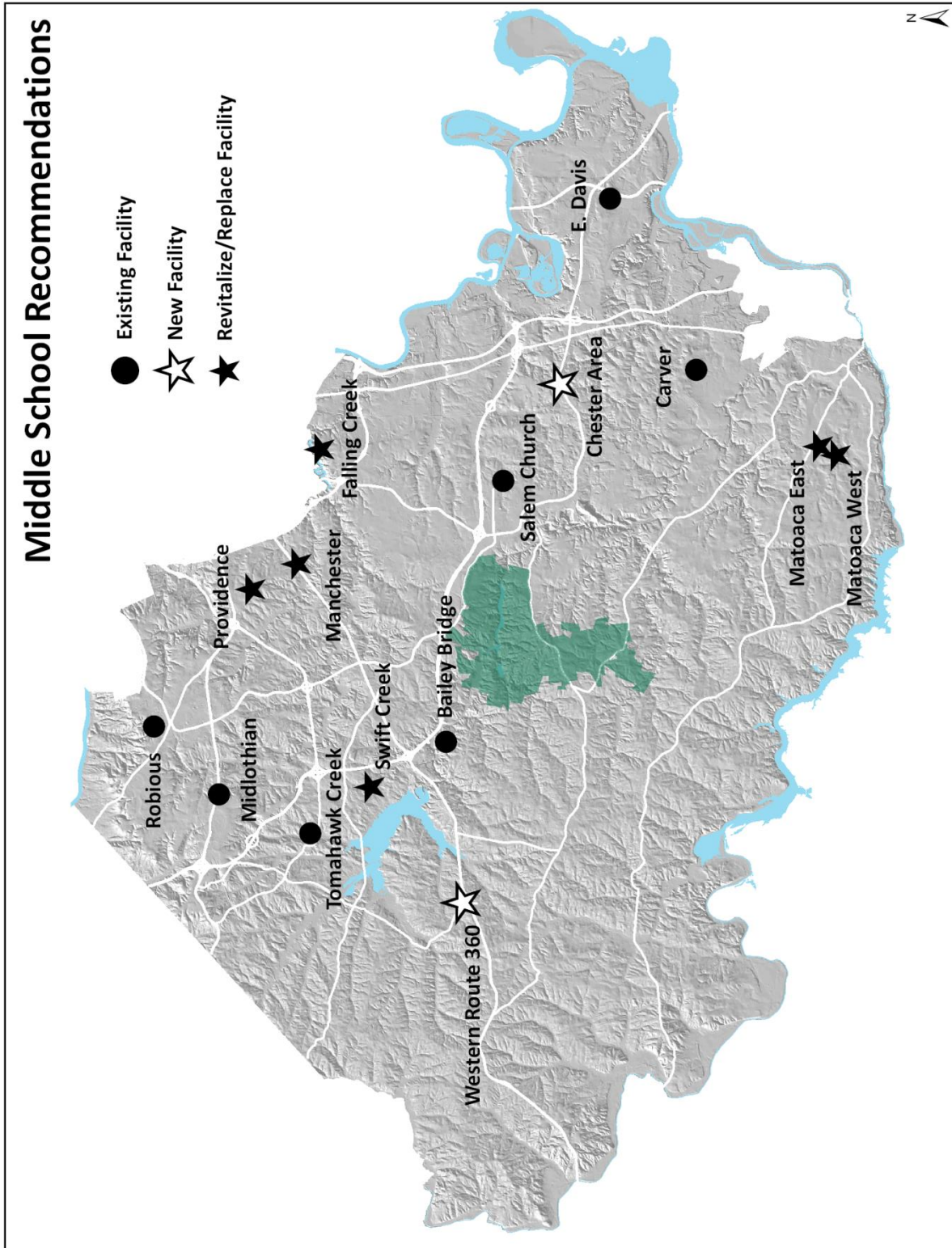
### FACILITY RECOMMENDATIONS

#### 2014-2020

- **Revitalize/Replace:**
  - Manchester
  - Providence

#### Post 2020

- **Revitalize/Replace:**
  - Falling Creek
  - Matoaca East
  - Matoaca West
  - Swift Creek
- **New Facilities:**
  - **Chester Area:** in the vicinity of Chester and West Hundred Roads.
  - **Western Route 360:** in the vicinity of Hull Street and Otterdale Roads.



## High School Recommendations

- **New Facilities:** 1,500 – 1,800 students (design capacity).

### RECOMMENDED SITE CRITERIA

- New facilities should be a minimum of 80 acres.
- Facilities should be located with multiple direct accesses to at least one, but preferably two, major arterial roads.
- Athletic facilities, practice areas and playgrounds provide students and communities with a connection to and sense of identity with school facilities. All schools will be constructed with their own athletic facilities, practice areas and playgrounds. Community access and organized recreational usage of these outdoor facilities is encouraged as appropriate.
- New facilities should be located along major arterial roads and not within residential areas.

### FACILITY RECOMMENDATIONS

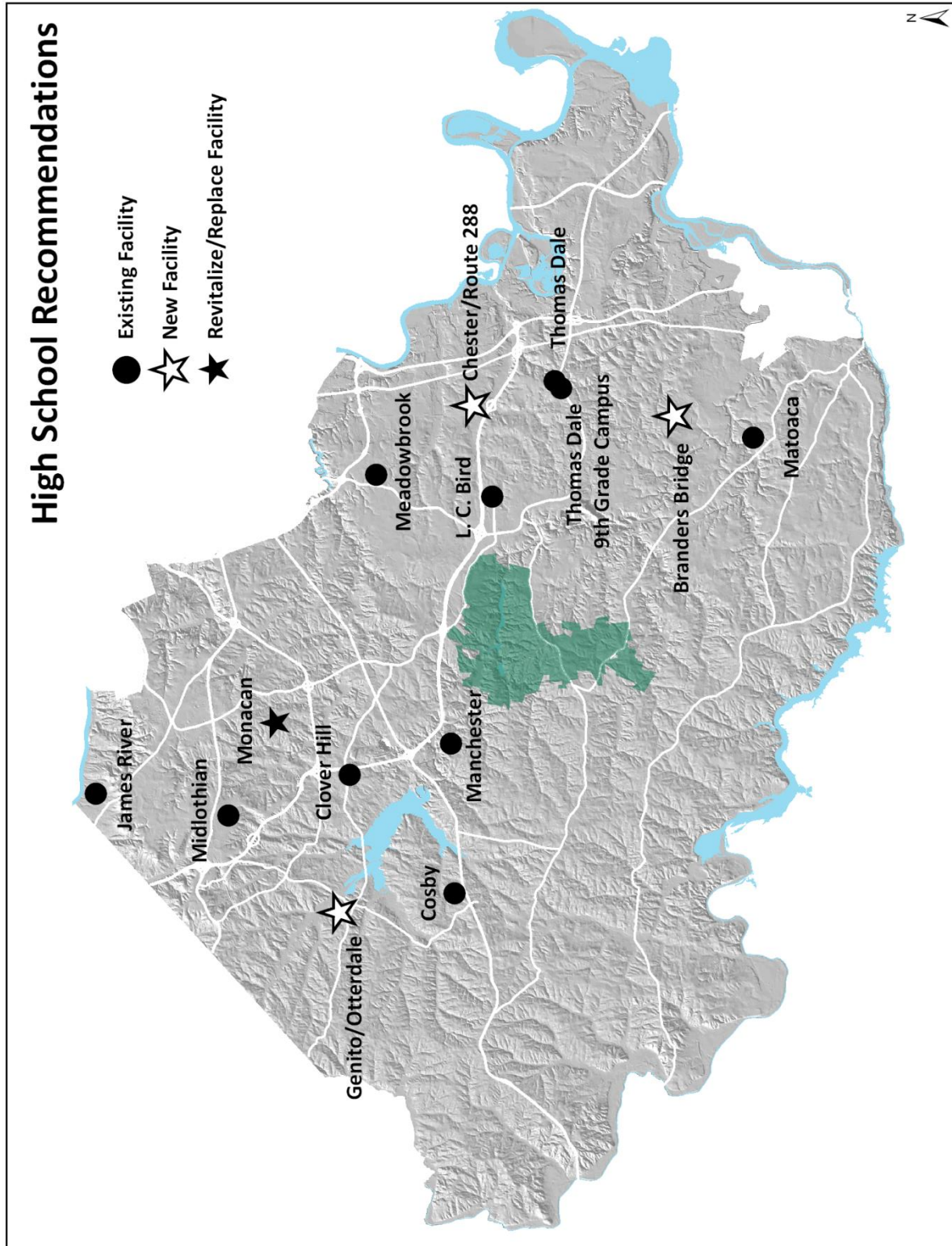
#### 2014-2020

**Note:** With the exception of Monacan High School, all high schools in the county have been renovated, replaced, or newly constructed within the past 15 years. To provide all students with equity of opportunity and parity of programs and facilities, Monacan needs to be modernized as funding becomes available.

#### Post 2020

- **Revitalize/Replace:**
  - Monacan
- **New Facilities:**
  - **Branders Bridge:** in the vicinity of Branders Bridge, Bradley Bridge and Iron Bridge Roads north of Swift Creek.
  - **Genito/Otterdale:** in the vicinity of Genito and Otterdale Roads northwest of Swift Creek Reservoir.
  - **Chester/Route 288:** in the vicinity of Chester Road and Route 288 north of Route 10.





## Career and Technical Education

Career and technical education plays an important role in the county's economic competitiveness. High-quality career and technical education enhances economic development opportunities and supports the workforce training needs of existing businesses. Graduates of these programs provide skills needed by employers in the county and region.

Chesterfield County Public Schools is committed to providing career and technical educational facilities that accommodate student demand and promote the development of skills required by current and future businesses by:

- Preparing students for the world in which they live and work.
- Meeting the demand for well-trained, industry certified workers.
- Providing career and technical courses that are current and relevant to industry needs.
- Collaborating with business and industry to support vocational programs.

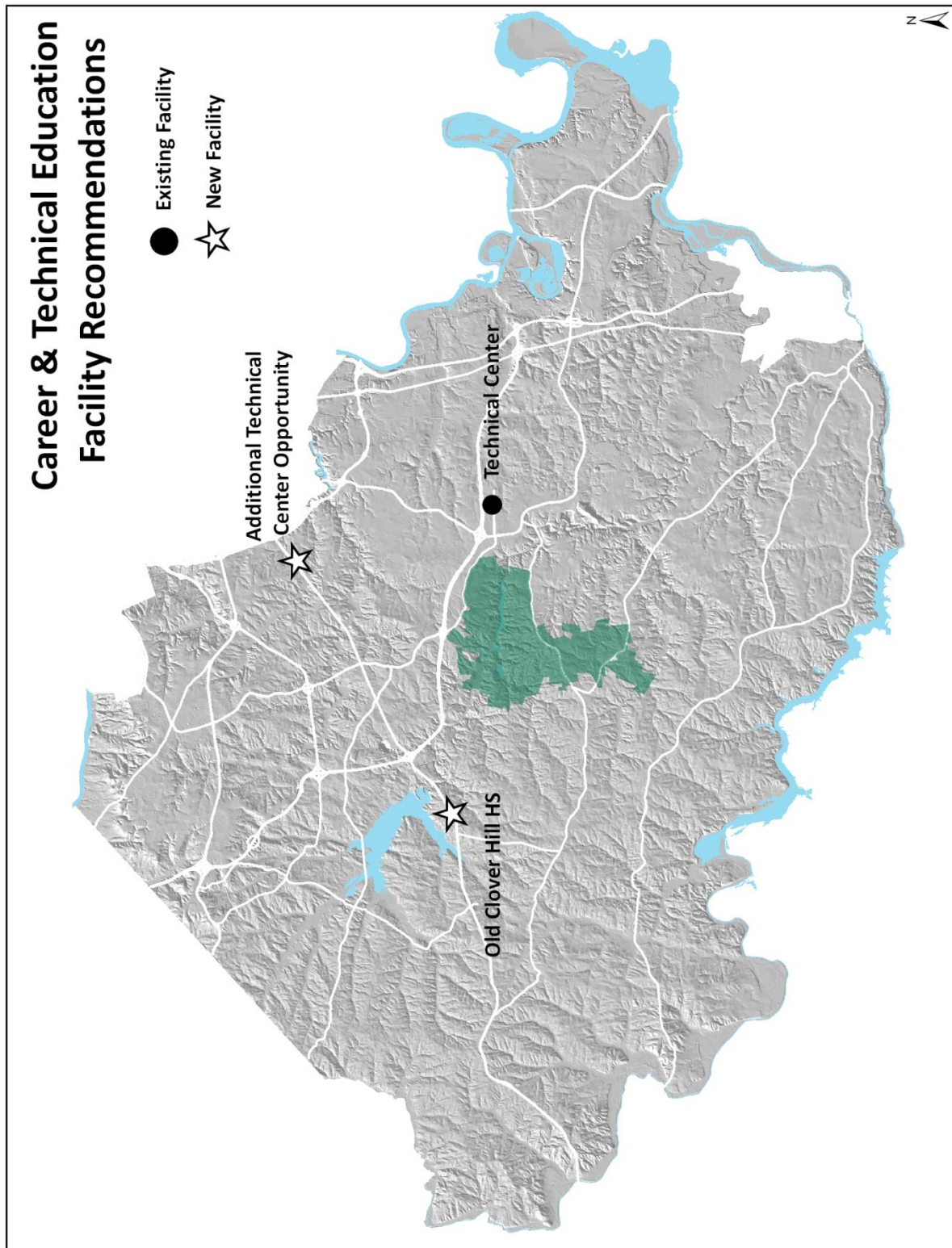
### **FACILITY RECOMMENDATIONS**

- **Old Clover Hill High School:**

- Revitalize for a career and technical education facility.
- Long term, as commercial growth and development continues in this area, re-examine the use to consider whether continued public use or alternative uses would be appropriate. Should it be determined in the future that alternative uses are appropriate, explore options to sell a portion of the property for private use(s) that would be compatible with continued public use of the athletic fields and the best management practice teaching facility.

- **Additional Technical Center Opportunity:**

- This facility should be located in the vicinity of Chippenham Parkway and Hull Street Road to complement revitalization efforts in the area.



#### **ALTERNATIVE SCHOOL SETTINGS**

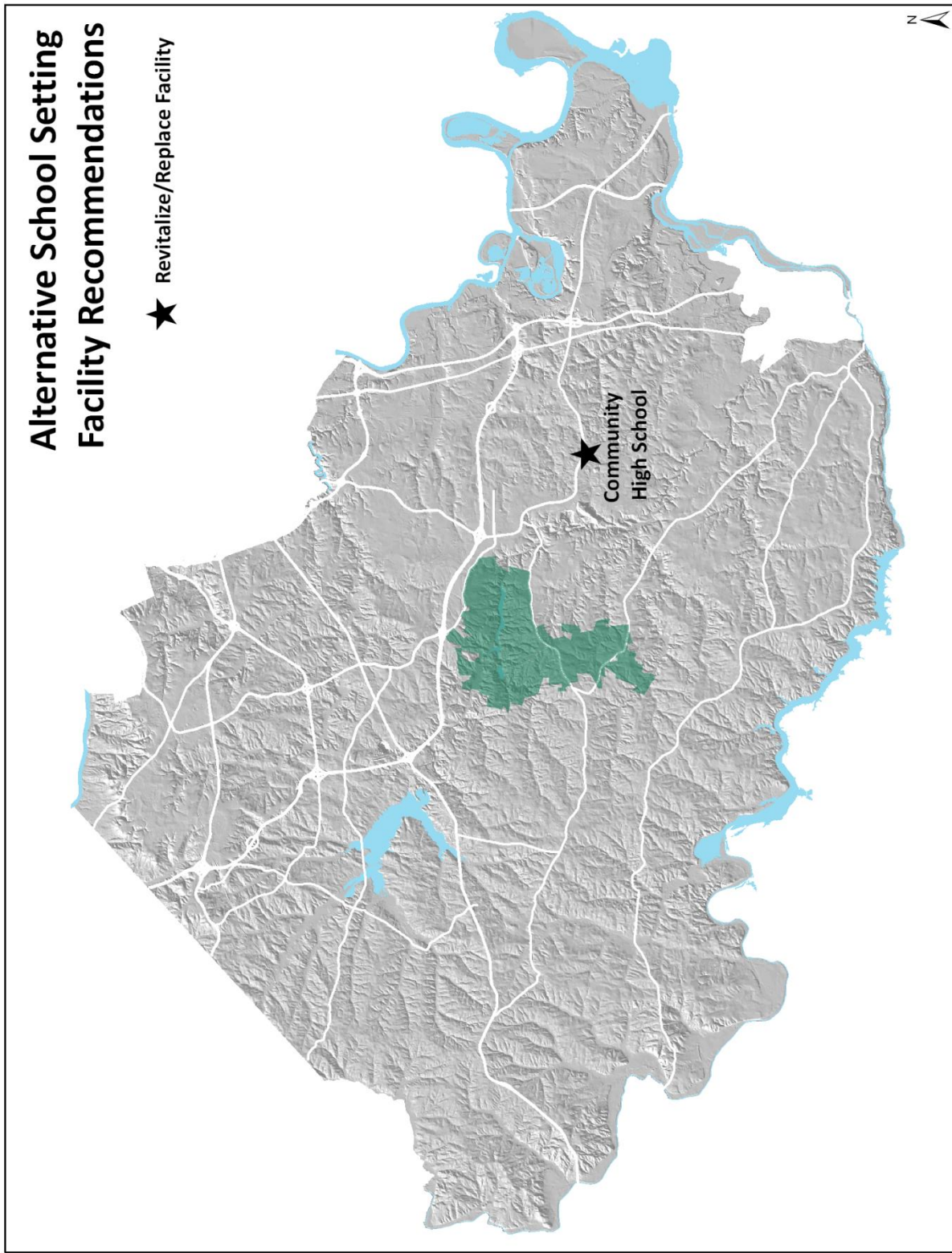
Alternative schools provide educational opportunities in facilities established and oriented to enhance learning in unique and creative ways. Such may occur in facilities shared with more traditional programs, or may be provided in separate facilities. Virtual learning is a vital component of 21<sup>st</sup> century education. Virtual schools and facilities that promote opportunities for students along with public and private partnerships should be encouraged when possible.

#### **FACILITY RECOMMENDATION**

##### **Post 2020**

- **Revitalize/Replace:**
  - Community High School







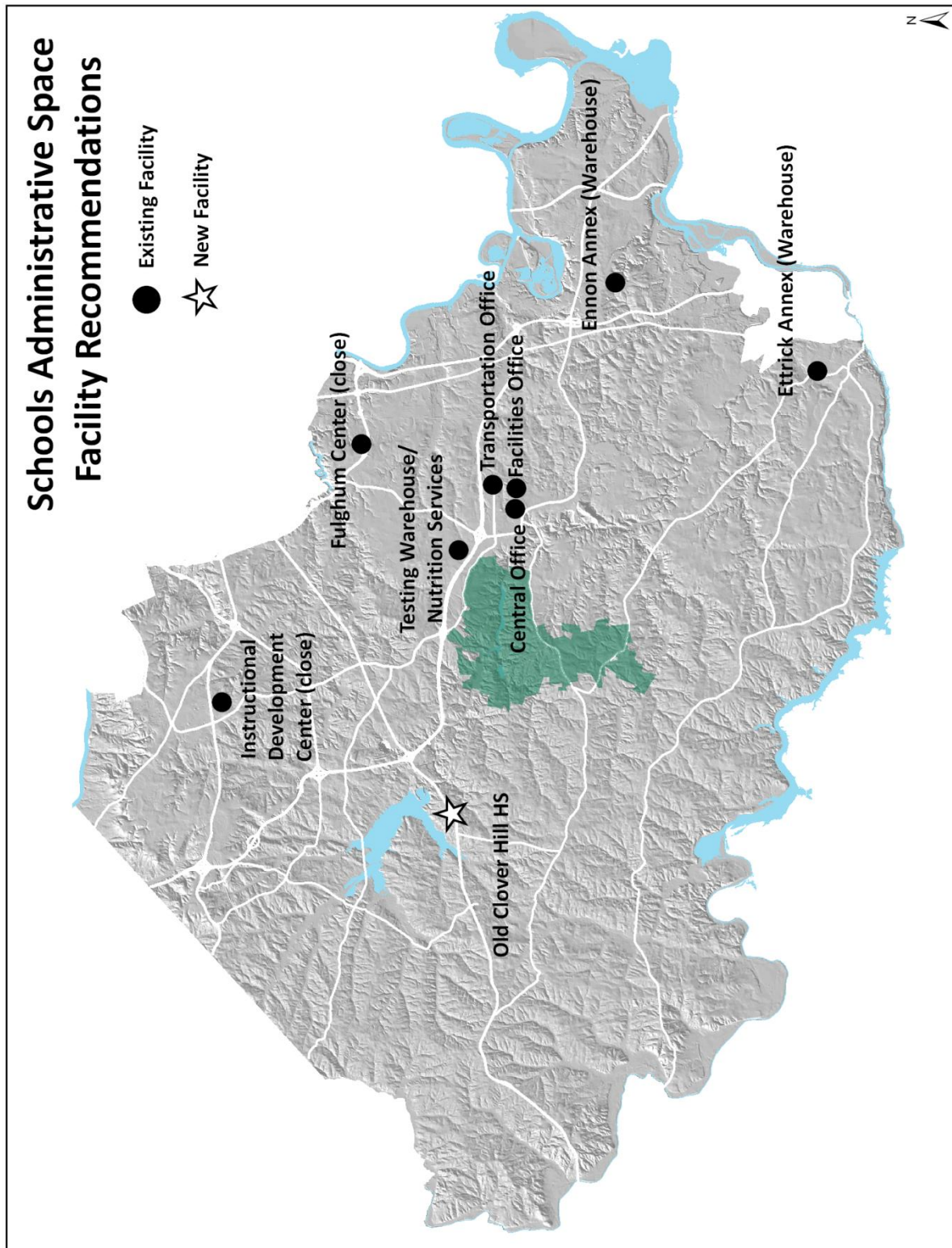
## Administrative Space

Provide administrative facilities for employees and work functions that support the efficient provision of a high quality educational system in the county.

### **FACILITY RECOMMENDATION**

#### **2014-2020**

- **Consolidation**
  - Consolidate administrative operations at the Fulghum Center and the Instructional Development Center at Old Clover Hill High School.
  - Long term, as commercial growth and development continues in this area, re-examine the use to consider whether continued public use or alternative uses would be appropriate. Should it be determined in the future that alternative uses are appropriate, explore options to sell a portion of the property for private use(s) that would be compatible with continued public use of the athletic fields and the best management practice teaching facility.



## Parks & Recreation

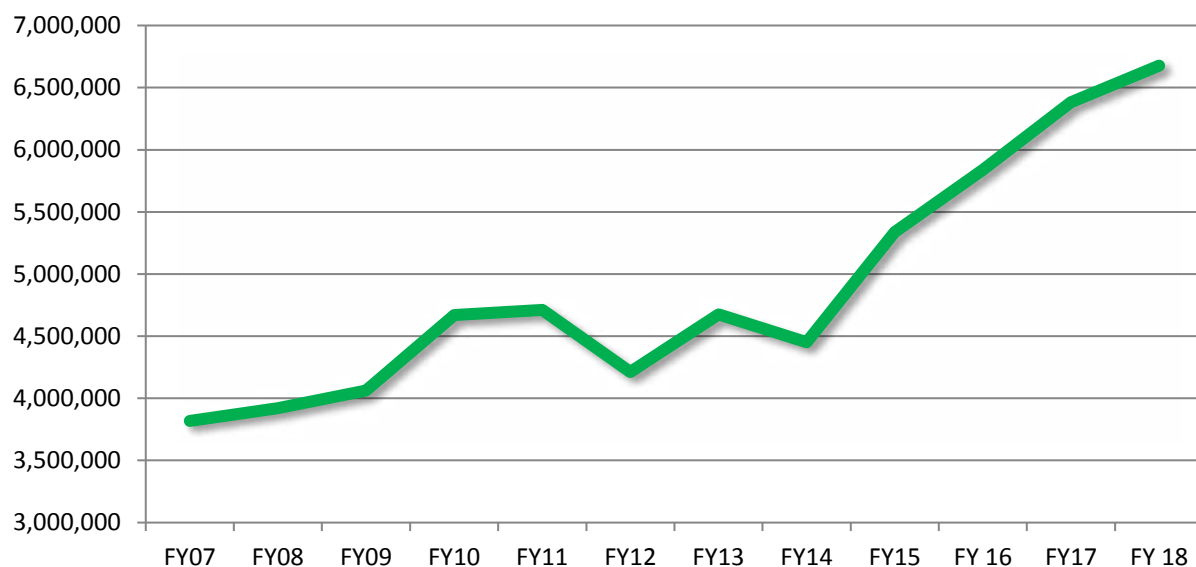
### OVERVIEW

The Chesterfield County Parks and Recreation Department provides a high-quality park system that meets the needs of residents and visitors in all stages of life through a balanced provision of active and passive recreation opportunities. Public parks serve a variety of cultural, recreational, educational, historical and natural functions, and are an important component of a high quality of life. In addition, the county park system promotes tourism through sports tournaments and other events, providing revenue for government services, local businesses and supporting economic development. The Public Facilities Plan focuses on planning for an appropriate level of service through acquisition and development of park lands and facilities in partnership with the school system, private foundations and public-private partnerships.



The county's park system contains approximately 5,100 acres of various park types with 6.7 million visitations in fiscal year 2018. In fact, visitation to the county's park system has increased at a greater rate than population growth (84% versus 32%) between fiscal years 2000 and 2017. Trail users reached 589,000 in fiscal year 2018 for 13 parks with trails. Increased visitation is partly the result of improved counters and the addition of River City Sportsplex in FY 17. Regional, community and neighborhood parks comprise 2,600 acres (49%) of the county's total parklands, or 6.8 acres per 1,000 persons in 2017. These parks are home to a variety of active (athletic facilities and playgrounds) and passive (trails, open space) facilities. The remaining 2,600 acres (50%) are special purpose parks that provide access to unique

**County Park System Visitation by Fiscal Year**



### **PARKS**

recreational, cultural, historical or environmental resources. Much of the park system is over 25 years old and many facility components, such as lighting, fencing, court and parking surfaces, irrigation and building systems (such as roofs, HVAC, plumbing/electrical) are reaching the end of their service life and will require major renovation/replacement.

In addition to the local park system, the county is home to Pocahontas State Park (the largest state park in Virginia with nearly 8,000 acres), and Presquile National Wildlife Refuge, Parker's Battery and Drewry's Bluff National Battlefield Park (federal facilities). The Virginia Outdoors Plan, produced by the Department of Conservation and Recreation, informed the park recommendations. This statewide document is updated every five years and provides survey findings and trend analysis related to park and recreation issues including sports, water access and trails.

Indoor recreation space is currently 0.68 square feet per person, a shortfall of approximately 24,000 square feet. Current facilities include existing school facilities; Ettrick, Bensley and Stonebridge Recreation Centers; along with limited lease agreements with private entities and churches.

### **SYSTEMWIDE RECOMMENDATIONS**

- The *Parks and Recreation Master Plan* should be updated with the Comprehensive Plan to enhance and provide further guidance to the general recommendations outlined in the Public Facilities Plan. This effort should be adopted by the Board of Supervisors.
- Where buffers, viewsheds or facilities are needed, acquire land or easements adjacent to existing park facilities.
- Where appropriate, expand existing park sites to meet level of service standards and functional requirements.
- A system of linear parks and trails should be promoted to provide non-motorized recreational opportunities. These facilities should connect county parklands as well as business areas and neighborhoods. The Transportation and Bikeways & Trails chapters provide additional information regarding these facilities.
- Develop and maintain high-quality and accessible park facilities for users of all ages and abilities.
- Improve access to the county's blueways (water trails on navigable streams and other water bodies) by acquiring easements and properties along major waterways.

### PARKS

- Promote the park system as an educational resource for healthy lifestyles, natural, cultural, historical and environmental awareness, supporting social interactions/events and promoting tourism and other economic development efforts.
- Parklands should generally be acquired at least five years prior to the expected opening of the phase one park facility. Parkland acquisition and facility development may occur prior to recommended facility timing.
- To the greatest extent practicable, parks should be co-located with compatible public and private facilities according to park type and should be in close proximity to current or planned residential areas. Special purpose parks are well suited to be located with other park types, and combination sites are encouraged where appropriate.
- Partner with the private sector, where appropriate, to develop park sites and facilities within developments that complement the development and serve community needs.
- Improve access to and within the park system for a variety of transportation options, including driving, biking and walking. Improve internal signage and wayfinding within the parks system to assist visitors.
- Renovate, replace and improve the park system with additions and enhancements to address shortfalls in service. Priority should be given to safety and code improvements.
- Evaluate each park at least every 10 years to ensure that the facilities and amenities are meeting the needs of the community in that area. Repurpose underutilized facilities to align with community needs.
- Support Community Resource Centers concept where parks may operate an indoor recreation facility outright, or be a partner in a facility operated primarily by another agency such as libraries or mental health/social services.



### **SYSTEMWIDE LEVEL OF SERVICE STANDARDS**

**Provide 9 acres of Regional, Community and/or Neighborhood parkland per 1,000 persons.**

**Provide 0.75 square feet of recreational center/indoor space per person.**

The park system is divided into five park classes; Regional, Community, Neighborhood, Urban and Special Purpose. Sites may be owned or leased. Use of school grounds augments community park needs. Recreational center/indoor space includes shared use facilities within the public school system, county-owned facilities and privately-owned facilities with formal use arrangement with the county.

Calculation of parkland meeting the overall Level of Service standard excludes state and national parks and includes 1) recreational facilities co-located at schools, 2) private sites with formal use agreements and 3) portions of special purpose parks that meet basic criteria for neighborhood and



### PARKS

community park types. Parkland targets are 4 acres/1,000 persons for regional parks, 3 acres/1,000 persons for community parks and 2 acres/1,000 persons for neighborhood parks.

Pocahontas State Park acreage is not counted in county parkland figures. However, individual facilities located within the park are used towards meeting facility demands and level of service in the more specific recommendations found in the Parks & Recreation Master Plan.

The county is home to many private and commercial recreational sites that provide unique or general recreation to their paying customers. These include sports leagues, neighborhood pools and recreation areas, trails, playgrounds, gymnasiums and sports parks. Collectively, these facilities complement the county park system and offer unique, local recreation opportunities.

### Regional Parks

#### GENERAL CRITERIA

- **Size:** 100 acres or greater
- **Service Radius:** 5 miles
- **Drive Time:** 15 minutes

#### RECOMMENDED SITE CRITERIA

- Should be located on large tracts of land with direct access to an existing or proposed major arterial road.
- Park configuration should generally assign 40% to active athletic uses, 20% to picnicking, court games and playgrounds, and 40% to natural areas with trail and other related uses.
- Each regional park may contain the following core amenities: hard surface accessible routes to all principle facilities; picnic shelter with amenities and central to core activity areas; playground with age appropriate facilities grouped together and incorporating universal access features; diamond and rectangular athletic fields and court games; a soft surface and paved multi-use pathway system; an open grass play area (unstructured, not assigned); and a special use or theme-based amenity that makes the park unique in the county park system.
- Should include land suitable for accommodating as many of the following recreation activities and facilities as determined by needs in the surrounding community: diamond fields for baseball/softball and other sports that can use this type of field configuration; rectangular fields for football, lacrosse, field hockey and soccer along with other sports that can use this type of field configuration; courts for tennis, basketball, pickleball and other sports that can use this type of court configuration; lighting of fields and courts; parking; spectator facilities; restrooms/concession buildings; playgrounds; boating access to rivers, streams and lakes; picnic shelters and areas; bicycle, fitness and walking trails; general non-structured open space for outdoor activities and events, ornamental and produce gardens; nature trails, centers and other specialized recreation compatible with the park and surrounding neighborhoods.



### **PARKS**

- Recreation centers may be located within regional parks. Such centers may include multi-purpose rooms, gymnasium(s), kitchen, game room, arts and crafts facilities, classrooms, restrooms, auditoriums, fitness and/or other activities/spaces that meet the needs of county residents.
- Regional parks should be co-located with school facilities where possible and be open to the public during non-school hours. Continue shared-use agreements with public schools for use of school outdoor athletic fields and indoor spaces such as gymnasiums and classrooms for public park use.

### **FACILITY RECOMMENDATIONS**

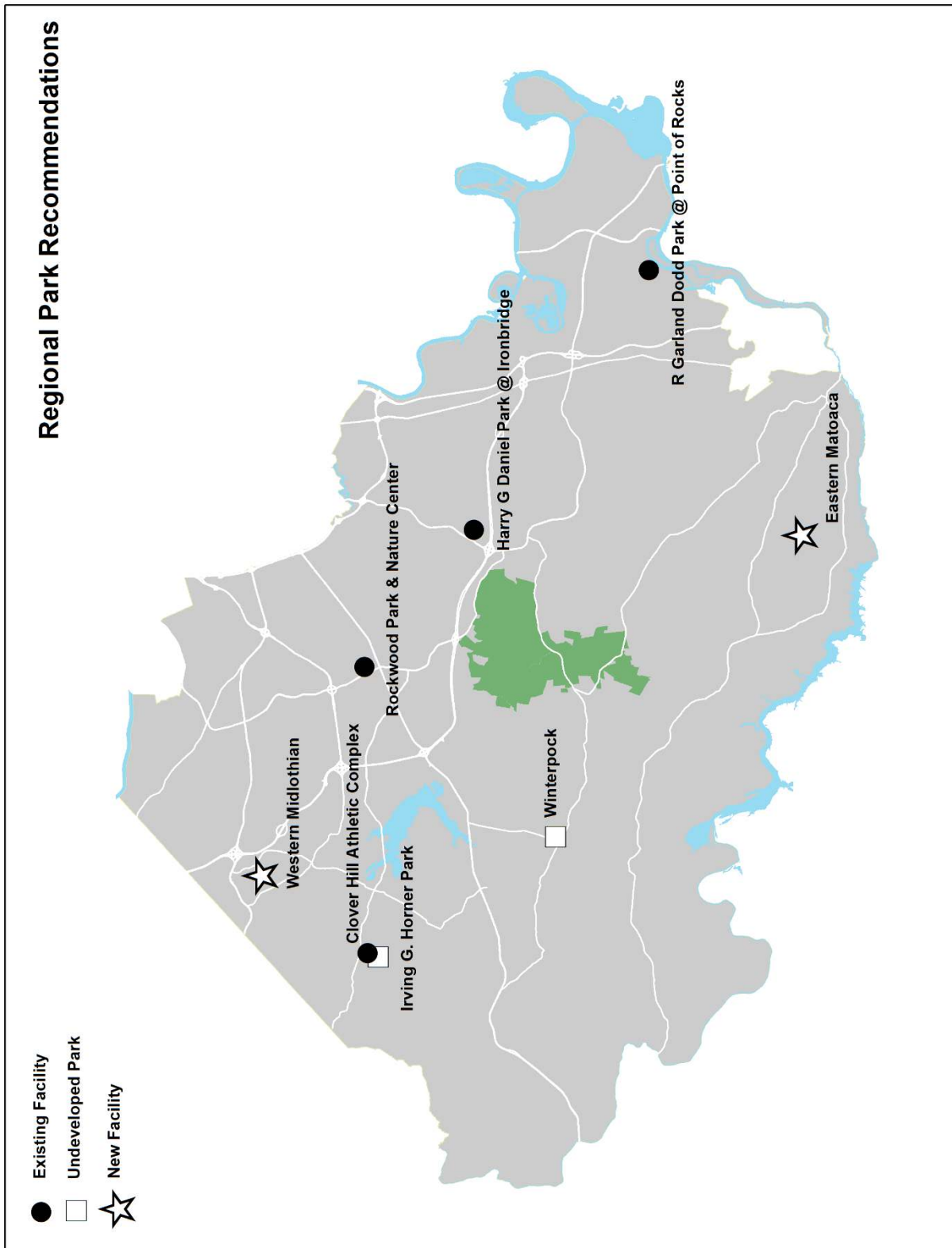
#### **Current Need**

- **Winterpock Area:** in the vicinity of Hull Street, Winterpock and Beach Roads. Property acquired.

#### **Future Need**

- **Western Midlothian Area:** in the vicinity of Route 288 north of Powhite Parkway and south of Midlothian Turnpike. If sufficient acreage not found, at least two Community Parks could be substituted.
- **Eastern Matoaca Area:** between River and Woodpecker Roads east of Nash Road.

**PARKS**



**PARKS****Community Parks****GENERAL CRITERIA**

- **Size:** 21 – 99 acres
- **Service Radius:** 3 miles
- **Drive Time:** 10 minutes

**RECOMMENDED SITE CRITERIA**

- Should be located on land with direct access to an existing or proposed major arterial or collector road.
- Park configuration should generally assign 30% to active athletic uses, 40% to picnicking, court games and playgrounds, and 30% to natural areas with trails and other related uses.
- Each community park may contain the following core amenities: hard surface accessible routes to all principle facilities; picnic shelter with amenities and central to core activity areas; playground with age appropriate facilities grouped together and incorporating universal access features; diamond and rectangular athletic fields and court games; a soft surface and paved multi-use pathway system; an open grass play area (unstructured, not assigned); and a special use or theme-based amenity that makes the park unique in the county park system.
- Should include land suitable for accommodating the following recreation activities and facilities as determined by needs in the surrounding community: diamond fields for baseball/softball and other sports that can use this type of field configuration; rectangular fields for football, lacrosse, field hockey, soccer fields and other sports that can use this type of field configuration; courts for tennis, basketball, pickleball and other sports that can use this type of court configuration; lighting of fields and courts; parking; spectator facilities; restrooms/concession buildings; playgrounds; boating access to rivers, streams and lakes; picnic shelters and areas; bicycle, fitness and walking trails; general non-structured open space for outdoor activities and events, ornamental and produce gardens; nature trails, centers and other specialized recreation compatible with the park and surrounding neighborhoods.
- Recreation centers may be located within community parks. Such centers may include multi-purpose rooms, gymnasium(s), kitchen, game room, arts and crafts facilities, classrooms, restrooms, auditoriums, fitness areas and/or other activities/spaces that meet the needs of county residents.
- Community parks should be co-located with school facilities where possible and be open to the general public during non-school hours. Continue shared-use agreements with schools for use of outdoor athletic fields and indoor spaces such as gymnasiums and classrooms for public park use.

#### FACILITY RECOMMENDATIONS

##### *Current Need*

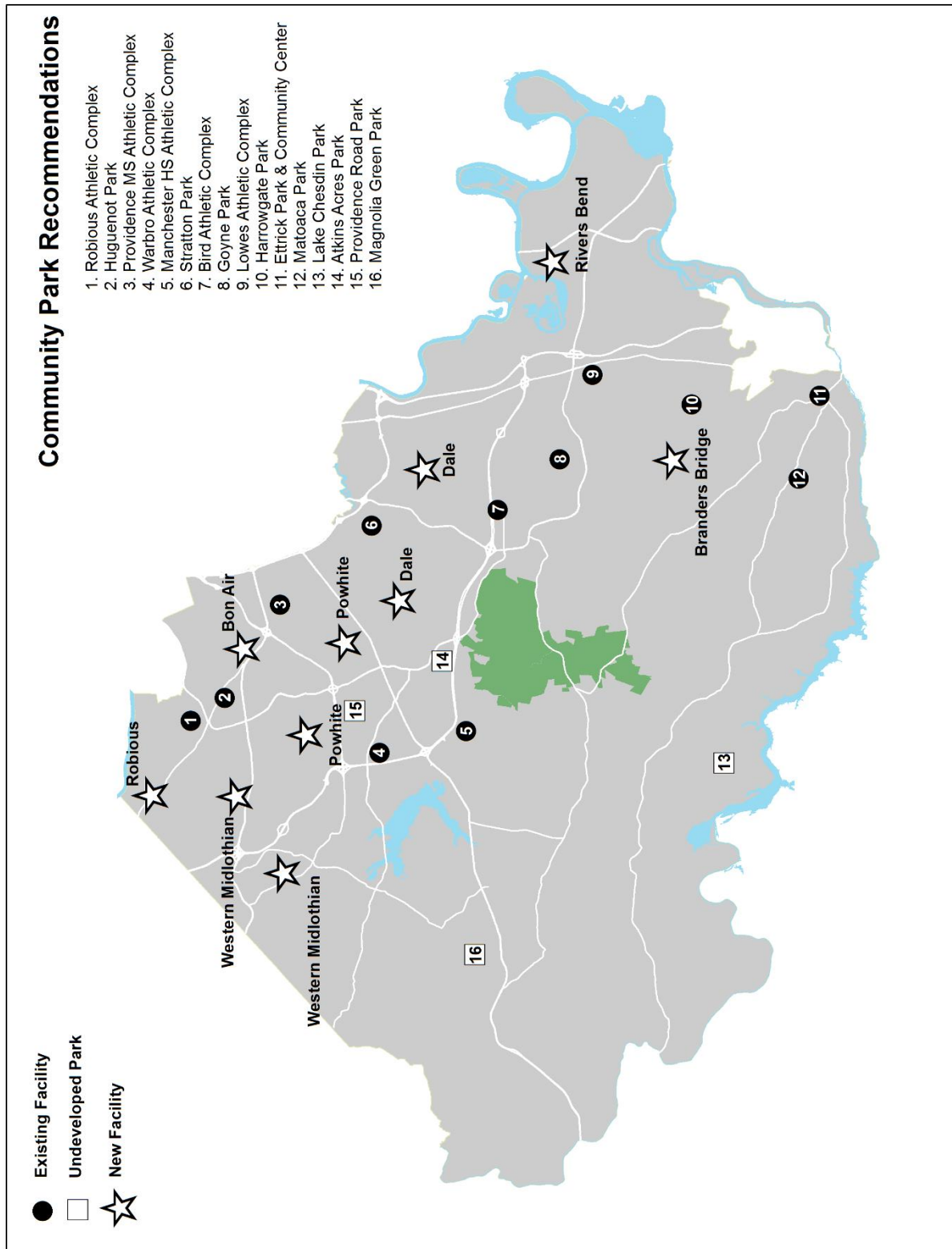
- Develop properties already acquired for community park use, such as Atkins Acres, Magnolia Green and Providence Road.

##### *Future Need*

- **2 Parks, Western Midlothian Area:** in the vicinity of Old Hundred Road, and Route 288. *Note: one Regional Park could be substituted for these park facilities.*
- **2 Parks, Dale Area:** in the area bounded by Hull Street Road, Route 288, CSX Railroad and county boundary.
- **1 Park, Rivers Bend Area:** in the area east of Interstate 95 and south of Dutch Gap Conservation Area.
- **1 Park, Branders Bridge Area:** in the vicinity of Branders Bridge and Bradley Bridge Roads north of Woodpecker Road.
- **1 Park, Robious Area:** generally north of Robious Road west of Huguenot Road.
- **2 Parks, Powhite Parkway Area:** generally east of Route 288, north of Hull Street Road and south of Midlothian Turnpike.
- **1 Park, Bon Air Area:** generally north of Midlothian Turnpike, south/east of Huguenot Road.



PARKS



**PARKS****Neighborhood Parks****GENERAL CRITERIA**

- **Size:** 5 – 20 acres
- **Service Radius:** 1.5 miles
- **Drive Time:** 5 minutes

**RECOMMENDED SITE CRITERIA**

- Should be located on land with direct access to an existing or proposed collector road and adjacent or in the vicinity of existing or planned residential areas.
- Park configuration for active athletic uses, picnicking/court games and natural areas and other related uses should be customized to site and community need.
- Each neighborhood park should include selected recreation activities and facilities, customized to community context as follows: diamond fields for baseball/softball and other sports that can use this type of field configuration; rectangular fields for football, lacrosse, field hockey, soccer and other sports that can use this type of field configuration; courts for tennis, basketball, pickleball and other sports that can use this type of court configuration; lighting of fields and courts; parking; spectator facilities; restrooms/concession buildings; picnic shelters and areas; playgrounds; boating access to rivers, streams and lakes; bicycle, fitness and walking trails; general non-structured open space for outdoor activities and events, ornamental and produce gardens; nature trails, centers and other specialized recreation compatible with the park and surrounding neighborhoods.
- Neighborhood parks should be co-located with school facilities where possible and be open to the public during non-school hours. Continue shared-use agreements with schools for use of outdoor athletic fields and indoor spaces such as gymnasiums and classrooms for public park use.
- Recreation centers may be located within neighborhood parks. Such centers may include multi-purpose rooms, gymnasium(s), kitchen, game room, arts and crafts facilities, classrooms, restrooms, auditoriums, fitness areas and/or other activities/spaces that meet the needs of county residents.

**FACILITY RECOMMENDATIONS**

**Countywide:** Neighborhood parks supplement Regional and Community parks. Development proposals, where appropriate, should include Neighborhood park sites and facilities that complement the development and serve public needs.

**Current Need**

- **Cogbill Road Park:** in the vicinity of Cogbill Road west of Route 10 and east of Belmont Road, part of the Cogbill Conservation Area.
- **Robious:** vicinity of Robious Road and Twin Team Lane.

### PARKS

- **Old Hundred/Otterdale:** in conjunction with construction of new elementary school.
- **Western Hull Street Road:** in the area north of Hull Street Road, south of Duval Road and west of Otterdale Road.

#### Future Need

- **Duval Road:** in the area north of Duval Road west of Otterdale Road, and generally south of Horsepen Creek.
- **Mt. Hermon Road:** in the vicinity of Mt. Hermon Road and Old Hundred Road south of Midlothian Turnpike.
- **Western Route 360 1:** in conjunction with construction of a new elementary school.
- **Western Route 360 2:** in conjunction with construction of a new middle school.
- **Chester Area:** south of Route 10 within village core area.
- **East Genito:** vicinity of Genito Road and Bailey Bridge Road south of Hull Street Road and west of Courthouse Road.
- **Harrowgate/Happy Hill:** vicinity of Harrowgate Road and Happy Hill Road intersection.
- **South Route 1:** vicinity of Route 1 and Harrowgate Road intersection.
- **Ramblewood:** vicinity of Ramblewood Drive, south of Route 10 and east of Woods Edge Road.
- **Southeast:** vicinity of Point of Rocks Road and Route 10 east of I-295.
- **Matoaca Village:** vicinity of River Road and Pickett Avenue.

### URBAN PARKS

#### GENERAL CRITERIA

- **Size:** 0.5 to 5 acres (or larger)
- **Service Radius:** 1.5 miles
- **Drive Time:** NA
- Serve areas where larger park acreage is difficult to acquire and where smaller parks can enhance existing or planned development. These facilities do not replace other park needs, but can provide green spaces and linkages within mixed use areas and villages such as Bon Air, Chester, Ettrick, Matoaca and Midlothian. Provision of these parks in established neighborhoods may also aid community revitalization efforts.
- May be developed and programmed through public-private partnerships to enhance and offer unique recreational, event or open space for the benefit of the development, county residents and visitors.



### PARKS

Each site should be developed to complement surrounding development within the community context.

- May be used to satisfy open space requirements in high intensity developments.
- Locations should align with pedestrian and bicycle access and serve as focal points or gateways to development. May include hardscaped plazas, open space, spaces between buildings and buffer areas.
- Recreation centers may be located within urban parks and may include multi-purpose rooms, gymnasium(s), kitchen, game room, arts and crafts facilities, classrooms, restrooms, auditoriums, fitness areas and/or other activities/spaces that meet the needs of county residents and complement the development.

### Special Purpose Parks

- Special purpose parks center around unique environmental, cultural, historical or recreational features. They offer passive recreational facilities such as trails, playgrounds, picnic areas, water access for boating or fishing, special events areas, and interpretive/educational opportunities. These parks may include supporting facilities for education.
- No specific level of service standard is articulated due to the unique nature of each park site.
- Should contain facilities providing public use and enjoyment of the natural, recreational, cultural or historic resources being preserved or enhanced. Appropriate community recreation facilities for these sites should be provided to address park needs. When appropriate, these parks should be connected to adjacent public and private sites and facilities. Park development focus should be on preservation of the resource with emphasis on historical structures.
- Develop linear parks, with trails systems, that connect to the routes identified on the Bikeways and Trails Plan, blueways (water trails on navigable streams and other water bodies) and to public parks and other destinations.
- May include neighborhood or community park amenities. Conversely, some neighborhood, community and/or regional parks may contain conservation easements or other development restrictions.



### RECOMMENDED SITE CRITERIA

**Countywide:** acquire access/land along the county's major waterways, and cultural, historical, environmental and special recreational land, sites, structures or areas that would preserve the history, culture, natural beauty or offer special recreational opportunities in the county. Facility recommendations address water-based recreation only, all other facilities are acquired and developed on a site-by-site basis.

### **PARKS**

- Access to the site should consider the unique resource of the park, view sheds and general setting that compliments and enhances park identity and the function of the park. Non-vehicular transportation access should be a consideration, such as bikeways, trails and water-based access.
- Park configuration should be customized dependent upon the nature of the facility (historic, cultural, recreational, environmental).

### **FACILITY RECOMMENDATIONS**

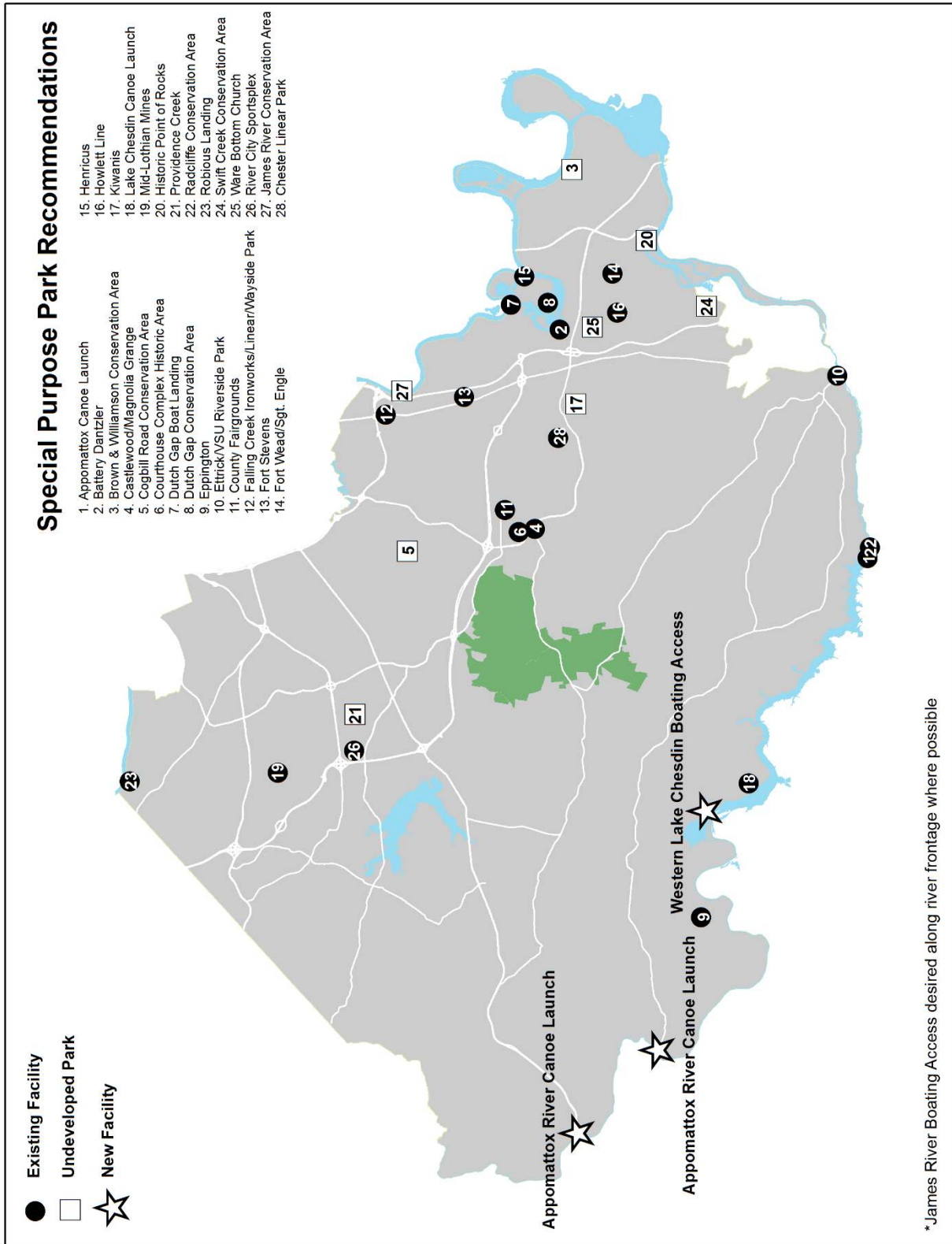
#### **Current Need**

- Improvements to Cogbill Park and Henricus Historical Park.

#### **Future Need**

- Improvements (including Community/Neighborhood park amenities) to Falling Creek Ironworks Park, Brown & Williamson Conservation Area, Swift Creek Conservation Area, James River Conservation Area, Lake Chesdin Linear Park, Falling Creek Linear Park, Historic Point of Rocks, Fairgrounds, and Eppington Plantation.





**PARKS****Recreation Centers****GENERAL CRITERIA**

- **Size:** 5,000 to 40,000 square feet
- **Service Radius:** 3 miles
- **Drive Time:** 10 minutes

**RECOMMENDED SITE CRITERIA**

- Should be located on land with direct access to an existing or proposed major arterial or collector road. Site acreage should be a minimum of 5 buildable acres, with 10 acres for larger facilities. Additional land may be needed for supplemental outdoor facilities. New county-built facilities should be between 10,000 and 20,000 square feet to support a range of programs.
- May be located within all park types and co-located with schools, libraries, community resource centers and within private developments.
- Outdoor facilities should be considered that enhance indoor programming and provide compatible community recreation uses customized to building purpose, site and community context.
- Should include multi-purpose rooms, gymnasium(s), kitchen, game room, arts and crafts facilities, classrooms, restrooms, auditoriums, fitness areas and/or other activities/spaces that meet the needs of county residents.
- Continue shared-use agreements with public schools for use of indoor facilities and partner for co-location of recreation center/community meeting spaces as part of new school designs and major renovation projects. Former school, vacant commercial and other government buildings should be considered for recreation center sites. Continue to pursue use agreements with public, private and non-profit entities for indoor space needs.

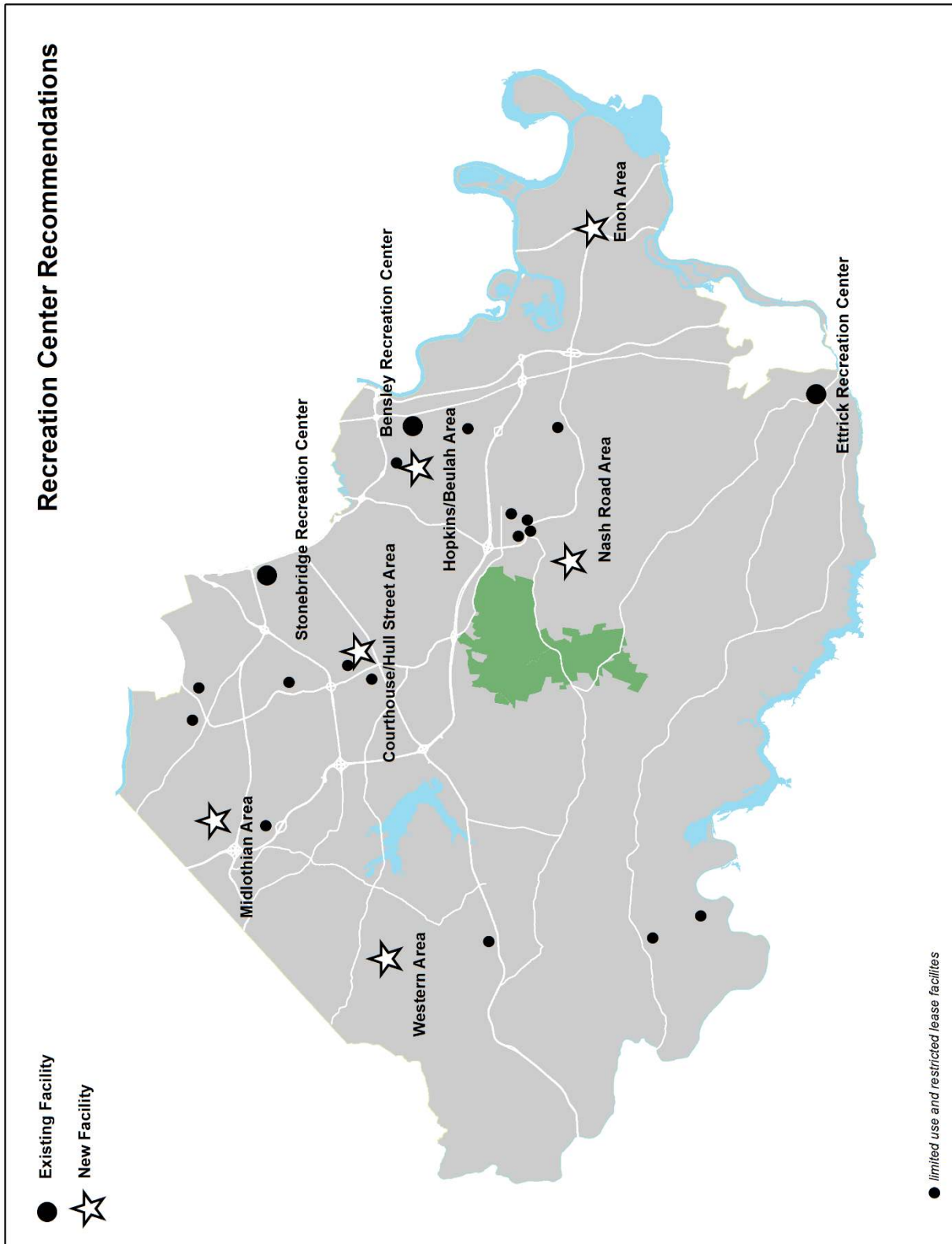
**FACILITY RECOMMENDATIONS****Current Need**

- **Western Area:** between Hull Street Road and Old Hundred Road west of Route 288.
- **Midlothian Area:** north of Midlothian Turnpike east of Route 288.
- **Hopkins/Beulah Area:** in the vicinity of Hopkins and Beulah Roads, former Beulah Elementary School site.

**Future Need**

- **Courthouse/Hull Street Area:** in the vicinity of Courthouse Road and Hull Street Road.
- **Nash Road Area:** south of Beach Road, north of Woodpecker Road and east of Pocahontas State Park.
- **Enon Area:** in the vicinity of I-295 and Route 10.

**PARKS**



**GENERAL SERVICES****General Services****Government Center**

General government administrative functions should continue to be developed and concentrated at the Government Center at Route 288 and Iron Bridge Road to foster effective and customer-friendly delivery of service to the public and efficient interaction among county departments. Highly specialized functions (e.g. school bus maintenance) may be located outside of the Government Center complex based on planning/programming studies completed as a part of capital planning efforts.

**RECOMMENDATIONS**

- Update the *Government Center Master Plan*, or portions of the plan, to align with the recommendations of the Comprehensive Plan. Use the *Master Plan* to guide the development of the Government Center.
- Provide administrative, maintenance and warehousing facilities for employees and work functions that support the provision of high-quality services.
- Construct, renovate, replace and expand facilities in accordance with General Services facility management policies and procedures, and facility condition assessment data.
- Promote the use and development of the Government Center for various educational, cultural and other social events, including tourism and other economic development-related efforts.
- Improve access to and within the Government Center through alternative modes of transportation, including mass transit, pedestrian and bicycle access.
- Improve signage, wayfinding, accessibility, sidewalks, crosswalks and parking for citizens and visitors to the Government Center.
- Identify 'swing space' to temporarily house employees during construction, renovation and maintenance projects.
- Identify/construct adequate storage space for equipment, materials and supplies used by various departments.



### GENERAL SERVICES

#### Aviation Services

The Chesterfield County Richmond Executive Airport provides quality aviation facilities and services that meet the needs of businesses, agencies, recreational flyers and the community. The county's airport is designated by the Federal Aviation Administration as a general aviation reliever and contains amenities commensurate with such status. The Airport contracts for numerous services for airport customers, such as fueling, ramp/line service and aircraft management and maintenance.



The Virginia Department of Aviation (DOAV) estimates that the county's airport had over 64,300 flight operations in 2016. The county's airport is home to approximately 115 aircraft of various types at any given time. Currently, the county's airport contains a 5,500-foot runway and nearly 250,000 square feet of hangar space. The *Airport Master Plan* recommends extending this runway to 6,300 feet, additional corporate hangar space and various other facility improvements.

#### RECOMMENDATIONS

- Use the *Airport Master Plan* to guide the development of the Chesterfield County Airport.
- Continue to follow levels of service standards as determined by the Federal Aviation Administration and the Virginia Department of Aviation.
- Develop additional overlay standards that protect the current and future development and operation of the county's airport from incompatible land uses.
- Promote and protect the county's airport and surrounding area as a vital economic development resource and catalyst.
- Acquire properties surrounding the airport, as they become available, for the purposes of noise mitigation, providing adequate safety buffers and to support growth and enhancement of the airport for revenue-generating operations.



**GENERAL SERVICES****Solid Waste**

The Waste and Resource Recovery (WARR) division of General Services provides convenient, economical, and environmentally friendly public solid waste reduction and recycling programs in cooperation with other public and private partners. County citizens can dispose of municipal solid waste at either of the county's two convenience centers, or by contracting with a private trash hauler. The county is also a member of the Central Virginia Waste Management Authority (CVWMA), a public service authority that implements solid waste management (including e-waste) and recycling programs for the Richmond region.

While the county does not currently operate an active landfill, WARR oversees the operation of convenience centers located on Warbro Road and on Iron Bridge Road. These convenience centers collect waste from residents that is then transported to privately-owned sanitary landfills for proper disposal. In fiscal year 2016, the division collected nearly 21,000 tons of household refuse from over 202,000 customers at the county's two convenience centers. Customer use of the county's convenience centers have been increasing since FY 2015. At the same time, the number of curbside recycling customers has decreased due to the availability of recycling services from private haulers. The region's recycling set-out rate was approximately 37 percent in FY 16.

**RECOMMENDED LEVEL OF SERVICE STANDARD**

- Locate convenience centers in accessible locations in the county to allow for safe and efficient operations at each center, accommodate traffic queuing, mitigate impacts on adjacent properties and within a 20-minute drive of developed areas.

**RECOMMENDATIONS**

- Begin planning studies for an additional convenience center in the western area of the county. This facility should be approximately 10 to 15 acres and generally located south of Genito Road, west of Otterdale Road and north of River Road.
- Establish and maintain convenient and cost-effective recycling programs countywide through cooperation with CVWMA and private haulers to reduce the amount of solid waste sent to landfills, and exceed the state-mandated 25% recycling rate.
- Maintain required environmental oversight of closed landfill sites.

**GENERAL SERVICES****Fleet Management**

The Fleet Services Division provides for the safe, convenient and reliable servicing of the county's fleet of vehicles in an efficient and cost-effective manner. This division oversees the maintenance, repair and fueling needs of the county's vehicle fleet, including Fire/EMS equipment, police vehicles, school buses, and general county vehicles.



Many of these vehicles require specialized equipment for repair and maintenance work. The division constantly tracks emerging fueling trends and changes due to technological advances and supports proven, cost-effective alternative fueling choices.

**RECOMMENDED LEVEL OF SERVICE STANDARD**

- Conveniently locate fleet maintenance facilities to the majority of fleet users, taking into account the unique needs and operational procedures of these customers so as to meet or exceed vehicle availability rate performance metrics.
- Ensure vehicle maintenance facilities are adequately sized to accommodate the safe and efficient repair of modern vehicles (e.g., fire apparatus and school buses).
- Provide strategically located vehicle fueling sites throughout the county to achieve cost savings by minimizing the distance traveled to access fuel and reduce reliance on fuel from other sources.

**RECOMMENDED SITE CRITERIA**

- Industrial, Corporate Office/Research & Development/Light Industrial and General Business areas shown on the Land Use Plan Map are preferred. Sites should be well buffered from incompatible uses. Co-location opportunities with other county facilities should be explored when evaluating sites.
- Facilities should have at least one direct access to a collector or major arterial road. Sites offering both north/south and east/west travel should be preferred.
- Facilities should be located to reduce the amount of transit time to these facilities by fleet customers.

**FACILITY RECOMMENDATIONS****Current Need**

- **Fire Apparatus Repair Bays:** construct fire apparatus repair bays on the former fire training grounds in the Government Center. This facility should also provide bay space for radio system installation/repair activities for larger vehicles.
- **Fueling Facilities:** evaluate options for and construct additional fueling facilities in the western Hull Street Corridor and Matoaca District. Each site should accommodate a variety of fleet vehicles and include fuel storage tanks and pumps for unleaded, diesel and propane fuel.
- **Replacement Bus Repair Facility:** replacement of the existing Walmsley bus repair facility. This new facility should be located on at least 15 buildable acres and include a minimum 20,000

### **GENERAL SERVICES**

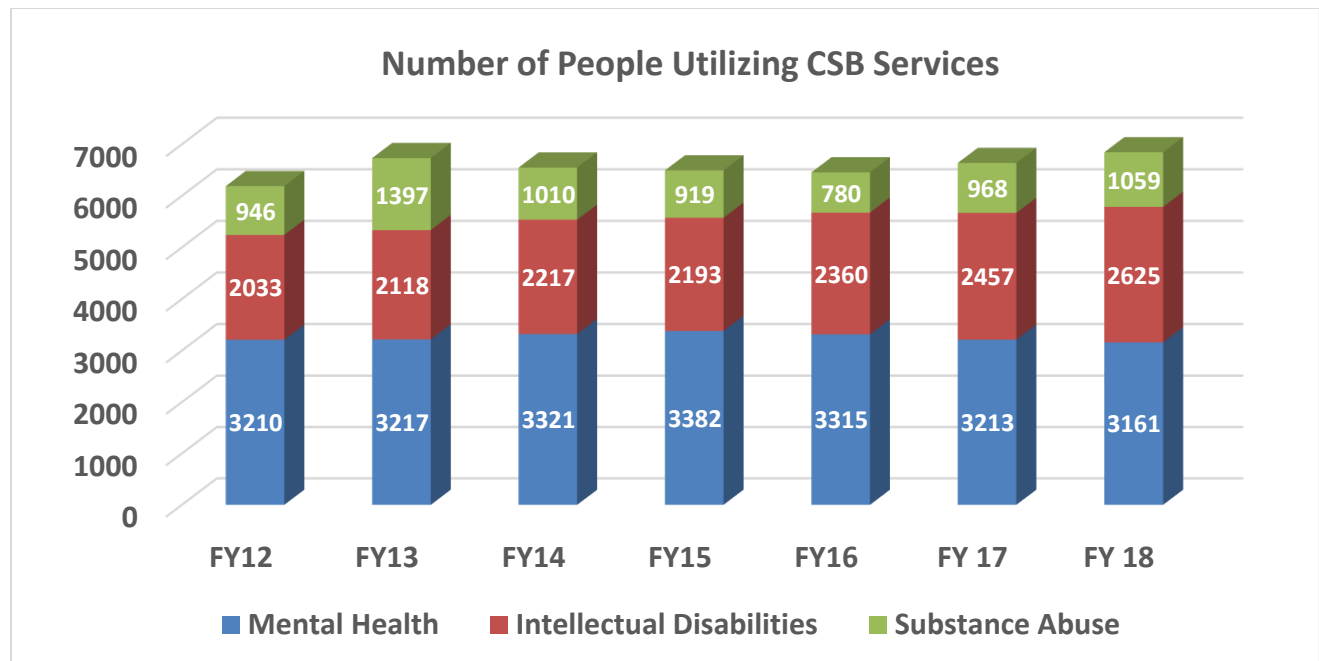
square-foot facility, school bus parking areas and a fueling center. The current Walmsley bus facility would remain as a fueling site and bus parking area.

- *If construction of the Fueling Facilities and/or Replacement Bus Repair Facility is determined to be unfeasible, a fleet facility that can accommodate all existing vehicle repairs should be considered. This facility should be located on at least 25 buildable acres and include bus parking/staging areas. Facility should be at least 40,000 square feet and include a fueling center.*

**MENTAL HEALTH/SOCIAL SERVICES****Community Services Board / Mental Health Support Services****OVERVIEW**

The Chesterfield Community Services Board/Department of Mental Health Support Services (CSB) serves adults and children with mental health and substance use disorders and those with developmental and intellectual disabilities. One of 40 community services boards across the Commonwealth, the department is governed by a 15-member citizen board, appointed by the Chesterfield County Board of Supervisors. In some instances, development proposals or property owners may offer to dedicate land for public facilities or provide for actual construction of a facility that would then be leased or sold to the county for operation. Such facilities and sites, if deemed acceptable by the county, should comply with the recommendations of the Comprehensive Plan and meet the needs of the department operating the facility.

The state mandates community services boards to provide assessments for individuals who are experiencing a mental health crisis, and case management for all service populations. In addition to these services, the CSB provides a comprehensive array of services to treat and support those with complex mental health and substance use disorders and those with intellectual or developmental disabilities including individual and group counseling, psychiatric services, day support programs, employment programs, residential services, prevention services and early intervention for infants and toddlers. The CSB is part of a community of providers, working closely with private, non-profit and other governmental sectors to achieve its mission. Regardless of who provides the service, all are designed to meet the specific needs of the individuals and their families that they may achieve independence and an improved quality of life. As the county continues to grow, age and change, providing adequate and efficient services and programs to these vulnerable populations will be a challenge.



### MENTAL HEALTH/SOCIAL SERVICES

Located within the Government Center, the Rogers Building is the main office for the CSB. The CSB operates its emergency services, mental health and substance use outpatient counseling, psychiatric services, prevention, and administrative support from the Rogers Building. Case managers have offices in the Rogers Building as well, but are mobile serving individuals and families in the community. The Rogers Building is over 20 years old, is overcrowded and no longer meets the programming needs of the department.

Satellite offices hold daytime services for individuals with serious mental illness and intellectual disabilities, employment, residential, early intervention and the Families First programs. All offices, except for the day program serving residents with serious mental illness, are leased by the department.

While the Rogers Building, strategically placed in the Government Center, creates a one-stop for residents seeking other County services, transportation is difficult for many who are served by the CSB in a “one-location” model of programming. Access Chesterfield, Medicaid transportation and the department’s own transportation service are used to help residents get to and from appointments, however ride times and waiting lists can be long for many of the individuals served and is especially hard on those with physical disabilities.

## Social Services

### OVERVIEW

The Department of Social Services (DSS) administers programs that are available to the citizens of Chesterfield County and the City of Colonial Heights. The agency is governed by a nine-member local Board of Social Services. Program areas include prevention, foster care and adoption, child protective services, employment services, child day care services, adult services and emergency assistance which include the Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Medicaid and the Housing Choice Voucher Program. The Department's mission is to provide advocacy and excellent services that encourage self-sufficiency, preserve and restore families, and protect the well-being of children, senior citizens and people with disabilities. DSS routinely partners with public, private, non-profit and civic organizations to accomplish their mission.

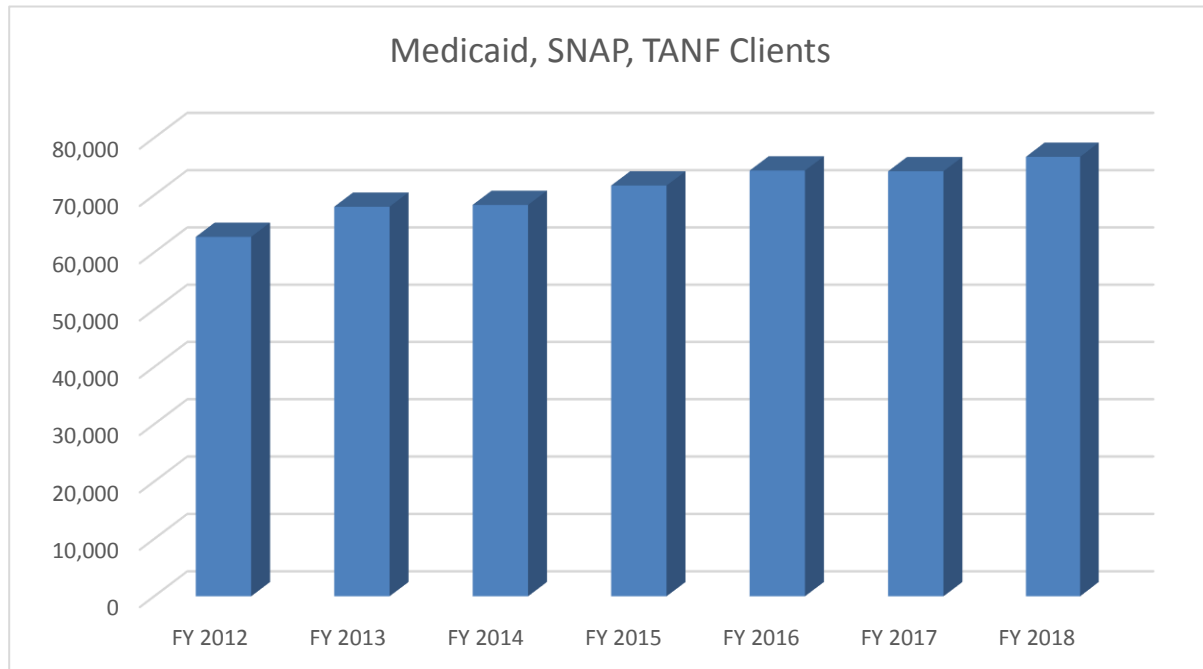
The demand for DSS programs and services is dependent upon a variety of social, economic and demographic factors. Demand for services continues to grow in service areas that are mandated by the **Code of Virginia**. There has been a 96.5% increase in the number of youth entering foster care since FY2012. The agency’s main switchboard received 116,626 calls from customers in FY2016, an average of 56 calls every hour.





## MENTAL HEALTH/SOCIAL SERVICES

In addition, caseloads for major benefit programs have increased dramatically as shown in the chart below, which depicts the number of unduplicated clients across the Medicaid, SNAP and TANF programs for the period FY2012 – FY2018. As these programs are primarily client-based, DSS desires to have facilities in proximity to its clientele to promote efficiency and accessibility.



DSS currently provides services at the Smith Wagner Building in the Government Center Complex, which can be a challenge for clients who lack personal vehicle transportation or are unable to drive. Services are provided offsite by a community outreach worker, who visits several community sites each week to provide information and distribute/collect applications for benefit programs. Family services workers routinely provide services offsite to children, families, seniors and people with disabilities throughout the community. As the county continues to grow and change, providing adequate and efficient services and programs to these vulnerable populations will be a challenge. To best meet the needs of citizens, continued partnerships with public, private and non-profit agencies should be encouraged to provide needed programs, services and facilities.

### Mental Health / Social Services Facility Recommendations

Improved access can be achieved by co-locating programs and services provided by the CSB and/or Social Services with other departments such as Health, Parks & Recreation and Libraries through a Community Resource Center (CRC) model. Such centers should be located in proximity to where those who need such service reside.

**MENTAL HEALTH/SOCIAL SERVICES**

**RECOMMENDED LEVEL OF SERVICE STANDARDS**

- Support primary administrative, program and service functions at the Government Center.
- Provide satellite and Community Resource Center program and service delivery in constructed or leased spaces conveniently accessible to concentrations of clients.

**RECOMMENDED SITE CRITERIA**

- CRC facilities (county owned and leased) should be located in areas of the county in which there is the highest demand for services.
- CRC facilities (county owned and leased) should be located with convenient access to a major arterial road and, if possible, located near two major arterial roads offering both north/south and east/west travel.
- CRC facilities (county owned or leased) should include connections to pedestrian and public transportation networks where possible.
- Satellite facilities should be located in leased spaces or within other appropriate public facilities to best serve neighborhood-level access to programs in high-needs areas.

**FACILITY RECOMMENDATIONS**

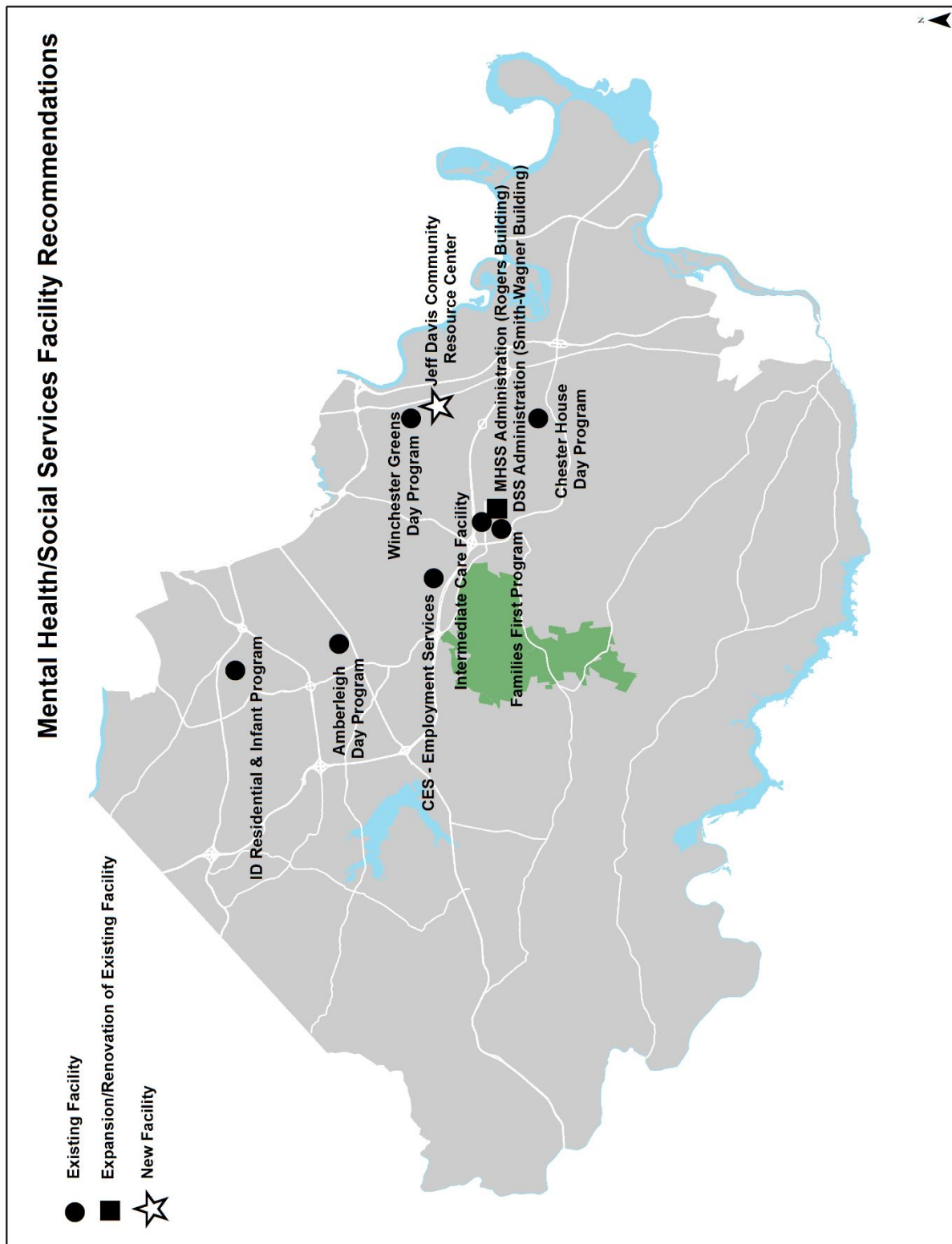
**Current Need**

- Renovate the Rogers Building to meet the needs of residents served by programs offered now and into the future.
- Identify and develop a Community Resource Center in Route 1 area north of Route 288.

**Future Need**

- Explore and develop leased space opportunities in areas of the county in which there is the highest demand for services.
- Consider partnering with other departments where appropriate in the Community Resource Center concept (space consideration within Recreation Centers and/or Libraries) when designing these facilities.
- Continue partnerships with other public, private and non-profit agencies to provide needed programs, services and facilities.

**MENTAL HEALTH/SOCIAL SERVICES**



**TELECOMMUNICATIONS****Telecommunication Facilities****OVERVIEW**

Telecommunications services providing wireless transmission of voice and data (re: cellular and personal communication services (PCS), paging, wireless internet services and mobile radio) are viewed as public utility services that benefit the community. In addition, these services are critical to local businesses and overall quality of life. These services operate from wireless networks that are dependent upon antenna devices, under or above ground lines, supporting towers and/or related transmission equipment. Generally, these facilities may require county review and approval through the development review process. A Board of Supervisors policy currently exists which provides greater detail on the siting and design of telecommunications facilities. Upon adoption of this Plan, this policy should be reviewed and amended where appropriate. Various federal and state regulations limit local authority over certain locational aspects of telecommunication facilities.

Supporting the latest in digital infrastructure through strategic investment and incentives could help the county become a technology leader in the region, state and nation. This support would also enhance economic development efforts along with quality of life for residents.

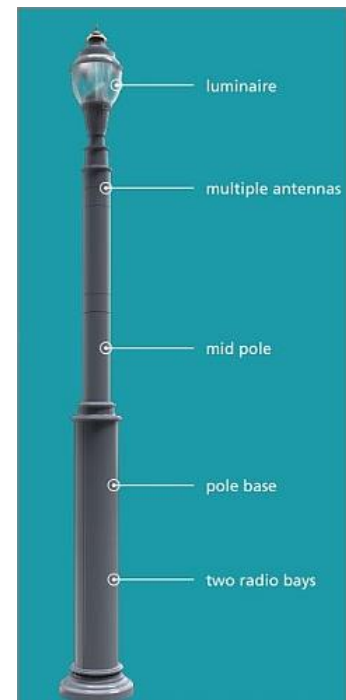
**BROADBAND INFRASTRUCTURE**

- The county should encourage and support private sector efforts to extend adequate broadband services throughout the county, including pursuit of grants to fund such extensions.
- The county should monitor broadband service coverage to ensure that as the county grows, adequate broadband services are provided to meet the needs of future residents and businesses.
- The county should work with private sector broadband providers to provide affordable services to low income households.

**TELECOMMUNICATION GUIDELINES**

The following General Telecommunication Guidelines should be used when addressing specific development and land use issues:

- **Impact Mitigation.** Support efforts to minimize impacts of telecommunication facilities on surrounding development through increased screening, buffers or other design features. Encourage use of 'stealth' designs that minimize exterior equipment on towers and poles.
- **Co-Location.** Encourage telecommunication providers to allow co-location of other providers on towers to minimize the number of towers needed to serve the community.
- **Development Proposals.** Support provision of digital infrastructure with proposals for new development.



*Example of a Smart Pole*

### TELECOMMUNICATIONS

- **Utility Easement Sharing.** Encourage underground telecommunication providers to work with other in-ground utility providers to minimize easement areas. These opportunities are most prevalent at the site development process or during road construction projects.
- **Economic Development.** The county should work with private telecommunication providers to extend high speed data facilities and infrastructure in Corporate Office, Industrial, CORDLI and Regional Mixed Use areas of the Land Use Plan Map to support economic development efforts.
- **Public Facilities.** The county should provide free public high-speed internet access at facilities such as parks, libraries and other government buildings.
- **5-G System Support.** The county should work with private providers in support of latest wireless technologies such as smart roads and smart poles that are designed to minimize aesthetic impacts on the community (hiding of wires, arrays and electrical cabinets).

### **RECOMMENDED SITE CRITERIA**

The following guidelines should be used when addressing telecommunication facilities. Site specific analysis will be performed through the zoning process and additional requirements may be suggested. These criteria should be reviewed and modified as new technology becomes available.

- **Design and Location Generally.** Promote the design and location of telecommunications facilities to provide broad access to communication services and minimize the numbers of towers and their impact on the surrounding area.
- **Location.** The following options and guidelines should be used to determine the appropriate locations for telecommunications towers in the following priority:
  - Encourage co-location on existing telecommunications towers rather than new freestanding structures.
  - Encourage telecommunication facilities to be incorporated into existing building features such as rooftops, church steeples/spires, water storage tanks, light poles and electrical transmission structures rather than constructing new freestanding structures.
  - Where co-location or incorporation into an existing structure is not feasible, freestanding towers may be appropriate under the following circumstances:
    - In areas designated for Residential Agricultural or Rural Residential/Agricultural uses on the Land Use Plan Map, towers should not be located in highly visible areas. Further, natural features such as topography and streams should be used to provide transition between existing and future residential development.
    - In areas either zoned or designated on the Land Use Plan Map for residential development other than Residential Agricultural or Rural Residential/Agricultural uses; or in areas zoned or designated on the Land Use Plan Map for non-residential development other than General Business or Industrial; or in high visibility areas, towers should be located and designed to conceal these facilities to the greatest degree feasible and minimize the visual impact.



### TELECOMMUNICATIONS

- In areas zoned or designated on the Land Use Plan Map for General Business or Industrial uses, the visual impact of the base of the tower should be minimized.
- **Design Criteria.** The visual presence and prominence of freestanding towers should be minimized by:
  - Locating where natural features such as topography or forested areas exist and will be maintained.
  - Obscuring or blocking views with other existing structures.
  - Using stealth designs to disguise and camouflage the appearance so as to resemble other structures (i.e. flagpoles, bell towers). When this is not feasible, the tower should be of a monopole design.
  - Using a neutral color.
  - Prohibiting lighting unless required by the Federal Aviation Administration (FAA). If the FAA requires lighting, the lighting design should limit intensity, direction and timing.

# CHAPTER 16: IMPLEMENTATION

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## Overview

The Comprehensive Plan provides guidance for growth and development decisions. Planning is an ongoing process; adoption of the Comprehensive Plan should not be viewed as the end of this process. Instead, the county should continuously work to align goals, policies, ordinances, processes and programs with the vision and aspirations of the Plan.

This chapter identifies projects mostly associated with land development. As departments throughout the county undertake various projects, policies and ordinances within their own spheres of influence, this plan should be used to provide direction and guidance where appropriate.

Implementation occurs through many tools:

- Chesterfield County Strategic Plan (Blueprint Chesterfield)
- Zoning Ordinance
- Subdivision Ordinance
- Erosion and Sediment Control Ordinance
- Utilities Ordinance
- Water and Wastewater Facilities Plan
- Department Master Plans
- Capital Improvement Program and Budget Process
- Revitalization, infill and economic development strategies and plans
- Planning Commission, Board of Supervisors and County Administration Policies
- Partnerships among civic organizations, private entities, business councils, special interest groups, citizens and the county government.

## IMPLEMENTATION COORDINATION

Oversight for completion of the projects listed should rest with County Administration, as implementation spans multiple departments and agencies. This is best accomplished through a designated coordinator. Implementation success will depend on effective collaboration between departments, elected and appointed officials and the community. Individual project scopes, timing and associated resource needs should be discussed with the Planning Commission and Board of Supervisors prior to project initiation. Project initiation and priority should occur via regular discussions with the Commission and Board. In general, projects should seek and incorporate community input and review.

The Implementation chapter identifies general steps necessary to carry out the goals and guidelines of the Plan. The guidelines of each chapter should be used in the development of each individual project.

Implementation projects fall into two major categories:

- **COUNTYWIDE PROJECTS** – projects that approach a topic or issue from a countywide perspective.
- **SPECIFIC AREA PLAN PROJECTS** – projects identified through the adoption of Specific Area Plans.

### **IMPLEMENTATION TABLE KEY**

The implementation tables on the following pages use these column headings:

**Action:** general name and description of project.

**Project Lead:** department/entity primarily responsible for project completion.

**Priority:** projects are differentiated between those that are a more immediate need and should be accomplished within five years of the plan's adoption (Phase 1), and those that, while important, could be completed as time and resources allow (Phase 2).

**Time Need:** estimated amount of time needed to complete the project once it has begun.

**Funding Source:** general identification of potential funding source(s) for project if necessary. Actual project completion may involve other funding sources than those identified.

**Outcome/Deliverable:** general description of project completion and whether Planning Commission/Board of Supervisors formal approval is required.

**Chapter Tie:** identifies which plan chapter(s) project aligns with.

*Projects noted with \* have been carried over from the 2012 Comprehensive Plan Implementation chapter.*

PHASE 1 PROJECTS	Project Lead	Time Need	Funding Source	Outcome/ Deliverable	Chapter Tie
<b>Comprehensive Ordinance Amendment.*</b> Review and revise Zoning Ordinance to streamline processes and revise/add zoning districts to reflect plan guidance. Includes updates to development policies such as Connectivity, Sidewalks, Bicycle Facilities, etc.	Planning	18-24 months	General Fund	Revised Zoning Ordinance adopted by Board of Supervisors  Policies adopted in support of Ordinance	5, 6, 7, 8, 9, 10, 12, 13, 14
<b>Affordable/Workforce Housing Strategy.*</b> Recommend an approach for the provision of affordable/workforce housing. Will also address senior housing.	Community Enhancement	12-18 months	General Fund	Strategy accepted by Board of Supervisors, further direction provided	5, 6, 7, 10
<b>County Property Acquisition Policies.*</b> Review and revise policies including site evaluation, substantial accord, acquisition, conservation/open space, reuse and surplussing to reflect plan guidance.	Planning Utilities Gen Svcs	6-12 months	N/A	Policies adopted by County Administration	8, 9, 10, 15
<b>Neighborhood Connector Study.*</b> Develop approaches, ordinances and policies for neighborhood connector paths countywide.	Planning Parks & Rec	6-12 months	General Fund (already funded)	Revised policy and ordinance adopted by Board of Supervisors	13, 14, 15
<b>Non-Motorized Transportation Signage.*</b> Establish standardized signage and location protocols for the network in coordination with the Police and Fire/EMS Departments for emergency response purposes.	Planning CDOT Parks & Rec	12-18 months	General Fund	Policy adopted by County Administration	13, 14, 15
<b>Implementation Annual Report.</b> Prepare an annual report identifying progress and status of implementation projects.	Planning	3-6 months	N/A	Annual report presented to County Admin, CPC & BOS	3, 16

PHASE 1 PROJECTS	Project Lead	Time Need	Funding Source	Outcome/ Deliverable	Chapter Tie
<b>Water &amp; Wastewater Facilities Plan Update.</b> Update the system plan to reflect comp plan recommendations for public water/wastewater supply and demand analysis.	Utilities	18-24 months	Utilities CIP	Updated plan presented to Board of Supervisors	10, 12
<b>Homeowner Education.</b> Promote homeowner education programs to support property maintenance efforts.	Community Enhancement	12-18 months	General Fund, CDBG	Program established, deployed and marketed	6, 7
<b>Revise Property Maintenance Codes.</b> Review and revise county codes to improve property maintenance standards countywide.	Community Enhancement	12-18 months	N/A	Ordinance/policies adopted by Board of Supervisors	6, 7
<b>Redevelopment Focus.</b> Build organizational capacity for redevelopment projects in revitalization areas. Identify funding mechanisms and project opportunities.	Community Enhancement	18-36 months	General Fund, CDBG, Other	Organizational capacity built, funding identified, project opportunities identified	5, 7, 10
<b>Specific Area Plans.</b> Continue detailed planning efforts as identified. Identify and use other tactical placemaking tools to be applied to planning efforts in unique opportunity areas.	Planning	18-24 months	N/A	SAPs adopted by Board of Supervisors	5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
<b>Tax Abatement in Revitalization Areas.</b> Establish a tax abatement program for new construction in revitalization areas to spur private investment.	Community Enhancement	12-18 months	N/A	Ordinance/program adopted by Board of Supervisors and marketed	7, 10



PHASE 2 PROJECTS	Project Lead	Time Need	Funding Source	Outcome/ Deliverable	Chapter Tie
<b>Historical &amp; Cultural Resource Strategy.*</b> Recommend an approach to guide county preservation efforts both proactively and reactively.	Planning	6-12 months	N/A	Strategy adopted by Board of Supervisors	8, 10
<b>Land Conservation Tools Strategy.*</b> Recommend an approach for landowners to preserve their property. Include recommendations to the Land Use Taxation program.	Planning	6-12 months	N/A	Strategy adopted by Board of Supervisors	8, 9, 10
<b>Equestrian Community Study.*</b> Partner with interested public and private organizations to determine the needs of the equestrian community in Chesterfield County.	Planning Parks & Rec Extension	6-12 months	N/A	Study completed and presented to Parks & Recreation Advisory Commission	14
<b>Bikeways and Trails Application.*</b> Develop an online facility mapping tool for the public to use on mobile devices in coordination with regional partners.	Parks & Rec IST	12-18 months	General Fund	Application created and deployed to public	14
<b>Urban Agriculture Study.</b> Explore and evaluate potential recommendations to promote urban agriculture.	Planning Extension Office	6-12 months	N/A	Report prepared with options presented to Board of Supervisors for further consideration	9, 10
<b>Public Facilities Annual Report.</b> Produce annual report analyzing usage, capacities and levels of service of current facilities.	Planning	6-12 months	N/A	Report prepared and presented to Planning Commission and Administration	15
<b>Historic Tax Credit Program.</b> Create a program of incentives to encourage investment in historic properties/areas.	Community Enhancem ent	12-18 months	N/A	Ordinance(s) adopted by Board of Supervisors	7, 8

PHASE 2 PROJECTS	Project Lead	Time Need	Funding Source	Outcome/ Deliverable	Chapter Tie
<b>Housing Rehabilitation Grants &amp; Loans.</b> Establish funding to assist qualified homeowners with housing rehabilitation in revitalization areas.	Community Enhancement	18-24 months	General Fund, CDBG	Funding approved by Board of Supervisors	6, 7
<b>Gateway Policy.</b> Create a policy that guides appropriate signage, design and treatments at the county's major gateways.	Planning	12-18 months	N/A	Policy adopted by the Board of Supervisors	5, 10, 11
<b>Health Impact Policy.</b> Develop a policy that can be used to evaluate projects and programs based upon their impact on community health.	Planning Community Enhancement	12-18 months	N/A	Policy adopted by County Administration	6, 7, 9, 10, 13, 14

ETTRICK-VSU SPECIAL AREA PLAN		
Category	General Steps	Department Lead
PLANS	<b>REVITALIZATION PLANS.</b> Develop revitalization plans for the Ettrick area, including Neighborhood Enhancement Area plans, to promote stabilization of area neighborhoods.	TBD
STRATEGIES / STUDIES	<b>REGIONAL ACCESS.</b> Work with local, regional and state agencies to enhance regional access into the Ettrick VSU area.	TRANSPORTATION
INFRASTRUCTURE	<b>ETTRICK POLICING OFFICE.</b> Relocate the Ettrick Policing Office from Ettrick Park to a more central location, preferably along Chesterfield Avenue.	PLANNING / POLICE
	<b>ETTRICK TRAIN STATION IMPROVEMENT.</b> Seek out funds to improve the Ettrick Train Station, including facilities, access and aesthetics.	TRANSPORTATION
	<b>WASTEWATER SYSTEM IMPROVEMENT.</b> Prepare and submit a request for the county's Capital Improvement Program to fund upgrades to the wastewater system along Chesterfield Avenue.	COUNTY ADMINISTRATION
	<b>STORMWATER SYSTEM IMPROVEMENT.</b> Prepare and submit a request for the county's Capital Improvement Program to fund upgrades to the stormwater drainage system along Chesterfield Avenue.	COUNTY ADMINISTRATION

ETTRICK-VSU SPECIAL AREA PLAN		
Category	General Steps	Department Lead
	<b><u>ABOVE GROUND UTILITIES.</u></b> Work with Dominion Power to have above ground utilities along area roads relocated or buried.	TBD
OTHER	<b><u>VSU Master Plan.</u></b> Work with VSU on developing their master plan to ensure the Master Plan and the Ettrick VSU Special Area Plan are complementary.	PLANNING
	<b><u>Civic Group Formation.</u></b> Work with community representatives to establish a cooperative relationship between county staff and community representatives.	PLANNING

BON AIR SPECIAL AREA PLAN		
Category	General Steps	Department Lead
INFRASTRUCTURE	<b>BON AIR PEDESTRIAN AND BICYCLE NETWORK IMPROVEMENTS.</b> Seek and secure funding to construct the recommended pedestrian and bicycle network.	TRANSPORTATION
	<b>PEDESTRIAN AND BICYCLE RAILROAD CROSSING.</b> Work with VDOT to explore options for improving the vehicular traffic pattern at the railroad crossing around Rockaway Road, Bon Air Depot Lane and Rockcrest Road to accommodate pedestrian and bicycle rail crossing improvements.	TRANSPORTATION
	<b>BON AIR NEIGHBORHOOD PARK.</b> Seek and secure funds to develop the recommended Bon Air Neighborhood Park and linear trail on land at Bon Air Elementary School.	PARKS AND RECREATION
	<b>STORMWATER TREATMENT.</b> Seek and secure funds to construct the recommended stormwater treatment improvements at the stormwater outfalls into Jimmy Winter's Creek on the Bon Air Elementary School site.	ENVIRONMENTAL ENGINEERING
	<b>WASTEWATER EXTENSION.</b> Work with property owners in the area to extend the public wastewater system into unserved areas.	UTILITIES
OTHER	<b>CIVIC ASSOCIATION FORMATION.</b> Work with area businesses, faith based groups and other community organizations and associations to establish a community wide civic association.	PLANNING
	<b>ABOVE GROUND UTILITIES:</b> Work with Dominion Power to relocate the above ground utilities along area roads to underground.	TBD



Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b><u>Revitalization Area.</u></b> Designate the entire Plan geography as a revitalization area for the purposes of focusing and prioritizing county revitalization efforts.	Areas adopted by Board
<b><u>Jefferson Davis Highway Neighborhood Enhancement Program.</u></b> Expand the existing proactive property maintenance program to the Plan area.	Area neighborhoods identified; approached
<b><u>Redevelopment Policy.</u></b> Develop policy to guide the county in redevelopment.	New administrative policy adopted
<b><u>Transit Coordinator.</u></b> Identify a single point of contact / responsibility to manage and coordinate transit resources, opportunities, and concerns.	Identify coordinator and duties
<b><u>Jefferson Davis Highway Regional Meeting.</u></b> Hold an annual meeting between public and private stakeholders in the county and City of Richmond to discuss projects, programs, coordination, and concerns along Jefferson Davis Highway. More frequent meetings, as necessary to address important matters, would be appropriate. Include the Jefferson Davis Association as a participant in these meetings.	Annual meetings (at a minimum) held
<b><u>Code Enforcement Policy in Revitalization Areas.</u></b> Create a policy outlining county's approach and priorities for property maintenance enforcement in revitalization areas.	New administrative policy adopted
<b><u>Neighborhood and Business Cleanup Assistance.</u></b> Provide resources (dumpsters, disposal, monitoring, etc.) for cleanup efforts initiated and performed by citizens and businesses.	Regular clean-up activities by residents and businesses
<b><u>Housing Rehabilitation Zone.</u></b> Incentive zone overlay to encourage residential development, rehabilitation, and redevelopment in revitalization areas. Incentive package could include fee waivers, process simplification, and targeted development standards for a 10-year zone term.	Ordinance amendment adopted by Board
<b><u>New Design Standards.</u></b> Revise existing standards to increase development quality and aid redevelopment efforts (such as supporting reduced site acreage requirements).	Ordinance amendment adopted by Board

Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b>Rezoning Incentives.</b> Amend fee schedule to waive fees for rezonings, in compliance with plan. Explore other potential incentives.	Ordinance amendment adopted by Board Study other potential incentives
<b>Market/Publicize Incentives and Opportunities.</b> Actively market incentives and opportunity sites to encourage investment in Plan area. Include training of frontline Community Development personnel.	Marketing plan created and implemented by staff Staff training completed
<b>Tax Exemption Programs.</b> Market current programs to increase usage in revitalization areas. Evaluate use of new construction tax exemption programs allowed under state law.	Ordinance amendment for new construction adopted by Board Marketing program
<b>Demolition Assistance.</b> Create a program and funding source to support and encourage demolition of obsolete structures in revitalization areas, beyond the scope of blight removal program. This incentive could be in the form of loans or grants, and would aid redevelopment efforts.	Program created and funded by Board
<b>Jefferson Davis Highway Community Safety Education Program.</b> Work with the community to hold training sessions on crime prevention tips and techniques.	Programs marketed and sessions held regularly
<b>Human Services Coordinator.</b> Identify a single point of contact within the county to coordinate and promote human service division programs and services for the benefit of the community.	Identify coordinator and duties
<b>Homeowner Education and Training.</b> Develop education programs and training for low income and first-time homebuyers regarding home maintenance and repairs.	Instructional program established; training initiated
<b>Redevelopment Entity.</b> Evaluate the feasibility and process of the creating an independent entity composed of public and private-sector experts to implement redevelopment initiatives.	Study developed and presented to Board of Supervisors
<b>Jefferson Davis Highway Streetscape Improvement District.</b> Create construction plans and phasing for streetscape improvements along Route 1 north of Route 288. Identify funding for streetscape and beautification improvements and maintenance. Focus initial efforts in Residential Mixed Use and Regional Mixed Use areas, and at key locations such as Jefferson Davis Highway/Chippenham Parkway and Jefferson Davis Highway/Willis Road.	Study completed, construction plans drafted, funding district enacted and improvements programmed, installed and maintained

Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b><u>Rehabilitation Financial Incentives.</u></b> Develop program(s) to provide low-interest loans and/or grants to homeowners, landlords, and businesses, to reinvest in properties along Jefferson Davis Highway. Such programs could emphasize façade and site improvements.	Program created and funded by Board, additional incentives identified
<b><u>Adult Education / Workforce Development Classes.</u></b> Develop and deploy classes in the Plan area to support workforce development on topics such as technology and English proficiency; as well as self-improvement classes on topics such as health, personal finance, and safety.	Curriculum developed, advertised, and implemented
<b><u>Community Resource Center.</u></b> Develop a community resource center along Jefferson Davis Highway to provide the community with a wide range of government, health, and educational services locally. Such center could also host community events and even a farmer's market.	Study completed. Facility designed, funded, built, or leased and occupied
<b><u>Jefferson Davis Highway Community Events.</u></b> Develop and hold annual events celebrating the history, diversity, and assets of the Jefferson Davis corridor to strengthen community identity and pride. Hold events such as neighborhood/business/waterway cleanup days to beautify community.	At least one annual event created and held, supported by county
<b><u>Community Service Inventory.</u></b> Create an inventory of non-profit, church-based, government and private programs that provide services to the Jefferson Davis community and publicize this information to the community.	Inventory created and maintained with county support
<b><u>Comprehensive Medical Services Facility.</u></b> In partnership with state agencies, and local private and non-profit healthcare entities, pursue the creation of a behavioral and physical health facility within the community. This facility should provide affordable care to the community and include 24-hour emergency care, along with community resource center functions centered on mental health/social services programs.	Study completed. Facility built or leased and opened.
<b><u>New Revitalization Zoning District.</u></b> Create a new zoning classification that would encourage owners of property zoned General Business (C-5) to rezone such properties for less intense use by providing a wider range of uses (such as higher-density residential uses incorporated into a mixed-use projects).	Ordinance amendment adopted by Board

Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b><u>Zoning Density Bonus.</u></b> Increased unit yield to Plan densities in exchange for provision of affordable housing units and/or redevelopment of existing substandard housing.	Ordinance amendment adopted by Board
<b><u>Annual Job Fair.</u></b> Hold an annual job fair within the Plan area and encourage participation by area employers.	Fair held annually, assisted by county
<b><u>Mercado.</u></b> Explore potential locations and designs within the corridor to develop an outdoor market/green space for community gatherings. Study potential funding sources.	Study completed. Facility designed, funded, and constructed.
<b><u>Jefferson Davis Highway Police Residency.</u></b> Develop financial incentives to encourage county police to reside in neighborhoods within the Plan area to increase sense of safety in community.	Incentives identified and funded.
<b><u>Business License / Use Monitoring Study.</u></b> Conduct a study of how best to monitor new business licenses in revitalization areas to ensure uses are legal and meet zoning requirements.	Study completed and presented to County Administration
<b><u>JDA Executive Director.</u></b> Work with the JDA to find funding to hire an Executive Director to coordinate community activities, as well as enhance membership and programs on behalf of the JDA.	Position created and filled (seed)
<b><u>Historic Tax Credit Program.</u></b> Partner with the private sector to evaluate establishment of a historic tax credit program in the Plan area.	Study completed, may include recommended actions
<b><u>Business Relocation Assistance.</u></b> Approach business owners of uses that do not comply with the Plan to assist voluntary relocation of such businesses to more compatible locations. Consider incentives such as fee waivers and expedited permitting.	Process developed, area business owners contacted for interest
<b><u>Environmental Remediation Assistance.</u></b> Create a program and funding source to support and encourage environmental site remediation activities on former commercial and industrial properties. This program could be in the form of loans or grants to encourage redevelopment of impaired properties and to restore environmental quality.	Program created and funded by Board

Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b><u>Jefferson Davis Highway Community Tax Increment Financing District.</u></b> Evaluate the feasibility, costs, and benefits of creating a Tax Increment Financing district to earmark future property tax revenue increases within the plan geography toward public improvement projects within the community.	Financing district evaluated
<b><u>Property Maintenance Requirements.</u></b> Subject to limitations of the Virginia Uniform Statewide Building Code, evaluate more stringent property maintenance requirements.	Ordinance amendments evaluated and adopted.
<b><u>Implementation Coordinator.</u></b> Designate a single point of contact within the county organization to coordinate and track plan implementation.	Staff person identified.
<b><u>Infrastructure Improvement.</u></b> Design, fund and construct the road, park and utility improvements recommended by the special area plan.	Improved roads, parks, and utility systems
<b><u>Asset Based Community Development.</u></b> Encourage and support citizen-driven asset based community development initiatives.	Build staff capacity and fund assistance programs
<b><u>JDA Support.</u></b> Continue working with the JDA to develop their self-sufficiency. County should assist in creation of work programs, strategic planning, membership drives and positive community outreach activities, events, and marketing.	Ongoing support to community-based organization
<b><u>Jefferson Davis Highway Neighborhood and Business Watches.</u></b> Proactively approach community entities in the Plan area to develop neighborhood and business watches to aid in crime prevention and police-community relationship building.	Neighborhoods and businesses contacted and new watches established
<b><u>Inventories of existing conditions.</u></b> Produce and maintain inventories of the condition of uses, sites and structures that contribute to the health of the community or may require attention due to poor condition of improvements, underutilization of property, or obsolescence of uses. This inventory should be updated regularly and used as a tool for advancing the revitalization recommendations of this Plan.	Ongoing efforts to create and maintain inventories.
<b><u>Community Organization Support.</u></b> Help develop and build capacity of community organizations serving the plan area.	Community organizations created and supported.
<b><u>Marketing Plan.</u></b> Develop a marketing plan to promote the Northern Jefferson Davis Community as a place to live, work, play, invest, and visit.	Ongoing efforts to market the Northern Jefferson Davis Community as a place to live, work, play, invest, and visit.



Northern Jefferson Davis Special Area Plan	
Action	Desired Outcome / Deliverables
<b>Falling Creek Bridge &amp; Ironworks Park.</b> Support the efforts of the Falling Creek Ironworks Foundation in the establishment of public/private partnerships to restore the historic Falling Creek Stone Bridge and establish a welcome center at the Falling Creek Ironworks Park.	Bridge restored / welcome center established.

Midlothian Community Special Area Plan		
Category	General Steps	Department Lead
Ordinances	<b>Design Standards.</b> Adopt new design standards consistent with applicable law that will guide future growth and development as identified in this plan.	Planning
	<b>Landscape Manual.</b> Review and revise the Village of Midlothian Technical Manual to ensure future landscape and streetscaping improvements are consistent with the recommendations of this plan.	Planning
Infrastructure	<b>Midlothian Pedestrian and Bicycle Network Improvements.</b> Seek and secure funding to construct the recommended pedestrian and bicycle network.	Transportation
	<b>Midlothian Turnpike, Woolridge Road Intersection Improvement.</b> Seek and secure funding to construct the recommended alternative intersection improvements recommended at the intersection of Midlothian Turnpike and Woolridge Road.	Transportation
	<b>Midlothian Turnpike Redesign Improvements.</b> Seek and secure funds to construct road improvements along Midlothian Turnpike in the Village Core. Work with VDOT to lower the speed limit to 35 Miles Per Hour for this section of Midlothian Turnpike.	Transportation
	<b>Water and Wastewater Extension.</b> Work with property owners in the area to extend the public water and wastewater systems into unserved areas.	Utilities
	<b>Urban Parks.</b> Partner with developers/property owners to include urban parks as community amenities as development proposals are brought forward.	Parks/Planning
Programs	<b>Innovation District.</b> Explore opportunities to establish an “Innovation District” within the Village Core to help incentivize the development and uses recommended in this plan.	Planning

	<b><u>Streetscape Maintenance District.</u></b> Work with area residents and businesses to explore the possibility of establishing a maintenance fund to provide streetscape infrastructure.	<b>Community Enhancement</b>
	<b><u>Implementation Committee.</u></b> Formalize the formation of an Implementation Steering Committee to work on and review implementation items such as ordinances, phasing and prioritization of implementation items, etc. This group would include a broad range of area representatives from community organizations, neighborhood associations, businesses and interested community members.	<b>Planning</b>
<b>Study</b>	<b><u>Stormwater Drainage Study.</u></b> Initiate a comprehensive stormwater management and drainage study to identify potential strategies for addressing stormwater with proposed new and redevelopment projects within the Village Core.	<b>Environmental Engineering</b>
	<b><u>Accessory Dwelling Unit Ordinance Study.</u></b> Conduct a study on accessory dwelling units (ADUs) that will inform future ordinance amendments and standards.	<b>Planning</b>
	<b><u>High Growth Area Impacts on Schools.</u></b> Identify strategies and recommendations to anticipate and account for impacts on schools from residential development in the county's high growth areas from Route 360 to the Western Midlothian area.	<b>Planning &amp; Schools</b>
	<b><u>Midlothian Turnpike Corridor Study.</u></b> Conduct a study provide a comprehensive analysis of the existing conditions and future transportation (bicycle, pedestrian, transit and vehicular) needs based on potential development densities recommended in the plan.	<b>Transportation</b>