CHARLES CITY COUNTY

COMPREHENSIVE LAND USE PLAN

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COMPREHENSIVE LAND USE PLAN

Adopted: September 22, 2009
Adopted: August 26, 2014

WE, Sir Anthony Richard Wagner, Knight Commander of the Royal Victorian Order, Garter Principal King of Arms, John Riddell Bromhead Walker, Member of the Royal Victorian Order, Clarenceux King of Arms and Walter John George Verco, Commander of the Royal Victorian Order, Norroy and Ulster King of Arms, having been requested by Richard Manuel Bowman, Chairman of the Board of Supervisors of the **COUNTY OF CHARLES CITY** in the Commonwealth of Virginia, in the United States of America, with the consent and approval of the Governor of the said Commonwealth of Virginia to devise for the County of Charles City such Armorial Ensigns as we may deem suitable to be borne and used for the County of Charles City on Seals or otherwise have devised the Armorial Ensigns following, that is to say, for Arms: Per Chevron Or and Sable in chief two Wreaths of Laurel Vert and in base a Cross formy Or a Bordure Vert charged with eight Mullets Argent that in the centre chief Or. for Crest: On a Wreath Or and Vert On a Mount Vert a Torch enflamed Or winged Argent between two Maize Plants leaved and fructed Or. for Supporters: On either side a Turkey Cock (Meleagris Gallopavo Silvestris) Or and for Badge: An Increscent and a Decrescent addorsed Argent and ensigned by an Ancient Crown Or. as are more clearly depicted in the margin. In Witness whereof we have subscribed our names and caused the Seals of our Several Offices to be affixed hereto at the College of Arms, London, this twenty eighth day of October One thousand nine hundred and seventy-five.

Anthony R. Wagner [redacted] Garter J.R.B. Walker [redacted] Clarenceux Walter J. Verco [redacted] Norroy & Ulster

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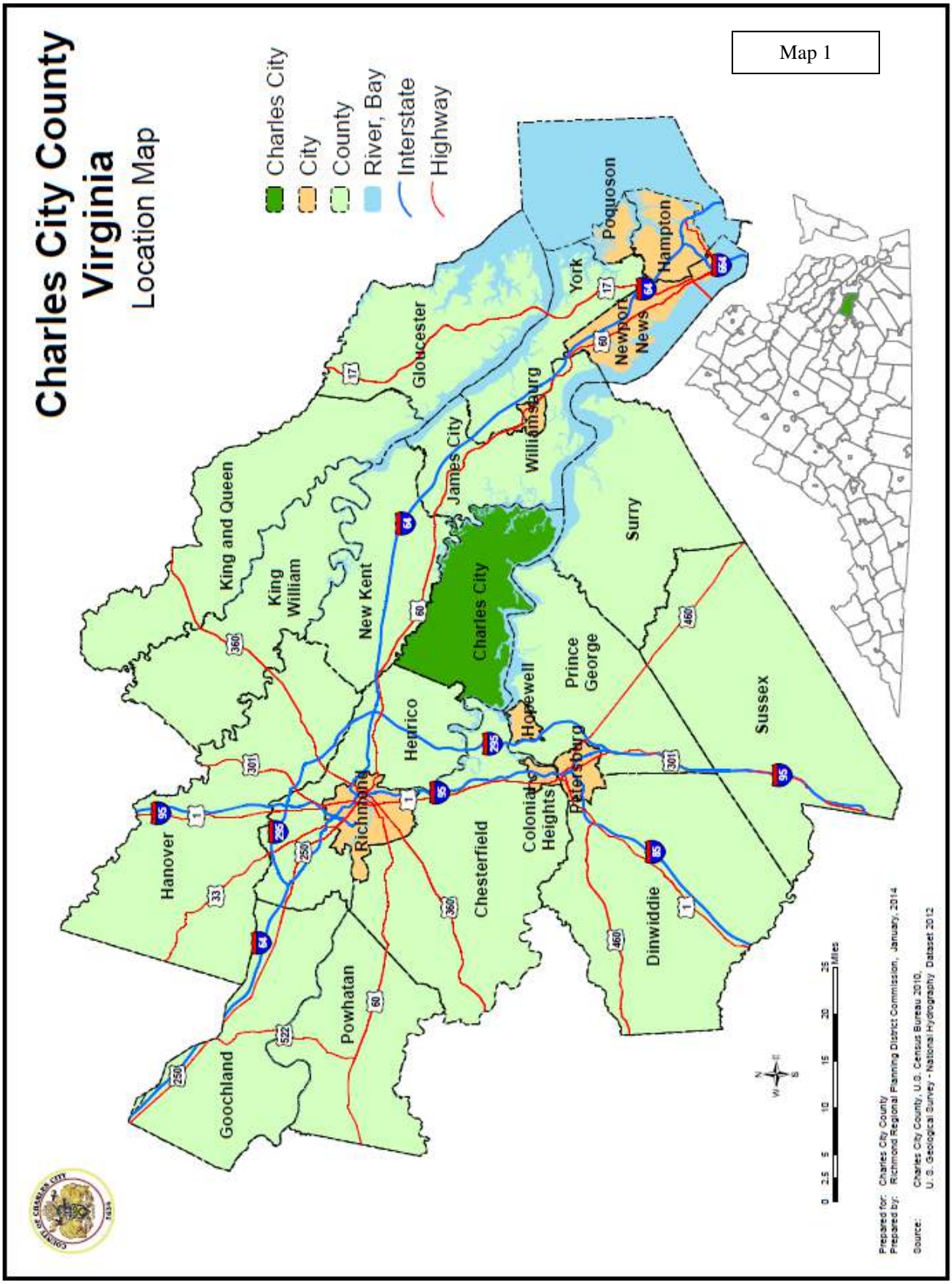
CHAPTER 1
INTRODUCTION

OVERVIEW

Charles City County is a quiet, rural community located between the fast-growing urban areas of Richmond and Williamsburg (See **Map 1**). Stands of pine and hardwood trees greet visitors at every entrance to the county. Small residential communities are nestled within the county's predominant land use of forests. Stately plantations and other historic sites remind visitor and resident alike of the long history of the county. Many of the county's natural and historic resources are nationally recognized.

Even with all of the positive attributes of the county, it, like all Counties, faces its share of challenges. Thankfully, the county and its leaders understand the current and future challenges facing the county, and know that proactive planning is necessary to address those challenges and ensure that the county continues to be a great place to live and work. These challenges are highlighted throughout the plan in appropriate sections that pertain to economic characteristics and demographics, utilities and infrastructure, and existing and future land use maps, along with strategies to assist in addressing the identified challenges and issues.

In order to better prepare for the future and its opportunities and challenges, Charles City County, with assistance from the Richmond Regional Planning District Commission, has prepared this Comprehensive Land Use Plan.


Charles City County
Virginia
Location Map
Charles City
City
County
River, Bay
Interstate
Highway
Map 1
Hanover
King and Queen
King William
New Kent
Goochland
Powhatan
Henrico
Richmond
Chesterfield
Colonial Heights
Petersburg
Hopewell
Prince George
Dinwiddie
Sussex
Surry
Charles City
James City
Williamsburg
Gloucester
York
Poquoson
Newport News
Hampton
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010,
U.S. Geological Survey - National Hydrography Dataset 2012
Miles

PURPOSE OF THE LAND USE PLAN

As the 21st Century progresses, change is taking place in and around the county. This change will bring both opportunities and challenges. Institutions and individuals that anticipate and plan for change will fare better than those who merely react. It is necessary for the county to continue to develop land-use and economic development strategies that address housing, employment and shopping needs of residents, while also ensuring that the county largely retains its existing rural character.

The purpose of this Comprehensive Land Use Plan is to serve as a guiding document that assists in implementing identified strategies. The plan contains a series of goals, objectives, and strategies describing how and where the county wants to grow. The plan serves as a guide, allowing public and private land owners to coordinate future development decisions within a shared concept of what the county wants to be. The future is never certain, however. As conditions change, the Plan will need to be reviewed and updated.

State law requires that this review take place at least every five years. Section 15.2-2223 of the Code of Virginia establishes the requirements for local comprehensive plans including necessary elements to be addressed, process for adoption, public involvement and review cycle.

SCOPE OF THE PLAN

Three terms can be used to describe the scope of this Comprehensive Land Use Plan: general, long-range and comprehensive. The plan is general in that it contains goals, objectives, and strategies that can be used to guide future development decisions. The plan does not indicate when or how individual parcels of land should develop. Such details are addressed in specific ordinances and policy documents such as the zoning and subdivision ordinances, capital improvement plans and so forth.

The plan is long-range in that it deals with anticipated development over the next 20 years. Looking that far into the future is difficult, especially in a rural county located adjacent to rapidly growing urban areas. A long-range view is necessary, however, if the county is to attempt to guide development toward appropriate locations and protect rural, historical, forestal, agricultural, and environmentally sensitive lands—like Chesapeake Bay Preservation Areas.

Finally, the plan is comprehensive in that it encompasses the entire geographic area of the county and all types of land uses. The Plan examines the natural and man-made environment. Recommendations cover agricultural, forestal, residential, commercial, industrial, and public and semi-public uses.

ORGANIZATION OF THE PLAN

The county's Land Use Plan is organized into three major categories. Chapters 1-7 include an inventory and analysis of factors that have influenced past land use trends and trends that will influence development in the future. These factors include historic and archaeological resources; population, housing and economic analysis; natural resources; existing land use inventory; community facilities; utilities and the transportation network. These chapters contain regional and local development trends, and assess the county's assets and constraints.

Chapters 8 and 9 comprise the part of the plan that looks ahead to the future. They set forth future development goals and objectives. A series of strategies and policies that can assist in reaching these development goals and objectives are included as well as a discussion of desirable growth strategies.

Chapter 10 outlines a future land use implementation program that will aid in achieving the goals and objectives of the plan. Specific additions or modifications to the county's development regulations are discussed. Also discussed are other planning efforts necessary to meet the future needs of the county. A future land use is presented as a means to visualize how the county could develop if these objectives and strategies are followed.

DEVELOPMENT OF THE PLAN

The county began updating the existing 2009 Comprehensive Land Use Plan in early 2013. In order to update the 2009 Comprehensive Land Use Plan, the county solicited data input from numerous federal, state, and local organizations. These organizations were asked to provide information about any changes in the plan's basic data such as changes in population characteristics, natural resource features, historic resources, and community facilities. Other organizations that provided input include the U.S. Census, the Virginia Department of Historic Resources, the Virginia Department of Conservation and Recreation (DCR), the Virginia Economic Development Partnership, the Virginia Department of Forestry, the Virginia Department of Taxation, the Virginia Department of Transportation, the Colonial Soil and Water Conservation District, the Charles City County Health Department, the Charles City County Department of Social Services, DCR's Division of Chesapeake Bay Local Assistance, the Department of Environmental Quality, the Virginia Employment Commission, U.S. Department of Housing and Urban Development, and the Richmond Regional Metropolitan Planning Organization.

During the 2014 Comprehensive Land Use Plan update process, the Planning Commission and Staff presented a draft to the public and conducted three public informational meetings to receive valuable citizen input and comments. This feedback was carefully considered by both the Planning Commission and Board of Supervisors, as they worked to create and adopt the given 2014 Comprehensive Land Use Plan. On August 26, 2014, the 2014 Comprehensive Land Use Plan was formally adopted by the County's Board of Supervisors immediately following an advertised joint-public hearing with the Planning Commission.

CHAPTER 2
HISTORICAL and ARCHEOLOGICAL RESOURCES

OVERVIEW

When the ships of the Jamestown Company entered the James River in 1607 the land that was to become Charles City County was home to three Indian tribes, the Chickahominy, Paspehegh and Weyanock. The first English settlement planted within the contemporary boundaries of Charles City was West and Shirley Hundred planted in 1613.

Charles City was one of four "boroughs" or "incorporations" created by the Virginia Company in 1618, and was named for the English King's son, Charles, who later became King Charles I. The four "boroughs" evolved into county governments most likely following the Powhatan uprising in 1622. When first established, Charles City comprised a large area on both sides of the James River, but gradually it lost land area to the formation of other counties.

In 2007 the Board of Supervisors decided to adopt 1613 as the date of origin for the county because the three other "boroughs" (James City County, Henrico County and the City of Hampton) all use the date of the first English speaking settlement as their date of origin. Also, the 1645 date earlier used by the county is historically inaccurate. The transition to 1613 on all county emblems, flags and seals remains a work in progress. There is no doubt, however, that Charles City is one of the oldest local governments in America.

The county and its residents are a reflection of America's past. Its historic and archaeological resources provide important data concerning the development of early man, settlements of Native Americans, the entry of the Europeans and Africans into the New World, the colonial periods, and the Civil War. Its river banks, farm fields and timber lands embrace a wealth of historic resources from its unequaled collection of James River plantations to its unpretentious clapboard churches. Many of the county's residents descend from planters, yeoman farmers, indentured servants, slaves, free Blacks and Native Americans who first fished the rivers, cut the timber, and farmed the lands. This connection with the past helps explain why many county residents have stayed and wish to see the county's resources conserved.

The Charles City County Center for Local History, established by the County Board of Supervisors in late 1995, serves the county's residents by coordinating the preservation of the county's historic resources. A possible new facility in the

courthouse complex could house both a branch of the Heritage Library and the History Center. Interest for beginning the county's Center for Local History was popularized with the publication of Charles City County, Virginia, an Official History. This interest was further promoted with the later publication by D. Gardner Tyler of A History and Pictorial Review of Charles City County, Virginia. This and other works about the county are available through the Charles City County History Center and the Heritage Public Library branch at Charles City Courthouse. The community web site www.charlescity.org provides historical information about the county and a number of online exhibits and genealogical data bases.

In 2007 the county restored its historic 1901 Clerk's Office to its original exterior appearance and created a self-service visitor center with displays based on the history of the county. This project was a cornerstone in the construction of the first segment of the Virginia Capital Trail, a multi-use paved path that will run from Jamestown to Richmond when completed.

Presently, there are 15 historic markers under the county marker program and ordinance and 22 state historic markers. The county also has a number of sites that are included in national and state networks and trails. Lawrence Lewis Jr. Park is a part of the Chesapeake Bay Gateways network and the Captain John Smith Chesapeake National Historic Trail. River's Rest Marina is a gateway site for the Chickahominy Water Trail which is a leg of the same national trail. Ten sites in the county are a part of the Virginia Civil War Trails network. Ten sites are listed on the NPS James River Plantations Travel Itinerary. Nine sites are a part of the Virginia Birding and Wildlife Trail. Two sites are listed on the NPS American Presidents Travel Itinerary. The county presently has a total of 13 interpretive exhibits located outdoors and indoors on county property.

Captain John Smith

Approximately 40 local businesses serve tourists and travelers alike, which include: Approximately 16 attractions open daily and/or by appointment; 8 places of overnight accommodation; 5 dining establishments; 8 stores/gift shops; and 1 marina.

The county is also known for its cultural and historical events including: The Chickahominy Tribal Pow-Wow, the First Thanksgiving, the Battle of Fort Pocahontas and the Charles City County Fair.

HISTORIC RESOURCES IN CHARLES CITY COUNTY

Identified by the Virginia Department of Historic Resources

The county is well-known for an abundance of historic sites and structures. As shown on **Map 2**, these resources are found throughout the county. Twenty-eight sites are listed in the National Register of Historic Places. The Virginia Department of Historic Resources has identified another five sites that are eligible or potentially eligible for the Register and one potentially eligible historic district. Some of the information found in the Department's survey follows:

AARON HILTON SITE
Virginia Historic Landmark
Includes the remains of a simple house built between 1870 and 1877 for Aaron Hilton, a respected former slave.

BELLE AIR, Charles City Courthouse
National Register of Historic Places, Virginia Historic Landmark
Built circa 1700. Rare exposed interior framing and the heavy Jacobean closed-string railing are characteristic of seventeenth century building methods.

BERKELEY, Herring Creek
National Historic Landmark, National Register of Historic Places, Virginia Historic Landmark
Settled in 1619 as Berkeley Hundred. The present house was built in 1726 by Benjamin Harrison IV. President William Henry Harrison was born at Berkeley.

CHARLES CITY COUNTY COURTHOUSE,
Charles City Courthouse
National Register of Historic Places
Virginia Historic Landmark
Built circa 1730, succeeding earlier county seats at City Point and Westover. One of Virginia's six colonial court structures built with an arcaded facade.

CHARLES CITY COUNTY COURTHOUSE HISTORIC DISTRICT
Potentially Eligible for the National Register of Historic Places
The county seat, one of Virginia's original eight shires. Including Charles City Courthouse, Major House and Store, original Charles City High School, Greenway, Bush Hill, and Belle Air.

DOGHAM, Wayside

National Register of Historic Places, Virginia Historic Landmark

Greek Revival style, one-and-a-half story, frame, center-hall plan house built in the mid nineteenth-century.

EAGLES NEST (MARGOTS/CLAYBANCKE), Mount Zion

National Register of Historic Places, Virginia Historic Landmark

Built in the first quarter of the eighteenth century. A rare survival of Virginia's early manor houses. Distinctive brickwork laid in English bond includes glazed headers.

EDGEWOOD (HARRISON'S MILL), Herring Creek

National Register of Historic Places, Virginia Historic Landmark

Gothic revival style house built circa 1854 for Richard S. Rowland, formerly of New Jersey. The eighteenth-century mill was owned by Benjamin Harrison V.

EDNA'S MILL AND MILLER'S HOUSE, Hughes Store (Roxbury)

Potentially Eligible for the National Register of Historic Places

An unusual eighteenth-century miller's house and late nineteenth-century, frame mill.

EPPES ISLAND, Wayside

National Register of Historic Places, Virginia Historic Landmark

Originally settled as part of Shirley Hundred. The island contains five seventeenth-century sites, two eighteenth-century sites and one circa 1790 dwelling.

EVELYNTON

National Register of Historic Places, Virginia Historic Landmark

This two story brick Georgian house with a slate roof was originally built around 1760 and later burned in 1860. The house was rebuilt for the Ruffin family in 1860. The current house was built in the1930s.

FORT POCAHONTAS

National Register of Historic Places

Virginia Historic Landmark

1864 site built and secured by over 1,000 members of the United States Colored Troops against CS Major General Fitzhugh Lee and his 2,500 soldiers.

GLEBE HOUSE OF WESTOVER PARISH, Charles City Courthouse
National Register of Historic Places, Virginia Historic Landmark
This two-and-a-half-story, brick house was built between 1720 and 1757 during the tenure of Rev. Peter Fontaine. Served as the residence of the clergymen until 1805.

GREENWAY, Charles City Courthouse
National Register of Historic Places, Virginia Historic Landmark
The frame, one-and-a-half-story, center-hall plan house was built circa 1776 for Judge John Tyler, Governor of Virginia (1808-11). Birthplace of President John Tyler.

HARDENS, Roxbury
National Register of Historic Places, Virginia Historic Landmark
First served as a subsidiary farm to Shirley. Built in 1846 by Hill Carter of Shirley for his son Lewis Warrington Carter. Acquired by David Walker Haxall in 1852.

HIGH HILLS, Westover
Potentially Eligible for the National Register of Historic Places
Prominent home once inhabited by Charles Carter.

JOHN TYLER HOUSE (SHERWOOD FOREST)
Charles City
National Historic Landmark, National Register of Historic Places, Virginia Historic Landmark
The home of President John Tyler from 1845 until his death in 1862. Interior woodwork based on the designs of Minard Lafever. Expansive three-hundred foot facade.

KITTIEWAN, Charles City
National Register of Historic Places, Virginia Historic Landmark
Built for David Minge before his death in 1779. This medium-sized colonial plantation house possesses elaborate interior paneling. General Sheriden camped here.

LOTT CARY BIRTH SITE, Adkins Store
National Register of Historic Places, Virginia Historic Landmark
The late eighteenth-century dwelling recognized as the birthplace of Lott Cary (1780-1829), the first black missionary to Africa and a founding father of Liberia.

MOSS SIDE, Binns Hall
Potentially Eligible for the National Register of Historic Places
This two-story, frame, center-hall plan house was built in 1857 for Edmund Archer Saunders. The original pantry wing and smokehouse also survive.

MOUNT STIRLING, Sandybottom

National Register of Historic Places, Virginia Historic Landmark

A sophisticated two-story, brick, four-over-four, center-hall plan, Greek Revival style house with vernacular outbuildings.

NORTH BEND, Weyanoke

National Register of Historic Places,
Virginia Historic Landmark

Built in 1819 for Sarah Harrison and enlarged in 1855 for Thomas H. Willcox. Federal style and Greek Revival style elements from both periods survive.

PINEY GROVE, Binns Hall

National Register of Historic Places,
Virginia Historic Landmark

Original log portion built circa 1800 on the plantation of Furnea Southall, Sheriff of Charles City. A general merchandise store was operated by Edmund Archer Saunders.

POPLAR SPRINGS, Binns Hall

National Register of Historic Places, Virginia Historic Landmark

Frame, one-and-a- half story, side-hall plan house built in 1809 for Joseph Vaiden and enlarged in 1844 as a center-hall house for Susan Vaiden Gregory.

RIVER EDGE, Willcox Wharf

Potentially Eligible for the National Register of Historic Places

An eighteenth-century, one-and-a-half-story, frame, center-hall plan house with Colonial Revival style additions.

THE ROWE, Sandy Point

National Register of Historic Places, Virginia Historic Landmark

The east wing was built before 1779 by David Minge. The Palladian-inspired tripartite scheme was completed before 1808 by Minge's son, George Hunt Minge. This site is no longer standing.

SHIRLEY, Wayside

National Historic Landmark, National Register of Historic Places, Virginia Historic Landmark

First settled as Shirley Hundred. Patented in 1660. Forecourt buildings built circa 1723 and house built circa 1740. House contains elaborate staircase and paneling.

UPPER SHIRLEY, Wayside

National Register of Historic Places, Virginia Historic Landmark

Built 1868-70 by Hill Carter for his son, William Fitzhugh Carter, by A.H. Marks of Petersburg and enlarged 1890-91 by the Edmund Archer Saunders family.

UPPER WEYANOKE, Weyanoke

National Register of Historic Places, Virginia Historic Landmark

A two-story, brick, Greek Revival style dwelling built in 1859 for Robert Douthat. The early nineteenth-century, brick cottage was probably built by John Minge.

WESTOVER, Herring Creek

National Historic Landmark, National Register of Historic Places, Virginia Historic Landmark

America's premier example of eighteenth-century Georgian domestic architecture was built circa 1730 by William Byrd II. Original gardens, outbuildings and English gates.

WESTOVER CHURCH, Herring Creek

National Register of Historic Places, Virginia Historic Landmark

Established as early as 1625, the present brick structure was built in 1731 to replace an earlier church on the grounds of Westover.

WEYANOKE PLANTATION, Weyanoke

National Register of Historic Places, Virginia Historic Landmark

This area was first settled by Indians circa 6500 B.C., during the Middle Archaic period. Housewright John Stubbs built the two-and-a-half story, frame house in 1798 for Fielding Lewis.

WOODBURN, Willcox Wharf

National Register of Historic Places, Virginia Historic Landmark

Shortly after 1813, John Tyler built the provincial tripartite Palladian-inspired house which he sold to his brother Wat H. Tyler before he became the tenth U.S. President.

In addition to these sites and structures, the John Tyler Memorial Highway (Route 5), which links the City of Richmond with the City of Williamsburg, provides access to several historic sites in the county and is designated as a Scenic Byway by the state. The Scenic Byway designation, specially marked on state highway maps, helps promote the county's historic tourism industry along Route 5.

Several of the county's historic structures located along Route 5 are open to the public for tours. This allows visitors to see how life was lived in earlier times. In addition, commercial activities such as bed and breakfast inns have been opened in some of the county's historic structures. Many of the original plantation houses have been preserved and help us understand the society of that time. The plantation settlements are especially significant because they encompass four centuries of plantation life.

Such notable plantations include: Berkeley Plantation, Westover Plantation, Shirley Plantation and Sherwood Forest. The Berkeley Plantation mansion was built in 1726 by Benjamin Harrison, IV. Berkeley was the birthplace of Benjamin Harrison, V, a signer of the Declaration of Independence, and the governor of Virginia. Berkeley was also the home of William Henry Harrison, the ninth president of the United States. Westover Plantation was constructed around 1730 by William Byrd, II, a notable Virginia planter, author and colonial official. Shirley Plantation was built around 1738 by Charles Carter and is still owned by the Carter family. Finally, Sherwood Forest is a plantation that was purchased in 1842 by John Tyler, the tenth President of the United States.

The Virginia Department of Historic Resources has conducted an architectural survey of properties and structures in Charles City County. Presently, the department has inventoried and recorded 271 historically significant properties or structures and maintains detailed records of each. From the information collected by the Virginia Department of Historic Resources in the 1980s, the department prepared a brief report on the historic resources in the county. The major recommendations to the county in this report were:

1. Conduct a more intensive study of historic resources before the next revision of the Comprehensive Plan.

2. Consider the establishment of rural historic districts along John Tyler Memorial Highway (Route 5) and along The Glebe Lane (Route 615) and Willcox Neck Road (Route 623).

3. Develop a slide and tape program on historic and archaeological sites in the county to be used in the public school system.

A copy of this report can be obtained from the Virginia Department of Historic Resources. In addition to the recommendations found in the report, the county believes any study of historic resources should include recommendations about sites and structures for commemoration with historic markers or for nomination to the National Register. In particular, the county believes any study of historic resources should specifically identify and document sites and structures important to the history of Charles City County's free Black population. Such sites and structures include the Parrish Hill and Mt. Zion school houses, both built with monies from the Rosenwald Fund. The Lott Cary House, already part of the National Register of Historic Places, is recognized as the birthplace of the first Black missionary to Africa and a founding father of the Country of Liberia. Fort Pocahontas, also on the National Register, was the site of the first major test of U.S. Colored Troops after the Fort Pillow massacre.

ARCHAEOLOGICAL RESOURCES

Several hundred archaeological sites have been identified in Charles City. Most of these archaeological sites lie along the James and Chickahominy Rivers and waterways extending into the interior of the county. **Map 2** provides the general locations of the archaeological findings.

The earliest known archaeological sites in Charles City can be found at Weyanoke. The peninsula has been occupied since about 8000 B.C. and contains many sites from the Prehistoric and Middle Archaic periods. Eppes Island also has a significant number of prehistoric sites from the Archaic and Woodland periods.

Archaeological findings reveal the presence of Native American communities in Charles City County in the early 1600s. Sites consist mainly of Indian camping grounds along the shoreline areas. Three Indian tribes have been identified. These are the Chickahominy along the Chickahominy River, the Paspahegh in the

Sandy Point area and the Weyanock in the area stretching from Weyanoke to Shirley Plantation.

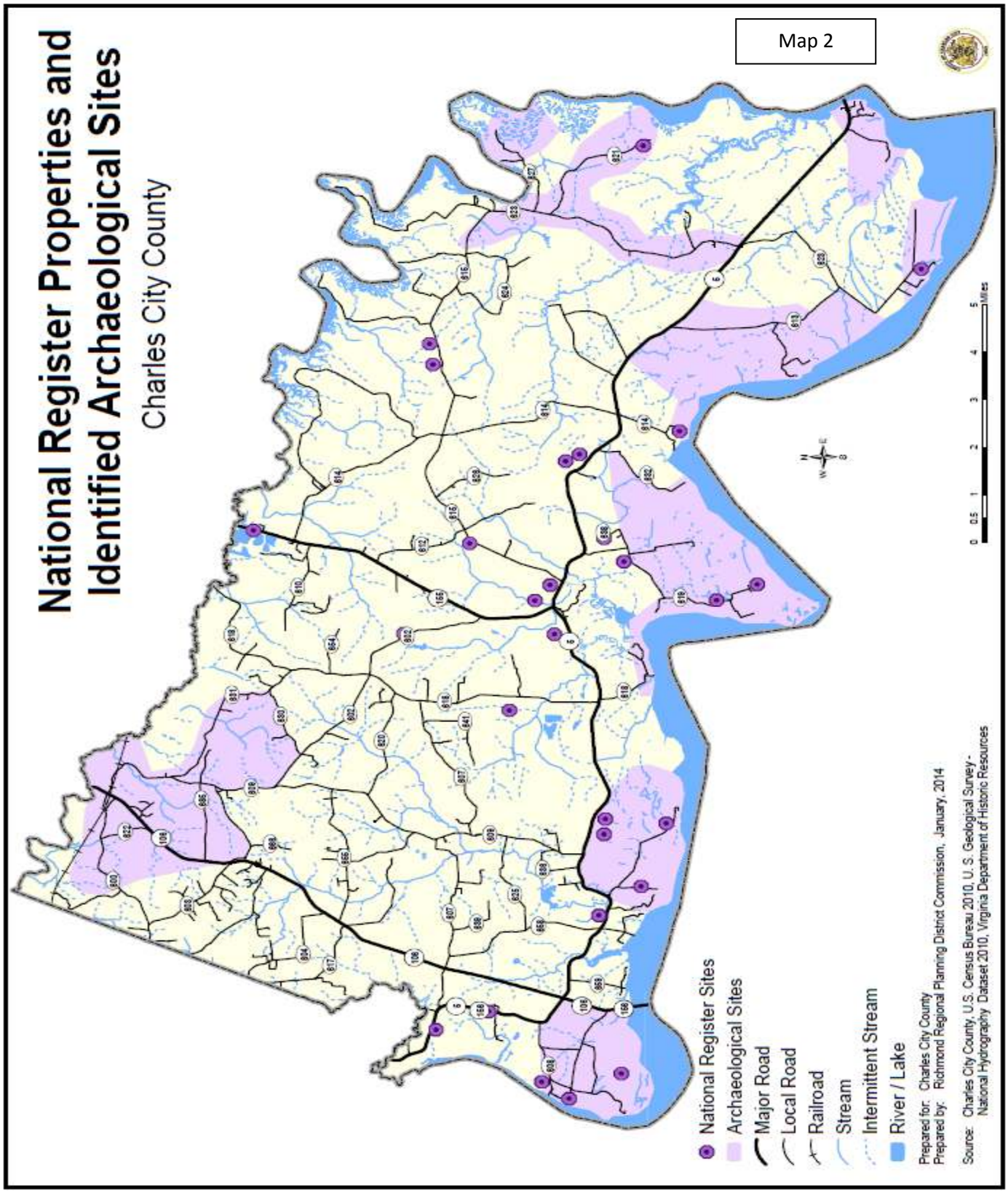
Colonial era settlements were established in the same areas of Charles City as those of Native Americans. Sites indicate the presence of farming communities and industrial activities along the James River. In fact, Sturgeon Point is considered to be one of the first sites for the brick making industry in the nation.

Many Civil War sites exist in the county including Fort Pocahontas. At this fort the United States Colored Troops soundly defeated an attack by 2500 Confederate Troops, which were under the command of Major General Fitzhugh Lee, the nephew of General Lee, in 1864. Fort Pocahontas and the Saint Mary's (Samaria) Church battlefield site may be candidates for preservation under the American Battlefields Protection Act.

It is expected that many more sites exist in Charles City County. The time and labor necessary to survey one archaeological site limits the ability to conduct a county-wide survey. Therefore, archaeologists suggest that an archaeological survey be required prior to construction of any major development or permitting of any mining in the county.

SUMMARY

Charles City County is a reflection of America's past. Its historic and archaeological resources provide important data concerning the development of early man, settlements of Native Americans, the entry of the Europeans and African into the New World, the colonial period, and the plantation period. The county and its peoples' history, archaeological remnants, and unique culture are a rare treasure and should be valued by both residents and visitors alike. As the county continues to boldly advance into the 21st century, it should both consider and be mindful of its vivid and vibrant past.


Map 2
National Register Properties and Identified Archaeological Sites
Charles City County
National Register Sites
Archaeological Sites
Major Road
Local Road
Railroad
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010, Virginia Department of Historic Resources
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CHAPTER 3
POPULATION, HOUSING and ECONOMIC CHARACTERISTICS

OVERVIEW

Charles City County features a beautiful landscape, a rich history, and a location that is rural while also close to an urban environment. In addition to these advantages, the greatest feature of the county is found in its people.

The analysis of population, housing and economic data allows a better understanding of the county's present conditions and potential future trends. Comparing data across time or with state or regional figures provides benchmarks to discern the significance of the data.

Included in this section are characteristics of residents in Charles City County, where they live and where they work. This data is important in that it may indicate potential growth patterns. Projections are also provided about future population growth and household income.

Most of the data used in this section is taken from the U.S. Census Bureau. Other sources include the Richmond Regional Planning District Commission, Weldon Cooper Center for Public Service at the University of Virginia, Virginia Employment Commission, and the Virginia Economic Development Partnership.

Several significant trends occurred in Charles City County from 1990 to 2010 as revealed by the U.S. Census. These trends are summarized and illustrated on the following pages.

POPULATION CHARACTERISTICS

The following provides information concerning the population makeup of the county and how the population has changed over the years. Also presented are population projections for the county, the region, and the state.

Population Growth

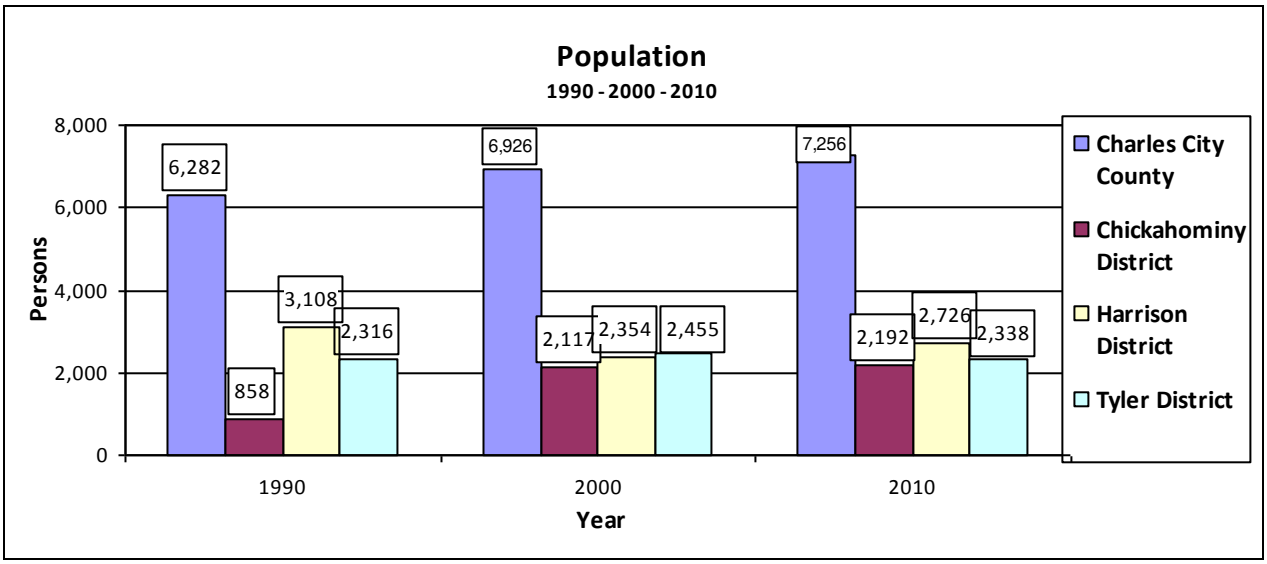
As shown in **Table 1**, the county population changed slightly from 2000 to 2010. In 2000, 6,926 persons lived in the county. The population grew to 7,256 persons in 2010. This growth in population represents an increase of 5 percent for the ten year period. While the county's population increased, the Richmond Region and Virginia grew by 15 percent and 13 percent, respectively.

As shown in **Figure A**, the county's 2010 population was distributed fairly evenly amongst the three electoral districts. This was a significant change from 1990, when the population was mainly concentrated in the Harrison and Tyler Districts. The change was due to a redistricting by the U.S. Census Bureau that took effect prior the 2000 Census. In 2010, the Harrison District (Census Tract 6001), located in the western part of the county, contained roughly 38 percent, of the total population; the Tyler District (Census Tract 6002), located in the central portion of the county, contained approximately 32 percent of the population; the remaining 30 percent of the county's residents were living in the Chickahominy District (Census Tract 6003), located in the eastern portion of the county. The only portion of the county with a negative growth rate between 2000 and 2010 was the Tyler District, which decreased by about 5 percent.

TABLE 1

Population Change					
Location	**1990**	**2000**	**2010**	**Growth Rate**	
				1990-2000	**2000-2010**
Charles City County	6,282	6,926	7,256	10%	5%
→Chickahominy District	858	2,117	2,192	147%	3%
→Harrison District	3,108	2,354	2,726	-24%	16%
→Tyler District	2,316	2,455	2,338	6%	-5%
Richmond Regional Planning District	745,599	872,538	1,002,696	17%	15%
Virginia	6,187,358	7,078,515	8,001,024	14%	13%
Source: U.S. Census; Virginia Employment Commission					

FIGURE A



Population Projections

From 2010 to 2020, the region and the state are expected to grow by 15 percent and 10 percent, respectively according to estimates by the Virginia Economic Commission (VEC). The county's population is expected to increase by seven percent between 2010 and 2020, approximately half of the projected growth rate for the region and 78 percent of the projected rate for the state. The numbers in **Table 2** show projected populations through 2040 for the county, the region and the state. Based on VEC projections, the county's population is expected to increase by eight percent between 2020 and 2030 and six percent between 2030 and 2040. The total state population is projected to grow at the rate of 9 percent between the time periods 2020 to 2030 and 2030 to 2040.

TABLE 2

Population Projections 2010 - 2040							
					Growth Rate		
Location	**2010**	**2020**	**2030**	**2040**	**2010 to 2020**	**2020 to 2030**	**2030 to 2040**
Charles City County	7,256	7,811	8,376	8,905	8%	7%	6%
Richmond Regional Planning District	1,002,696	1,151,229	1,314,978	1,496,955	15%	14%	14%
Virginia	8,001,024	8,811,512	9,645,281	10,530,229	10%	9%	9%
Source: U.S. Census; Virginia Employment Commission							

Racial Composition

TABLE 3

Charles City County Racial Composition 1990 - 2010			
Race	**1990**	**2000**	**2010**
Black	63%	57%	48%
White	29%	36%	41%
Native American	8%	9%	7%
Source: U.S. Census			

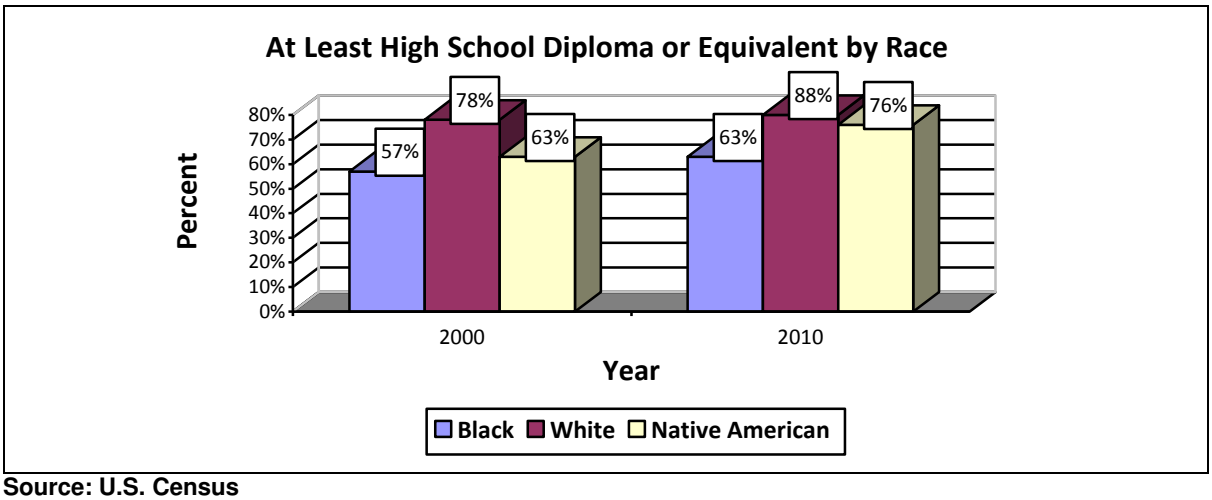
The majority of the county's residents are Black, as shown in **Table 3**. In 2010, the Black population composed 48 percent of the total population. This figure continues the decreasing trend from 1990, when the Black population composed 63 percent of the total population. The White population increased from 36 percent in 2000 to 41 percent in 2010. The Native American population decreased slightly, from 9 percent in 2000 to 7 percent in 2010.

Educational Attainment

The percentage of county residents whose highest educational attainment was graduating from high school increased between 2000 and 2010. In 2000, about 66 percent of the county's residents over the age of 25 had attained at least a high school diploma. By 2010, this figure had increased to 75 percent.

Those who have attained at least a high school diploma varied among races, however. The percentage of Black population increased from 57 percent in 2000 to 63 percent in 2010. The White population increased from 78 percent in 2000 and to 88 percent in 2010. The Native American population also increased from 63 percent in 2000 to 76 percent in 2010. The population 25 years and older having at least attained a high school degree by race is illustrated in **Figure B**.

FIGURE B



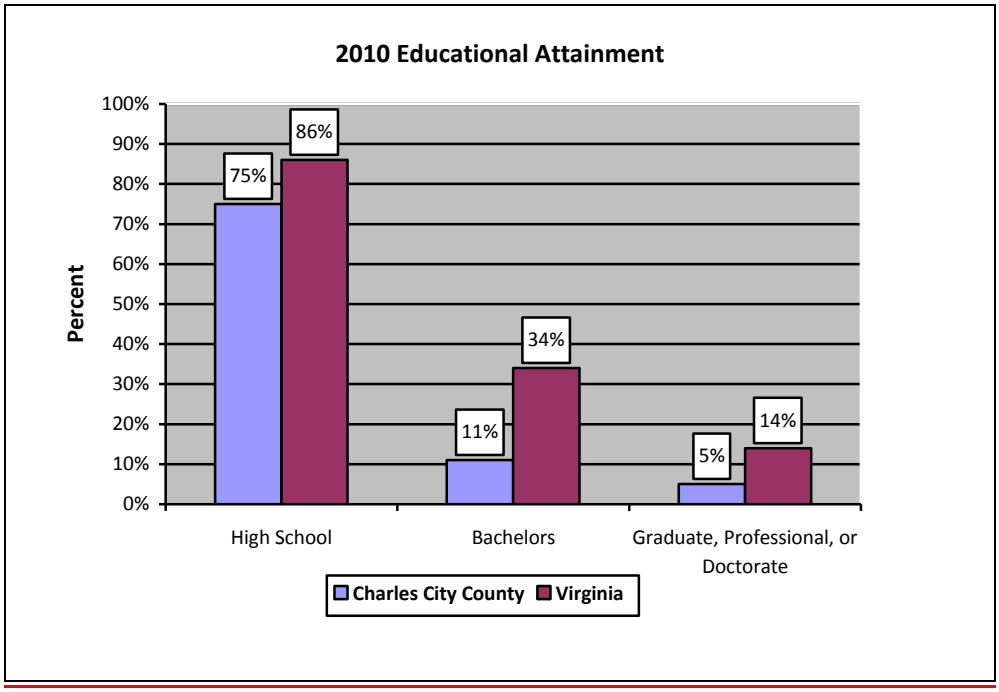
Source: U.S. Census

The percentage of county residents which have attained at least a high school degree underperformed the state's percentage in 2010, with 75 percent to 86 percent, respectively. The percentage of the county's residents who have at least attained a college degree held steady between 2000 and 2010 at 11 percent. In addition, in 2010, five percent of the county's residents had completed a degree past the undergraduate level. This information is illustrated in both **Table 4 and Figure C**.

TABLE 4

Highest Educational Attainment 2000 and 2010				
	Charles City County		**Virginia**	
Diploma	2000	2010	2000	2010
High School	66%	75%	81%	86%
Bachelors	11%	11%	30%	34%
Graduate, Professional, or Doctorate	3%	5%	12%	14%
Source: U.S. Census, 2000 Summary File 3, Table P037; 2006-2010 American Community Survey 5 Year Estimates, Table B15002				

FIGURE C



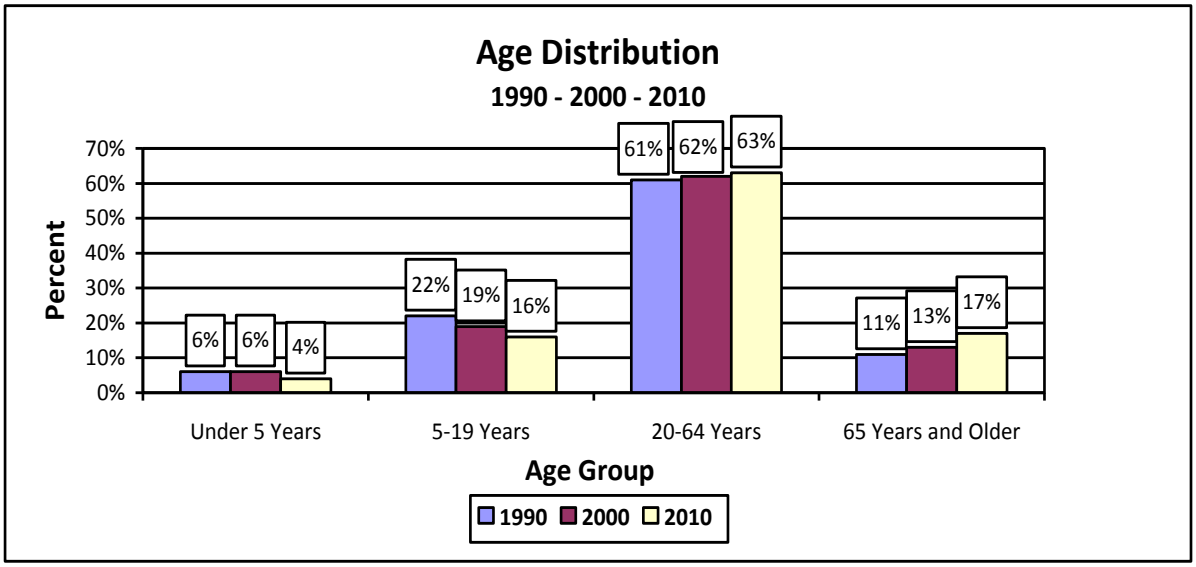
Age Distribution and Median Age

The age distribution of persons in Charles City County continued the trend of depicting an aging citizenry. The number of persons under 5 years decreased from 6% in 2000 to 4% in 2010. The number of school-aged children, from 5 years to 19 years, also continued to decrease from 19 percent in 2000 to 16 percent in 2010. Meanwhile, the number of wage-earners, from 20 years to 64 years, increased from 62 percent in 2000 to 63 percent in 2010. The number of retired persons 65 years and older increased from 13 percent in 2000 to 17 percent in 2010. **Table 5** indicates the changes in the county's age distribution from 1990 to 2010. This information is further illustrated in **Figure D**.

TABLE 5

AGE DISTRIBUTION Percent of Total Population			
Age Group	**1990**	**2000**	**2010**
All Ages	100%	100%	100%
→ Under 5 years	6%	6%	4%
→ 5-19 years	22%	19%	16%
→ 20-64 years	61%	62%	63%
→ 65 years and older	11%	13%	17%
Source: U.S. Census, 2000 Summary File 1, Table P012; 2010 Summary File 1, Table P12.			

FIGURE D

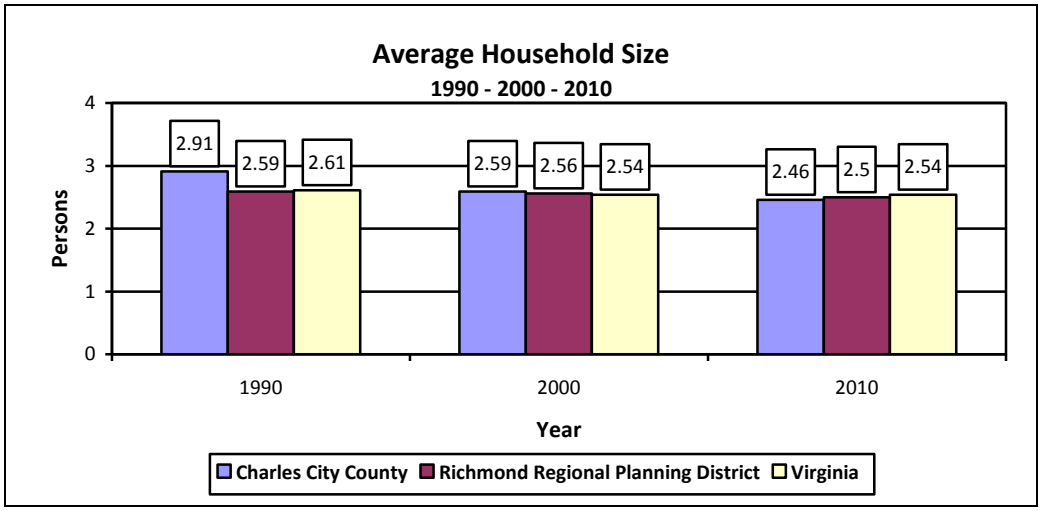


According to the U.S. Census, in 2000 the median age of county residents was slightly older than the statewide average. The county's median age was 39.9 years compared to the State's 35.7 years. The median is defined as the middle point—where there is the same number of people above the middle point as below. In 2010, the trend continued with the median age of county residents at 46.6 years as compared with the state median of 37.5 years.

Average Household Size

Household size provides information about the total number of people living in a household. Household size data for Charles City County shows that the average number of persons per household continued to decrease between 2000 and 2010. As shown in **Figure E**, the county's average household size was 2.46 in 2010. The region's and state's average household sizes were for the first time since 1990 higher at 2.50 and 2.54, respectively.

FIGURE E



Average Number of Children per Household

The average number of children per household in Charles City County was 0.44 in 2010. The average number of children per household in Virginia was 0.60 in 2010. This information is shown in **Table 6**.

TABLE 6

AVERAGE NUMBER OF CHILDREN PER HOUSEHOLD		
Location	**2000**	**2010**
Charles City County	0.57	0.44
Virginia	0.64	0.60
Source: U.S. Census, 2000 Summary File 1, Table P012 and H003; 2010 Summary File 1, Table P12 and H3		

HOUSING CHARACTERISTICS

Household characteristics include data on the number and type of housing units, housing value, the amount of rent paid, and housing conditions. This information can also be used to project the number and types of units necessary for future populations.

In 2000, there were 2,895 housing units in Charles City County. The number of housing units increased to 3,229 in 2010, which is a 12 percent increase over the course of the decade. (This increase is two times the population growth rate of the county over the same period even when considering the decrease in household size.)

Type of Housing Unit

The majority of housing in Charles City County continues to be single family homes. According to the 2010 U.S. Census, 84 percent of the county's housing was single family as compared to 78 percent in 2000.

The percent of multi-family and duplex units in the county decreased slightly between 2000 and 2010. In 2010, only 1 percent of the county's housing was multi-family and duplex. The number of manufactured homes, including both single-wide and double-wide, also decreased in 2010 to 15 percent. The county defines manufactured homes as "*a structure subject to federal regulation, which is transported in one or more sections; is eight body feet or more in width and 40 body feet or more in length in the traveling mode, or is 320 or more square feet when erected on site; is built on a permanent chassis; is designed to be used as a single family dwelling; with or without a permanent foundation, when connected to the required utilities; and includes the plumbing, heating, air-conditioning, and electrical systems contained in the structure*". The type of housing units in the county in 1990, 2000 and 2010 is illustrated in **Table 7 and Figure F.**

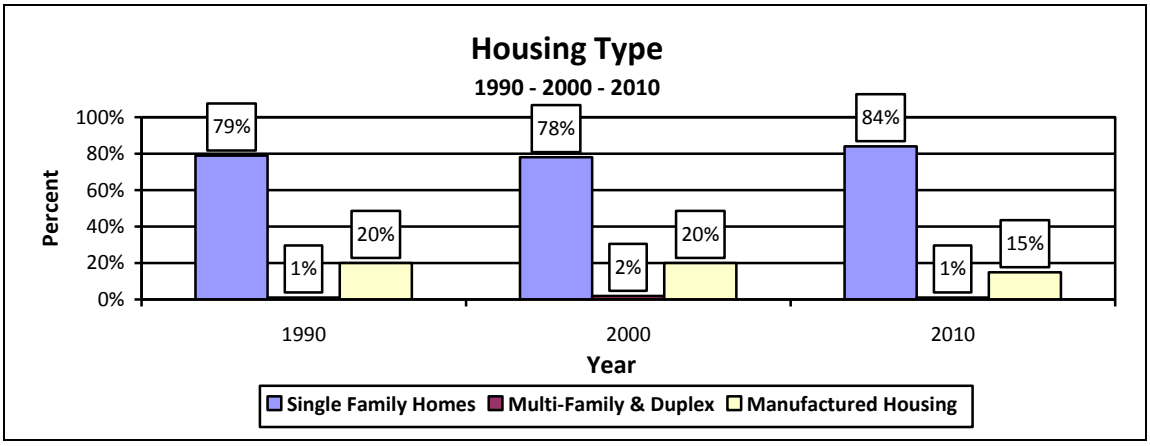
TABLE 7

Charles City County Housing Type
1990 - 2010

Type of Housing Units	**1990**	**2000**	**2010**
Single Family Homes	79%	78%	84%
Multi-Family & Duplex	1%	2%	1%
Manufactured Housing	20%	20%	15%
TOTAL	100%	100%	100%

***Note: Manufactured Housing includes both single-wide and double-wide.**
Source: Building Official's Permit Records

FIGURE F



Building Permit Data

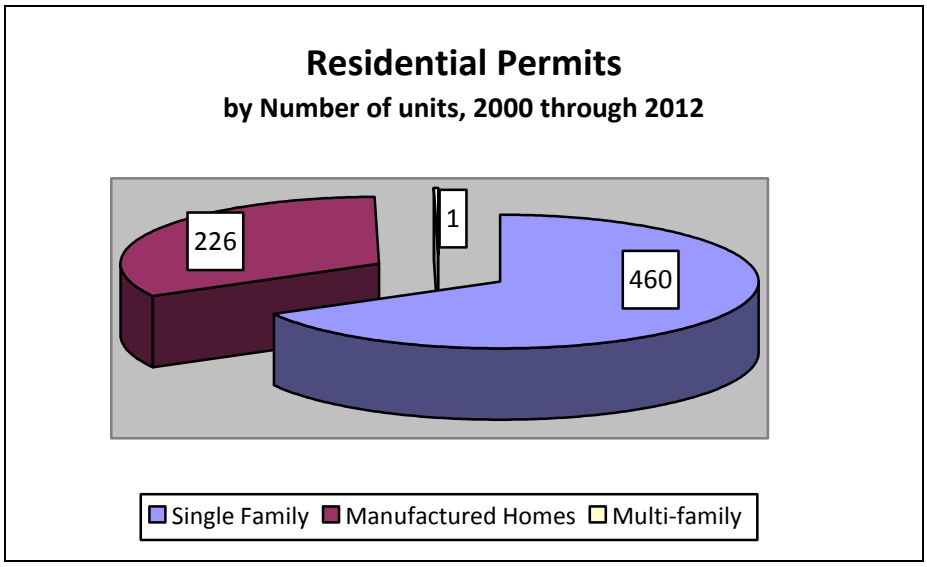
A review of building permit data for the period 2000 to 2012 confirms that single family homes and manufactured housing were the predominate types of residential dwelling units added during this time period. As shown in **Table 8**, a total number of 687 residential building permits were issued between 2000 and 2012. Sixty-seven percent of these permits were for single family homes, 33 percent were for manufactured housing, and less than one percent was for multi-family units and duplexes. The actual number of permits issued by housing type is illustrated in **Figure G**.

An analysis of housing construction between 2000 and 2012 shows that while the number of yearly permits issued have fluctuated greatly, the average number of each year for the period was 53 units per year.

TABLE 8

Charles City County Residential Building Permits Issued by Type 2000-2012			
Year	**Single Family Home**	**Manufactured Home**	**Multi-Family or Duplex**
2000	44	33	1
2001	43	36	0
2002	31	27	0
2003	35	21	0
2004	44	18	0
2005	43	19	0
2006	45	17	0
2007	34	18	0
2008	32	4	0
2009	22	10	0
2010	43	8	0
2011	26	8	0
2012	18	7	0
Total	460	226	1
Percent Total	67%	33%	>1%
Source: Charles City County Building Department			

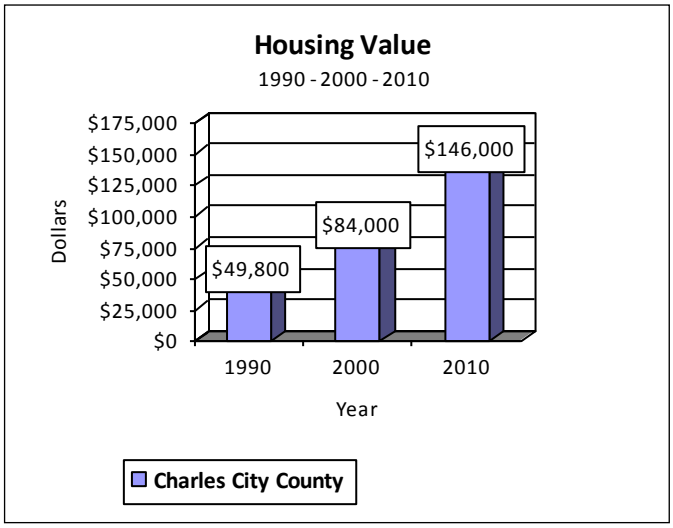
FIGURE G



Median Housing Value and Contract Rent

Significant shifts in housing value occurred in Charles City County from 1990 to 2000 and from 2000 to 2010. The median value of a house in 1990 and 2000 was $49,800 and $84,000, respectively. The "median" is defined as the middle point—where one half of the housing values are above the middle value and one half of the housing values are below the middle value. In 2010, the median value of a house had increased to $146,000, which is 58% more than the 2000 figures, and three times the 1990 figures, as illustrated in **Figure H**. Although housing values increased from 2000 to 2010, Charles City County housing values were still low compared to state figures. The median value of a house for the state in 2010 was $255,100.

Figure H



Source: U.S. Census, 2000 Summary File 3, Table H076, 2006-2010 American Community Survey 5 Year Estimates, Table B25077

Rental housing statistics also changed considerably during the period between 2000 and 2010. In 2000, the median rent payment was $295. By 2010, the median rent in the county had increased significantly to $508. However, rents in the county lagged behind when compared to the 2010 state median of $815. In 2000, 23 percent of Charles City residents living in rental housing were paying no rent. In 2010, the percentage of persons not paying rent increased to 26 percent.

Affordable Housing

The 1998 Charles City County Comprehensive Land Use Plan listed the provision of a varied housing stock as a key objective to achieving its residential development goals. However, U.S. Census figures indicate little to no change in housing diversity in the county since 1990. However, the slow rate of population growth can be deemed an advantage in planning for housing and associated infrastructural needs.

In 2003, the Code of Virginia was amended to require localities to address affordable housing in local adopted comprehensive plans. Affordable housing is generally defined as utilities plus rent or mortgage equaling no more than 30 percent of total household income. The code further states that the comprehensive plan must "designate and implement measures for the construction, rehabilitation and maintenance of affordable

housing that is sufficient to meet the current and future needs of residents of all levels of income in the locality."

In general, there is more affordable housing available in the northern and western parts of the county. There are significant factors that directly correlate to the affordable housing stock. These include housing condition and jobs to housing balance.

A. Housing Condition: The condition of the housing stock also directly affects the affordability of housing. For example, housing in need of repair is found to be cheaper than the same house not needing repair. According to the U.S. Census, if major repairs are needed to the kitchen or plumbing (including a full bathroom) or heating systems, the house is considered substandard and not suitable for habitation. There are 95 housing units in the county that are considered substandard according to the 2010 U.S. Census, which represents a decrease in substandard housing when compared to the 2000 U.S. Census. Data is not available to show housing value as it relates to the condition of the house, but one must assume that substandard housing is likely part of the county's affordable housing stock.

B. Jobs to Housing Balance: Another indicator of affordable housing is the balance between housing and job locations in relation to income. In an ideal economy there is a job to housing ratio of 1.6, meaning that there should be 1.6 jobs for every 1 occupied housing unit based on employment and housing trends for the past 25 years. Charles City County possesses far less than the desired 1.6 ratio, at .87 jobs for every housing unit available to low income residents. This ratio is even lower for those with a very low income, at .33 jobs for every housing unit available. These figures indicate that there are insufficient jobs for low-wage, unskilled workers within the county, and that many low wage earners must travel outside the county to find employment. Long travel distances further exacerbate the ability of low wage earners to pay for housing since a disproportionate share of their income must also go to transportation costs.

In addition a Charles City County Housing Needs Assessment was conducted in 2008. The objectives of this Housing Needs Assessment (HNA) were to inventory Charles City County (CCC) housing and infrastructure conditions, to identify and prioritize needs, and to develop strategies to address those needs. Extension of the "ability appropriate" life of existing housing was a primary strategy explored. The elimination of unsafe, unhealthy, blighted conditions was also a major objective.

The four major strategies that came out of the Charles City County Housing Needs Assessment were:

1. Accelerate the use of VCDBG funding to improve housing and supply water and sewer infrastructure in blocks with high concentrations of low-income residents in need of water, sewer, and housing improvements.

2. Accelerate the use of IPR, USDA, and other funds to improve housing and supply safe, sound water and sewer services for low-income residents outside of VCDBG "blocks".

3. Organize housing advocacy and coordination efforts.

4. Review and revise county ordinances and programs as well as develop additional ordinances and program to promote affordable housing initiatives.

Housing Tenure

Most of the housing in Charles City County is owner-occupied. According to the U.S. Census, the percentage of owner-occupied units decreased only slightly from 85 percent to 83 percent between 2000 and 2010. The county's 2010 home ownership figure significantly exceeded the state percentage of 67 percent. The county figure of 17 percent renter-occupied units in 2010 is about half of the state figure of 33 percent for 2010.

Housing Conditions

Figures on year-round housing lacking complete plumbing facilities and number of persons per room are two indicators used to evaluate housing conditions. In 2000, 4 percent of the housing in the county lacked complete plumbing. This figure was reduced to 1 percent in 2010. In Charles City County, the number of houses without complete plumbing decreased from 53 units in 2000 to 38 units in 2010.

Information on persons per room is used as a measure of overcrowding. According to the U.S. Department of Housing and Urban Development, housing with more than 1 person per room signifies overcrowding. In 2000, 1.9 percent of the county's housing units were classified as overcrowded. This figure was reduced to approximately 0.7 percent in 2010. The percent of overcrowded housing in the county was 39 percent of the state percentage of 1.8 percent.

ECONOMIC CHARACTERISTICS

Analysis of the county's economy can provide income, employment, and place of work information for local populations and may be an indicator for future development activities. Income and employment statistics provide the main types of information gathered for this analysis. Charles City County's primary economic growth over the last decade has been either steady or has shown a recognizable trend. Employment has grown along with the population, but all of this growth has not been confined to county lines, as there has been an increase in people commuting into Charles City for employment. Major employers have been identified, as well as the number of their employees.

Household Income and Household Income Trends

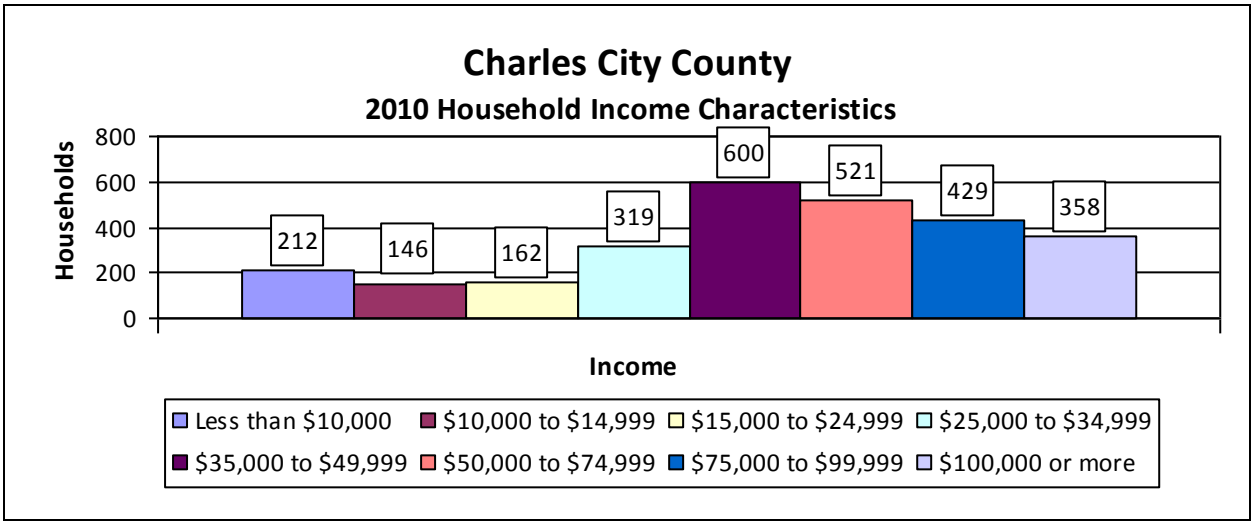
The median household income in Charles City County significantly increased from 2000 to 2010 from $39,476 to $47,093, respectively. While there has been consistent growth for county incomes, they have also stayed below the state levels. As reported by the most recent U.S. Census, household income statistics for the county for 2010 were lagging when compared to the state figures. The state as a whole maintained more than twice the percentage of incomes over $100,000 than the county.

Median income for county residents was $47,093 while the state figure was higher at $63,302. **Table 9 and Figure I** illustrates the county's household income breakdown for 2010 by income group in Charles City County and in the state of Virginia.

TABLE 9

2010 HOUSEHOLD INCOME CHARACTERISTICS				
	Charles City County		Virginia	
Household Income	**Number**	**Percent**	**Number**	**Percent**
Less than $10,000	212	8%	169,437	6%
$10,000 to $14,999	146	5%	127,703	4%
$15,000 to $24,999	162	6%	251,190	8%
$25,000 to $34,999	319	12%	260,393	9%
$35,000 to $49,999	600	22%	379,922	13%
$50,000 to $74,999	521	19%	537,780	18%
$75,000 to $99,999	429	15%	395,278	13%
$100,000 and more	358	13%	869,322	29%
Total	2,747	100%	2,991,025	100%
Median Income	$47,093		$63,302	
Source: 2010 U.S. Census for income composition, Small Area Income & Poverty Estimates for Median Income				

FIGURE I



Poverty Status

Poverty is calculated by the census based on family size, composition and money income. Although it accounts for inflation, poverty is not calculated differently based on geographical location. According to the U.S. Census, almost 10 percent of the county's residents were living below the poverty level in 2010, which was lower than the 2000 figure of 11 percent. The county's 2010 percentage was the same as the state's, for the year.

In 2010, 8 percent of county residents in poverty had related children under 18, which is lower than the state's percentage of 14 percent. Nineteen percent of the county's poor are elderly, which represents a decrease from 2000's 23 percent. Virginia's figures for the percentage of poor who were elderly were much lower, at 11 percent in 2000 and 10 percent in 2010.

Labor Force Characteristics

In 2010, approximately 67 percent of the county population participated in the labor force. Adult is defined as those persons 16 years old and above. This was approximately two percent higher than the state labor force participation rate in 2010. In 2011, the county unemployment rate was 8.3 percent, which is higher than the state unemployment rate of 6.2 percent. Males continue to be more active in the labor force than females in Charles City County. In 2000, 69.3 percent of adult males and 59.9 percent of adult females participated in the labor force. In 2010, males were participating in the labor force at a rate of 70.4 percent and 57.7 percent of the females were participating in the labor force. The county's adult male labor force participation rate was lower than the state percentages, however. In 2010, labor force participation

by males across the state was 69.7 percent. The figure for females was 61.3 percent. The trend for labor force participation in Charles City County is shown in **Table 10.**

TABLE 10

Charles City County Labor Force Participation by Sex Percent of total employable			
Sex	**1990**	**2000**	**2010**
Adult Male	74.1%	69.3%	70.4%
Adult Female	60.4%	59.9%	57.7%
Source: U.S. Census, 2000 Summary File 3, Table P043; 2006-2010 American Community Survey 5 Year Estimates, Table B23001			

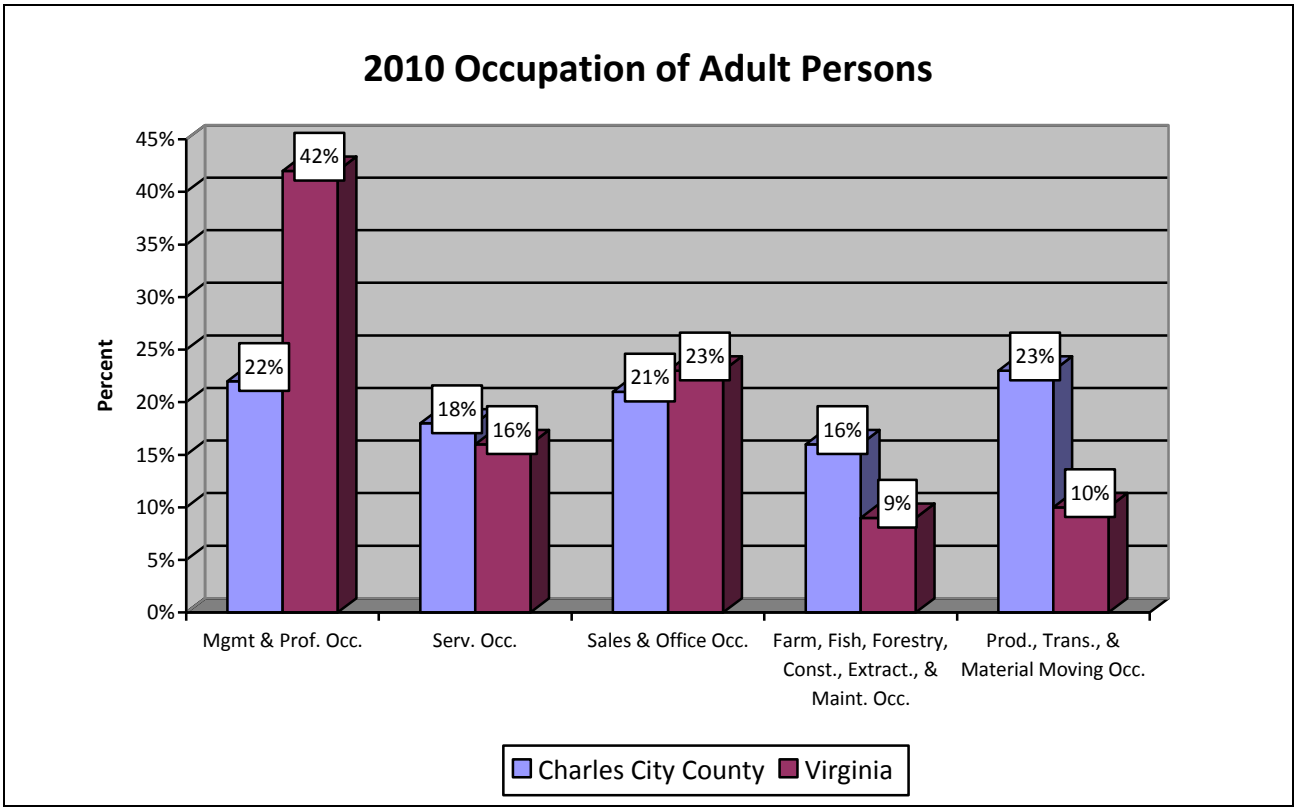
Occupation of Adult Persons Living in Charles City County

Occupation refers to the type of job of an employed person. A comparison of 2010 information in **Table 11** shows several differences in occupation between Charles City County residents and statewide workers. Only 22 percent of county workers were in managerial or professional specialty occupations in 2010, almost half of the state figure of 42 percent. Production, transportation, and material moving occupations accounted for approximately 23 percent of county workers, which was more than double the state figure of 10 percent. Other occupations varied also. **Figure J** shows this occupational breakdown for the county and the state.

TABLE 11

2010 Occupation of Adult Persons				
	Charles City		**Virginia**	
Occupation	**Employment**	**Percent**	**Employment**	**Percent**
Management, professional, and related occupations	762	22%	1,599,047	42%
Service occupations	606	18%	608,902	16%
Sales and office occupations	741	21%	903,327	23%
Farming, fishing, forestry, construction, extraction and maintenance occupations	541	16%	355,915	9%
Production, transportation, and material moving occupations	779	23%	376,582	10%
Total Employed Persons 16 Years & Over	3,429	100%	3,843,773	100%
Source: U.S. Census Bureau				

FIGURE J



Types of Industries Employing Adult Charles City County Residents

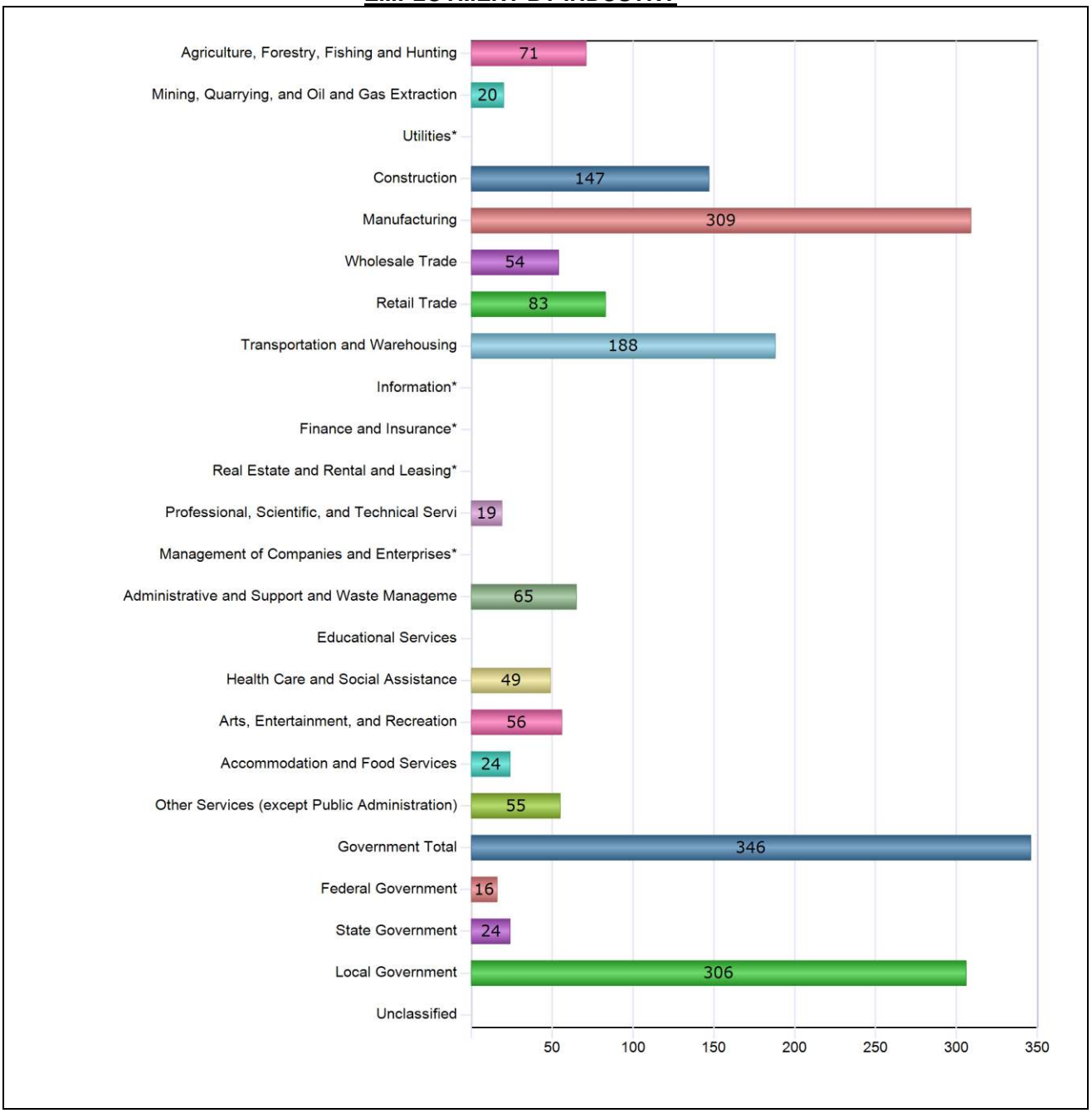
People that live in the county are employed by a variety of industries. The largest employer of county residents is services, which employed 1,357 county residents. Service industries include such business as automotive repair, health care, legal assistance, education, social services, engineering, entertainment, accounting and management. The second largest employer of county residents was manufacturing, which employed 539 county residents. Data in **Table 12** shows the number and percent of adult county residents, 16-years and older, employed by specified industry in 2010. The largest percentage of state workers, 49 percent, was employed in the service industry. This figure was higher than the percent of county employees. **Figure K** shows the industries employing county residents as of the second quarter in 2012. This data indicates that the structure of employment has shifted over the last decade.

TABLE 12

Types of Industries Employing Adult County Residents			
	Charles City County		Virginia
Type of Industry	**Employment**	**Percent**	**Percent**
Agriculture, forestry, fishing and hunting, and mining	111	3%	1%
Construction	300	9%	7%
Manufacturing	539	16%	8%
Wholesale trade	86	2%	2%
Retail trade	397	11%	11%
Transportation and warehousing, and utilities	247	7%	4%
Information	14	1%	2%
Finance, insurance, real estate and rental and leasing	152	4%	7%
Public administration	226	7%	9%
Services	1,357	40%	49%
Total Employed Persons 16 Year and Over	3,429	100.0%	100.0%
Source: Virginia Employment Commission			

FIGURE K

EMPLOYMENT BY INDUSTRY



Type of Establishment and Number of Employees Per Establishment

Table 13 shows the number of non-governmental establishments in operation in Charles City County during the week of March 12, 2012. These businesses employed 1,242 people during this period. The most prevalent type of employer by number of establishments in the county was Services at 39 percent. Comparing the number of establishments with the number of employees, one can see that most of the businesses in Charles City County were small operations. The biggest industry in the county was transportation and warehousing, employing an average of 375 people during Mid-March of 2012 and making up about 30 percent of employees in the county. Services was the second biggest employer, employing an average of 322 people and making up about 26 percent of employees in the county. (Note: Data from the County Business Patterns sometimes include ranges for employee totals in a specified establishment; in those cases the mid-point was used to obtain an exact figure.) **Table 14** shows the top employers in the county for the 3rd quarter of 2013.

TABLE 13

Charles City County Type of Establishment and Number of Employees per Establishment Quarterly Estimates as of 2011				
	Employees		Establishment	
Type of Establishment*	Number	Percent	Number	Percent
Forestry, Fishing, Hunting, Agriculture and Mining	53	4%	9	7%
Construction	166	13%	15	11%
Manufacturing	200	16%	21	15%
Trade	107	9%	20	14%
Transportation & warehousing	375	30%	13	9%
Finance, Insurance & Real Estate	19	2%	7	5%
Services (including Information)	322	26%	54	39%
TOTAL	1,242	100%	139	100%
*Excluding Public Administration field Source: 2011 County Business Patterns				

TABLE 14

Charles City County Top 10 Employers	
Rank	Company Name
1	Charles City County School Board
2	U.S. Remodelers
3	County of Charles City
4	Atlantic Bulk Carrier Corporation
5	Charles City Timber & Mat
6	C & C Electrical Service
7	Copland Trucking
8	Greenrock Materials LLC
9	Envelopes Only
10	Lacy Auto Parts
Source: Virginia Economic Development Partnership	

As shown in **Figures L and M**, the industrial composition of Charles City County has changed significantly over time. In 1994, mining comprised 31 percent of employment, but by 2012 this figure had decreased to slightly less than 1 percent. During this same period, construction increased from 1 to 13 percent and manufacturing increased from 8 to 16 percent. The service industry increased from 15 percent to a full 26 percent.

FIGURE L

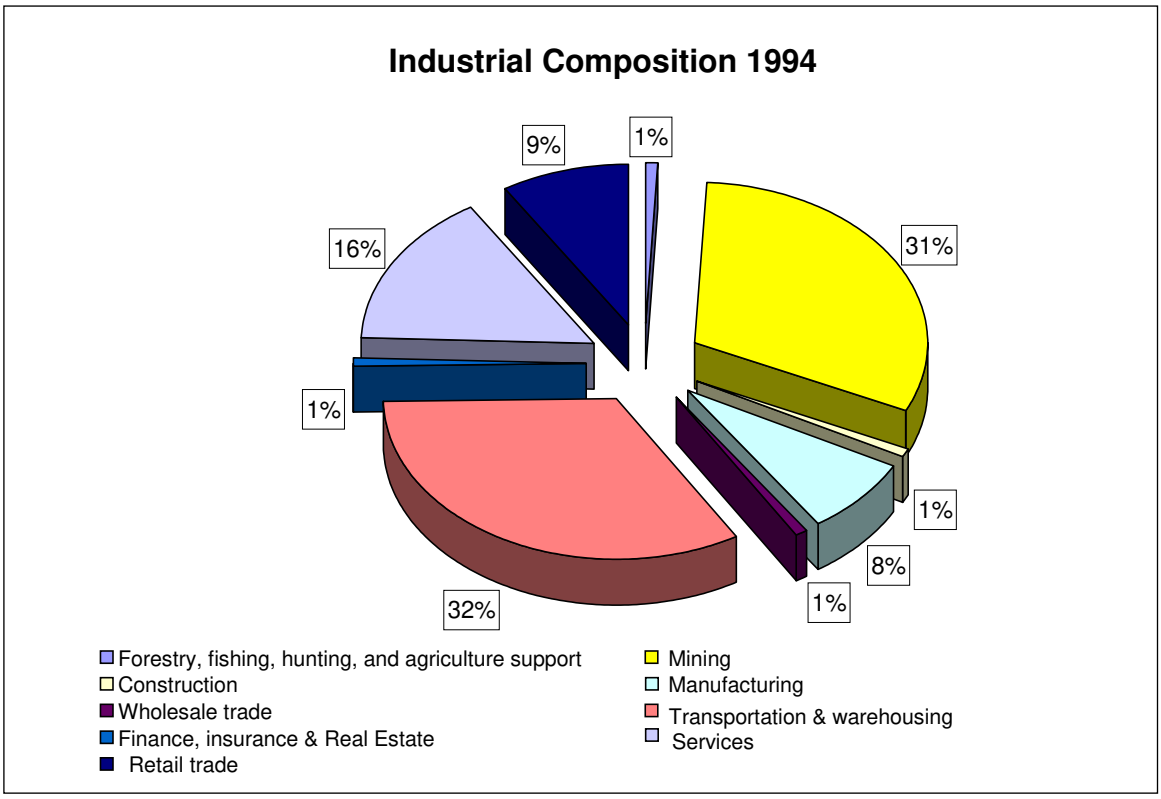
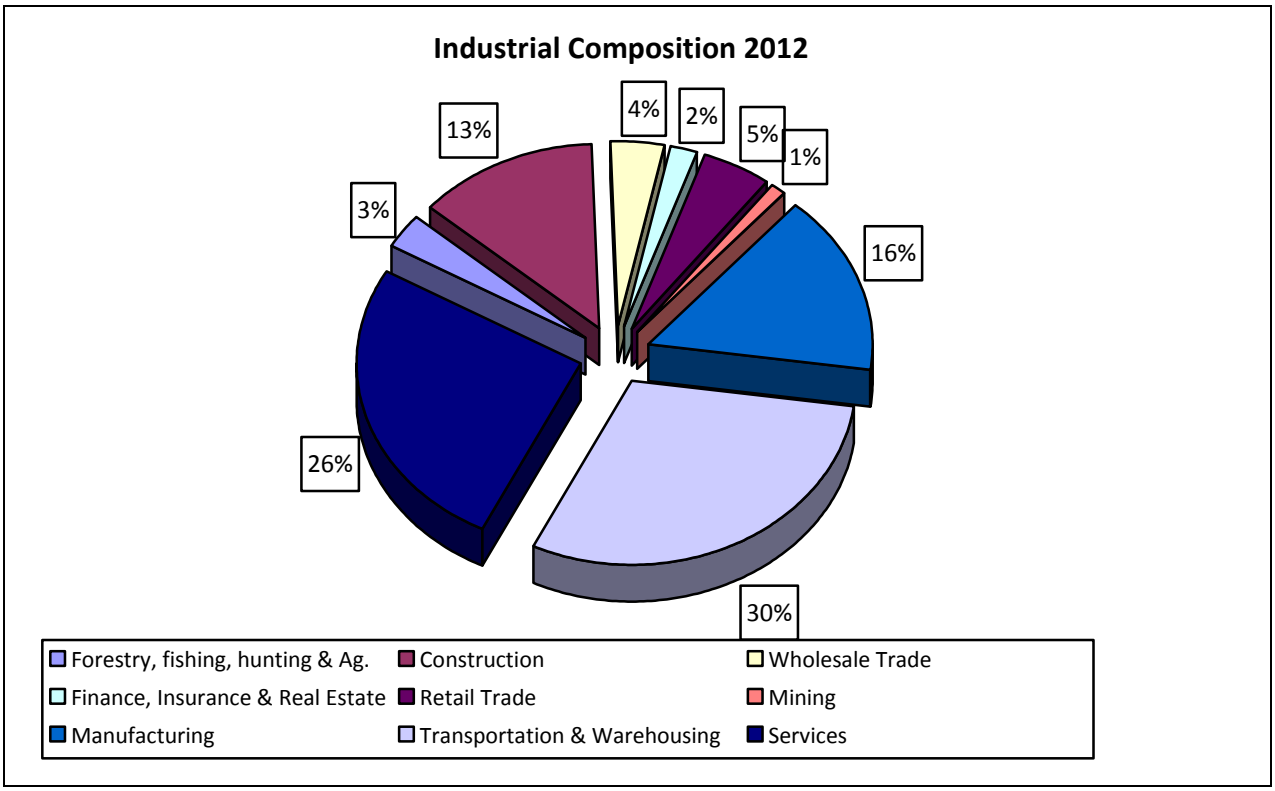


FIGURE M



The Virginia Employment Commission develops projections for non-agricultural employment in the state. Charles City County's industrial makeup is dynamic. Certain industries deplete to negligible levels, while other industries grow, as market conditions vary. **Table 15** shows these projections through 2020. Mining is one such industry, which is expected to fall by 92 percent by 2010. Despite its seemingly erratic changes in size, it has generally remained in a declining state of growth. However, other industries such as construction are expected to increase in growth through 2020. This is to be expected, as increases in population spur growth in construction because a growing populace requires a greater amount of buildings, homes, and amenities.
(*Note: Individual projections for Charles City County were not available as of January 2013)

TABLE 15

Charles City County Non-Agricultural Employment Projections 2010 and 2020					
Industry	**2000**	**2010**	**Percent Change 2000 to 2010**	**2020**	**Percent Change 2010 to 2020**
Mining	123	10	-92%	10	0%
Construction	68	260	282%	310	19%
Manufacturing	174	320	84%	320	0%
Transportation	358	450	26%	470	4%
Wholesale Trade	9	50	456%	50	0%
Retail Trade	39	170	336%	190	12%
Finance, Insurance & Real Estate	18	80	344%	80	0%
Services	327	600	83%	710	18%
TOTAL/ SUB-TOTAL	**1116**	**1940**	**74%**	**2140**	**10%**
Sources: Virginia Employment Commission for 2000 figures & CEDDS Volume III for 2010 and 2020 projections					

Wages

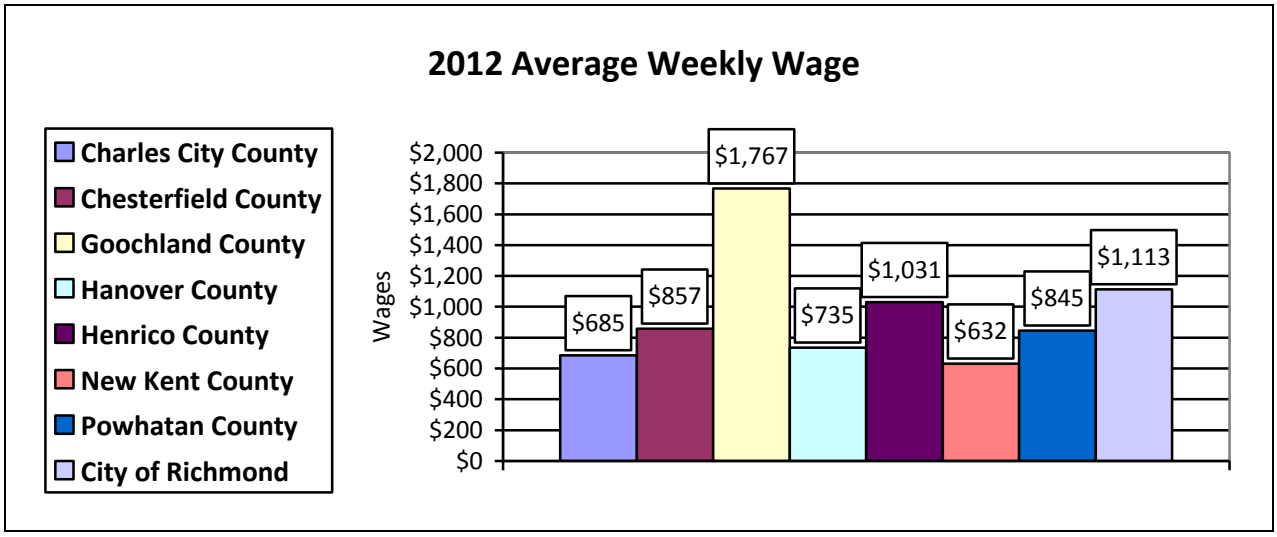
People employed in Charles City County earned the second lowest wage per week of any other jurisdiction in the region as of 2012. As shown in **Table 16**, workers in the county received $685 per week ($17.12 per hour), while wages in other areas ranged from $632 to $1,767 per week. **Figure N** illustrates the average weekly wages throughout the region in 2012.

TABLE 16

AVERAGE WAGES					
	2002		**2012**		
Locality	**Weekly Wage**	***Hourly Wage**	**Weekly Wage**	***Hourly Wage**	**Percent Change 2002-2012**
Charles City County	$508	$12.70	$685	$17.12	35%
Chesterfield County	$646	$16.15	$857	$21.42	33%
Goochland County	$628	$15.70	$1,767	$44.17	181%
Hanover County	$576	$14.40	$735	$18.37	28%
Henrico County	$744	$18.60	$1,031	$25.77	38%
New Kent County	$464	$11.60	$632	$15.80	36%
Powhatan County	$547	$13.68	$845	$21.12	54%
City of Richmond	$798	$19.95	$1,113	$27.82	39%

SOURCE: BUREAU OF LABOR STATISTICS
***Average Hourly Wage based upon a 40 hour work week.**

FIGURE N



Place of Work

Most Charles City County residents are employed outside of the county. In 2000, 76 percent of the working population was employed outside the county. The percentage of persons working outside the county dropped to 67 percent in 2010. These out-commuting patterns are typical of rural counties near a metropolitan area.

Of the 2,285 residents who worked outside Charles City County, **Table 17** indicates that 513 people (22 percent of the total commuters) worked in Richmond in 2010. Thirty percent of the population worked in Henrico County. Ten percent and 8 percent were employed in James City County and New Kent, respectively. **Figure O** illustrates the out-commuting patterns for county workers.

TABLE 17

Charles City County 2010 Out Commuting Patterns to Work		
Locality of Employment	**Employees**	**Percent**
Chesterfield County	246	11%
Fairfax County	43	2%
Hanover County	140	6%
Henrico County	695	30%
Hopewell City	73	3%
James City County	223	10%
New Kent County	177	8%
Richmond City	513	22%
Virginia Beach City	45	2%
Williamsburg City	130	6%
Total	**2285**	**100%**
Source: Virginia Employment Commission		

FIGURE O

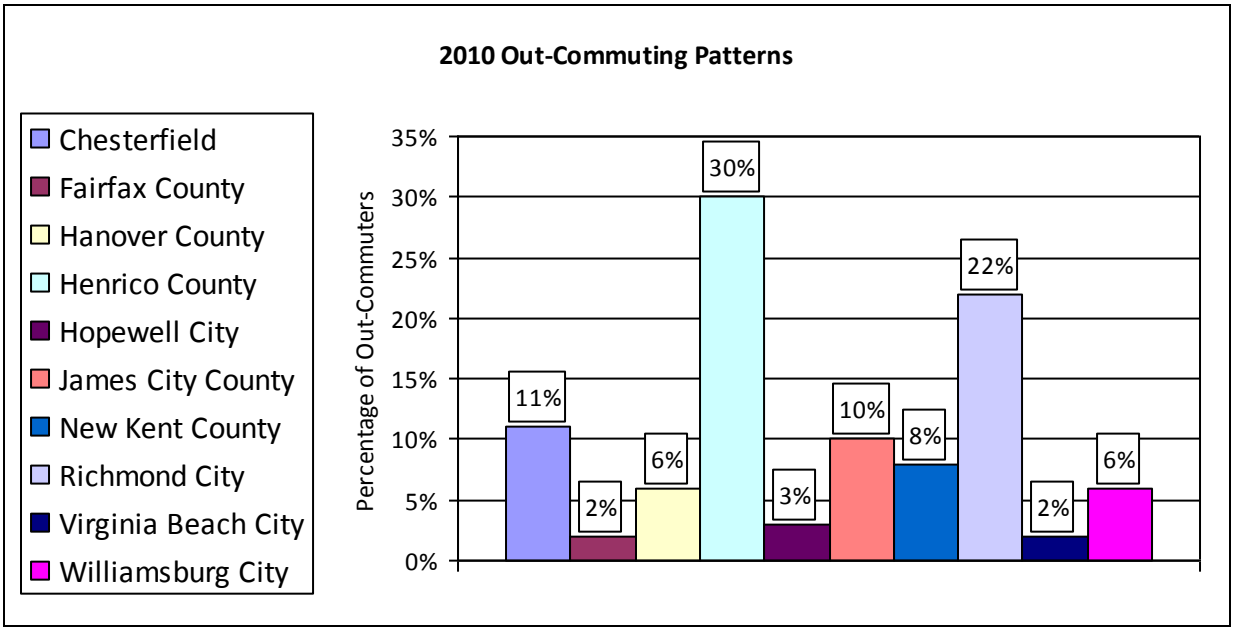
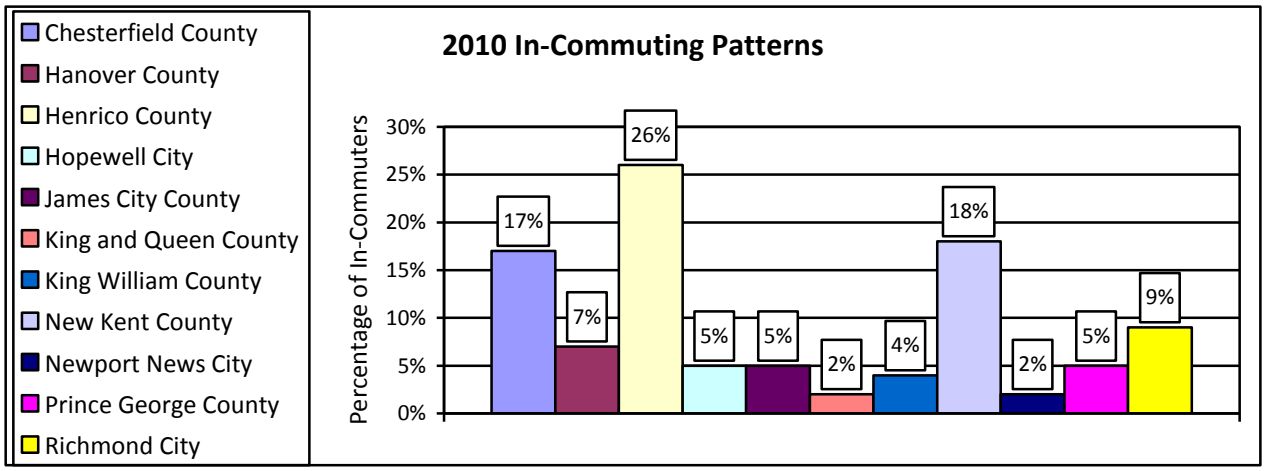


Table 18 shows the number of persons who commute from other areas to work in the county. In 2010, Henrico County contributed a total of 185 workers or 26 percent of total workers living outside Charles City County. New Kent County contributed the second highest number of workers at 127 or approximately 18 percent. **Figure P** illustrates the in-commuting patterns.

TABLE 18

Charles City County 2010 In-Commuting Patterns to Work		
Locality of Residence	**Number**	**Percent**
Chesterfield County	122	17%
Hanover County	52	7%
Henrico County	185	26%
Hopewell City	26	5%
James City County	31	5%
King and Queen County	14	2%
King William County	30	4%
New Kent County	127	18%
Newport News City	14	2%
Prince George County	38	5%
Richmond City	66	9%
Total	**705**	**100%**
Source: Virginia Employment Commission, U.S. Census		

FIGURE P



Travel Time to Work

Table 19 indicates that the average time to travel to work for Charles City residents in 2011 was 35 minutes. Average travel time for workers across the state was 27 minutes. In addition, 28.4 percent of the county workers traveled 45 minutes or more to their place of employment, more than the state figure of 19.2 percent.

TABLE 19

2011 Travel Characteristics		
	Charles City County	**Virginia**
Average Travel Time	35 minutes	27 minutes
Workers traveling 45 or more	28.4 percent	19.2 percent
Source: U.S. Census		

These travel times are significantly more than figures in neighboring New Kent County where 19.6 percent of the workers traveled 45 minutes or more to their jobs in 2011. **Table 20** shows the full range of travel times for county residents as compared to workers statewide.

TABLE 20

2011 Travel Time to Work			
	Charles City County		Virginia
Travel Time	**Number of Persons**	**Percent**	**Percent**
Less than 10 minutes	172	5.4%	10.2%
10-19 minutes	407	12.8%	28.7%
20-29 minutes	522	16.4%	20.7%
30-44 minutes	1,175	37.0%	21.2%
45 minutes or more	902	28.4%	19.2%
Total Workers 16 years and older who did not work at home	3,178	100.0%	100.0%
Source: U.S. Census Bureau			

CHAPTER 4
NATURAL RESOURCES

OVERVIEW

Natural resources strongly influence where and how land can be used and developed. This section examines the natural features in Charles City County, how these features influence land uses, and how land uses impact water quality and the environment. The section also includes a discussion of existing efforts to protect water quality and natural resources.

Forests and wetlands cover three quarters of the land area of Charles City County. The remaining land area is devoted to crop tillage, hay pasture and disturbed forest, with less than 2% devoted to developed urban land uses. In order to plan a future development strategy that adequately protects these resources while taking advantage of their benefits, it is important to identify and understand the benefits that natural resources provide to the environment and to the quality of life in the county.

LOCATION AND TOPOGRAPHY

Charles City County is located in the east-central portion of the Commonwealth. It is bounded to the north by New Kent County, to the east by James City County, to the south by the James River and Surry County, Prince George County, and City of Hopewell, and to the west by Henrico and Chesterfield Counties. The county has 184 square miles of land area and 20 square miles of surface water. The county lies entirely in the coastal plain physiographic region which runs along the Eastern Seaboard.

The topography of land is the configuration of its surface, including relief, and the position of natural features. Topography is important in that it affects the aesthetic qualities of an area, plant and animal habitat, climate, and the type and location of man's development activities.

Charles City County is generally flat with a gently rising and falling topography. Elevations in the county average less than 80 feet; the highest elevations are around 150 feet. In general, the higher elevations gently slope down from the west-northwest part of the county to the east-southeast to the confluence of the two major rivers. The lowest elevations are at sea level along the James River and part of the Chickahominy River.

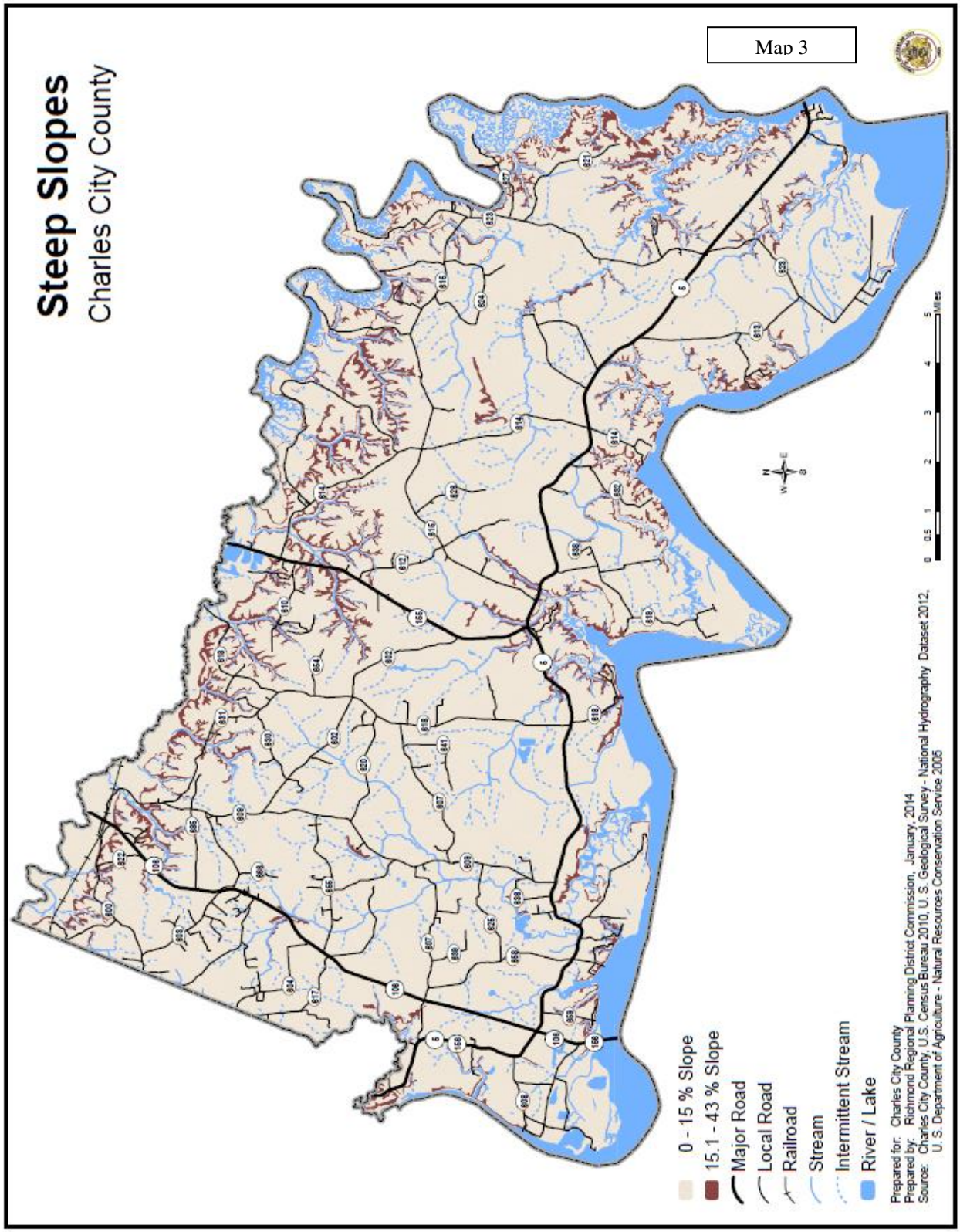
Natural features that constrain the scale and location of development include slope, soils, especially highly erodible and permeable soils, groundwater and surface water, wetlands, shoreland and floodplains. How these features interact and affect development is discussed in the following sections.

SLOPE

Slope is a relationship between the elevation of the land to its distance. Slope is a measure of the change in vertical distance (height) over a horizontal distance (length) expressed as a percentage. For example, a change in height of 25 feet over a distance of 100 feet equals a slope of 25 percent.

A steep slope of 15 percent or more presents a constraint to many types of development. The disturbance of steep slopes can lead to erosion and contribute to added sedimentation and pollution of streams.

The majority of the county has slopes of 15 percent and less. Slopes of greater than 15% can be found along bluffs adjacent to the Chickahominy River and its tributaries, and in scattered areas along the James River as shown on **Map 3.**


Map 3
Steep Slopes
Charles City County
0 - 15 % Slope
15.1 - 43 % Slope
Major Road
Local Road
Railroad
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2012,
U.S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles

SOILS

Development activities are affected to a large extent by soils. Understanding the types of soils in Charles City County is necessary to plan for the county's future development.

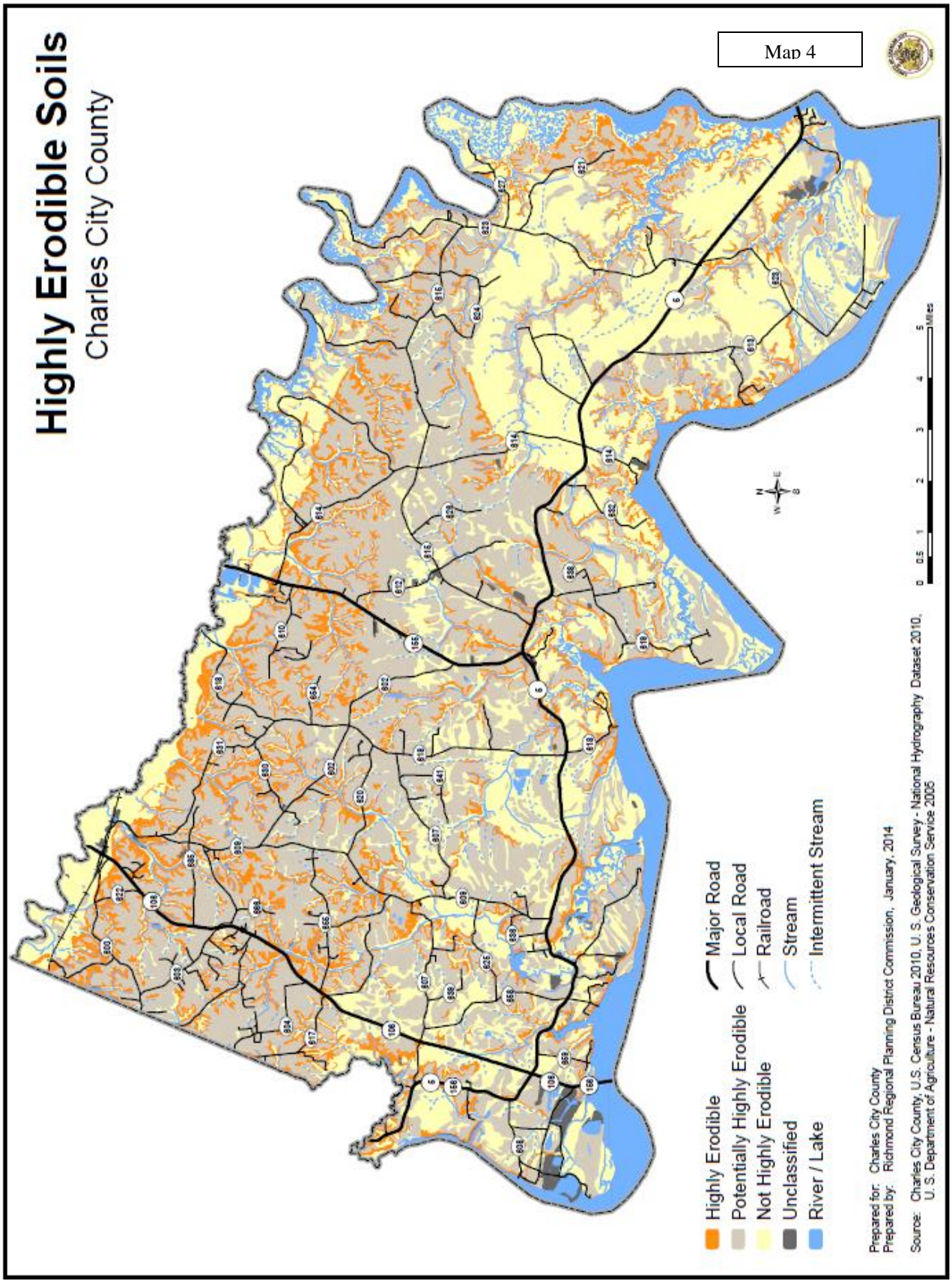
Soil surveys completed by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS), mapped and delineated each of the soil types within Charles City County. NRCS provided information on physical and chemical properties of each soil type, as well as engineering properties and classifications, yields per acre of crops and pasture, and suitability for building site development, sanitary facilities and construction materials.

Soils information, when considered with other factors such as the percent of land slope, length of slope, position of the soil on the slope, water infiltration rates, depth to groundwater, and the amount of vegetative cover, can be used to identify which soils can erode and become a pollutant to surface water or to transmit pollutants through the soil to the groundwater system. How highly erodible and highly permeable soils function and how they affect development are described below:

Highly Erodible Soils

Highly erodible soils are of particular concern in Charles City County. These soil types have been documented as contributing sediments to the county's waterways and to the Chesapeake Bay and its tributaries such as the James River. Development on erodible soils must be carefully managed because of the potential for sedimentation to cause water pollution.

Soil erosion is the process by which the land's surface is worn away by the action of wind and water, ice or gravity. The Natural Resources Conservation Service classifies soils by their erodibility index. The erodibility index is the ratio between rainfall, runoff amounts, length of flow, steepness of slopes, susceptibility of erosion in the surface layer and a soil's tolerance to erosion. A high ratio or erodibility index indicates a highly erodible soil. Potentially highly erodible soils are found throughout Charles City County, where slopes are greater than 15 percent and where slope length is longer than 75 feet. **Map 4** shows the locations of potential highly erodible soils in the county.


Highly Erodible Soils
Charles City County
Map 4
Highly Erodible
Potentially Highly Erodible
Not Highly Erodible
Unclassified
River / Lake
Major Road
Local Road
Railroad
Stream
Intermittent Stream
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U. S. Geological Survey - National Hydrography Dataset 2010,
U. S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles

Highly Permeable Soils

Highly permeable soils transmit water at a rate of six inches per hour or more in any part of the soil profile to a depth of six feet. These types of soils are known to contribute to both surface and groundwater pollution. They are classified in the Natural Resources Conservation Service Field Office Technical Guide as being in either permeability group "rapid" or "very rapid." Development on highly permeable soils should include protective measures to insure the protection of groundwater from potential pollutants. **Map 5** shows the locations of highly permeable soils in the county.

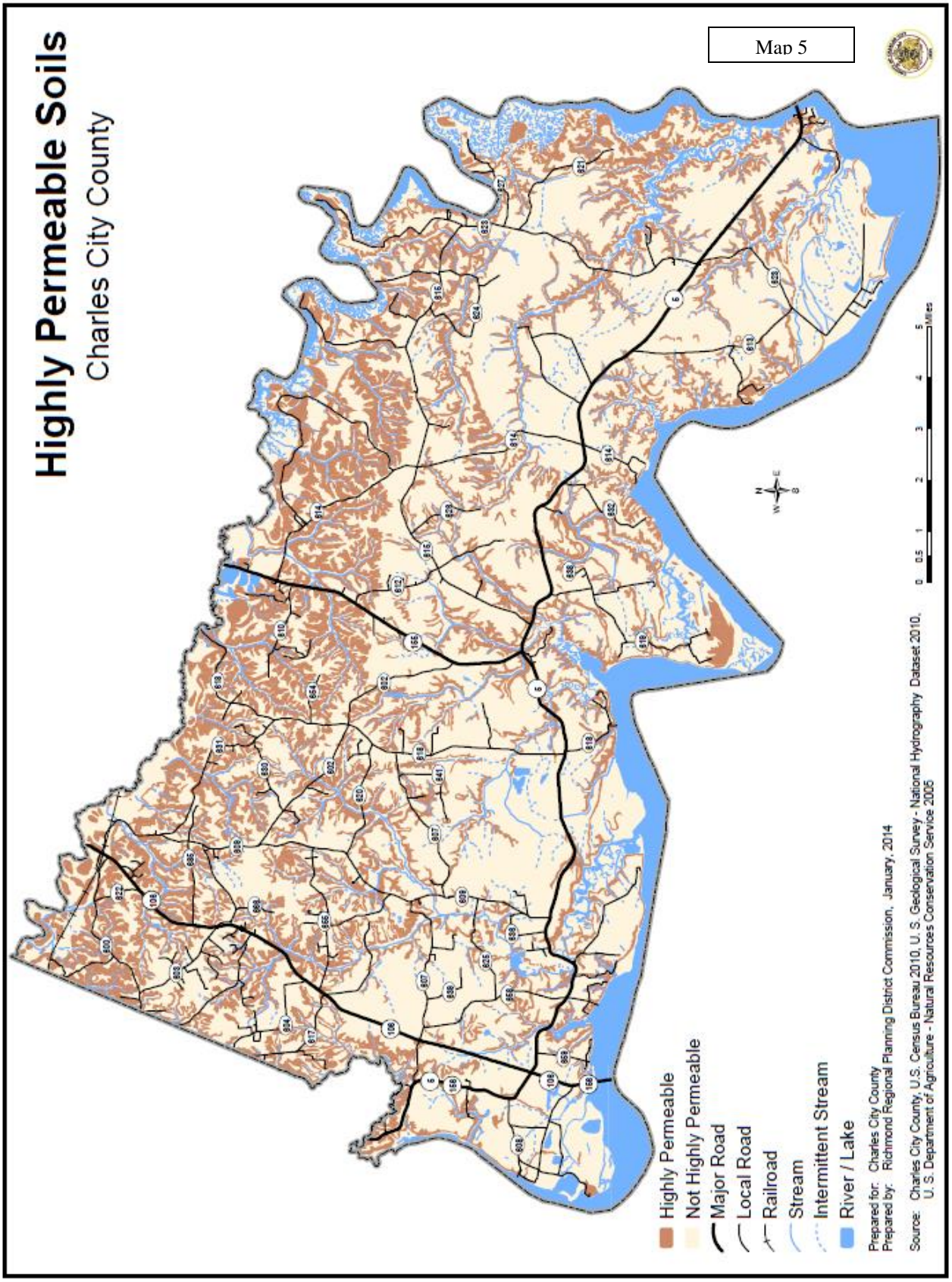
The threats to water quality are increased when highly erodible soils and highly permeable soils are found together. Awareness of soil properties and their relationship to land uses can help planners identify areas within the county that may be more susceptible to causing pollution. **Map 6** shows areas of the county where highly erodible and highly permeable soils are found together. This information as well as the information represented in the two previous maps was taken from the soil's report for Charles City County as prepared by the Natural Resources Conservation Service in collaboration with the Virginia Polytechnic Institute and State University. The issue of soil suitability for on-site sewage treatment in Charles City County is related to the presence of highly erodible soils and highly permeable soils.

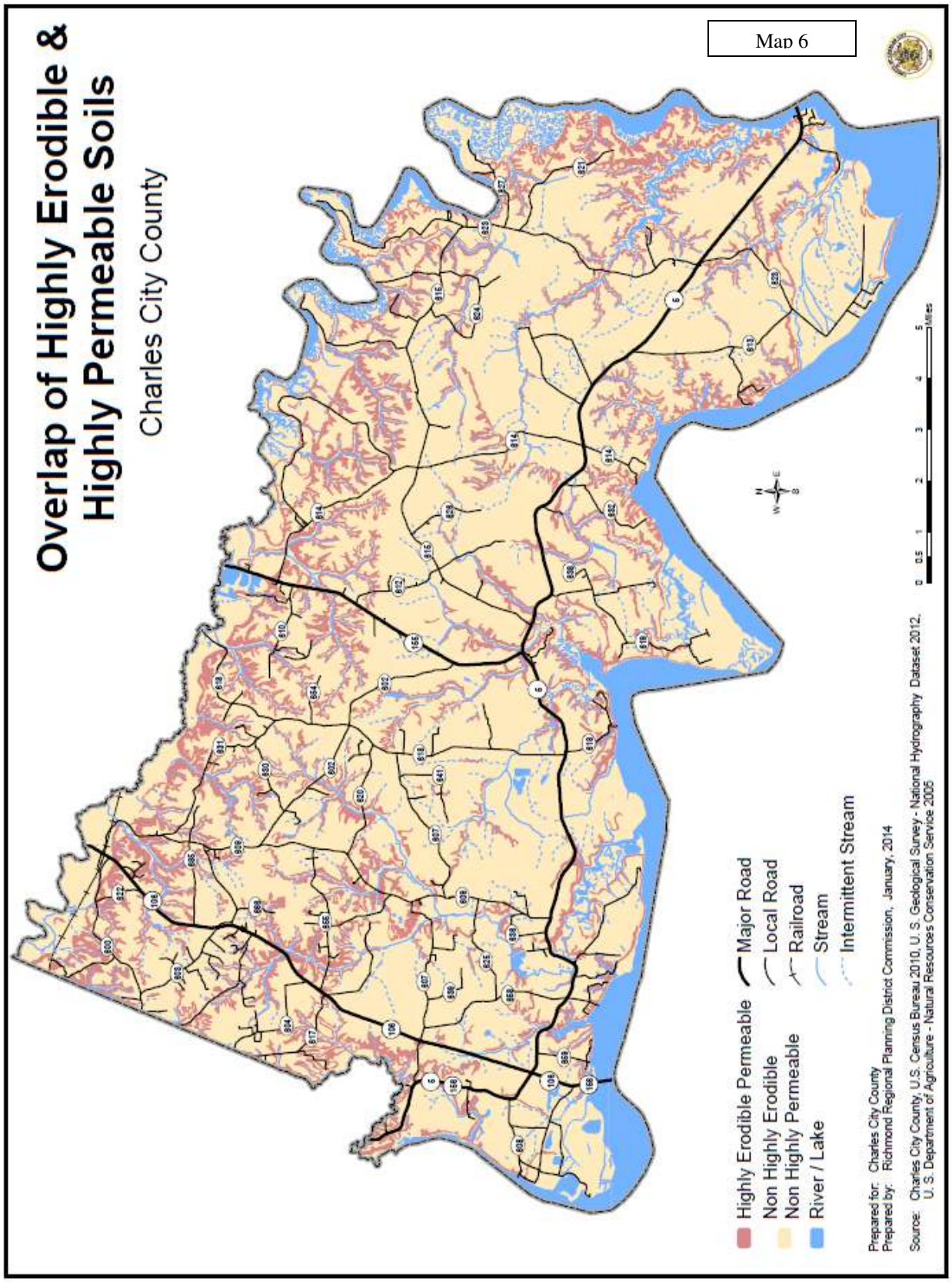
Suitability for On-site Sewage Treatment

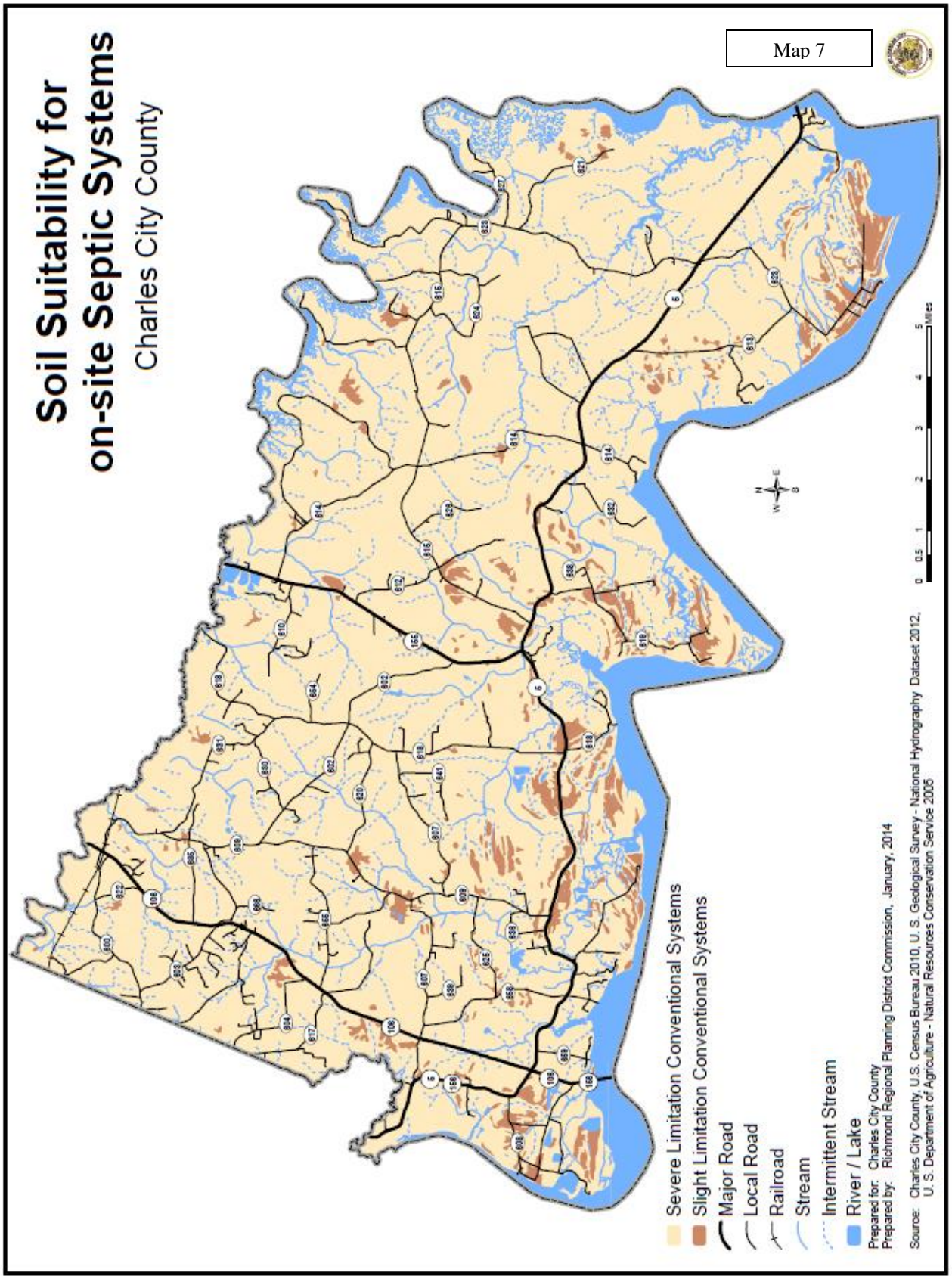
Most of the county's land is made up of soils that are unsuitable for traditional on-site septic systems for the treatment of solid waste from a house or business. Based on soils data information, approximately five percent of the land area in Charles City County is suitable for traditional on-site septic installation. **Map 7** shows the areas of soil suitability for traditional onsite sewage treatment in Charles City County. New systems that are engineered differently from the traditional gravity flow drainfield system may be suitable for otherwise limiting soils.

Map 7 is based on information from the US Department of Agriculture Natural Resource Conservation Service. Soil surveys identifying the location of types of soils and information on soil characteristics such as permeability, depth to water table and slope are used to develop a suitability rating for the installation of traditional on-site systems. (Note: this is generalized information and cannot substitute for a site specific analysis of soils.)

Improperly designed, located, constructed, or maintained systems can be a source of many categories of contaminants, including bacteria, viruses, nitrates, and organic compounds. Misuse of these systems for disposal of anything other than domestic or sanitary waste may pose a substantial threat to groundwater.


Map 5
Highly Permeable Soils
Charles City County
Highly Permeable
Not Highly Permeable
Major Road
Local Road
Railroad
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010,
U.S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles


Map 6
Overlap of Highly Erodible & Highly Permeable Soils
Charles City County
Highly Erodible Permeable
Non Highly Erodible
Non Highly Permeable
River / Lake
Major Road
Local Road
Railroad
Stream
Intermittent Stream
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2012, U.S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles


Soil Suitability for
on-site Septic Systems
Charles City County
Map 7
Severe Limitation Conventional Systems
Slight Limitation Conventional Systems
Major Road
Local Road
Railroad
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U. S. Geological Survey - National Hydrography Dataset 2012,
U. S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5
Miles

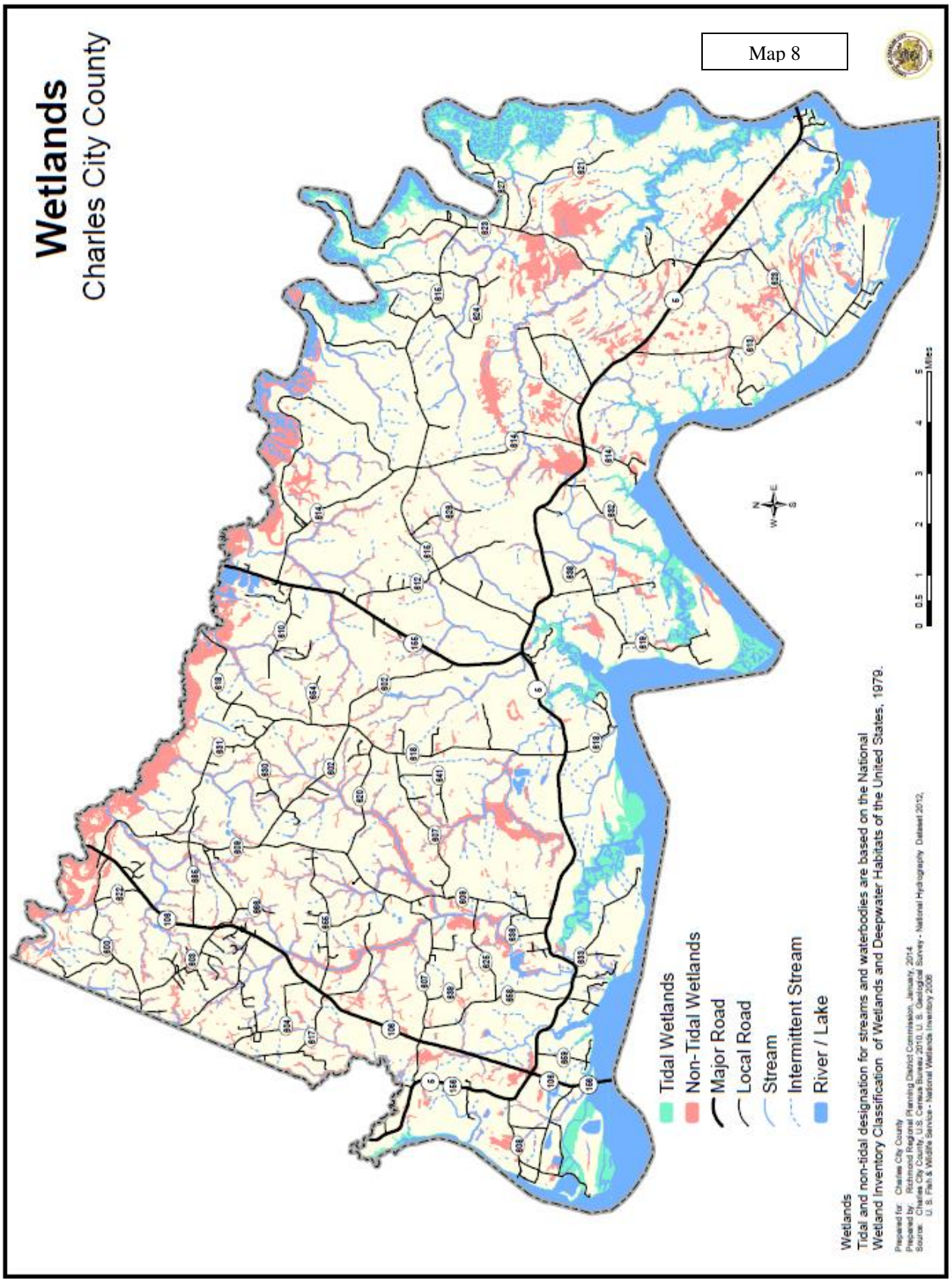
WETLANDS

Wetlands are low-lying areas with water saturated soil that can support certain types of vegetation. The source of water may come from rainfall, groundwater or river tides. Marshes, swamps and mud flats are more obvious examples of wetlands; however, there are other types that are not as readily identified, such as forested wetlands with seasonally saturated soils. Wetlands are defined according to soil type, vegetation and hydrology. Wetland soils do not normally support structures, roads or waste disposal facilities.

Wetlands perform several important functions. Wetlands improve water quality by slowing the flow of water and allowing excess suspended solids, nutrients, and toxic substances to settle. Wetlands also act as natural buffers against flood waters by slowing the velocity of the flow. Wetlands prevent erosion by binding together soil through their extensive root systems. Wetlands serve as discharge points for groundwater which helps to maintain stream flow during drought conditions. Wetlands serve as a habitat for many important commercial and recreational birds, fish and mammals by providing food, nesting areas, shelter and protection.

Charles City County has extensive areas of both tidal and nontidal wetlands as seen on **Map 8**. Tidal wetlands are influenced by the ebb and flow of lunar tides. These wetlands are found along the James River and Chickahominy River and their tidal tributaries. Nontidal wetlands are isolated from tidal influences. Nontidal wetlands are found along nontidal portions of stream tributaries to the James River and Chickahominy River, and that portion of the Chickahominy upriver from Walker's Dam.

In addition, through a program known as wetland banking, wetlands are created and restored in Charles City County. As of June 2013, 981 acres of wetlands had been created, restored, or were available for creation and restoration in Charles City County under the wetlands banking program, according to the US Army Corps of Engineers, Norfolk District Branch. The program, a result of federal wetlands policy, requires that unavoidable impacts to wetlands be compensated by the creation or restoration of wetlands. Charles City County is one of many counties that have sites available for compensatory mitigation for impacts to wetlands in the county or for impacts that may be outside of the county. The newly created or restored wetlands are located in areas throughout the county. Wetland banks may be considered as wetland farm, where restored wetlands are harvested for economic gain. Wetland banks produce income for lands that may be otherwise undevelopable.


Wetlands
Charles City County
Map 8
Tidal Wetlands
Non-Tidal Wetlands
Major Road
Local Road
Stream
Intermittent Stream
River / Lake
0 0.5 1 2 3 4 5 Miles
Wetlands
Tidal and non-tidal designation for streams and waterbodies are based on the National Wetland Inventory Classification of Wetlands and Deepwater Habitats of the United States, 1979.
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January 2014
Source: Charles City County Boundary, 2010, U.S. Geological Survey - National Hydrography Dataset 2012; U.S. Fish & Wildlife Service - National Wetlands Inventory 2006

FLOODPLAINS

A floodplain is land lying adjacent to a river or stream that may become submerged by flood waters. Floodplains are formed by silt and sediment deposited by a stream. The 100-year floodplain is that area of land that would be inundated by a flood that statistically has a one-percent chance of being flooded in any given year in a 100-year period. This is commonly referred to as the 100-year floodplain.

The Federal Emergency Management Agency (FEMA) has developed floodplain maps under authority of the National Flood Insurance Act. These maps, known as Flood Insurance Rate Maps (FIRM), define those areas that are eligible for inclusion under the National Flood Insurance Program.

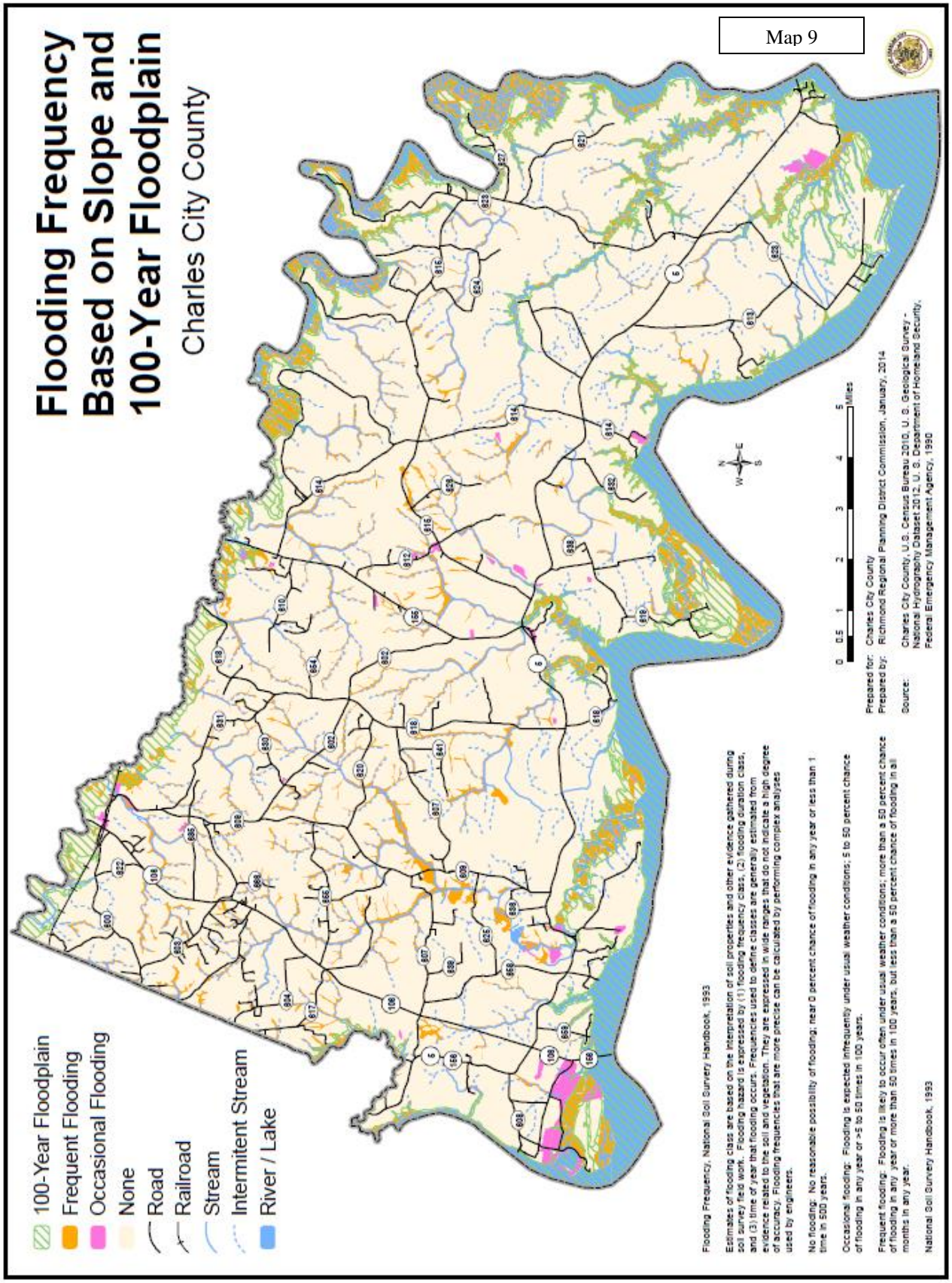
Map 9 shows the location of the 100-year floodplain in Charles City County and the areas that are subject to frequent flooding. This map was created by using a computer to draw flood areas determined by FEMA. The map illustrates both 100-year floodplains and areas of occasional and frequent flooding. Frequent flooding means that flooding is likely to occur under usual weather conditions, more than a 50 percent chance in any year.

The FEMA maps are approximations of floodplain areas. The actual location of floodplains should be determined through field inspection. The floodplain map indicates, generally, where the 100-year floodplain is located. The map indicates where caution should be exercised when deciding where to locate development.

SHORELAND

Charles City County is bounded to the north and east by the Chickahominy River. The county is bounded to the south and west by the James River. There are only seven miles along the western boundary of Charles City County where neither the James nor Chickahominy Rivers are its boundary. Within Charles City County all of the James River and two-thirds of the Chickahominy River are tidal. The *1976 Shoreline Situation Report for Charles City County* prepared by the Virginia Institute of Marine Science states that there are 121.2 miles of tidal shoreline in Charles City County. The *Report* does not address the non-tidal shoreline. The county's non-tidal shoreline includes the portion of the Chickahominy River upstream of Walkers' Dam and the shoreline along perennial streams such as Herring Creek and Courthouse Creek.

For the purposes of the land use plan, shoreland is defined as the tidal shore zone and the fastland. The tidal shore zone is the area of shores, beaches, and vegetated and non-vegetated wetlands along the tidal portions of the James and Chickahominy Rivers. (The most landward extent of the tidal shore zone is a point equal to the mean low water elevation plus 150 percent of the range or difference between mean low tide and mean high tide.) The *Shoreline Report* provides a general description of the county's tidal shore zones: Eighty-four percent of the tidal shore zone is marsh; 15 percent of the tidal shore zone is thin beach unsuitable for recreation; and, 1 percent of the tidal shore zone has been artificially stabilized.


Map 9
Flooding Frequency
Based on Slope and
100-Year Floodplain
Charles City County
100-Year Floodplain
Frequent Flooding
Occasional Flooding
None
Road
Railroad
Stream
Intermitent Stream
River / Lake
Flooding Frequency, National Soil Survey Handbook, 1993
Estimates of flooding class are based on the interpretation of soil properties and other evidence gathered during soil survey field work. Flooding hazard is expressed by (1) flooding frequency class, (2) flooding duration class, and (3) time of year that flooding occurs. Frequencies used to define classes are generally estimated from evidence related to the soil and vegetation. They are expressed in wide ranges that do not indicate a high degree of accuracy. Flooding frequencies that are more precise can be calculated by performing complex analyses used by engineers.
No flooding: No reasonable possibility of flooding; near 0 percent chance of flooding in any year or less than 1 time in 500 years.
Occasional flooding: Flooding is expected infrequently under usual weather conditions; 5 to 50 percent chance of flooding in any year or >5 to 50 times in 100 years.
Frequent flooding: Flooding is likely to occur often under usual weather conditions; more than a 50 percent chance of flooding in any year or more than 50 times in 100 years, but less than a 50 percent chance of flooding in all months in any year.
National Soil Survey Handbook, 1993
0 0.5 1 2 3 4 5 Miles
N
W E
S
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U. S. Geological Survey - National Hydrography Dataset 2012, U. S. Department of Homeland Security, Federal Emergency Management Agency, 1990

The fastland is defined as low shore, moderately low shore, high shore and high shore with bluff. The fastland is located 400 feet beyond and landward of the shore zone. The fastland begins at the point where the shore zone ends. (The shore zone ends at 1.5 times the tidal range plus mean low water). The fastland is the area most commonly used for development. The fastland is about 137 measured miles in length as measured from the county line along the James River to the mouth of the Chickahominy River and westward to Walkers Dam. The county's fastland has 45 percent low shore (20-feet of relief or less with or without cliff), 49 percent moderately low shore (20 to 40-feet of relief with or without cliff), 2 percent moderately high shore (40 to 60-feet of relief with or without cliff), 1 percent moderate high shore with bluff, and 2 percent high shore (60-feet or more of relief with or without cliff). There are no areas classified as high shore with bluff.

According to the *1976 Shoreline Report*, there was no point along the county's shoreland where erosion is or was considered to be a critical problem. Several areas in the county were identified, however, as having moderate erosion (one to three feet loss annually). In 1976, there were no areas identified with severe erosion (greater than three feet annually). However, in 1996, County staff with assistance from the Richmond Regional Planning District Commission staff identified two land parcels where moderate erosion had reached a critical stage possibly to result in the eventual loss of dwellings should protective measures not be taken. The *Shoreline Report* also classifies land use along river corridors in Charles City County. A review of both pertinent literature and a physical review of the 1996 conditions suggest that the 1976 land use classification remains valid. **Table 21** shows the development trends within the fastland.

TABLE 21

Charles City County Fastland Area Inventory 1976 and 1996				
	1976		1996	
Land Use	**Percent of Total**	**Linear Miles**	**Percent of Total**	**Linear Miles**
Agriculture	32	44.3	30	41.8
Forest	64	88.3	54	74.2
Rural Residential	2	3	6	8.4
Commercial	< 1	0.1	< 1	0.1
Industrial, Light and Heavy	< 1	0.1	<1	0.1
Public/ Semi-Public	1	0.9	9	12.1
TOTAL	**100%**	**136.7 miles**	**100 %**	**136.7 miles**
Sources: 1976 VIMS Shoreline Situation Report of Charles City County. The information was field validated in 1996 by staffs of Charles City County and the Richmond Regional Planning District Commission.				

Factors Affecting Shoreland Erosion

Each segment of shoreland, regardless of its location in the county, is being constantly affected by wave action caused by the wind and boating activities, stormwater runoff from rainfall (a detailed discussion of stormwater is found in the section "Threats to Water Quality"), and removal of vegetation. Each segment of shoreland may also react differently to the erosive forces of wind and water. For example, shoreland segments located within the bends of the river are more susceptible to river erosion, because more of a wave's energy is released at the bend. The physical characteristics of the shoreland, such as slope and soil type, also affect the rate of erosion. The amount of vegetative cover in an area and along the shore helps to reduce the potential for erosion. The amount of marsh vegetation found in an area also helps to buffer wave action and to reduce the impact of the waves.

Another factor which can dynamically affect the shoreland erosion rate is the loss of vegetation that occurs when land is developed. The current shoreland areas in Charles City County are essentially undeveloped. There are, however, a few developed areas. As areas develop, individual access points to the rivers are usually added as part of the development such as when a house is built with a pier. When vegetation in shoreland

areas is removed for new construction or to improve pedestrian access to the river, the potential for shoreland erosion also increases.

Public and Private Access

The majority of access to the water in Charles City County is privately owned. This includes residential home sites with associated boat ramps, piers and boating structures. It is estimated that there are between 50 and 100 privately owned piers in Charles City County. On the Chickahominy River where pier density is the greatest, nearly every parcel has its own pier. Each parcel of land on the river usually has an average frontage of several hundred feet. The combination of large river frontage on single parcels limits the total numbers of piers. Although direct access to the river is relatively small in this scenario, access still impacts the environment. In addition to providing access, piers are often used for long term boat mooring. The cumulative impact of low pier densities with long term boat mooring can result in reduced water quality from added pollution. This is a situation that is expected to intensify as currently undeveloped areas are subdivided and more piers are built.

The only commercial ramp accessing the Chickahominy River in the county, the Rivers Rest Marina (formerly the Hideaway Marina), is located in the northeastern part of the county. The marina consists of a boat ramp, 60 floating docks, field boat storage, a convenience store, restaurant, and motel. The Marina hosts the Freedom Boat Club, an organization that rents boats to members under contract. Overnight mooring is available, and a free pump-out station is available. The new facility was designed and built to minimize impacts to the Chickahominy River by incorporating an extensive French drain system, floating docks, and maintaining shoreline vegetation whenever possible.

In addition to the commercial facility, a public boat ramp with pier is located within the Chickahominy Wildlife Management Area along Morris Creek. This facility caters to the recreational day fisherman. This facility does not permit overnight mooring. No pump-out facilities are available or required at this location.

Public access to the James River is provided at the county's fishing pier and public boat ramp at the end of Wilcox Wharf Road (Route 618) at Lawrence Lewis, Jr. Park. The Lawrence Lewis, Jr. Park boat ramp was a public-private project that was completed and opened in May 2013.

Two barge ports are also found on the James River. One port is associated with the sand and gravel operation at Sandy Point. The second port, Port Tobacco, is located

near Shirley Plantation. The facility handles barges bringing a variety of commodities to the local area.

Submerged Aquatic Vegetation (SAV)

Submerged aquatic vegetation (SAV) is those grasses that exist below the surface in fresh water and low-salinity tidal waters. Their presence is vital to the Chesapeake Bay ecosystem. The grasses provide lodging and food for various small organisms, while also generating oxygen. Sediment is collected by SAV, which leaves the water less cloudy and reduces the likelihood of sediment crushing bottom dwelling life forms.

Unfortunately, today there is less than half of the submerged aquatic vegetation in the Chesapeake Bay and its tributaries than existed before 1960. The main reason for the downturn of this vegetation is due to light reduction caused by excessive stormwater runoff from farms, construction, and other developments.

A 1998 study, *Analysis of the Distribution of Submerged Aquatic Vegetation in the James River* by Virginia Institute of Marine Science, found numerous small beds of SAV along the Chickahominy River in Charles City County. These grasses were mainly fringing various marsh channels and small creeks. However, along the James River, only a few scattered beds now occur and are found within tributary creeks.

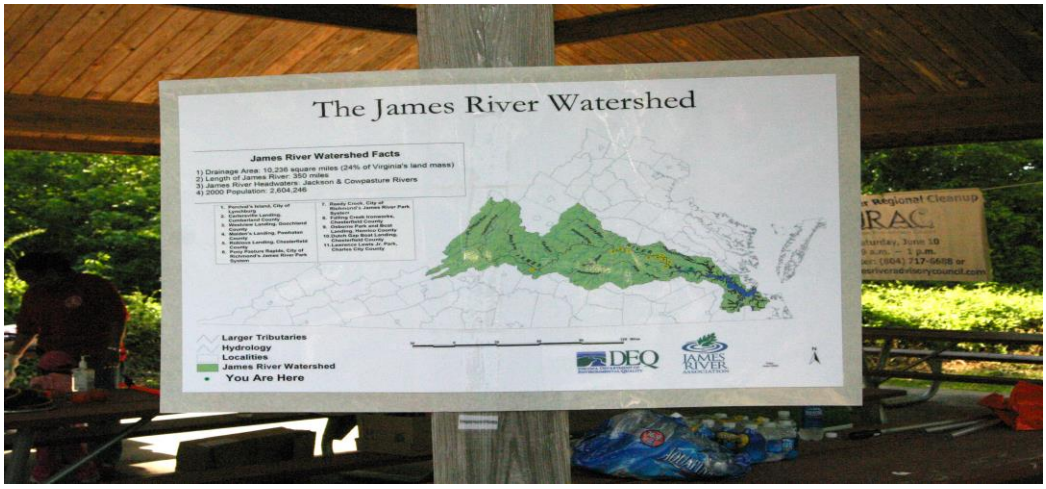
In addition, the water quality report on streams, estuaries and lakes with water quality impairments, the 2006 Water Quality Assessment Integrated Report, created every two years by the Commonwealth of Virginia's Department of Environmental Quality identifies a shortage of SAV in the James River through Charles City County in its assessment of impairments to the estuarine sections of the rivers.

The Harrison Lake National Fish Hatchery in Charles City County has become a planting area to create donor beds of such species as wild celery. The grasses are raised for restoration programs for planting throughout the Chesapeake Bay.

SURFACE WATER

The many rivers and streams that flow through Charles City County have played a significant role in the development and history of the county. The locations and general characteristics of the rivers and streams will greatly impact future development.

The entire county is within the James River watershed. This means that all of the streams eventually flow into the James River, which flows into the Chesapeake Bay.



The county's two major rivers are described below.

James River

The James River is an estuary in Charles City County and is influenced by the ebb and flow of lunar tidal cycles. Fresh water flowing down from the upper basin to the west mixes with the salty waters moving up from the Chesapeake Bay in the east. The concentration of salt water is greatest at the mouth of the river near Norfolk and gradually decreases upriver towards the City of Richmond. The salinity of the James as it passes through the county varies from season to season.

Approximately 15 major municipal and industrial sewage treatment plants are located upstream on the James River. These plants affect the water quality of the river downstream through the discharge of pollutants contained in their effluents. Also, the extensive growth and urbanization of these upstream localities make for conditions that create stormwater runoff which also pollutes the river.

Chickahominy River

The Chickahominy River along the eastern side of Charles City County is estuarine from Walkers Dam to the James River. This tidal portion is saline with concentrations similar to that of the James River. Above Walkers Dam, located 22 river miles upstream from James River, the Chickahominy is nontidal fresh water.

The City of Newport News utilizes the water impounded by Walker's Dam, Chickahominy Lake, as a raw water supply. This water is used to supply a portion of the water needs of the City of Newport News and other localities served by that city's water works. The State Water Control Board has developed strict standards for water quality and effluent discharges into the Chickahominy River from its headwaters to Walker's dam. There are several industrial and municipal sewage treatment plants up river in Hanover, Henrico, and New Kent Counties.

GROUNDWATER

General Information on Groundwater

Groundwater begins as surface water such as melting snow, rain, ponds, creeks, lakes and rivers. Overtime, large amounts of surface water are slowly absorbed in the ground. The specific locations where surface water filters into the ground are referred to as the saturated zone – the point where surface water becomes groundwater. The point where the surface water actually begins to collect and to pool underground is commonly referred to as the water table. Knowing the location of the water table is important in locating wells for both residential and non-residential purposed, especially in areas where public water and sewer service is not readily available.

Groundwater is found underground between the cracks and spaces in soil, clay and rocks. These spaces (or collection areas) are referred to as aquifers. Aquifers are made of varying natural materials that allow the water to flow at different rates. For example, aquifers made primarily from large clay deposits will hold water for longer periods of time than aquifers consisting primarily of soil. The actual location of the aquifer may vary considerably. The aquifer may be only a few feet below the ground or it may be hundreds of feet below the surface.

The speed of the flow of groundwater depends on the size of the spaces in the soil or rock and on how well the spaces are connected. Because groundwater moves slowly through the cracks and spaces between rocks and other non-porous materials, it can take long periods of time for it to move; often as long as a day just to move a couple of inches.

Recharge is the process that allows surface water to replenish an aquifer. This process may occur naturally or artificially. The process occurs naturally when rain falls, springs and streams filter down through the ground into an aquifer. The land area where recharge occurs naturally is called the recharge area or recharge zone. Artificial recharge is achieved by injecting water into a well or by spreading water over the surface where it can seep into the ground.

Per the State's 1992 Ground Water Management Act, the county is located within the Eastern Virginia Ground Water Management Area. This legislation aims to restrict the use of ground water and reduce the possible sources of ground water pollution in the management area. Uses that require large withdrawals of water, exceeding 300,000 gallons per month, are required to obtain a Ground Water Withdrawal Permit from the State. The Act also requires that there be a Ground Water Plan in place for those locales that fall within the management area.

Aquifers in Charles City

There are several confined aquifers in Charles City County. These aquifers are "confined" because they are separated from each other by thick layers of clay. These

clay layers hold the water, only allowing water to be transferred between the aquifers very slowly. The clay layers also add pressure to the water because the water wants to move faster than the clay allows. When the confined aquifers are tapped by a deep well, the pressure can force the water to spring upward as an artesian well.

Throughout Charles City, there is also an unconfined aquifer. This aquifer is found between the ground and the first confined aquifer. Rain, creeks and rivers supply the water to this shallow aquifer. The unconfined aquifer provides water for shallow wells. Because the aquifer is shallow and receives water directly from the surface, it is very susceptible to contamination. Substances that can filter through the ground can quickly reach the shallow aquifer.

In a study by the United States Geological Survey, *Groundwater Resources of the York James Peninsula of Virginia*, in 1989, there were several important issues identified in the executive summary including:

- Groundwater withdrawal has lowered water levels throughout the multi-aquifer system.
- Cones of depression are centered at, and are expanding outward from areas of concentrated groundwater use.
- Groundwater withdrawal is expected to increase. This will lower water levels and cause the possible movement of salty water into freshwater parts of aquifers.
- The availability of groundwater for meeting future water needs has become a matter of local and regional concern.

Residents and businesses in the county are served entirely by groundwater at this time. The county anticipates that groundwater will continue to be the sole source of drinking water for the foreseeable future. Section 62.1-44.15 of the Code of Virginia requires localities to develop a long-term water supply plan that identifies the quantity and potential of threats to the quality of the county's water supply system.

THREATS TO WATER QUALITY AND QUANTITY

Water quality is an important issue for Charles City County. The protection of groundwater and surface water is important in the short and long term both as a source of drinking water and for recreation and for fish and wildlife habitat. Pollutants generally affect water quality in two ways: stormwater runoff and leaching. Stormwater runoff refers to water which is not absorbed in the soil but instead flows overland. This excess water eventually collects and flows into either natural channels or manmade drainage courses such as a ditch or swale. As the water flows, part of it is absorbed into the ground, eventually helping to recharge the groundwater supply; the remainder is carried away to help recharge a surface water body.

Managing water quantity is also an important issue. Undeveloped or "pervious" surfaces, such as woodlands and meadows, absorb and filter rainfall and reduce runoff. Conversely, "impervious" surfaces, such as pavement and/or rooftops, increase the amount of runoff that occurs when it rains. This increase in runoff can overwhelm waterways causing erosion, localized flooding and property damage.

Stormwater

If too much stormwater flows too quickly over the ground, soil erosion may occur. Soil erosion occurs when great volumes of stormwater, sometimes also flowing at great speeds, washes away soil and debris. The soil eroded from the site carries nutrients, such as nitrogen and phosphorus, and the additional nutrients pollute the county's waterways. The debris and litter carried by stormwater runoff is also considered pollution, and should also be prevented from entering county waterways.

Also, land that is covered with buildings, parking areas and other built structures does not allow water to be absorbed into the ground and downstream flooding may occur if preventative measures are not taken. Excess runoff from development sites can cause channel erosion, flooding, and have adverse impacts on the hydrology of streams and wetlands. Preventative measures include stormwater detention and retention ponds or basins, also known as BMPS or Best Management Practices, and underground stormwater drainage systems. The preservation of vegetation on development sites increases the opportunity for stormwater to be absorbed into the ground. The maintenance of a vegetative cover also reduces stormwater runoff from the site.

Leaching

Leaching refers to the action of water and the particles it carries being absorbed and filtered by soil layers beneath the ground. Soil overlying the water table provides the primary protection against groundwater pollution. Bacteria, sediment and other insoluble forms of contamination become trapped within the soil. Some chemicals are absorbed or react with various soil constituents, thereby preventing or slowing the migration of pollutants into the groundwater. In addition, plants and soil micro-organisms use some potential pollutants, such as nitrogen, as nutrients for growth, thereby depleting the amount (of nutrients) that reaches the groundwater. Eventually the leached materials that are not filtered out in the soil layers enter the groundwater supply.

Highly permeable soils allow water and the particles it carries to more readily move through the soil layers. Because the water filters through highly permeable soil at a faster rate than non-highly permeable soils, chances are much greater that pollutants will not be filtered out and will enter the groundwater supply. Unconfined aquifers that do not have a thick cover of soil are more susceptible to contamination. Confined, deep aquifers tend to be better protected with a dense layer of clay material.

Most of the contaminants that commonly cause concern originate above ground, often as the direct result of human activities. More often than not the primary force involved is gravity, as wastes are washed, poured, spilled or flushed into pathways that lead into the ground. Opportunities for direct pathways to the aquifers which are used by Charles City County residents and businesses include open and abandoned wells, drain tiles or drainage wells, surface depressions where water ponds, septic tanks and drainfields, cesspools, rudimentary bored wells, pipe trenches, and mining excavations.

Erosion and Sediment Control

The county adopted its erosion and sediment control ordinance in 1980 and later modified it to become consistent with the state requirements. The purpose of this ordinance is to insure that no drainage from a construction site will cause damage to adjacent properties or waters due to sedimentation and stormwater runoff. All land disturbing activities over 2,500 square feet in areas designated as covered by the Chesapeake Bay Preservation Act in Charles City County are regulated. In 2014, the Charles City County CBPA Ordinance was combined with the county's erosion and sediment control ordinance and a new stormwater management ordinance to provide for the integration of these programs to better protect water quantity and quality.

Stormwater Management

The state Stormwater Management Act regulates the impacts to water quality and water quantity due to stormwater runoff from disturbance of land under development. In accordance with state law requirements adopted in 2012 by the General Assembly, Charles City County adopted and began administering a Virginia Stormwater Management Program (VSMP) to regulate certain land disturbing activities of greater than an acre (or less than acre where part of a common plan of development), and greater than 2,500 sq. feet when located in a Chesapeake Bay Preservation Area. The County's Stormwater Management Ordinance was combined with its then existing CBPA Ordinance and its Erosion and Sediment Ordinance now called the "Combined Water Quality Protection Ordinance of Charles City County" to integrate these programs to the betterment of water quality and quantity, and to provide a "one stop-shop" for developers. The “one stop-shop” benefits local developers and citizens by streamlining the permitting process for qualifying land disturbance projects. That is, the county now serves as the contact, instead of the Department of Environmental Quality, for the permitting process.

Floodplains

The county's floodplain overlay district was designed to protect persons and property from the negative impacts of floods. Citizens cannot build within the 100-year floodplain without providing assurances that damage is unlikely to occur to their property or the property of others due to floods. In addition, adoption and implementation of the county's Combined Water Quality Protection Ordinance will minimize stormwater runoff impacts to the county's flood prone areas.

Impaired Waters in Charles City County

Every two years, the Virginia Department of Environmental Quality develops a list of impaired waters in the state's lakes, rivers and tidal waters based on the presence of certain types of pollutants. A water body is considered impaired if it is determined through the monitoring of pollutants that the water is not suitable for swimming, fishing or drinking. Most rivers, lakes and estuaries in Virginia do meet standards as described in the biennial 305(b) Water Quality Assessment Reports, which is a requirement of the Clean Water Act. Waters that do not meet standards are reported in the 303(d) Impaired Waters Report. If a lake, river or tidal waters are considered to be impaired, DEQ develops plans, with public input, to restore and maintain the water quality for the impaired waters. These plans are called "Total Maximum Daily Loads," or TMDL implementation plans. TMDL is a term that represents the total pollutant a water body can assimilate and still meet standards.

In Charles City County, portions of the James River, Chickahominy River, Turkey Island Creek, Harrison Lake, Chickahominy Lake, Possum Run, West Run, Morris Creek, Gunn's Run and Collins Run were classified as being impaired according to the 2012 Impaired Waters report. Depending on the section of the river or creek, reasons for impairment include the presence of fecal coliform, ph deficiencies and the open water 30-day summer dissolved oxygen criteria. Sources of the pollutants could include agriculture, atmospheric deposition of nitrogen, natural conditions, loss of riparian habitat, wet weather discharges from point sources, and stormwater from urbanized areas. Many of these potential sources are located upstream and outside of Charles City County.

All major county land uses (agriculture, residential, and business and industry) have the potential to introduce contaminants to ground or surface water through either direct pathway, leaching or stormwater runoff. Below is a summary of the various ways these land use types may contribute to ground or surface water pollution.

Agriculture

Nutrient Management

Agricultural activities can introduce nutrients, toxicants and sediments into streams, waterways and groundwater and can have a negative affect on water quality. According to Colonial Soil and Water Conservation District records, there are about 17,800 acres of farmland in Charles City County under active cultivation. (This represents about 16

percent of the county.) These lands are used for growing small grains and cotton. The activities for each farm are regulated by a management plan prepared for them by the local soil and water conservation district office. These plans are developed to meet the standard of the United States Department of Agriculture's Food Security Act (FSA), and include standards for tillage practices, application rates for pesticides, fertilizers, herbicides, and other nutrients. These plans are designed in part to prevent surface and groundwater pollution by minimizing erosion and possible excessive chemical application. If the farmers meet standards established in the plan, they are eligible for cash subsidies provided through the USDA program. The cash subsidies provide the incentive for the farmer to follow the plan.

Biosolids Application

Biosolids are applied to approximately 10,000 acres of farmland in Charles City County. Biosolids (or treated sewage sludge) contain organic and inorganic nitrogen and can be applied to non-edible plants as a fertilizer to dramatically accelerate plant growth. Not all lands considered for biosolids application is suitable. Land features such as topography, soil characteristics, location of groundwater and surface waters, and proximity to residences, operational accessibility, proximity to a biosolids supply, intended land use, economic viability, and application time need to be evaluated.

Farms that apply biosolids to crops and trees are required to follow strict, approved nutrient management plans that consider plant needs and soil nutrient levels. These plans outline the amount of nitrogen the plants can utilize form the application of the bio-solids. The Virginia Department of Environmental Quality closely restricts sludge application to sites where surface runoff can be minimized, and prohibits biosolids from reaching surface water bodies, drainage ditches, and other impoundments. Application of biosolids within 100 foot of wells is strictly prohibited to reduce the potential waste contaminants to move from soil into groundwater. Regardless of how restrictive local or state regulations are, or how reasonable it is to use biosolids as a soil additive on agricultural lands, it remains the ultimate responsibility of the farmer to properly apply biosolids in strict accordance with the rules that are designed to protect. Safe and effective application of biosolids will fail if the farmer is not knowledgeable of appropriate agronomic practices and soil types.

Residential

Use of Lawn, Garden and Household Chemicals by Homeowners and Small-scale Farmers

Small scale farmers, gardeners, and homeowners however do not typically have the assistance of the local soil and water conservation district and may not be familiar with USDA requirements. The lawn and garden chemicals may be misapplied potentially contaminating groundwater unless application instructions are carefully followed. Groundwater contamination may also occur when these chemicals are stored in uncovered areas, unprotected from wind and rain, or are stored in locations near wells or drains.

Many sources of groundwater contamination can originate from the home. Improperly stored or disposed household chemicals such as paints, synthetic detergents, solvents, oils, medicines, disinfectants, pool chemicals, pesticides, batteries, gasoline and diesel fuel can lead to groundwater pollution. When chemicals are stored in garages or basements with floor drains, accidental spills or flooding may wash chemicals away to contaminate groundwater. Similarly, wastes dumped or buried in the ground can contaminate the soil and leach into the groundwater. Hazardous products that could not be reused (i.e. agricultural chemicals etc.) were often disposed in the landfill.

In 2000, a county-wide program sponsored by Waste Management Incorporated and Charles City County began that assists the local residents with the proper disposal of hazardous household and agricultural chemicals waste. Prior to 2000, residents would depend on local vendors (i.e. service stations, etc.) to accept their waste.

Open Wells

Open wells can easily become contaminated from simple daily operation or by accidental spills near the well opening. The lubricating fluids used to help the pumps operate, such as grease and oil from the pump can contaminate open wells. Open wells can also be contaminated from the surface if the well cap is not tight or if the casing lining the well is cracked or corroded. In addition, many older wells were merely dug as shallow holes in the ground. These wells can easily be contaminated and are also a safety hazard to children and animals.

The Virginia Department of Health (VDH) and Charles City are working closely together to identify open wells. It is the intent of both agents that once these open wells are located that the owners will be identified and proper well abandonment procedures followed. The state's Wellhead Protection Plan Development Program is based on community involvement, wherein a local committee works with VDH to create a plan for wellhead protection which can be used by a locality's waterworks for implementation to protect groundwater.

On-site Sewage Treatment

The majority of Charles City County is served by individual onsite wastewater systems (septic systems). These systems are designed for safe use by homes, offices or businesses not connected to a community sewer system. These systems work by collecting human waste in underground vats, allowing it to decompose through natural processes, and draining away at a slow, harmless rate. The county's soil's survey indicates that most of the county soils have such severe limitations that they are unsuitable for individual on-site septic systems.

The average lifespan for well-designed and maintained systems is about 30 years. The county estimates that the majority of the on-site systems built before 1980 may need to be repaired or replaced based on information gathered from Virginia Department of Health records for Charles City County. Generally, systems designed and installed after

1990 should be in good operating order because they were developed with water quality issues and appropriate VDH regulations in place. However, there are questions about the integrity of systems installed before then. Health department records kept on septic system permits issued before 1990 are not complete, and therefore many of the records are not reliable. Review of records issued before 1990 indicates that approximately 1,228 records are reliable, and the remaining 1,800 records are not. Of the reliable records, about 800 were recorded before 1980. Of those 800 records, more than 500 (at least 63 percent) are for systems located on areas of unsuitable soils. Therefore, the assumption is made that for the systems with unreliable records, 63 percent are located on unsuitable soils. In addition, these systems are at best, over 20 years old and are nearing their life expectance.

In addition to those within the county who have on-site systems, there are many homes within the county that still have no indoor plumbing. The 2010 census identified 38 homes without complete indoor plumbing. The lack of indoor plumbing and the existence of these large numbers of septic systems failing in the county is an important issue for the County Board of Supervisors. The county is actively seeking resources to provide adequate and safe wastewater disposal for all citizens, regardless of income.

Business and Industry

Disposal of Waste

Some businesses and home occupations, without access to sometimes expensive alternative types of disposal technology, treat their wastewater with residential-styled septic systems. Businesses that use harsh chemical or solvents such as automobile repair service, electrical component or machine manufacturers, photo processors, and metal platers or fabricators are of particular concern because the waste they generate is likely to contain toxic chemicals. Septic systems are not designed to treat these types of industrial wastes. Other industrial sources of contamination include cleaning of holding tanks or spraying equipment on the open ground. Some of this material can be lost through spillage, leakage, or improper handling. Even the cleanup of spills may pose a threat to groundwater when the spills are flushed with water rather than cleaned up with absorbent substances.

Although businesses may run a "clean shop", even small amounts of waste fluids can end up on the shop floor and be washed down floor drains that are not designed to handle industrial chemicals. These relatively small amounts of chemicals accumulate over time, and may create severe water pollution problems.

Education of these business owners in the identification of their hazardous wastewater management practices and insuring that there is available a resource in eliminating these hazardous products is the key to reducing the amount of hazardous waste inadequately disposed of in this county.

Leaking Underground Storage Tanks

A major source of petroleum products entering groundwater is leaking underground storage tanks. Leaking underground storage tanks (LUST) can pollute both ground and surface waters. The Virginia Department of Environmental Quality maintains a program for tracking and assisting owners with the clean-up of leaking underground storage tanks. In March 2006, there were five identified LUST in Charles City County. The location of these sites is shown on **Map 10**, which shows existing and potential water pollution sources.

Point Source Pollution

The regulation of point source pollution, as a result of industrial or municipal wastewater or stormwater, is controlled by the Department of Environmental Quality through its permitting known as Virginia Pollutant Discharge Elimination Systems (VPDES). In order to protect water quality, the discharge from wastewater systems is monitored and regulated through an annual permit specifying the allowed level of nitrogen, phosphorous and other chemicals which are harmful to water quality.

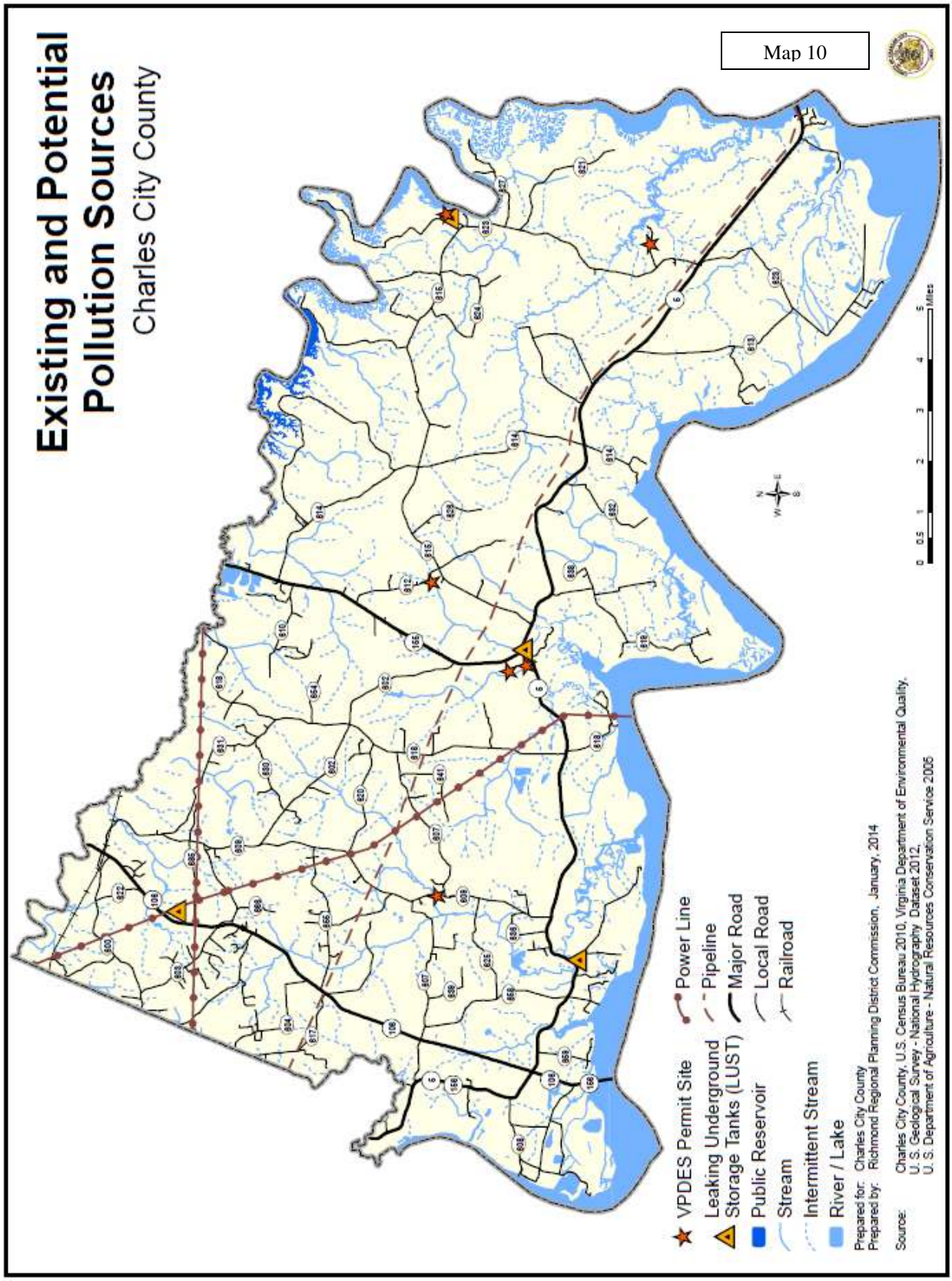
STATE AND LOCAL POLICY FOR WATER QUALITY PROTECTION

State Policy for Water Quality Protection

Under state law, each local government must clearly indicate local policy on land use issues relative to water quality protection within its comprehensive plan. The Chesapeake Bay Preservation Act requires that each locality within the Tidewater area designates the area of sensitive lands for the Chesapeake Bay Preservation Areas in its comprehensive plan.

Local Policy for Water Quality Protection

The county has a comprehensive environmental control program which addresses the riparian management strategies and policies described in this section. These include adoption of ordinances consistent with state legislation. The permits required by the ordinances and programs below are consolidated to one application to help the local citizen.


Existing and Potential Pollution Sources
Charles City County
Map 10
VPDES Permit Site
Leaking Underground Storage Tanks (LUST)
Public Reservoir
Stream
Intermittent Stream
River / Lake
Power Line
Pipeline
Major Road
Local Road
Railroad
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, Virginia Department of Environmental Quality, U.S. Geological Survey - National Hydrography Dataset 2012, U.S. Department of Agriculture - Natural Resources Conservation Service 2005
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Chesapeake Bay and Tributaries

In 1988, the General Assembly adopted the Chesapeake Bay Preservation Act. The Act's purpose is to protect and improve water quality in the Chesapeake Bay and its tributaries by regulating the use and development of land. Charles City County first adopted the Bay Ordinance in October of 1993 that directly supports the Chesapeake Bay Preservation Act and the regulations. This ordinance designates Chesapeake Bay Preservation Areas and provides regulations for the use and development of land within these areas. Chesapeake Bay Preservation Areas consist of Resource Protection Areas and Resource Management Areas. They are described below and are shown in **Map 11.**

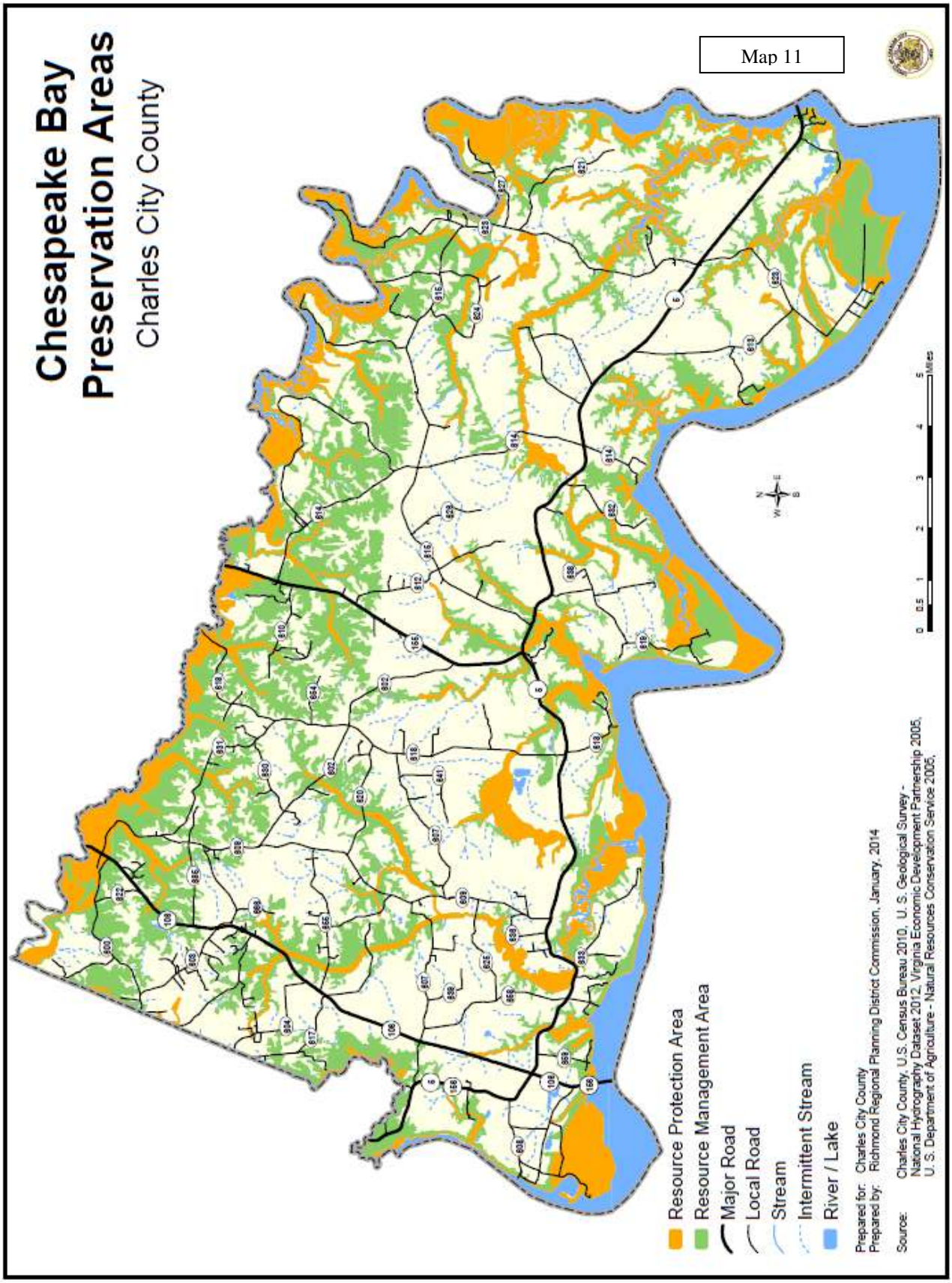
Resource Protection Areas (RPAs) are highly sensitive land types at or near the shoreline, that in their natural condition are essential to the protection of the water quality of state waters. RPAs include tidal wetlands, nontidal wetlands connected by surface flow and adjoining to tidal wetlands or tributary streams, tidal shores, and a 100-foot width vegetated buffer area landward of the first three components and along both sides of tributary streams. Types of development within these areas are limited to water dependent uses and redevelopment. In addition, additional construction standards are applied to all development in RPAs.

Resource Management Areas (RMAs) are land types that if improperly used or developed have the potential for causing significant threats to water quality or diminishing the functional value of the Resource Protection Area. Resource Management Areas include those areas adjoining to any Resource Protection Area where there is an overlap of soils delineated as highly erodible and soils delineated as highly permeable, those areas adjacent to any Resource Protection Area delineated as a 100-year floodplain and an area 25 feet in width landward and adjoining to the entire inland boundary of the Resource Protection Area. Types of development within these areas are not limited. Additional construction standards are applied to all development in an RMA.

Wetlands

The Tidal Wetlands Act regulates both vegetated and non-vegetated wetlands as defined in Section 28.2-1300 of the Code of Virginia. Permits are required for piers, boat ramps, revetments, bulkheads, marinas etc. when portions of these structures impact wetlands jurisdiction associated with the shore zone. The county Wetlands Board uses information from the Virginia Marine Resources Commission in regulating wetlands impacts for piers, structural and nonstructural methods of shoreland management, marinas, and facilities for river access.

In 2011, the Virginia 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


Chesapeake Bay
Preservation Areas
Charles City County
Map 11
Resource Protection Area
Resource Management Area
Major Road
Local Road
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U. S. Geological Survey - National Hydrography Dataset 2012, Virginia Economic Development Partnership 2005, U. S. Department of Agriculture - Natural Resources Conservation Service 2006,
0 0.5 1 2 3 4 5 Miles

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, found within the Comprehensive Coastal Resource Management Portal, is being prepared by VIMS for localities within the Tidewater region of Virginia. 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 based resource mapping database that will be updated from time to time, and a digital geographic information system model created by VIMS.

Erosion and Sediment Control

The county adopted its erosion and sediment control ordinance in 1980 and later modified it to become consistent with the state requirements. The purpose of this ordinance is to insure that no drainage from a construction site will cause damage to adjacent properties or waters due to stormwater runoff. All land disturbing activities over 2,500 square feet in riparian areas in Charles City County are regulated.

Stormwater Management

The state act regulates the impacts on water quality due to stormwater runoff from disturbance of land under development. Localities have the ability to administer stormwater programs and to review stormwater plans for projects in excess of one acre in size. As of 2013, Charles City County does not administer its own stormwater program. However, beginning on July 1, 2014, changes to state law will require Tidewater localities such as Charles City to administer a stormwater program to regulate impacts from land development.

Floodplains

The county's floodplain overlay district was designed to protect persons and property from the negative impacts of floods. Citizens cannot build within the 100-year floodplain without providing assurances that damage is unlikely to occur to their property or the property of others due to floods.

Site Plan Ordinance

The county adopted its site plan ordinance in 1994. The current ordinance requires a site plan be submitted for any land disturbance over 2,500 square feet to comply.

Wastewater

The majority of Charles City County is served by individual onsite wastewater systems (septic systems). The severity of the wastewater problems was identified in a 1994-1995 ad-hoc survey prepared by Virginia Department of Health (VDH) staff. Through Community Development and the Indoor Plumbing and Rehabilitation programs, 19 households were provided indoor plumbing and rehabilitated houses. During the last several years, however it became obvious that due to size of the lots or other site conditions, some properties would not allow for the installation of conventional systems. A planning grant was awarded by the DHCD in fall of 2001 to the county to assess the use of generic decentralized wastewater treatment systems for designated clusters. Central to the DHCD support was for Charles City County and the Virginia Department of Health to execute a Memorandum of Agreement (MOA) that established a protocol that allows for improved permitting procedures together with improved operation and maintenance procedures for the installed systems. It is expected by the DHCD that this protocol could be used by other locales in Virginia that are facing the same issues with poor soils and a number of existing houses without indoor plumbing. Key however to the MOA being created was the guarantee that should the project proceed Charles City would own and operate these systems. The County Board of Supervisors took the critical step of endorsing the Memorandum of Understanding. This is a unique action among rural locales in that it obligates the county to future operation and maintenance of this type of system. This endorsement indicates the level of political will the county has in providing service to houses without indoor plumbing.

Agriculture-No-Till Farming

Charles City has received prominence for its farming methods. It is part of the Innovative Cropping Systems (ICS) partnership which utilizes innovative technologies to avoid soil tillage while benefiting farmers financially. Tilling the land requires loosening soil in order to mix fertilizer in with the land, which can result in soil erosion. Many Charles City farmers have avoided this harmful practice by becoming known for their no-till farming, which also can reduce pollutants released into the air after the soil is manipulated. An impressive 90 percent of its farmland is in the never-till category. This practice controls for runoff, and during a recent hurricane the county revealed almost no signs of erosion. This program is funded in part by a grant from the Virginia Department of Conservation and Recreation. Other benefits of reduced tillage include improved water quality, lessened production costs, and larger crop production.

SAND AND GRAVEL

Charles City County is in the Coastal Plain Province and is underlain principally by sand, gravel, clay and marl strata. Alluvial deposits of these materials were placed here over a large span of geologic time by the James and Chickahominy Rivers.

Charles City County has abundant sand and gravel resources. This is evidenced by the several large-scale mining operations located throughout the county. During 2004, 1,833,458 tons of sand and gravel were produced in the county by the following active operations:

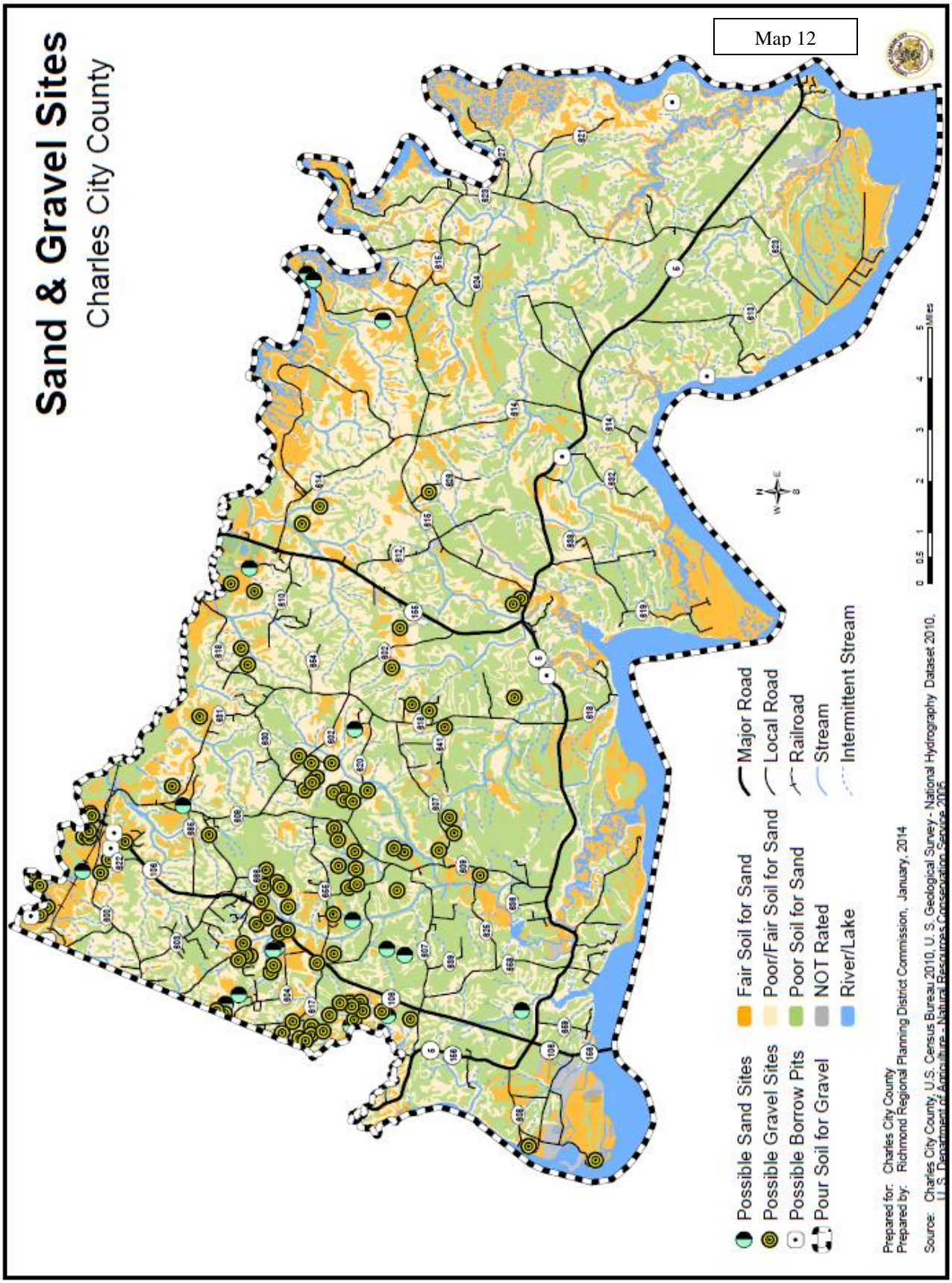
Henry S. Branscome, Incorporated
Howard Brothers Contractor Incorporated
Vulcan Construction Materials LP
Bardon, Incorporated (Brett)
Sturgeon Point, LLC

The Virginia Department of Mines, Minerals and Energy also reports four inactive operations in addition to the active operations. These operations are as follows:

American Materials
J. R. Parker
Eureka Brick Company
Tarmac America, Inc. (Lone Star)

In the past, sand and gravel have been produced near Holdcroft, in the northeastern portion of the county near the Chickahominy River. Sand and gravel has also been produced at other locations in the county. Clay was formerly mined near Oldfield and Sturgeon Point, in the southeastern portions of the county near the James River, for use in the manufacture of brick. Samples of clay from selected locations in the county have been tested and found potentially suitable for use in the manufacture of brick, tile, quarry tile, sewer pipe and stoneware. Calcareous or shell marl and glauconitic marl are found in the county but no commercial mining of these materials has been reported to the Virginia Department of Mines Minerals and Energy.

Map 12, Sand and Gravel Sites, shows those areas in Charles City County that most likely contain or may contain significant sand and gravel deposits. The ancestral river beds of the James and Chickahominy make up most of those areas. This map was produced using information provided by Natural Resource Conservation Service. Detailed, site specific analysis is necessary to make accurate decisions.


Map 12
Sand & Gravel Sites
Charles City County
Possible Sand Sites
Possible Gravel Sites
Possible Borrow Pits
Pour Soil for Gravel
Fair Soil for Sand
Poor/Fair Soil for Sand
Poor Soil for Sand
NOT Rated
River/Lake
Major Road
Local Road
Railroad
Stream
Intermittent Stream
0 0.5 1 2 3 4 5 Miles
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010,
U.S. Department of Agriculture - Natural Resources Conservation Service 2006

FISHERIES

Rivers and lakes of Charles City County support recreational fisheries that are nationally known. The tidal Chickahominy along the eastern side of the county has supported a largemouth bass fishery for many decades. Anglers also fish for catfish, especially blue catfish, river herring, striped bass, and Hickory and American shad. In addition to access at the Chickahominy Wildlife Management area on Morris Creek and the Rivers Rest marina in Charles City, there is also public access to the river in James City County and New Kent County.

The Chickahominy Reservoir, a 1,230-acre fresh water lake formed by Walker's Dam, is along the northern side of the county. According to the Department of Game and Inland Fisheries, the lake is considered to be one of the "best all round fisheries in Virginia." The habitat created by bald cypress trees, water lilies and underwater vegetation is credited with providing consistently good fishing at this lake. In addition to chain pickerel, bowfin, largemouth bass, bluegill, black crappie, yellow perch, gar and others, there are twin fish ladders next to the dam which allow for the passage of blueback herring and striped bass. There is no public access to the Chickahominy Reservoir in Charles City County. Access is from either private or commercial landings in New Kent County.

The tidal James River also supports a nationally recognized largemouth bass fishery and has been the location of many recreational fishing tournaments including the Bass Master Classics.

The Harrison Lake National Fish Hatchery next to Harrison Lake is owned and managed by the US Fish and Wildlife Service. Since 1994, the hatchery has stocked millions of American shad larvae into rivers in Maryland and Virginia, including the James River.

FORESTS

Forests are a benefit to Charles City County both economically and environmentally. Economically, forestry ranks second behind agriculture in contribution to the county's economy. Forests benefit the environment by improving water quality and regulating water supply. Water quality is improved through the reduction of erosion and sedimentation entering our lakes and streams. Water supply is regulated by the forest's ability to prevent the rapid runoff of precipitation from the land. Forests clean the air by acting as a filter. Oxygen is exchanged for carbon dioxide during the process of photosynthesis (the process of converting light energy into useable energy), thus keeping these two constituents in balance. Forests make up habitat that is used by many animals for shelter, food, and nesting sites. Forests are aesthetically pleasing and provide attractive home sites and recreational areas.

According to the Virginia Department of Forestry, forests cover approximately 80,000 acres or about 73 percent of the county's land area. The major forest types in the county are: loblolly pine; oak-pine; oak-hickory and oak-gum-cypress.

The majority of the forests, 75 percent or about 60,000 acres, is owned by private landowners. The forest industry owns another 25 percent or about 20,000 acres. The remaining 6% is owned by the government. The forests of Charles City County have long been a substantial contributor to the livelihood of its residents. In Charles City County, the forested land is used for a variety of purposes: protecting the county's water from pollution; cleaning the air and producing oxygen; providing homes for wildlife; providing recreation for the county's citizens; providing jobs through the harvesting of wood products; and, income for landowners through the marketing of forest products.

Forests are the best land use for protecting water from pollution and for helping to maintain a good water supply. Streams and rivers can be polluted when rain flows into them carrying dirt and debris from the land. Rain needs time to absorb into the ground so that pollutants can be filtered out. Leaves and branches help to slow the rain as it falls from the sky. This slowing process helps to reduce the rain's pounding action and the potential for soil erosion caused when rain falls on the ground. Trunks and roots also help to slow the rain as it flows across the ground. When tree trunks and roots are in place, the rain water must flow around them. It takes the rain water longer to flow around the trees than it does to flow over smooth ground. As the water flows around, it tends to form small pools and puddles that allow the dirt and debris to settle to the bottom. In these ways, forests help prevent soil loss that may otherwise occur.

The roots of trees found below the ground also help reduce the amount of dirt and debris that might reach the county's groundwater. As the water slowly soaks down through the root systems, the tree roots act as a filter much like a coffee filter. The loose soil and debris are trapped in the tree root systems and are kept from getting into the groundwater. Forests, in particular stream side forests, also trap and utilize excess nutrient in runoff.

Forests also clean the air by acting as an air filter. Oxygen that is breathed by humans and animals is created from trees and other plants through the process of photosynthesis. Photosynthesis is a natural process that occurs when trees breathe in carbon dioxide in the air and breathe out oxygen. Forests are home to many different types of animals and insects. The forests provide many different types of animal homes such as a tree limb for a bird nest, tree trunks for squirrels, hollows for rabbits, dens for

raccoons, and decaying logs for snakes, ants and beetles. Forests also provide food such as berries, seeds, nuts, and leaves, and nesting sites for wildlife.

Forests also provide the natural beauty of the county. The forests are an important part of the county's rural character. Historically, the county's forests have been hunted and combed by the Native American Indians for thousands of years, and later by colonial settlers. Presently, the forests provide a good place for recreation such as nature appreciation, bird-watching, hiking and hunting.

The economic value of the forests in Charles City County is noteworthy. Nearly all the forested land in the county is capable of producing quality trees of commercial value. Forest management assistance for private landowners is available to all the residents of Charles City County through the Virginia Department of Forestry.

To support the county's forestry industry, there are two stationary wood-using mills and another wood yard in the county. In addition, Weanac Inc. built a port on the James River that can be used to export forest products.

Resources

The Virginia Department of Forestry (VDOF) has historically provided many forest management services for landowners ranging from outreach education to forest stewardship management plans. Recently, VDOF has begun a land conservation program in an important effort to conserve Virginia's forest land base. VDOF has identified forested areas throughout the state that offer relatively high conservation values as related to protecting water quality, providing wildlife habitat, or the production of forest products. Many localities are also making an effort to conserve their natural resources as well as their rural character, and are setting goals in their comprehensive plan to address these needs. VDOF can work with localities to identify these valuable forest lands and focus forest conservation efforts on these areas that will provide the greatest benefits.

Land conservation can be attained through a variety of tools such as land use taxation, agriculture-forestal districts, and in special cases conservation easements. In Virginia, easements can be donated, or sometimes sold to a number of public and private entities. In addition to the Department of Forestry, other state agency conservation easement holders include the Virginia Outdoors Foundation (VOF), the Department of Conservation and Recreation (DCR), the Department of Game and Inland Fisheries (DGIF), and the Department of Historic Resources (DHR). Easements may also be held by certain qualified nonprofit conservation organizations.

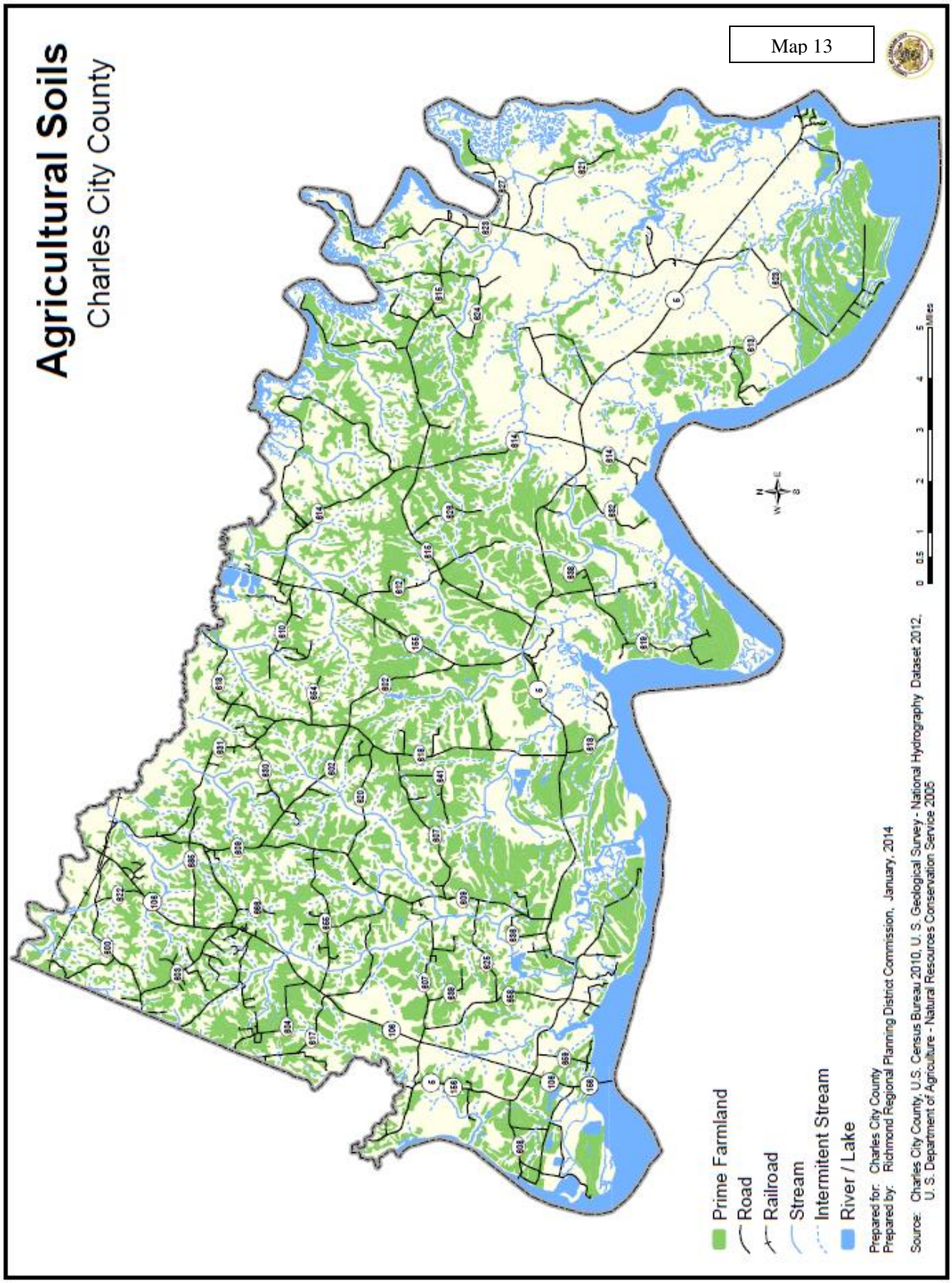
AGRICULTURAL LAND

According to U.S. Department of Agriculture (USDA) as reported in the 2002 census data, there are 27,489 acres, or about 24 percent, of land used for farming in Charles City County. Generally, the amount of land available for farming in the county is getting smaller each passing year. The far eastern portion of the county contains the fewest acres of farmland, with the rest of the county's farmland being evenly distributed throughout the remainder of the county to the west. The county's farmland significantly contributes to the county's healthy economy.

Prime Agricultural Land

It is important to identify prime farmland within the county to ensure that this land is promoted for use as a farm. **Map 13** identifies the location of prime agricultural lands in the county. The U.S. Department of Agriculture has defined prime farmland soils as soils that are best suited to producing food, feed, and oilseed crops. In addition, prime soils are favorable for the economic production of sustained high yields of crops. The soils need only to be treated and managed using acceptable farming methods. The moisture supply, of course, must be adequate, and the growing season must be sufficiently long. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland is determined by the characteristics of the soil. The characteristics include acceptable acidity or alkalinity level, few or no rocks, permeable to water and air, not excessively erodible or saturated with water for long periods, not flooded during the growing season, and the slope is relatively flat, ranging mainly from 0 to 6 percent. In addition, prime farm soils usually get an adequate and dependable supply of moisture from rain or irrigation, and the temperature and growing season are favorable. Soils that have a high water table may qualify as prime farmland soils if the limitation is overcome by good drainage. On-site evaluation is necessary to determine the effectiveness of drainage corrective measures.


Map 13
Agricultural Soils
Charles City County
Prime Farmland
Road
Railroad
Stream
Intermitent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U. S. Geological Survey - National Hydrography Dataset 2012,
U. S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles

WILDLIFE RESOURCES

Charles City County maintains a large forest cover. The county's forests are dominated by extensive loblolly pine plantations. The county also has elements of the typical Virginia Coastal Plain mixed hardwood forests. These upland forests include as dominant members the American beech (*Fagus grandifolia),* tulip tree or tulip popular (*Liriodendron tulipifera).* Also common to these forests are the white oak, northern red oak, mockernut hickory (*Carya tomentosa)* and sweet gum. Lowland forests in Charles City typically contain red maple, American hornbeam and willow oak. Typically, wetland areas in the county contain species such as the river birch, swamp tupelo, bald or pond cypress, green ash and swamp oak. One will also find common herbaceous understory plants such as the bay berry, dogwood, vine honeysuckle and fringe tree in both wetland and upland areas.

The county's forests, open agricultural fields, and wetlands provide excellent habitat value to game species such as the white tailed deer, wild turkey, fox and grey squirrel, eastern cottontail, bobwhite and mourning dove. Waterfowl of several species are also found. These include the wood duck, mallard, merganser and Canada goose. Also found in the county are other diverse species such as the red tailed hawk, eastern box turtle, Carolina wren, chickadee, barred owl, northern black racer, rough green snake and common bullfrog.

Within the streams and rivers of the county, fish species such as the largemouth bass, black and white crappie, perch, various sunfish species and catfish are common. Anadromous species such as the blueback herring and striped bass are also common in the appropriate season of the year. It is also not unusual to find the blue crab in the waters around Charles City County.

Rare, Endangered and Threatened Species

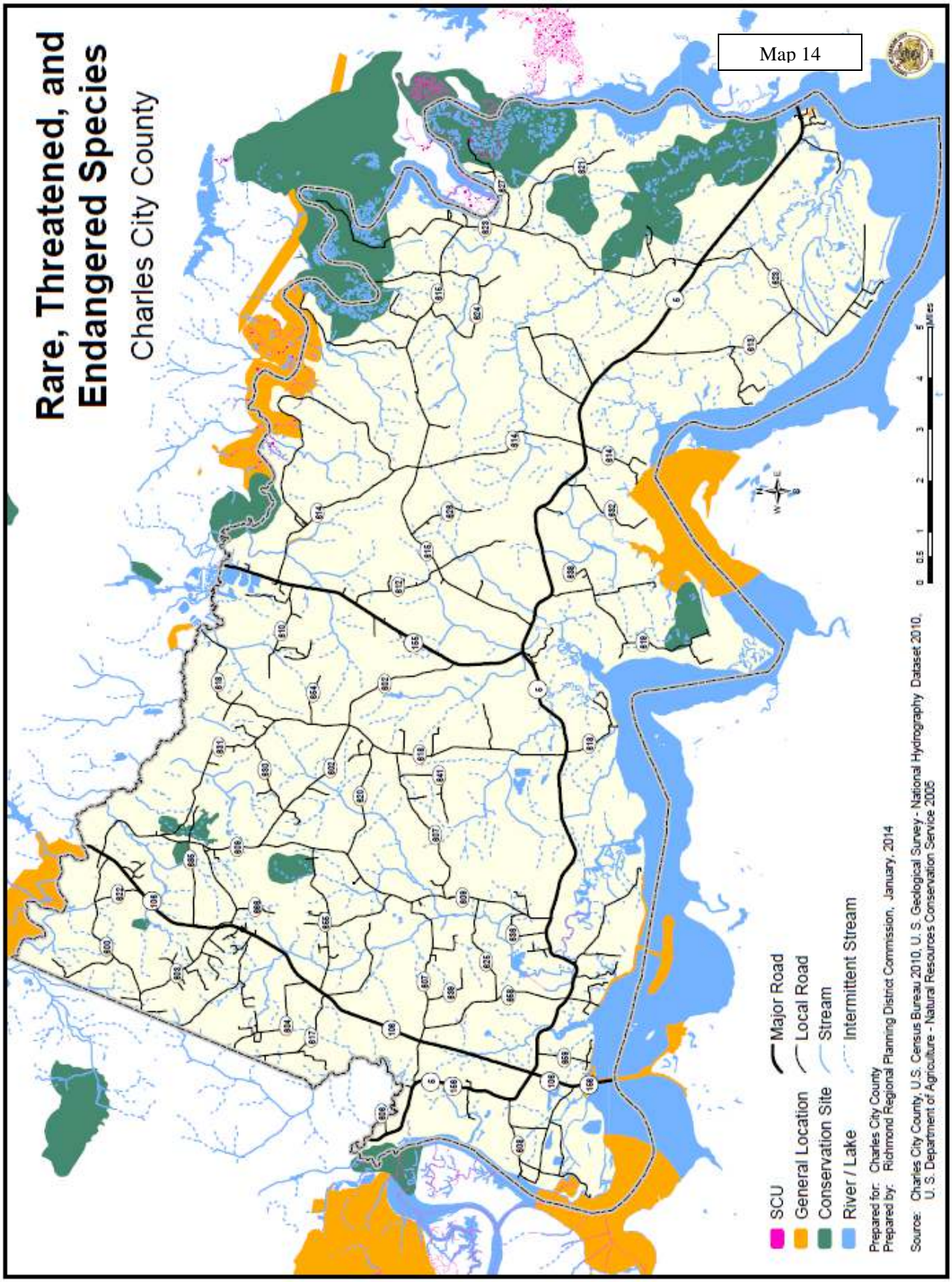
Rare species are plants and animals that, because of their low numbers or the scarcity of the habitat in which they live, are in danger of extinction. Endangered species are those in imminent danger of extinction throughout their range. Another category, threatened species, is for those that appear to be approaching endangered status.

The extinction of many species of plants and animals has occurred through the ages from both natural and manmade causes. Climate changes, over competition from other species for habitat, and predation are examples of natural causes. Pollution, illegal hunting and changing landscapes due to urbanization are some examples of manmade causes that have accelerated the rate at which species are lost.

In Virginia, there are three agencies that oversee rare, endangered and threatened species. The Department of Game and Inland Fisheries (DGIF), under Title 29.1 of the *Code of Virginia*, has regulatory authority for all federally or state listed threatened or endangered wildlife, excluding insects. DGIF is mostly known for issuing hunting and fishing licenses and regulatory oversight of these sports. The Department of Agriculture and Consumer Services (DACS), under Title 3.2 of the *Code of Virginia*, has regulatory and management authority over all federally or state listed endangered or threatened plants and insects. Both agencies are available to provide information and support to regional and local governments regarding land management issues and potential impacts on listed species.

In addition to the regulatory agencies, the Virginia Natural Heritage Program (VNHP) under the Virginia Department of Conservation and Recreation maintains a comprehensive listing of all rare, endangered and threatened species (plant, animal and insect) as well as a list of unique significant natural communities or geologic sites, and similar features of scientific interest.

Map 14 shows those areas in Charles City County that contain rare and endangered species. This information on the general location of rare, endangered and threatened species and their habitats in the county was obtained from the VNHP. Some historic locations were found through the review of research literature by the VNHP. Those reported and historical rare, endangered and threatened species and habitats include: birds such as the bald eagle and peregrine falcon; plants such as *flexuose peatmoss*, trailing loosestrife, Nuttall's micranthemum, sensitive joint-vetch, New Jersey rush, Carolina fanwort, water-purslane, narrow-leaved spatterdock, spiral pondweed, Parker's pipewort, hazel dodder, round-leaved water-hyssop, tropical water-hyssop, Virginia least trillium; and, natural communities such as tidal bald cypress forest/woodland and tidal freshwater marsh.


Rare, Threatened, and Endangered Species
Charles City County
Map 14
SCU
General Location
Conservation Site
River / Lake
Major Road
Local Road
Stream
Intermittent Stream
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010, U.S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles

Resources

The Department of Game and Inland Fisheries has a variety of programs supporting game and sport fish management, non-game and endangered species management, habitat restoration, and recreational access development and maintenance. In support of these responsibilities, the DGIF has developed a statewide computer database that contains thousands of records about wildlife and associated habitats. This database has been compiled from a number of sources, including field collection, museum records, and peer-reviewed scientific literature. Information sources include the Virginia Institute of Marine Science, Virginia Marine Science Museum, George Mason University, U.S. Fish and Wildlife Service, James Madison University, Christopher Newport University, College of William and Mary, Virginia Polytechnic Institute and State University, and naturalist Bill Portlock.

Anyone needing information about species distribution and ecology can contact the following sources:

SPECIES DISTRIBUTION AND ECOLOGY:

Department of Game and Inland Fisheries
http://www.dgif.virginia.gov/
(804)367-1000

Department of Agriculture and Consumer Services
http://www.vdacs.virginia.gov/
(804)786-3515.

Department of Conservation and Recreation
Natural Heritage Program
http://www.dcr.state.va.us/
(804)786-7951

Information about anadromous fish, waterfowl, and wildlife viewing areas can be obtained from the following sources:

ANADROMOUS FISH:

George Mason University
http://www.gmu.edu
Biology Program
Room 3005, David King Hall
4400 University Drive, MSN 3E1
Fairfax, VA 22030
(109)993-1061

Virginia Institute of Marine Science
College of William and Mary
School of Marine Science
Gloucester Point, Virginia 23062
http://www.fisheries.vims.edu/
(804)642-7000 (7334)

Virginia Department of Game and Inland Fisheries
http://www.dgif.virginia.gov/
4010 West Broad Street
Richmond, VA 23230
(804)752-5503

WATERFOWL:

Virginia Department of Game and Inland Fisheries
http://www.dgif.virginia.gov/
4010 West Broad Street
Richmond, VA 23230
(804)752-5503

U.S. Fish and Wildlife Service
http://www.fws.gov/chesapeakebay/
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
410-573-4560

Mr. Bill Portlock
Chesapeake Bay Foundation
23195 Mount Cloud Road
Bowling Green, Virginia 22427
(804)633-7249

WILDLIFE VIEWING AREAS:

Responsive Management
130 Franklin Street
Harrisonburg, Virginia 22801
(540)432-1888

Virginia Wildlife Viewing Guides
http://gorp.away.com/gorp/activity/wildlife/wild_va.htm

CHAPTER 5
EXISTING LAND USE INVENTORY

OVERVIEW

An area's development is largely influenced by the ways land is already being used, such as a residence or business, or by simply using the land for farming or leaving it in a natural state. These activities are called "existing land uses." Land uses provide a general description of how the land is being used. Land uses are not based on ownership, zoning, or special designations. When land uses are drawn on a map, the map can be studied to see if a pattern of land uses is developing. For example, similar land uses located together or in a row along a road may indicate a trend which attracts similar land uses to the area. Studying the pattern of land uses can help the county plan for services that would be needed to support the land uses. For example, an increase in residential growth may indicate the need for a new school or recreation facility, while an increase in new commercial or industrial businesses may indicate the need for public water and sewer lines.

In order to determine how Charles City County may develop, it is a good idea to first know how the land use patterns are developing in the county. The county and Richmond Regional Planning District (RRPDC) staff used the county's 1998 Comprehensive Land Use Plan's Existing Land Use map as the official record of the county's land uses as of May 1998. To update the information, county and RRPDC staff reviewed and recorded new building permit information, and property information maintained in the county's Commissioner of Revenue Office. A countywide drive-by inspection was also conducted to verify the information. In addition to adding new information, land uses that no longer exist were removed from the land use map. It is not uncommon for land uses to change gradually over time. In some instances, a land use may seem to change overnight from such events as a fire that destroys a building, a change in ownership of a property, or when a business opens or closes.

EXISTING LAND USES

The total area of the county is about 204 square miles or about 130,560 acres. The total land area of the county is 184 square miles or about 117,760 acres. Of the land area, most of it, 80 percent, is used for agricultural or forestry purposes or is left in a natural state. The remainder of the county is developed with residential, commercial, industrial and public/semi-public uses. Development in Charles City County is usually either clustered around road intersections or found in isolated locations along state maintained roads or along the Chickahominy River or James River.

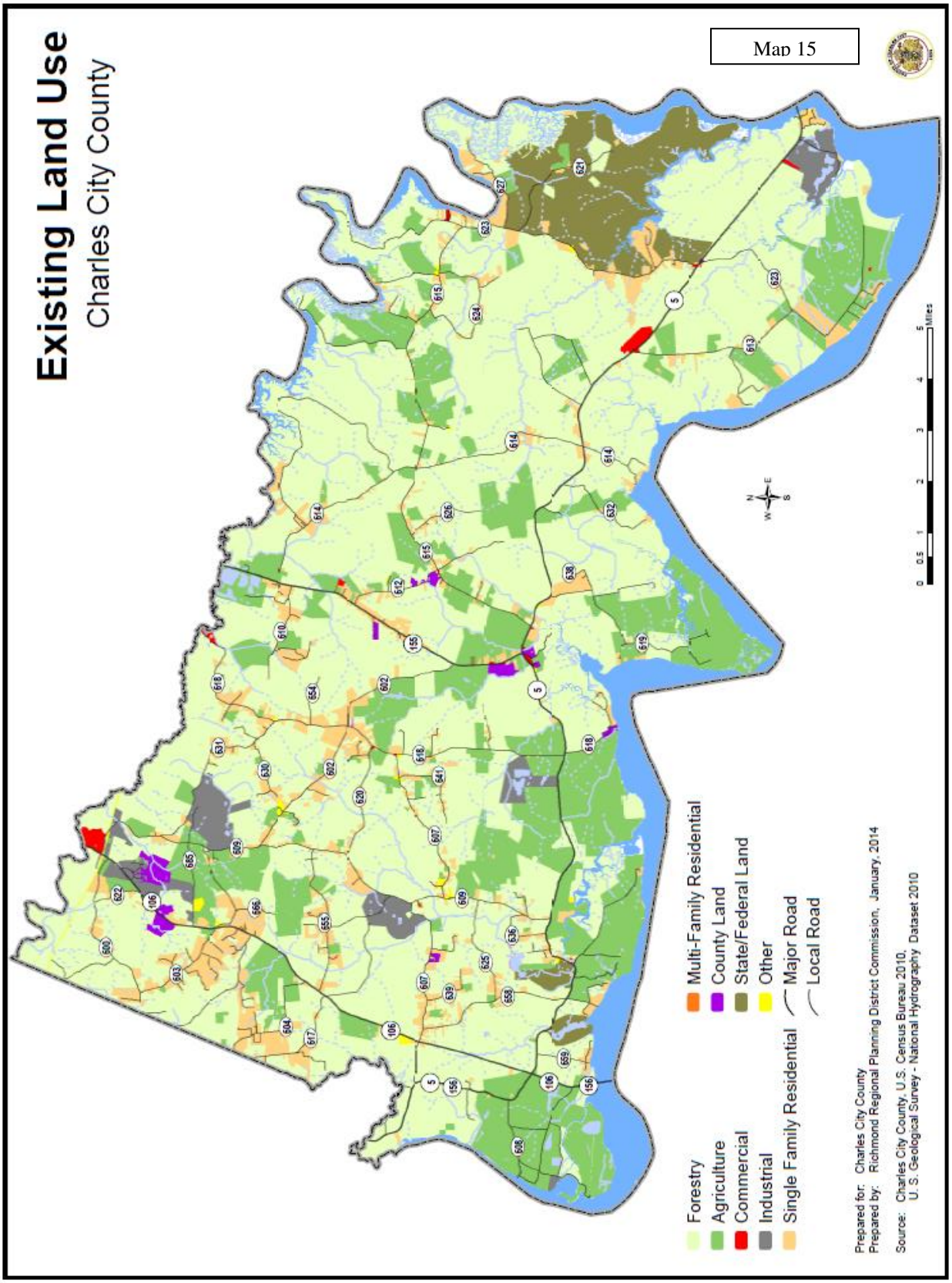
The majority of the county's commercial and industrial development is located in the western half of the county. The eastern half of the county is predominantly used for forestry operations. The county's country stores and gas stations are typically located at cross-roads while bed and breakfast inns are primarily spread along historic Route 5 near the James River.

A description of the county's existing land use classifications follows. **Table 22** provides a summary of the county's existing land use classifications. **Map 15** shows the county's existing land use pattern.

TABLE 22

Charles City County Existing Land Use Classifications		
Land Use Classifications	**General, Working Definition**	**General Corresponding Zoning Districts**
Agriculture	Farming operations including pasture lands.	A-1, A-20
Forest	Active and passive forestry harvesting operations and land in naturally woody state.	A-1, A-20
Roadside Residential*	Typically one acre or larger tracts located along roadways, waterways or near road intersections.	A-1
Neighborhood Residential*	Typically one acre lots served by an internal road system.	A-1
Commercial	Country stores, gas stations, antique shops, automotive shops, greenhouses, marinas, banks.	B-1, P-1, A-1
Historic Commercial	Bed and breakfast establishments, plantations and related businesses.	A-1
Light Industrial	Manufacturing and trucking operations.	M-1 CUP, PDIP-CUP
Heavy Industrial	Sand and gravel operations, ports and county landfill.	A-1 CUP, M-2, B1-C.
Public/Semi-Public	Local, State and Federal government buildings, fire stations, transfer stations, schools, churches, recreation facilities and wildlife facilities.	Respective Underlying Zoning Districts

*Includes Home Occupations


Existing Land Use
Charles City County
Map 15
Forestry
Agriculture
Commercial
Industrial
Single Family Residential
Multi-Family Residential
County Land
State/Federal Land
Other
Major Road
Local Road
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010,
U. S. Geological Survey - National Hydrography Dataset 2010
0 0.5 1 2 3 4 5 Miles

AGRICULTURE

Agricultural land uses include land used for farming or pasture land. According to the 2007 Census of Agriculture, County Data, agricultural land use accounts for 27,489 acres (about 24 percent) of the county's total land area. Tracts of agricultural land are located throughout the county. Agricultural tracts in the southern portion of the county tend to be larger than those found in the northern portion. Rural residential housing is found scattered throughout these areas as with all rural areas with a lot of agricultural land.

Soil surveys indicate that 43,500 acres (37 percent) of the land area in Charles City County is prime agricultural land as defined by the U.S. Department of Agriculture. Prime agricultural land is generally defined as soils that are the best suited for producing food, feed, fiber, and oilseed crops — with low erodibility, good drainage and other similar features. A comparison of existing farmland with the location of prime agricultural soils shows that less than half of the areas classified as prime agricultural lands are being used for agricultural purposes. (Note: No new Census of Agriculture has been completed since 2007.)

FOREST

Forest land uses include land used for active or passive forestry harvesting operations or land left in its naturally wooded state. Proper environmental conditions, such as good soils, gently rolling topography, and moderate climate have helped forests to flourish in Charles City County. Rural residential housing is found scattered throughout these areas as is common with many rural areas that have a lot of forest cover.

RESIDENTIAL

As with other forms of land uses, residential development is scattered throughout Charles City County. For purposes of this inventory, residential land uses are divided into two categories – Roadside Residential and Neighborhood Residential.

Roadside Residential

The county's Roadside Residential housing is located in small clusters at or near road intersections, along primary or secondary roads and along the rivers. This type of housing is usually located on a one- to five- acre lot that has direct driveway access to the roadway. In Charles City County, almost all Roadside Residential housing units are served by individual septic tanks, with the exception of the county's first central sewer system in the Mount Zion-Rustic area. The Mount Zion-Rustic and Wayside areas are served by public water systems. All other Roadside Residential housing in the county is served by individual water wells.

Neighborhood Residential

There are numerous areas within the county that are classified as Neighborhood Residential. Examples of this type of development includes Glendale Acres, located on Warriner Road (Route 604); Sterling Heights, located on Courthouse Road (Route 155) near Providence Forge; Harrison Point, located on Roxbury Road (Route 106); and Ferry Farm Subdivision, located on Chickahominy Bluff Road (Route 645) near the Charles City-James City County line. These and other areas are classified Neighborhood Residential due to their development pattern. For example, lot sizes are uniform – averaging an acre – and houses are clustered around a local street instead of having direct access to a major road. Two areas have private water systems. The remaining areas are served by individual wells. All housing in this classification is served by septic tanks.

COMMERCIAL

The county's slowly growing commercial base is mainly comprised of small businesses. Approximately 50 commercial uses are in operation. Most of these commercial uses are found widely dispersed throughout the county, while some small clusters of commercial uses exist at road intersections. Small clusters of commercial uses are found at Adkins Store, Ruthville, the Courthouse, and the intersection of Sandy Point Road (Route 613) and John Tyler Memorial Highway (Route 5).

Typical commercial establishments found in the county are country stores, service stations, or a combination of country stores and service stations. Other types of commercial uses include automotive body repair shops, gift or antique stores, florists/greenhouses, and a bank. A small number of service-oriented businesses, such as beauty and barber shops and restaurants, are also found within the county.

There are also many commercial home occupation and home-based business uses that are conducted from the residence, throughout the county as well. Since the county does not have a business license/permit, or another formal method of tracking businesses, it is difficult to truly know the number of commercial businesses occurring within the county. It is important to note, that many of the county's businesses that are located on commercial property once were successful home occupations and home-based businesses that exceeded the capacity of their residential properties.

The county has one marina which is classified as a commercial land use, the Rivers Rest Marina, located on the Chickahominy River in the northeastern part of the county off Willcox Neck Road (Route 623). The marina consists of a boat ramp and docking facility, a convenience store, and a restaurant.

HISTORIC COMMERCIAL

There are eleven plantation and/or bed and breakfast inns located in Charles City County. Most of these businesses are located in older, mainly historically significant homes. Although plantations and bed and breakfast inns typically serve many different functions, the bed and breakfast portion of the business is considered a commercial land use. The county's plantations and bed and breakfast establishments are typically a combination of homes for county residents, tourist attractions, and small businesses. The level of tourist and commercial activity is controlled by the individual property owner. Most of the plantations and related historic commercial activities are found along John Tyler Memorial Highway (Route 5).

INDUSTRIAL

Land used for industrial purposes comprises the second largest category of the developed land uses in the county. For purposes of this inventory, industrial uses are divided into two categories – light industrial and heavy industrial.

Light Industrial

Light industrial land uses in Charles City County include such industries as manufacturing, trucking, and automobile salvage. A substantial portion of the county's light industrial land uses are located in the northwest corner of the county. The county's largest concentration of light industrial land uses is located in the Roxbury Industrial Center. The Center, located adjacent to Roxbury Road (Route 106), contains approximately 272 acres and has full utility service and access to highway transportation.

The remaining light industrial uses are located throughout the county. These industries tend to be small in size and employ only a few people. These uses are principally related to trucking or automobile salvage.

Heavy Industrial

Heavy industrial land uses in Charles City County include such industries as sand and gravel mining, ports, tire recycling and the county's landfill. The county contains large deposits of sand and gravel. Several sand and gravel operations are currently mining in the county. A majority of these operations are located south of John Tyler Memorial Highway (Route 5).

The county's ports are located on the James River. They consist of two barge ports and are found at the sand and gravel operations near Eppes Island and at Sandy Point. Port Tobacco at Weanack, at Shirley Plantation, is utilized specifically for transporting raw materials (gravel, sand and dredge spoils) up and down the James River.

The county's landfill, located in the northwest portion of the county, is operated by Waste Management, Inc. The landfill is approximately 1,100 acres and has an expected life of 35 years, depending on tonnage per month and year agreements.

PUBLIC/SEMI-PUBLIC

In Charles City County, public and semi-public uses include federal, state and local government facilities and roads. Approximately 6,000 acres of land are owned, operated, or managed by the Federal, State or County governments in the county. The county's federal facilities include the Harrison Lake National Fish Hatchery and two U.S. Post Offices. State owned facilities include such property as the VDOT maintenance station on Courthouse Road, the Chickahominy State Wildlife Area in eastern Charles City County and the Kittiewan Wildlife Sanctuary on the James River in the south-central part of the county. The Kittiewan Wildlife Sanctuary is closed to the public. A public boat ramp is located within the Chickahominy Wildlife Management Area along Morris Creek.

County facilities include such properties as the County Government/School Board Administration Building (GSAB) on Courthouse Road, the public school complex, old school buildings, fire stations, transfer stations, and recreation facilities. The different types of public/semi-public uses are shown in detail as part of the Community Facilities and Utilities section.

Of special significance to the county is the school complex which was completed in 1993. The school facility replaced all of the county's previous elementary, middle, and high schools. Also significant to the county was the renovation of the county's old middle school into the County Government/School Board Administration Building (GSAB). The GSAB was completed in 1995.

In 2002 the County Board of Supervisors in collaboration with the Circuit Court Judge began preliminary planning to construct a new judicial building, and preserve the historic Courthouse, and the original Clerk's Office. The judicial building was completed and opened April 2005.

Roads compose 1,015 acres of land area in Charles City County. Primary roads account for 316 acres of land, while the remaining 699 acres make up the county's secondary road network. A detailed discussion of the county's roads and transportation network is found in the Transportation Network section.

CHAPTER 6
COMMUNITY FACILITIES and UTILITES

OVERVIEW

The following section provides a brief description of the community facilities and utilities found within the county. The county categorizes its community facilities into the following categories: churches, fire stations, government, landfill, library, post office, recreation, schools, and utilities. Together, these facilities provide necessary services to county residents. **Map 16** and **Map 16-A** illustrates the major public and privately owned community facilities and utilities in the county.

CHURCHES

Twenty churches are located in Charles City County. A number of these churches are affiliated with the Baptist denomination. Other denominations present within the county are Presbyterian, Methodist, and Episcopalian. The churches in Charles City County are as follows:

Bethany Presbyterian Church
Cedar Grove Baptist Church
Charles City Community Church
Elam Baptist Church
Gilfield Baptist Church
Jerusalem Baptist Church
Liberty Baptist Church
Little Elam Baptist Church
Memorial United Methodist Church
Mount Pleasant Baptist Church
Mount Zion Baptist Church
New Vine Baptist Church
Parrish Hill Baptist Church
Peace Hill Christian Fellowship
Samaria Baptist Church
St. John Baptist Church
Union Baptist Church
Westover Episcopal Church
First Simple Church
Wings of Love

FIRE AND AMBULANCE/RESCUE SERVICE

The Charles City County Volunteer Fire Department and Emergency Medical Service (CCCVFD&EMS) provides fire protection and Emergency Medical Services (EMS) throughout the county. EMS transport is provided by the CCCVF&EMSD. Supplemental EMS transport is provided by Providence Forge Volunteer Rescue Squad. The department is equipped with two ambulances, three pumper trucks, two tanker trucks, one utility truck, two first responder vehicles, one crash/extrication truck, and one quick attack hazardous materials vehicle. The county's primary station is located in the center of the county. A satellite station has been provided in the Roxbury Industrial Center in the northwest portion of the county. A third station is located in the eastern portion of the county. There are mutual aid agreements with all surrounding jurisdictions for fire and EMS. The Vision 2020 Plan lists 24/7 coverage by paid fire and emergency staff as its top priority.

POLICE

Police protection is provided by the Charles City County Sheriff's department. The Sheriff's Office is located in the Charles City County Judicial Complex. The county's Sheriff's Office consists of fifteen staff members and is primarily responsible for law enforcement, civil process, and court security. The staff positions include the elected Sheriff, eight Deputies, one Narcotics Investigator, five Communications Operators, and the Secretary. The Sheriff's Office is trained in the Federal Emergency Services Program to handle such incidents as evacuations and chemical spills. Law Enforcement Officers from nearby jurisdictions and the Virginia State Police are available when additional assistance is required.

The Vision 2020 Plan lists the following initiatives as its goals for the future:

- Crime Prevention Seminars
- Larger sheriff's department
- Stronger enforcement of alcohol and drug violations
- Environmental and school prevention programs
- Program to prevent domestic violence

HEALTH CARE

Health Department

The Health Department at 7501 Adkins Road manages two health programs: environmental health and physical health. This department directs a public health clinic and associated medical and dental services. Environmental health includes restaurant inspections, restaurant certifications, and septic tank permits. Physical health includes programs for physical well-being such as vaccines and immunizations, physical examinations, and basic dental care.

Primary Care Physicians

Central Virginia Regional Health Services, at 9950 Courthouse Road, is currently the only Charles City location where residents can receive treatment from a general practitioner, pediatrician, dentist, and psychologist/mental health specialist.

Mental Health

Cypress Enterprises provides jobs for handicapped/retarded citizens. Quin Rivers Agency for Community Action provides a shelter for abused women and programs for the elderly. Additional Mental Health services are provided by Henrico Area Mental Health & Retardation Services. Charles City residents are offered an array of services that promote healthy behaviors and lifestyles to support healthy youth development.
Programs address community needs identified by stakeholders as risk factors and protective factors. By addressing risks and building upon the strengths of Charles City youth, families, schools and communities, the need for more costly treatment services is prevented. Services available include:

- Parenting Education
- Effective Prevention Strategies
- Healthy Dating Relationships
- Anger/Stress Management
- Peer Mediation
- Child/Adolescent and adult mental health/substance abuse issues
- Life skills in substance abuse
- Conflict Resolution
- Peer Mediation
- Socialization skills
- After school program- "Families & Schools Together" (FAST) curriculum

Rehabilitation/Fitness

Charles City County received a United States Center for Disease Control grant to open a community health and fitness facility in the Government Center Expansion building. $35,000 of in-kind donations helped the center open on July 1, 2003. During its business hours, the center is attended by staff and volunteers of Charles City Department of Parks and Recreation. The facility is comprised of basketball courts, a cardio fitness room, weight training and exercise machine room, and various multi-function rooms and offices.

GOVERNMENT

County Offices

Most of the county departments are housed in the Charles City Courthouse area. The courthouse area is the focal point of local government activity in Charles City County. The courthouse is located on Courthouse Road (Route 644), south of the intersection of John Tyler Memorial Highway (Route 5) and Courthouse Road (Route 155). In 1995, the county offices expanded into the renovated county Middle School. This school became the much needed new County Government/School Board Administration Building (GSAB). The GSAB houses the County offices for Management Services; County Administrator; Assistant County Administrator; Public Safety and Codes Compliance; Animal Control Officer; Charles City School Board; Department of Planning; Public Works Department; County Registrar; County Treasurer; and, the Virginia Cooperative Extension Service.

Located in the County Neighborhood Facilities Building is the County's Department of Social Services (DSS). The County's Department of Social Services staff consists of a Director, Social Workers, Self Sufficiency Case Management Workers, and Administrative Support personnel. The Department is the primary agency for providing human services for residents in the county. The Department operates a variety of programs with the responsibility of being accountable to many individuals and agencies. The Department is administered by a five member Board appointed by the Board of Supervisors.

DSS is responsible for administering Food Stamps, Aid to Families with Dependent Children, General Relief, Medicaid, Auxiliary Grants, and State and Local Hospitalization to the categorically needy. DSS also provides services such as Foster Care, Child Protective Services, Adult Services, Day Care, and Employment Services to county residents. Each program is accompanied with policy and procedures established by federal and state guidelines.

The County Neighborhood Facilities Building also houses the Charles City County Center for Local History. The Charles City County Center for Local History is a county-owned reference library and archives devoted to history. It is supported by annual appropriations from the county and costs of utilities, maintenance and insurance. The Center is open to the public and is staffed *entirely* by volunteers. Its collection presently consists of approximately 3,500 books, 700 rare books, 100 feet of manuscripts, 2,000 images, 110 maps, 200 feet of serials and 380 reels of microfilm

The Charles City County Judicial Building opened in April 2005. Located within this building are the Commissioner of Revenue, Commonwealth Attorney, Circuit Court Clerk, General District and Juvenile/Domestic Relations, and the Sheriff's Department. The Commissioner of Revenue is responsible for property assessments; the Clerk of Circuit Court is responsible for maintaining county records such as land transactions; and both the Circuit and General District Court Clerks are responsible for maintaining their respective levels of judicial review. A Branch of the Heritage Library is temporarily housed in a second courtroom within the Judicial Building as well.

The one County department that is not located in the Courthouse area is the County Parks and Recreation. They are housed within the Charles City Social Center located on Ruthville Road.

Federal and State Government Properties

The majority of federal and state land within the county is devoted to the production, preservation and management of wildlife. The one federally operated facility is the Harrison Lake National Fish Hatchery. The Hatchery covers approximately 420 acres of land in the southwestern portion of the county.

The Commonwealth of Virginia operates a wildlife management area and a wildlife preserve. The Chickahominy State Wildlife Management Area consists of 5,214 acres of land and is located east of Wilcox Neck Road (Route 623) along the Chickahominy River. Hunting, fishing, and other recreational opportunities are provided within the wildlife management area. The Kittiewan Wildlife Preserve consists of 250 acres and is located south of John Tyler Memorial Highway (Route 5) on Weyanoke Road (Route 619). This management area is operated for the preservation of wildlife, and activities are limited to nature study.

The Federal Aviation Administration operates an air traffic control facility in Charles City County. The facility is located near The Glebe Lane (Route 615).

LANDFILL

The county has a regional landfill which opened in 1990. This regional facility, operated by Waste Management of Virginia, Inc. (WMI), is located on approximately 1,110 acres in the northwestern portion of the county. According to county tax records, of the 1,110 acres, USA Waste of Virginia, Inc. owns about 629 acres, and Chambers Development of Virginia, Inc. in care of USA Waste owns about 477 acres. The site is bounded by Barnett's Road (Route 609) to the west, Cool Hill (Route 631) to the north, and Bradley Run Creek to the east. The site is traversed by Dominion Virginia Power electrical lines that run east-west.

The landfill's permit gives the ability to receive 6,000 tons of trash per day, but current intake levels average approximately 2,750 tons. The landfill is responsible for a significant portion of the tax base in the county because of its host fee. These taxes funded the construction of three new schools, remodeled county offices and court buildings, and enabled a reduction in real estate taxes for residents. It has won numerous environmental awards, including the bronze award for Landfill Management from The Solid Waste Association of America. Also, it provides a clean, renewable source of energy by way of the landfill gas it emits, which is captured by INGENCO.

Three collection stations are also operated by Waste Management at no cost to the county. One of these stations is located at the landfill. Another is located at the old landfill on Munford Road (Route 660). The third site is located on Willcox Neck Road (Route 623).

LIBRARY

The Heritage Regional Public Library serves residents of Charles City County and New Kent County. The Providence Forge single location of the Heritage Library closed, due to safety reasons in January of 2008. A decision was made at the time of closure that Charles City County would establish a temporary facility for library services. The temporary facility is located in an unused courtroom within the Judicial Building. Design plans and funding sources are being reviewed at this time for a 10,000 square foot combined library and history center facility to be located near the historic courthouse complex.

POST OFFICE

There are two post offices in the county. These are located in Ruthville and Charles City Courthouse. A portion of northern Charles City County is served by the Providence Forge Post Office in New Kent County. The very western portion of the county is served by a Richmond Post Office. A small area of the eastern portion of the county is served by a Williamsburg Post Office.

Ruthville Post Office

RECREATION

Charles City County residents enjoy a gamut of recreational activities that are readily available to the general public. New recreation-based projects are being completed by both the County and State to expand recreational activities for both citizens and visitors alike. To address the future park and recreational needs of the county's residents, the County Recreation Commission has adopted a plan, the 1996 update to the 1989 *Master Plan for Recreation, Parks and Greenways*. In 1989, the county contracted with Virginia Commonwealth University to prepare the Plan. This Plan identifies who participates in recreation in the county and what activities are the most popular. Based on this information, the Plan suggests programs and facilities to meet the recreational needs of the county residents. The Plan also established four goals to guide future recreation activities planned by the County. The plan's goals are:

- To meet Charles City County residents' recreation and outdoor needs, current (1989) and 20-year (2009);
- To preserve the integrity of the county's and region's existing natural and historic resources;
- To capitalize on the potential of the county's and region's natural and historic resources; and
- To align, where possible, residents' recreation and outdoor needs with the existing and intermediate-term school system facilities and programs.

The County Department of Parks and Recreation currently maintains four parks and two recreational facilities. The Department offers a wide range of programs including aerobics, belly dancing, adult softball, tee-ball, coach-pitch youth baseball, tae kwon do, swimming lessons, a summer camp, a fitness program, youth basketball, senior programs, and other activities.

The Charles City County Social Center houses the Parks & Recreation offices and can be rented for family reunions, birthdays, wedding showers, etc. The Social Center is located on a 10-acre tract in Ruthville. It includes two softball fields (one lighted), basketball courts, tennis courts, bath house, wading & swimming pools, and a concession stand with restrooms. The playground area includes a picnic shelter, tables, grills and a horseshoe pit.

The old Ruthville High School located on the Glebe Lane is now the home of the Ruthville Gymnasium Complex. This complex consists of a fitness center and gymnasium. The fitness center includes two physical fitness rooms equipped with treadmills, bikes, weight benches, and an aerobics room. The gym provides a full court for indoor basketball.

The Lawrence Lewis, Jr. Park at Willcox Wharf is approximately 26 acres and is the largest of the four County parks. This park offers picnic shelters, tables, grills, river overlooks, a nature trail, an eagle observatory, a comfort station, a boat ramp with vehicle and trailer parking, and a fishing pier that is handicap accessible.

Harrison Park, with 19 acres making it the second largest park, provides many outdoor recreational activities such as softball and baseball fields, a football/soccer field, tennis courts, basketball courts, a playground, and picnic areas.

Hillside Park, approximately 1.5 acres, is located on the edge of Courthouse Creek below the Neighborhood Facility. It includes picnic tables, grills and a foot trail.

MT. Zion Park is a small park located adjacent to Charles City County Fire Station III. It includes playground equipment, picnic tables, grills and restrooms.

The county also owns a 57± acre tract on Willcox Neck Road (Route 623). The county plans to develop a recreation area on this site with picnic areas, ball fields, and a nature trail. The area would be called the Mt. Zion Recreation Area.

The Virginia Outdoors Plan (2002) also identifies properties in Charles City County that have potential for recreational use. These properties include:

- Harrison Lake National Fish Hatchery: Completion of the program contained in the 2000 Conceptual Design Proposal for the Fisheries and Aquatic Resources Center.
- The Rice Center, owned by Virginia Commonwealth University: Once operated as a camp by the YMCA, it is now being developed as a “nationally recognized living laboratory for VCU Life Sciences and the headquarters for the Virginia Rivers Initiative.” The VCU Rice Center and Charles City County Public Schools have a partnership that allows county students to utilize the Center through certain scheduled classroom activities and lab work.

- Chickahominy Wildlife Management Area: 5214 state-owned acres of expanded recreational opportunities, particularly along the Morris Creek portion of the property, are suggested. In addition, a public shooting facility exists on the property.

Further Proposals for Charles City County in the Virginia Outdoors Plan (2002) include:

- A Regional Park located across the Chickahominy River from Providence Forge would complement the existing Chickahominy River Wildlife Management Area farther downstream.
- Additional boat ramps on the Chickahominy River from the western edge of the New Kent/Charles City County line to the confluence with the James River along the Charles City/James City County line.
- Additional Boat Ramps on the James River from the western county line to the confluence with the Chickahominy River.
- Increased fishing access, including access for persons with disabilities, at Harrison lake National Fish Hatchery.
- A Greenway/Trail along the entire length of the James.
- The Capital-to-Capital trail (also known as the Capital Trail), to be constructed in a manner that preserves the county's unique tree corridor.

SCHOOLS

The school facilities for Charles City County are divided into three units located at the complex on Courthouse Road (Route 155) just north of the Courthouse area. The school complex is located on approximately 80 acres of land. The county's school units are subdivided into kindergarten through fifth grades, sixth through eighth grades, and ninth through twelfth grades. The school complex replaces all of the county's previous public schools: Charles City County Primary School located on Lott Cary Road; Charles City Elementary School located at the intersection of Barnett's Road and Church Lane; Charles City County Middle School located on Courthouse Road; and the Charles City High School located in Ruthville. The county has sold the Primary School. The county's middle school was renovated into the Government/School Board Administrative Building. The county still owns the high school facility and is considering possible options for renovating the high school for other public use.

Capacity and Enrollment

The Elementary School's population is 335. There are 36 Pre-K students. There are 37 teachers. The school's capacity is 500.

The Middle School's population is 161. There are 20 teachers. The school's capacity is 300.

The High School's population is 236 in grades 9-12 and there are 30 teachers. The school's capacity is 400.

The School District's Vision 2020 Goals include:

- Local Technical, GED, and Career and Technical Education Training
- High School to College Focus
- Including Homework Assistance in Athletics/Extracurricular Programs
- Increasing Parental Involvement
- Local Alternative Schools

VCU Rice Center

The county's learning experiences are not confined to man-made classrooms. Situated between the Berkeley and Shirley Plantations along the James River, the Rice Center's 342 acre site (272 acres of land and a 70 acre lake) is an outdoor laboratory. A gift from Mrs. Inger Rice in 2000 to Virginia Commonwealth University, it will mainly serve university students and faculty. Area residents will also receive the opportunity to visit once adequate facilities are in place. By the completion of its three phases of development, there will be an auditorium, research labs, an outdoor classroom, and overnight facilities.

UTILITIES

County residents are served by a variety of public and privately owned utilities. Utilities available are water, sewer, electricity, gas and oil. Public water and sewer and gas are only available in portions of the county.

Sanitary Sewer Service

The majority of the county's residents and businesses are served by private septic systems. However, the county has been working toward providing affordable decentralized sewer services. To further this effort, the county has proposed an update to the comprehensive water and sewer study for the county.

Central sewage treatment is provided for the Roxbury Industrial Center by lagoons and a spray irrigation field. This system is intended for domestic waste and minor industrial processes. Additional lands may be available for system expansion as the need arises.

A package treatment facility that serves the Mt. Zion/Rustic Area as well as the Rivers Rest Marina is located at the Rivers Rest Marina on the Chickahominy River. The plant has a capacity of 20,000 gallons per day with a permitted expansion capacity of up to 40,000 gallons per day. The county has installed two Neighborhood/Community Wastewater systems to serve existing homes in the Jerusalem and Kimages/Wayside areas.

Water Service

While a majority of residents obtain water from private wells, there are five county-owned water systems. Two of these systems, Wayside and Mt. Zion-Rustic, serve residential and commercial needs. The Wayside facility currently serves about 120 connections and is well below its production capacity. The system is located, along Kimages Road (Route 658) and Wayside Road (Route 607). The two wells are located at each end of the line, one on Kimages Road and one on Wayside Road. Approximately 80 connections are served by the Mt. Zion-Rustic system located on Willcox Neck Road (Route 623).

The Roxbury Industrial Center has a separate system to serve industrial activity. The water system located within Roxbury Industrial Center has sufficient capacity and fire suppression capability for the Center.

The county's courthouse area has a separate water system which serves the Government Complex. The county's school complex, located on Courthouse Road (Route 155) just north of the Courthouse area, has its own water and sewage system which is maintained by the County Public Works Department.

Two private water systems are installed at Glendale Acres and Charles City Village. These systems only serve the residents of those subdivisions. Glendale Acres is located in the northwestern portion of the county on Warriner Road (Route 604). Charles City Village is located on Cool Hill Road (Route 631).

Electricity

Dominion Virginia Power, the electrical service provider for the county, operates a substation on Chambers Road, just off Roxbury Road (Route 106) near the company's transmission lines. Three phase industrial electric service is available in several areas in the county. Adequate electric power is available to meet future development needs.

Gas and Oil

A natural gas line has been constructed through the northwest portion of the county. This could provide natural gas service to the Roxbury Industrial Center and the immediate areas. Columbia Gas Pipeline has a 100-foot wide easement and gas line running west to east in the central part of the county. An additional natural gas line is proposed to be constructed parallel to Route 155, from Providence Forge to Charles City County Courthouse area. Propane gas is currently available to the Roxbury Industrial Center at natural gas prices. Fuel oil is also provided by several distributors within Charles City County and adjoining communities.

Telecommunications

Telephone

Of the 2670 households in Charles City County, only 42, or 1.57% lack telephone service (2000 Census).

Cell Phones

Many county residents have cell phones, and cell phone reception is good in most parts of the county, however, some portions still have no cell phone reception.

Radio

Several radio stations have transmitters in Charles City County.

Broadcast Television

The stations currently available in Charles City County are:
CBS6, NBC12, ABC8
Tidewater 3/10
Public Broadcasting Service 35 & 65

Cable Television

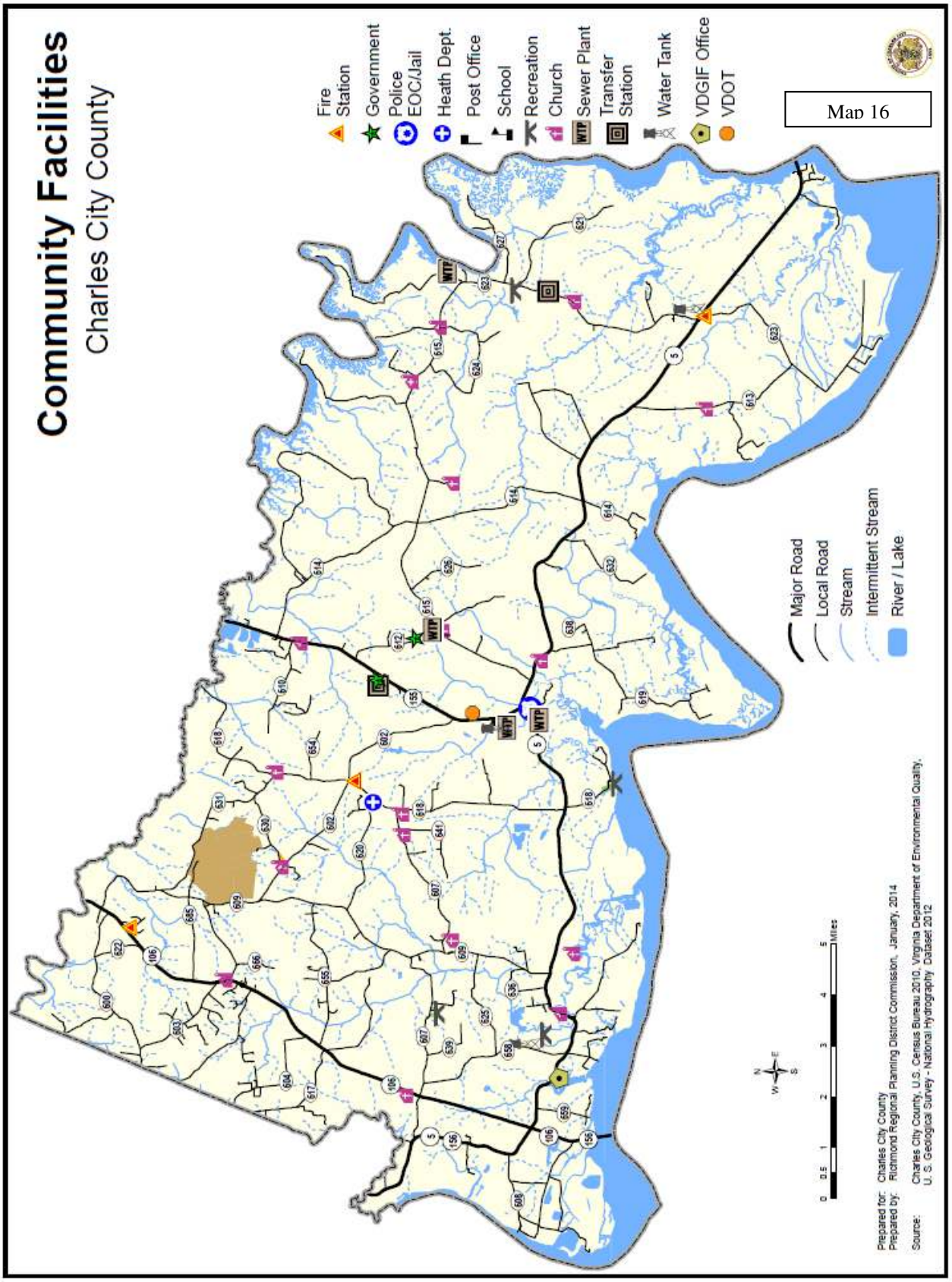
Cable Television is available in portions of Charles City County. Service is provided by Comcast. In addition, residents may have Satellite television, currently provided by Hughes Net.

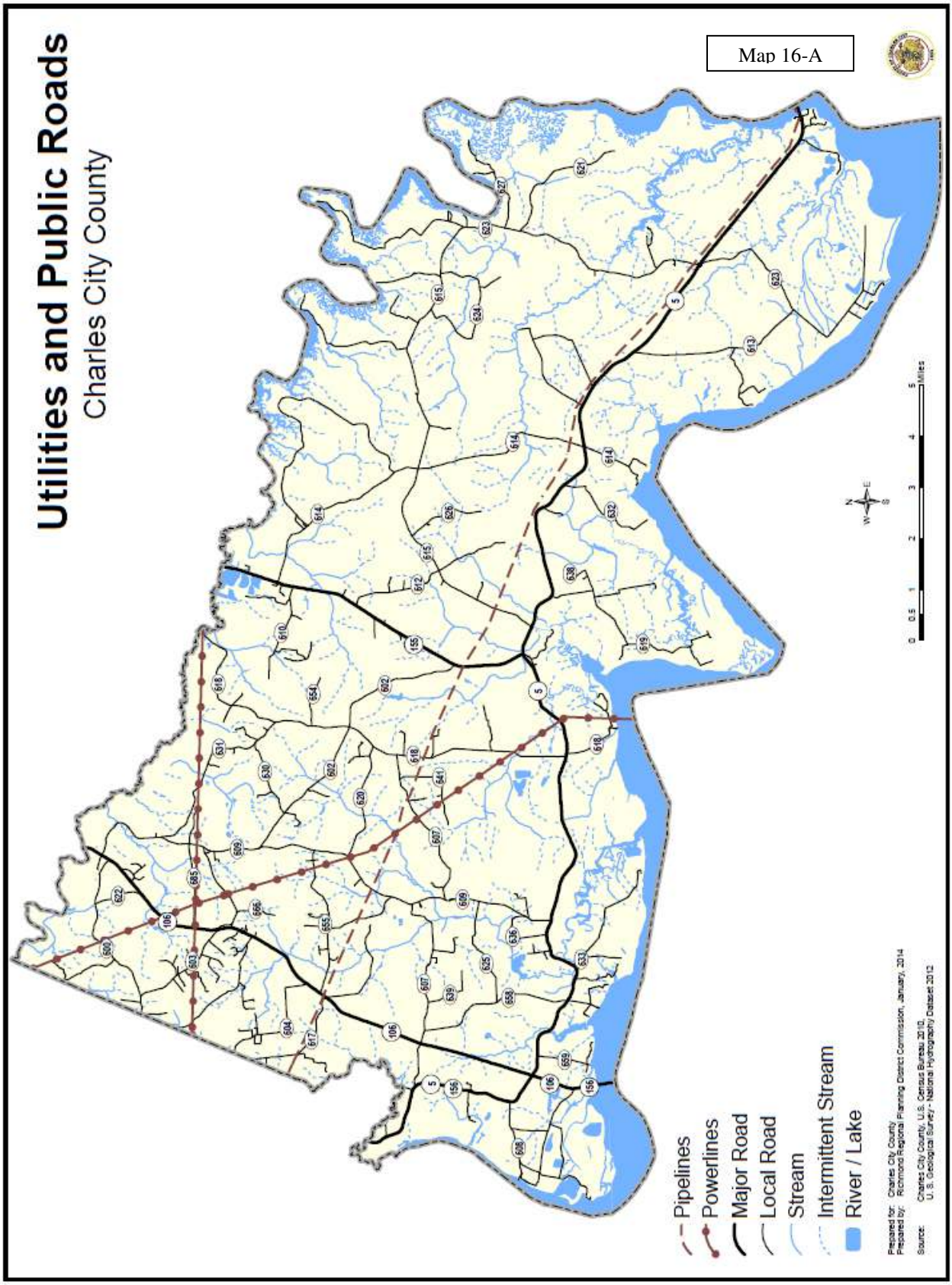
Internet

Dial-up internet service is provided by several carriers, Verizon, Cavalier, and NetZero. Currently, broadband internet access is not widespread in Charles City County, although residents with satellite television provided by Hughes Net can get high-speed internet access with their satellite service.

OTHER FACILITIES

County residents have the opportunity to participate in a wide variety of local organizations. Three of these organizations have their own facilities. The Masonic Lodge has a building on Courthouse Road (Route 155). The American Legion Hall is located on Legion Road (Route 651), near Courthouse Road. The Charles City Civic League has a building located at the intersection of Lewis Tyler Road (Route 520) and Adkins Road (Route 618).


Community Facilities
Charles City County
Fire Station
Government
Police
EOC/Jail
Heath Dept.
Post Office
School
Recreation
Church
Sewer Plant
Transfer Station
Water Tank
VDGIF Office
VDOT
Map 16
Major Road
Local Road
Stream
Intermittent Stream
River / Lake
Miles
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, Virginia Department of Environmental Quality, U. S. Geological Survey - National Hydrography Dataset 2012


Utilities and Public Roads
Charles City County
Map 16-A
Pipelines
Powerlines
Major Road
Local Road
Stream
Intermittent Stream
River / Lake
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010,
U.S. Geological Survey - National Hydrography Dataset 2012
0 0.5 1 2 3 4 5 Miles

CHAPTER 7
TRANSPORTATION NETWORK

OVERVIEW

Historically, development activities have originated along transportation routes. Early settlements in the county were along the rivers which were used to transport freight, mail, and passengers. As settlements moved into the interior of Charles City County, paths were created leading to the river. Between 1918 and 1932, a system of local roads was developed. Ferries and bridges gained importance as people started to use vehicular instead of water related transportation.

In Charles City County, one of the most evident types of transportation facility is the highway. The county also relies on other types of transportation via water, rail, air, bicycle, pedestrian and public transportation. This section explores the different types of transportation facilities and services available to Charles City County, as well as providing a description of how transportation planning is put into motion.

THE TRANSPORTATION PLANNING PROCESS IN VIRGINIA

Transportation planning is a multi-tiered program that occurs simultaneously at the federal, state and local levels. The federal government has granted transportation planning authority to states which in turn pass authority to the regional level. At each level, a primary transportation planning authority is established to oversee transportation planning activities. The following briefly discusses the three levels of transportation planning.

TRANSPORTATION PLANNING AUTHORITIES

Federal: Across the nation and in Virginia, a transportation planning network is established by the federal government to provide order to the transportation planning process. There are numerous federal organizations that manage transportation planning activities. Some of the more commonly referred to federal agencies include the Federal Highway Administration; Federal Aviation Administration; Federal Transportation Administration; Maritime Commission; Coast Guard; Federal Railroad Administration; National Highway Traffic Administration; and, the Bureau of Transportation Statistics.

State: The Commonwealth Transportation Board in Virginia has seventeen members. There are fourteen citizen members who are appointed by the Governor to serve a staggered four-year term. Other Board members include the Secretary of Transportation, the Commonwealth Transportation Commissioner, and the Director of the Department of Rail and Public Transportation. The primary purpose of the Commonwealth Transportation Board is to allocate transportation monies to the various transportation authorities in the state, decide route locations, and select highway improvements for funding. The Commonwealth Transportation Board has the lead responsibility for the selection and programming of federally funded Interstate Maintenance, Bridge, National Highway System, Statewide Surface Transportation Program (STP), and Safety, Enhancement and Federal Transit Authority (FTA) Section 5310 projects. With the exception of the secondary system in Arlington County and Henrico County, who maintain their own secondary roads, the Virginia Department of Transportation is responsible for maintaining and constructing the state's interstate, primary and secondary systems.

Virginia maintains four transportation planning agencies that correspond with federal transportation planning agencies. Virginia's transportation planning agencies include the Virginia Department of Transportation (VDOT), Virginia Department of Aviation, Virginia Department of Rail and Public Transportation, and the Virginia Port Authority.

Regional: The federal government established a nationwide mechanism for transportation planning to occur at a regional level. Across America, Metropolitan Planning Organizations (MPOs) are established by the authority of the Federal Highway Administration. MPOs are charged under Section 134 of the Federal-Aid Highway Act of 1973, as amended, for maintaining and conducting a "continuing, cooperative, and comprehensive" (i.e., "3-C") transportation planning process. The planning process

should develop transportation plans and programs that are consistent with land uses and development trends. In order to organize MPOs nationwide, the Federal Highway Administration has grouped them into ten MPO regions. Virginia is part of the Federal Highway Administration's Region III along with the states of Delaware, Maryland, Pennsylvania and West Virginia and the District of Columbia.

In Virginia, as in other states, regional bodies are designated as MPOs as a means of coordinating federally funded transportation planning efforts on a regional basis. In addition, MPOs are responsible for maximizing intergovernmental/interagency coordination and for developing a transportation planning and programming process which will assure that all transportation projects, plans and programs that receive federal funding or require federal approval are reviewed on the basis of consistent and constant evaluation criteria, including consideration of federal planning factors. There are fifteen MPOs in Virginia, including the Richmond Area MPO.

The Richmond Area MPO serves as the forum for cooperative transportation decision making in the Richmond area. The Richmond Regional Planning District Commission (RRPDC) provides the office, staff, and administrative and technical support for the MPO process. The Virginia Department of Transportation (VDOT), the Greater Richmond Transit Company (GRTC), area local governments and other state and regional agencies and organizations also provide technical services in support of the MPO study process.

The Richmond Area MPO has the lead responsibility for selecting and programming Regional Surface Transportation Program (RSTP), Congestion Management & Air Quality (CMAQ), and Federal Transit Authority (FTA) Section 5307 projects.

Voting membership on the MPO includes the nine local governments of the Richmond Regional Planning District Commission (total of twenty-three votes) and five transportation/planning departments (total of five votes). The Richmond Area MPO's voting and non-voting member organizations are as follows:

Voting

Town of Ashland
Charles City County
Chesterfield County
Goochland County
Hanover County
Henrico County
New Kent County
Powhatan County
City of Richmond
Greater Richmond Transit Company
Richmond Metropolitan Authority
Richmond Regional Planning District Commission
Virginia Department of Transportation
Capital Region Airport Commission

Non-Voting

Citizens Transportation Advisory Committee Chairman
Elderly and Disabled Advisory Committee
Federal Highway Administration
Federal Transit Administration
MPO Chairman's Citizen Appointees
Ridefinders, Inc.
Virginia Department of Aviation
Virginia Department of Rail and Public Transportation

TRANSPORTATION PLANNING DOCUMENTS

Just as transportation planning bodies are established to complement each other, transportation planning documents are also developed to carry each level of transportation service forward. Charles City County's projects, as well as other local government projects within the region, are incorporated into one of the following plans:

Commonwealth Transportation Board Six Year Improvement Program

This program is the Commonwealth Transportation Board's plan for the allocation of funds anticipated to be available for ports, airports, public transit, and highway construction in the first fiscal year of a six year cycle. The plan is also used by the Transportation Board to distribute funds anticipated for the following consecutive five fiscal years. In making its decisions on which projects to fund, the Board will often consider completing the financing of projects that are underway, upgrading the most pressing needs on the Primary System, responding to the transportation needs of counties, cities and towns, support public transit, and providing funds from the Commonwealth Transportation Trust Fund to upgrade ports and airports.

Metropolitan Planning Organization Long Range Transportation Plan (25 year plan)

The purpose of the MPO's Long Range Transportation Plan (LRTP) is to serve as the initial step and framework in developing a regionally based network of transportation facilities and services that meets these travel needs in the most efficient and effective manner possible. The LRTP serves as the major document from which other transportation plans and programs will be drawn, and covers a period of twenty-five years. The LRTP seeks to identify transportation facilities and services that will be needed to maintain safe and efficient mobility and access in the future. Development of the plan is initiated through area local government's comprehensive plans, which provide the basis for projecting future growth and development.

Traditionally, the Long Range Transportation Plan includes goals to improve mobility, and it also considers more efficient fuel consumption, improved air quality and intermodal transportation opportunities. Intermodal transportation is defined as transportation which

links trips between different types of transportation modes, such as a highway and an airport, to facilitate the movement of goods and people.

The Americans with Disabilities Act (ADA) was developed on July 6, 1990 to assure equality for individuals with disabilities in a wide-range of settings. Though commonly known for challenging discrimination in the workplace, ADA compliance extends to transportation-related services as well. These transit requirements include providing paratransit service that is comparable to public transit services and providing accessible rail systems & service. Private entities that provide transportation for the public are also required to be accessible.

The 2031 Long Range Transportation Plan was adopted by the MPO in August 2008.

FEDERAL LAW

There have been several major additions to federal law since the 1990's that refocused transportation planning in the region – the adoption of Clean Air Act Amendments and the Intermodal Surface Transportation Efficiency Act (ISTEA).

The Clean Air Act Amendments

In 1990, the Clean Air Act Amendments set standards for pollutants which states localities must either meet or actively work to meet - or possibly face sanctions. The Richmond region, including the western portion of Charles City County, has been designated by the U.S. Environmental Protection Agency as being in non-attainment of the National Ambient Air Quality Standards for at least one of certain pollutants: ozone, carbon monoxide, or suspended particulate matter. More than one-fifth of the nation's population lives in non-attainment areas. The Richmond Area MPO has aggressively worked to reduce the amount of pollution generated within the region and has recently been recommended by the EPA to be reclassified to an attainment area.

On December 18, 1991, the nation's transportation planning process acknowledged a major change with the adoption of the Intermodal Surface Transportation Efficiency Act (ISTEA). The passage of ISTEA attempts for the first time to produce a wholly integrated intermodal transportation network nationwide that improves air quality and is energy efficient. In addition, the ISTEA seeks to improve public transportation by providing new opportunities that allow shifting of federal-aid highway funds to mass transit programs. Improved national, regional and local access will depend largely upon the integration of all transportation systems and services to and from an interconnected network of national scope and importance.

Included in ISTEA is the establishment of an Enhancement Program which allows VDOT to make broad apportionments of federal dollars for projects that take unique and creative actions to integrate transportation into our communities and the natural environment. This program provides a means of financing activities that go beyond the normal elements of a transportation improvement project. Transportation enhancement activities

are funded under the Surface Transportation Program (STP) of ISTEA. Ten percent of each state's STP funds are set aside for enhancements. Eligible transportation enhancement activities must fall into one or more of the following categories as defined by federal legislation:

Provision of facilities for bicycles and pedestrians
Acquisition of scenic easements and scenic or historic sites
Scenic or historic programs
Landscaping and other scenic beautification
Historic preservation
Rehabilitation and operation of historic transportation buildings, structures, or facilities including historic railroad facilities and canals
Preservation of abandoned railway corridors including the conversion and use thereof for pedestrian and bicycle trails
Control and removal of outdoor advertising
Archaeological planning and research
Mitigation of pollution due to highway run-off

For the ISTEA program, the Commonwealth Transportation Board allocates funds to specific projects on a statewide, competitive basis. Project proposals are examined by a VDOT Transportation Enhancement Selection Panel. Based upon the recommendations of the selection panel and a review by the Commonwealth Transportation Board's Environmental Committee, projects are selected for implementation.

Also included in ISTEA is the establishment of a Safety Improvement Program funded under the Surface Transportation Program (STP). Ten percent of each state's STP funds must be used for safety improvements. ISTEA further directs that from this set-aside each state must, as a minimum, continue funding hazard elimination, rail-highway protective devices, and rail-highway grade separation improvements at the levels existing prior to the passage of ISTEA legislation. The improvements identified in the program were selected from a statewide priority list for hazard elimination improvements and rail-highway grade crossings to provide for the safety and convenience of the traveling public.

The Transportation Equity Act for the 21st Century (TEA-21)

In 1998, Congress adopted the Transportation Equity Act for the 21st Century (TEA-21) in an effort to create a more coordinated and effective transportation system. Though similar in structure to ISTEA, TEA-21 streamlined the required number of management systems and planning factors. At the same time, it initiated a stronger linkage between air quality programs, growth management, and transportation systems. Changes occurred that continued the flexible funding allowance, modified the states' funding formulas to ensure minimum allocations per dollar provided, and increased transit and other alternative funding provisions to better achieve the desired balanced transportation system.

Funding from TEA-21 goes from the federal government to the Commonwealth of Virginia, which then disperses money accordingly to areas within the Commonwealth.

Beyond this, TEA-21 mandates intergovernmental and interagency coordination amongst USDOT, VDOT, VDRPT, other regional transportation agencies, local governments, and citizens.

Under the TEA-21 guidelines, the Richmond Area MPO must develop a transportation planning and programming process that ensures all transportation plans, projects, and programs requiring federal approval or using federal funds are reviewed on the basis of consistent and constant evaluation criteria. Under TEA-21 requirements, this plan will be the major document from which all other programs and plans will be drawn. And, as was stated previously, the plan must be financially constrained, meet environmental justice requirements, and pass air quality conformity. For this plan, the Richmond Area MPO has adopted goals, objectives, and strategies that are quantifiable and will serve as the consistent and constant evaluation criteria. In developing the plan, the MPO must also consider the seven planning factors outlined in TEA-21 (these planning factors will be discussed later in this document).

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU became law on August 10, 2005. This legislation builds upon the foundations of ISTEA and TEA-21 with some financial and structural changes to the program elements. Investments focus on safety, equity, innovative finance, congestion relief, mobility & productivity, efficiency, environmental stewardship, and environmental streamlining. The strong point of the program is its focus targets national transportation issues while allowing room for local and state officials to solve their own transportation problems. As with TEA-21, there is guaranteed funding for the Federal-Aid Highway Program (FAHP).

Starting in FY 2007, the Revenue Aligned Budget Authority will adjust authorizations funded by the Highway Account of the Highway Trust Fund and the Motor Carrier Safety Assistance Program whenever Highway Account receipts have estimate changes. This will allow for budget authority and revised revenue to match. In order to further control the budget, SAFETEA-LU has an annual obligation limitation. This prevents overspending within the federal-aid highway program with the exceptions of Emergency Relief, a large portion for the Equity Bonus, and certain other programs that were in effect before 1998. SAFETEA-LU also gives states greater freedom in applying tolls so that they can be used not only as traffic control, but to raise needed infrastructural improvement funding as well. Funding for SAFETEA-LU is mostly provided by the Highway Trust Fund, which in turn is mostly funded by federal motor fuel taxes.

Safety is an important facet of SAFETEA-LU, and it boasts a highway safety program as a central component of its program. As a way of controlling congestion, SAFETEA-LU has begun programs including the following: real time system management information program, road pricing, and high occupancy vehicle (HOV) lanes. In an effort to maximize mobility, there is emphasis on financial stewardship and oversight, including the National Highway System (NHS), the Interstate Maintenance program (IM), the Surface Transportation Program (STP), the Bridge program, the Federal Lands Highway Program (FLHP), the Emergency Relief (ER) program, regional programs, the Corridor Border

Infrastructure Program, the Freight Intermodal Distribution Pilot Program, the National Corridor Infrastructure Program, and other projects of national significance. In order to improve efficiency, transportation planning is performed at both the metropolitan and statewide levels. So far the Highways' for LIFE Pilot Program has been administered, the environmental review process has been streamlined, the $50 million floor required of design-build has been removed, and greater flexibility is allowed in air quality conformity. To promote environmental stewardship, there is the Congestion Mitigation & Air Quality Improvement (CMAQ); recreational trails; transportation enhancements; the Transportation, Community, and System Preservation Program (TCSP); scenic byways; the National Historic Covered Bridge Preservation program; the Nonmotorized Transportation Pilot program; and there are other environmental provisions. In addition to these many programs, there are $2.271 billion allocated for Title V programs, which include a variety of research and studies related to transportation.

METROPOLITAN PLANNING ORGANIZATION TRANSPORTATION IMPROVEMENT PROGRAM (3 year plan)

The Richmond Area Transportation Improvement Program (TIP) is developed and updated annually as part of the Richmond Area Metropolitan Planning Organization's (MPO) transportation programming process. The TIP is a document which provides a combined single listing of all federally funded transportation projects and project segments scheduled to be carried out within a three year time period for the Richmond region, including highway improvements, capital expenditures, and operating assistance for transit activities. The TIP, which can only include those projects or specific phases of projects for which full funding is anticipated, must be consistent with the adopted Long Range Transportation Plan.

In addition, the Clean Air Act Amendments (CAAA) of 1990 provide that conformity to the State Implementation Plan (SIP) be generally defined as showing that TIP projects will help reduce emissions of various pollutants, including volatile organic compounds (VOC) within non-attainment areas. The CAAA required each state to develop a SIP that shows how each state proposes to reach and maintain established air quality standards within the specified time frame.

The Richmond Area MPO has the lead responsibility for selecting and programming Regional STP, CMAQ, and FTA Section 5307 projects. Within the Richmond region, the City of Richmond and the Town of Ashland are responsible for urban system construction and maintenance within their respective jurisdictions.

FUNDING SOURCES

Federal: In order to receive federal funding, roadway construction or expansion projects must show that the end product of the project will result in improved air quality. The goal is to support SIP attainments and to encourage the development of a balanced transportation system.

State: State transportation construction funds are allocated by a formula process under the state's Transportation Trust Fund (TTF). The TTF was established by the Virginia General Assembly in 1986, based on recommendations from the Commission on Transportation in the Twenty First Century (COT-21). The TTF established for the first time, a formulae system for funding not just highways, but also public transportation, ports and aviation modes. The TTF allocates funds on a percentage basis to these modes as follows:

Highway	78.7%
Public Transportation	14.7%
Ports	4.2%
Aviation	2.4 %

In addition to construction funds, VDOT has set aside funds for rural transportation planning. Each year the Richmond Regional PDC receives $48,000 of partial funding for the operation of a rural transportation planning program. Portions of Charles City, Goochland, New Kent and Powhatan are part of the region's rural transportation planning program. Planning activities are divided into administration, regional planning, technical assistance, and coordination with the Virginia Department of Transportation (VDOT) and Richmond area Metropolitan Planning Organization. Planning activities are selected each year by a technical advisory committee made up of one member from each of the participating localities, VDOT, the Federal Highway Administration, the Virginia Department of Rail and Public Transportation, and Ridefinders, Inc.

Regional: The Richmond area MPO has lead responsibility for the allocation of regional STP funds within the MPO study area and CMAQ funds within the MPO portion of the non-attainment area. In addition to the MPO program, the Richmond Regional Planning District Commission maintains a rural transportation program for the portion of the region not within the MPO. The rural transportation program is largely funded each year by VDOT. The counties of Charles City, Goochland, Powhatan and New Kent are members of the rural transportation program.

HIGHWAYS

Functional Classification System

In Virginia, the Virginia Department of Transportation (VDOT) assigns highway classifications. A highway's functional classification is important because it is used to determine eligibility for different funding sources. In Charles City County, highways and their shoulder area occupy 1,000+ acres of land area according to VDOT**. Map 17** depicts the right-of-way widths within Charles City County's transportation network. Functional classifications are more specifically defined as follows:

Arterial Roads: A route providing service which is relatively continuous and of relatively high traffic volume, long average trip length, high operating speed, and high mobility importance. In addition, many United States numbered highways and interstates are arterial roads. Arterial roadways are further classified as principal or minor.

Principal Arterial Roads: Roads which generally serve the major centers of activity of an urban area, the highest volume traffic corridors, the longest trip purpose, and carry a high proportion of the total urban area travel on a minimum of mileage. The routes are integrated, both internally and between major rural connections.

In Charles City County there are no roads designated by VDOT as principal arterial or interstate. Interstate access is available nearby, however. Route 5 intersects with Interstate 295 in Henrico County, just west of the county. Interstate access is also available north of the county in New Kent County. Access points to Interstate 64 are found at the intersection of Route 106 and Interstate 64 near Talleysville and Route 155, and Interstate 64 north of Providence Forge.

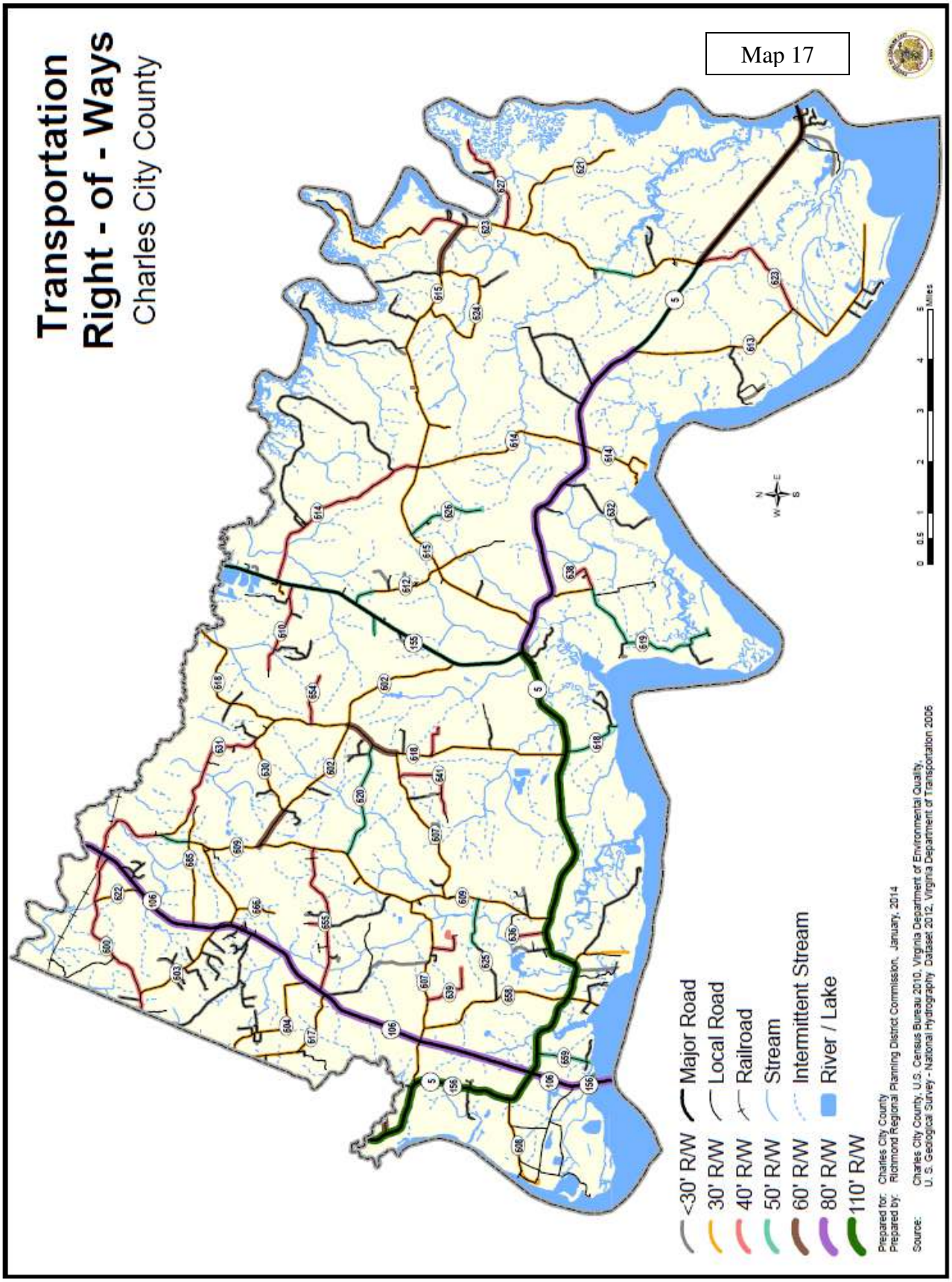
Minor Arterial Roads: Routes which generally interconnect with and augment principal arterial routes, and these provide service to trips of shorter length and a lower level of travel mobility. Such routes include all arterial not classified as principal and contain facilities that place more emphasis on land access than the higher system. There are approximately 34 miles of minor arterial roads in the county. The following roads are designed by VDOT as minor arterial roads in Charles City County:

Route 5 (John Tyler Memorial Highway), is considered by residents to be the main highway in the county. Located in the southern portion of the county, it is the primary east- west corridor for local traffic. This route also serves as a link between Williamsburg and Richmond. Numerous tourists travel Route 5 to visit the historical sites of national and state prominence located along this road.

This road is also well known for its aesthetic value. The landscape along the corridor varies from open fields to trees overhanging the road. The land along the road has not been intensely developed and exists, for the most part, in the same condition as it did hundreds of years ago.

The Virginia Department of Conservation and Historic Resources designated John Tyler Memorial Highway as a Scenic Byway. This designation seeks to give official recognition to unique roadways, but does not regulate development along the corridor. Localities are responsible for any type of protective measure along these corridors.

Route 106 (Roxbury Road), running north-south, is located in the western portion of the county. The road not only handles local traffic, but serves a regional purpose by handling traffic between Hopewell and Interstate 64. In the past, the Department of Transportation upgraded the road to meet the needs of industrial businesses that frequently use the road. County officials have established the road as an industrial corridor.


Transportation
Right - of - Ways
Charles City County
Map 17
<30' R/W
30' R/W
40' R/W
50' R/W
60' R/W
80' R/W
110' R/W
Major Road
Local Road
Railroad
Stream
Intermittent Stream
River / Lake
0 0.5 1 2 3 4 5 Miles
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, Virginia Department of Environmental Quality,
U. S. Geological Survey - National Hydrography Dataset 2012, Virginia Department of Transportation 2006

Collector Roads: Routes which generally provide service which is of moderate traffic volume, moderately average trip length, and moderate average operating speed. Such a route also collects and distributes traffic between local roads and serves as a linkage between land access and mobility needs. There are approximately 40 miles of Collector roads in Charles City County. Collector roads are further classified as major collectors and minor collectors.

Major Collector Roads: The primary function of major collector roads is to carry local traffic between arterial roads and residential neighborhoods. These roads carry high volumes of local traffic within the interior of the county.

Route 155 (Courthouse Road), running north-south, is located centrally in the county. The road plays a significant role by providing both access to residential growth areas, and government and business centers, as well as providing regional access to Route 60 at Providence Forge.

In Charles City County Route 607(Wayside Road) west of Route 609 (Barnetts Road), Route 607 (Church Lane) east of Route 609 (Barnetts Road), Route 618 (Adkins Road) and the portion of Route 5 (John Tyler Memorial Highway) that is west of Route 106 are designated by VDOT as major collectors.

Minor Collector Roads: Minor collector roads also link arterial and residential streets, but carry a lower volume of traffic.

In Charles City County, Route 609 (Barnetts Road), Route 602 (Lott Cary Road) and Route 614 (Sturgeon Point Road) are designated by VDOT as minor collectors.

Local Roads: Routes which generally provide access to adjacent land and provide service to travel over relatively short distances as compared to collectors or other highway system roads. There are approximately 105 miles of local roads in Charles City County. Some of the more significant local roads in Charles City County are as follows:

Route 600 (Charles City Road), is located in the northwestern portion of the county. The road extends into the county from adjacent Henrico County. Residential development along Charles City Road has been prevalent in Henrico County. County officials expect residential growth to continue to spread east from Henrico County.

Route 603 (Old Union Road), also located in the northwestern part of Charles City County, is considered an important road in terms of residential development. The road extends from Charles City Road (Route 600) to Barnetts Road (Route 609). The road crosses Roxbury Road (Route 106) near the Roxbury Industrial Center.

Route 615 (Glebe Lane), is located in the eastern portion of the county. It intersects John Tyler Memorial Highway (Route 5) just east of the Courthouse area and serves the communities of Ruthville and Holdcroft.

Route 623 (Willcox Neck Road), located in the eastern portion of the county, serves as an access route to the Chickahominy Wildlife Management Area and the Rivers Rest Marina. The road has gained prominence because of its proximity to these recreational resources.

HIGHWAY TRANSPORTATION IMPROVEMENTS PLANNED

Highway improvements are separated into three categories: preliminary engineering; right-of-way; and, construction. The planning phases are necessary, since highway improvements can take years to complete. Preliminary engineering encompasses a preliminary field survey, utility location, environmental/historical studies, road design alternatives, drawings, final field inspections and public hearings. This process can take a few months to several years to complete. Should additional right-of- way be required, project negotiations with property owners take place, payments are made and arrangements with utility companies are finalized to obtain the land necessary for the project. Right-of-way work will not begin until most of the preliminary engineering steps are complete. The construction phase of the project is advertised to prospective contractors for bid. Once the bids are opened and a contract awarded, construction can begin. **Tables 23, 24** and **25** show the highway improvements programmed for Charles City County.

TABLE 23

Richmond Area MPO FY 2012 to FY 2015 TIP Program Adopted June 9, 2011 Projects for Charles City County			
Route	**Type of Improvement**	**Estimated Total Cost**	**Year**
Rt. 5 (John Tyler Mem. Hwy.) from .224 MS Rt. 608 to .155 MN Rt. 608	Construct Turn Lane WB	$607,000	CN 2012
Rt. 155 (Courthouse Rd.) from Rt. 5 to Rt. 602	VA Capital Trail Extension	$1,200,000	CN 2013
Rt. 618 (Adkins RD) from 1.4 MN Rt. 629 to 1.9 MN Rt. 629	Widen and Improve Drainage	$1,351,000	CN 2013
Route 618 Wilcox Wharf Rd.) from Rt. 5 to End of Maintenance	Multi-use trail	$1,086,000	Project Added 4/18/2012
TOTAL		**$4,244,000**	

TABLE 24

Metropolitan Planning Organization 2035 Long Range Plan Proposed Projects for Charles City County			
Facility	**Boundary/Limits**	**Improvement**	**Estimated Costs**
Route 5	Henrico/Charles City County Line to James City County/ Charles City County Line	Widen pavement 3 ft. each side of road	$15,000,000
Capital Trail Rt. 623 (Wilcox Neck Rd.)	From Rt. 5 to Rivers Rest Drive	VA Capital Trail Extension	$4,080,000
Route 602	Rt. 618 to Rt. 155	Road Widening	$1,000,000
TOTAL			**$20,080,000**

TABLE 25

Commonwealth Transportation Board Six Year Improvement Program Adopted 2014 Projects for Charles City County							
Description	**Route**	**Road System**	**Estimate**	**Previous**	**FY14**	**FY 15-19**	**Balance**
			(Values in Thousands of Dollars)				
RTE 5 - CONSTRUCT TURN LANE WB	5	Primary	$88	$737	$0	$0	-$650
RTE 5 - VIRGINIA CAPITAL TRAIL- CHARLES CITY COURTHOUSE PHASE	5	Primary	$5,115	$5,115	$0	$0	$0
RTE 5- VIRGINIA CAPITAL TRAIL- CHARLES CITY INTERPRETIVE SITE	5	Primary	$357	$356	$0	$0	$1
RTE 5 - VIRGNIA CAPITAL TRAIL - SHERWOOD FOREST PHASE	5	Primary	$11,448	$11,354	$95	$0	$0
RTE 5 - VIRGINIA CAPITAL TRAIL- CHARLES CITY COURTHOUSE EAST	5	Primary	$292	$470	$0	$0	-$178
ROUTE 155 - CONSTRUCT TRAIL - PE ONLY	155	Primary	$400	$0	$0	$400	$0
RTE 155 - SHARED-USE PATH	155	Primary	$913	$351	$0	$561	$0
RTE 607 - RECONSTRUCT EXISTING ROADWAY	607	Secondary	$86	$1,633	$0	$0	-$1,547
RTE 607 - MINOR WIDENING	607	Secondary	$4,185	$686	$0	$1,850	**Total Line Item Estimate: $26,299,000**
RT 609 - RECONSTRUCTION	609	Secondary	$2,321	$2,224	$0	$440	-$344
RTE 618 - ADKINS RD - WIDEN AND IMPROVE DRAINAGE	618	Secondary	$202	$1,515	$0	$0	-$1,313
ROUTE 618 - MULTI-USE TRAIL	618	Secondary	$894	$240	$0	$0	$654

WATER

Historically, water transportation has played a very significant role in the development of Charles City County. Today, water transportation plays a less significant part in the development but is still linked to the county's economy.

Ports for barges transporting sand and gravel are located near Shirley Plantation and at Sandy Point on the James River. There is a port facility for ocean-going barges and ships at Port Tobacco at Weanack adjacent to Shirley Plantation. Port Tobacco has a channel depth equal to the Port of Richmond and receives ocean-going ships, large ocean-going barges as well as coast-wise and inland barges and vessels. Cargos moved at Port Tobacco include bulk materials (sand, gravel, mineral sands, dredged material); neo-bulk (scrap, wood, steel, debris); containers; livestock; and heavy-lift/project cargo. Currently, the port's operational capacity is 2 million tons of bulk and 1 million tons of containers (45,000 containers) per year with a number of sites with waterfront access and adjacent nearby land for further marine-dependent development.

The County also has deep water available on the James River at Sturgeon Point and Bachelor Point. Deep water on the James River provides the county with the possibility of promoting the location of a port oriented toward ocean going vessels in the county. The James River continues to be a major national and international transportation route serving Hopewell, Richmond and many other terminals along the way. As such, this River offers a great potential for commercial and industrial development in Charles City County.

The nearest major port to Charles City County is the Port of Richmond, located approximately 10 miles upstream. The Port of Richmond was built in 1939 and is owned by the city of Richmond. The port is located on the James River alongside I-95 between Bells Road and Falling Creek Exits, at the southern boundary of the City. The port is currently managed by the Virginia Port Authority under a lease from the City of Richmond and operated by PCI of Virginia, LLC provides the terminal, warehouse, stevedoring and inland distribution services. The port is a marine container and general care terminal handling approximately 600,000 tons of cargo each year. In 1996, an economic impact report showed that business at the Port was responsible for creating 773 jobs and assisting in the creation of 22,339 related jobs, over $31 million of personal income, and about $2.4 million dollars of state and local taxes. The 2002 Richmond Regional Intermodal Transportation Study includes a recommendation to use an existing rail spur to link the Port by CSX rail line to the Norfolk Southern rail line to increase competition. At present, the Port's major constraints are:

1. The shallow draft of the James River which limits the size of the vessels that can use the port: The 25-foot depth channel has a maximum 21.6-foot ship's draft allowed by the Virginia Pilot Association;

2. Restricted road access: A 13-foot and nine-inch clearance at Old Bells Road under I-95, which limits freight loading dimensions, and the two lane industrial access road; and an outmoded facility very close to capacity.

RAIL

Freight

The main line of the Chesapeake and Ohio Railroad (CSX) crosses the northwestern corner of the county. Service is presently available in the Roxbury area, in northwestern Charles City County. Freight service for the Richmond area is provided over the private rights-of-way of two major railroads, CSX Transportation and Norfolk Southern Operation. Many commodities are carried in the trains which pass through the Richmond area, and intermodal traffic (containers, trailers on flat cars, etc.) is growing. In addition to maintaining tracking and operating trains, the freight railroads pay property taxes on their rights-of way.

Passenger

The National Passenger Rail Corporation, known as AMTRAK, began operation in 1971. As of 2005, AMTRAK provided intercity passenger rail service to approximately 22,000 miles of routes to all states except Wyoming, South Dakota, Hawaii and Alaska.

Charles City County, and the remainder of the Richmond area, is served by AMTRAK at the Staples Mill Road Station or the Main Street Station in Richmond, as well as by stops at Ashland in Hanover County and Ettrick in Chesterfield County. In FY 2008, the Staples Mill Road Station served a total of 275,479 passengers, the highest AMTRAK ridership for any Virginia station. A total of 19,360 passengers were reported at the Richmond Main Street station, a total of 20,909 passengers were reported at the Ettrick Station in Petersburg and a total 16,497 passengers was recorded at the Ashland Station. Total passengers for the four stations serving the Richmond area in FY 2008 was 332,245, up from 1993's figure of 313,887 when there were only three stations serving the area. There has been discussion of promoting the location of an AMTRAK station in the county to serve both Charles City and New Kent Counties especially in light of the new Main Street Station planned for the city of Richmond. This facility could be provided in the Roxbury or Providence Forge areas, but there are no immediate plans to provide service to the area.

AIR

Richmond International Airport

Commercial air service is available at nearby Richmond International Airport (RIC), located approximately eight miles west of the county. Commercial air carrier passenger service is provided by seven air lines. Nearly 3.3 million passengers used Richmond International Airport in 2010. There are 8000 parking spaces available to hourly, daily, and long term users. In addition to commercial passenger and cargo operations, it accommodates a number of based general aviation aircraft and has significant general aviation operation for both the Virginia Air National Guard and Virginia Army National

Guard. Nationwide and worldwide connections are available through daily scheduled flights. Commuter service is also available. The airport also offers air freight and express services and maintenance facilities for many types of aircraft.

The RIC is currently classified as a small hub. Currently, RIC is planning to add onto the new terminal building with arrivals at the lower deck and departures at the upper deck, a central utility plant, and expand security check points. The RIC is owned and operated by the Capital Region Airport Commission, a political subdivision of the Commonwealth of Virginia. The Commission's member jurisdictions are the City of Richmond and the counties of Chesterfield, Hanover, and Henrico. The Commission's enabling legislation authorizes membership to the counties of Charles City, Goochland, New Kent, Powhatan and the Town of Ashland.

New Kent Airport

The New Kent Airport, located approximately five miles north of the Roxbury area, is a general aviation airport facility with a 3,600 feet paved runway for use by small corporate aircraft. Fuel and major and minor repair facilities are available. The field is attended during the day and can be lighted at night upon instrument activation. The airport is owned and operated by New Kent County.

PUBLIC TRANSPORTATION

Bay Transit, a division of Bay Aging, is the designated public transportation provider for Charles City County residents. Their service is for all people of all ages for all reasons. Bay Transit provides on-demand service from 6:00 a.m. to 6:00 p.m., Monday through Friday. Riders are required to call Bay Transit at least 24 hours in advance of the scheduled trip. The base boarding fare for most of Bay Transit service is $1.00 per trip. Another payment method which Bay Transit uses is a booklet of ten tickets sold at a discounted price of $8.00 per booklet.

BICYCLE AND PEDESTRIAN

An important element of a transportation system is bicycle and pedestrian travel. As part of the county's and region's efforts to enhance mobility, improve air quality, increase energy efficiency and support transit usage were available, opportunities for pedestrian and bicycle travel should be identified. Presently, Interstate Bicycle Route 76 follows Route 5 across Charles City County. This Interstate Bicycle Route, which runs through Virginia, Kentucky and Illinois, was officially approved by the American Association of State Highways and Transportation Officials (AASHTO) in 1982. The AASHTO's policy on the U.S. number bicycle routes states that the purpose of the bicycle numbering system is to facilitate travel between states over routes which have been identified as being more suitable than others for cycling. The policy defines a bicycle route as any road, street, or path which is specifically designated as being open to bicycle travel,

whether the facility is designated for the exclusive use of bicycles or is shared with other modes of transportation.

There are three major inter-jurisdictional bike routes running through the county that are located in the MPO Study Area. Both of these routes, the Trans American Route and the Atlantic Coast Route, are interstate routes. The inter-jurisdictional routes have been created for interstate touring and recreational bike use, and are regional routes along VDOT primary and secondary roads. Adventure Cycling Association advertises these routes and sells strip maps of the routes in national bicycling publications. The other bike route running through Charles City is along the East Coast Greenway, which runs from Washington D.C. to Raleigh, North Carolina.

Virginia Capital Trail

Highway improvements are not restricted to vehicular needs, as there are also projects that promote pedestrian and bicyclist usage. The Virginia Capital Trail is one such endeavor, and it will increase the accessibility of landmarks, scenic views, recreational locations and archeological sites. This bicycle/pedestrian trail will create additional room for non-vehicular activity, thus making the route safer for motorists. The increased connectivity of destinations will serve to link communities. Altogether, the Virginia Capital Trail will be 54 miles, with 27 miles of it in the Charles City area. It will run from Jamestown to Downtown Richmond. To further serve the public, a visitor center and comfort station are located at the courthouse complex. Public participation and preliminary project design have already started. Figure R provides a brief description of the Virginia Capital Trail project.

FIGURE R 2009 Overview of Funded Project – Virginia Capital Trail

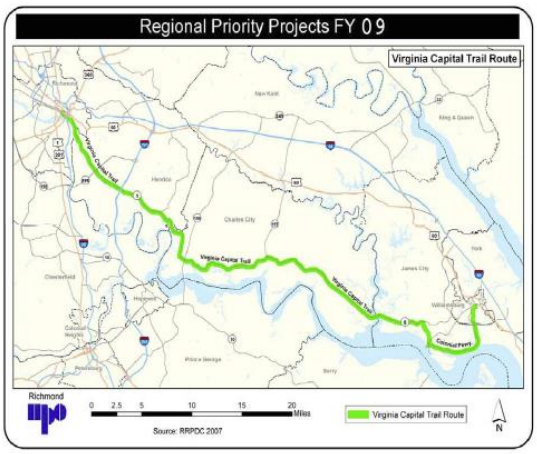
Virginia Capital Trail Project (Richmond to Williamsburg)

Description

This project is the construction of a paved bike and pedestrian trail along Route 5 that links the historic, cultural and scenic sites in Richmond, Jamestown and Williamsburg as well as the communities along the way. The project is divided into two segments, separated at the Chickahominy River. The segment east of the Chickahominy River is complete. The Charles City Courthouse phase is currently under construction, to be complete in late 2009. The westernmost phases, including the Richmond Riverfront phase, are scheduled to be complete between FY 2009 and FY 2010.

Project Cost Estimates and Schedules

Cost Estimates & Schedules		
	Estimated Cost	Schedule
Preliminary Engineering (PE)	$3,550,000	Complete
Right-of-way (RW)	$2,187,000	N/A
Construction (CN)	$17,225,000	Underway
Total Estimate	$21,292,000	



MPO Priority Project	Cost Estimate	Allocation			Funding Status After 2014
		Previous	Actual (FY09)	Proposed FY10-14	
Virginia Capital Trail	21,292,000	21,517,000	8,837,000	0	Fully Funded

Richmond Area MPO
Regional Priority Projects

Cost Estimates, Allocations and Schedules Based on Adopted June 2008 STIP or other noted sources.

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CHAPTER 8
DEVELOPMENT ASSESSMENT

DEVELOPMENT ASSESSMENT

Development in Charles City County is influenced by many factors. Some of these, such as regional growth trends or local soil conditions, are beyond the control of the county. The county can influence other factors, such as the future development pattern.

One purpose of this section is to briefly examine regional and county growth trends. The other purpose is to examine those assets that make the county a desirable place to live and work as well as those factors that limit or constrain development.

During the spring of 2007, the planning commission conducted a SWOT (strengths, weaknesses, opportunities and threats) analysis to identify growth issues facing the county. A copy of the analysis is included in **Appendix A**. These issues are discussed below within Development Assets and Constraints.

GROWTH TRENDS IN THE RICHMOND REGION

The Richmond region as a whole is experiencing a steady increase in population, housing units, and employment. According to data from the Richmond Regional Planning District Commission (RRPDC), the population in the Richmond region (PDC) increased from 865,941 persons in 2000 to 1,002,696 in 2010. This represents a 15.79 percent increase, 2.77 percent more that the State's growth rate of 13.02 percent. Population forecasters anticipate continued growth in the region into the next century.

Housing stock in the region has grown faster than the population. Between 2000 and 2008, housing units increased from 356,917 to 412,623 units, a 16 percent increase. Residential development has flourished in the northern, western and southern portions of the region. Recently development has begun to occur in the eastern portion of the region.

In 2000, there were 2,895 housing units in Charles City County. The number of housing units increased to 3,141 in 2008, which is an 8 percent increase. This increase is a significant contrast to the 16 percent increase in regional housing stock over the same period even when considering the slight decrease in household size.

The number of jobs in the region has also grown. Non-agricultural employment in the region increased from 570,200 in April 2001 to 601,783 in March 2013, according to the Virginia Economic Commission. This represents an increase of 5.2% percent

Two comments can be made about growth in the region. First, growth has not been even across the region. Some localities are growing by leaps and bounds; others are growing very slowly, if at all. Second, there is a price to pay for rapid growth. Some local governments are having difficulty keeping up with demands from new residents. Local budgets are insufficient to provide necessary schools and other services. **Map 18** shows the changes in impervious surface based on the amount of structures from 1994 to 2002.

CHARLES CITY COUNTY GROWTH TRENDS

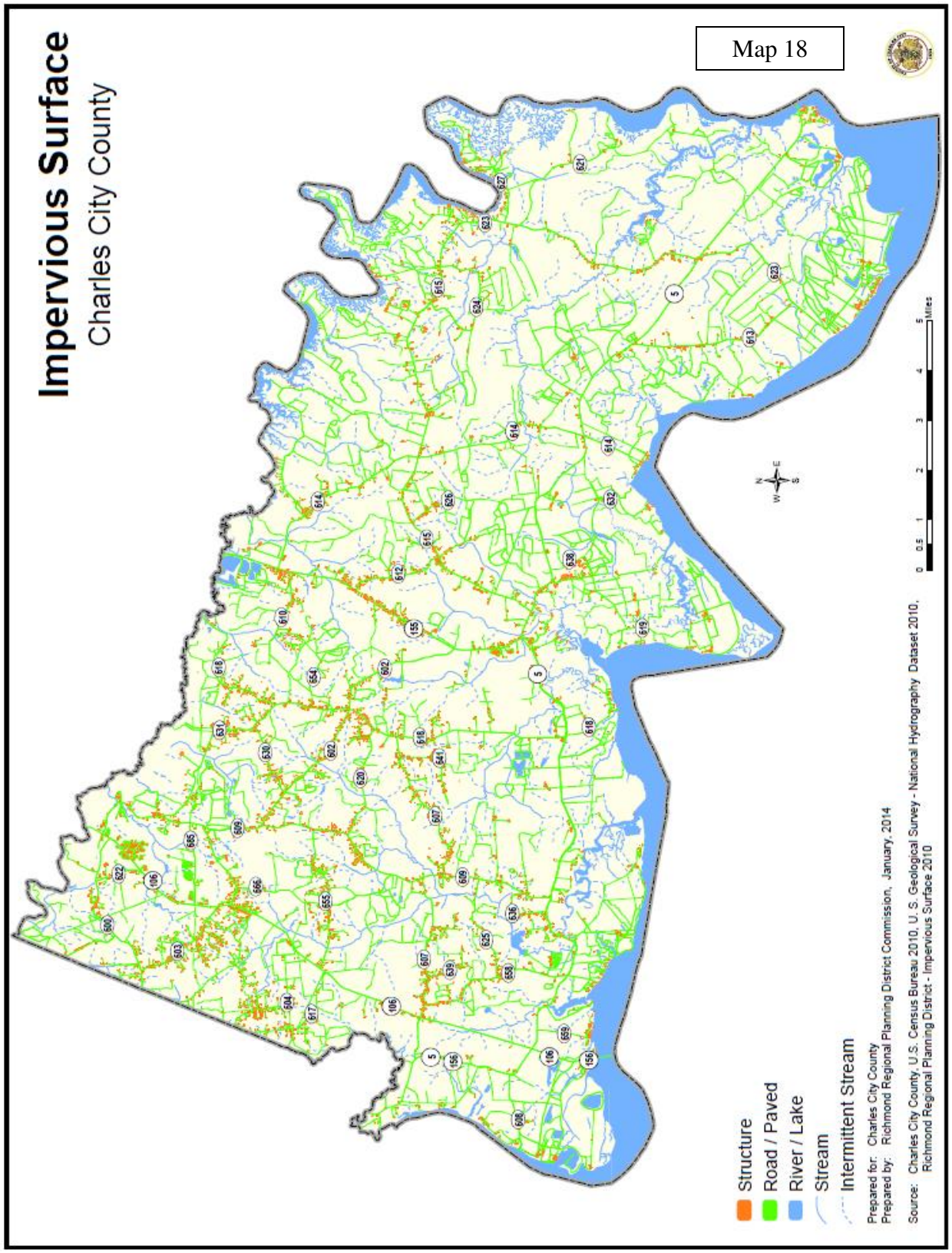
The county population changed slightly from 2000 to 2010. In 2000, 6,926 persons lived in the county. The population grew to 7,256 persons in 2010. This growth in population represents an increase of 5 percent for the ten year period. While the county's population increased, the Richmond Region and Virginia grew by 15 percent and 13 percent, respectively for that period.

From 2010 to 2020, the region and the state are expected to grow by 14.81 percent and 10.13 percent, respectively according to estimates by the Virginia Economic Commission (VEC). The county's population is expected to increase by 7.65 percent between 2010 and 2020, almost half of the projected growth rate for the region and 75 percent of the projected rate for the state

The projected growth rates for the county may be good news. Future growth may not be as rapid as projected for the region, but is in keeping with past county trends. This means that while growth is occurring, it may be more manageable than growth being experienced in other localities in the region.

DEVELOPMENT ASSETS

The county is fortunate to contain a variety of assets which contribute to the quality of life. Residents are able to enjoy what is essentially a rural life-style and still have the benefits of two urban areas close at hand. Of particular importance are the below items that are believed to have greater significance to the future of land use growth in the county.


Impervious Surface
Charles City County
Map 18
Structure
Road / Paved
River / Lake
Stream
Intermittent Stream
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010,
Richmond Regional Planning District - Impervious Surface 2010
0 0.5 1 2 3 4 5 Miles

1. COMMUNITIES/RURAL CHARACTER OF THE COUNTY: The first feature visitors notice is the relatively unspoiled beauty of the county. Deep forests, agricultural fields and open space are the predominant land uses. The rural character of the county is more than just the natural beauty, however. County residents are proud of their close knit communities where several generations have lived and raised families. There is a feeling of safety in the county and of being away from the hustle and bustle of urban life. Maintaining this aspect of county life is just as important today as it was in 1979 when the county adopted the goal of preserving the rural nature as part of the Comprehensive Plan.

2. LOCATION BETWEEN RICHMOND AND WILLIAMSBURG/JAMES CITY COUNTY: The county's location between two growing urban areas offers a variety of employment, shopping and recreational opportunities that are not found in rural areas. In contrast, Charles City County has the inherent ability to attract visitors who need a break from urban forms and come and take advantage of county's rural nature.

The county's location is a mixed blessing, however. The growth currently experienced in surrounding localities may one day reach the county line. The population of New Kent County to the North is expected to grow between 2010 and 2020 by 14.12%. Residential and commercial development is occurring in Henrico County to the west and a commercial development of 65,000 square feet opened there in 2008. A recent residential community in James City County to the east brings large scale development to within a few miles of the Charles City County line. Fort Lee's expansion to the south brings vast military employment, support services, housing and K-12 education needs.

As land adjacent to the county is developed, investors will begin to look more closely at the county. Therefore, Charles City must begin now to assure that future development enhances the quality of life which county residents now enjoy.

3. TOURISM: Tourism is definitely an important part of this region's economy. According to the 2007 Virginia Outdoors Plan, tourism spending in Virginia reached a new high in 2005 of $16.5 billion, which is a 9.6 percent increase over the 2004 figure of $15 billion. Recreational opportunities range from historic sites to theme parks. Travel and interest in historic places is a major contributor to the region's economy.

Tourist trade from Colonial Williamsburg and Richmond adds to the number of travelers passing through Charles City County. These travelers often stop to explore the historic resources the county has to offer. Several historic sites are open to the public, which also contain unique gift shops. Several bed and breakfast operations are located in historic structures.

4. PRIME AGRICULTURAL AND FOREST LAND: The county contains thousands of acres of land that is well suited for farming and silvicultural use. In fact, over one-third of the soils in the county are classified prime agricultural, the very best soils by the Natural Resources Conservation Service. The preservation of agricultural and forest lands is a high priority because of the importance of these lands to the local economy. Preservation of these resources is also important to maintaining the quiet character of the county.

5. LARGE, UNDEVELOPED TRACTS: A large portion of the undeveloped land in the county exists in large tracts under single ownership. This is especially true along the James River. Generally such tracts outside of Development Centers and Neighborhood Service Areas would not be developed. The county is taking action to ensure these tracts, if developed, are intentionally master planned in a comprehensive and professionally responsive manner sensitive to the quality of life requirements of the citizens of Charles City County.

6. ROUTE 5 CORRIDOR: Route 5 has been designated a Scenic By-way by the Commonwealth. According to the Virginia Department of Transportation, the purpose of the By-way program is to identify outstanding road segments and to conserve them for the enjoyment of Virginians and out-of state tourists.

The Route 5 corridor is important to county residents for several reasons. The tree lined corridor is a symbol of the quiet, undisturbed character of the county. In addition, Route 5 links together several historic sites, either directly or by access to other county roads. The Commonwealth of Virginia is building a Capital to Capital bikeway within the right-of-way of Route 5. The use of the bikeway will attract businesses needed to support tourists transiting the county by bicycle.

Route 5 also serves another purpose. It is the only east-west road that runs the entire length of the county. A variety of users travel Route 5 including through trucks, local traffic, and tourist. While capacity of the road to carry traffic is not a problem at this time, the limited pavement width combined with the variety of users can create safety concerns.

Future development plans for the county should incorporate measures to protect the natural beauty of the Route 5 corridor, and other principal entrances to the county. The county should also work closely with the Department of Transportation to ensure safety on Route 5.

7. EXTENSIVE RIVER FRONTAGE: The county contains many miles of river frontage. To date, development along the James and Chickahominy rivers has been limited.

A portion of the James River from approximately Trees Point eastward into James City County is designated a state historic river. This designation was based on the superior natural beauty of the area and done in order to maintain the historic, scenic and ecological values of this portion of the river.

A major factor that could change the relative serenity of the rivers is the demand for river front property. This type of property is always in demand for retirement and second homes, marinas and other water oriented activities. Any development along the rivers must be done in a manner that compliments the natural beauty of the area. Furthermore, regulations implementing the Chesapeake Bay Preservation Act require the county to regulate development along all rivers and streams.

8. REGIONAL LANDFILL: Charles City County opened a state of the art landfill in 1990. This landfill, operated by Waste Management of Virginia, Inc. substantially increased the county's revenues in the early 1990s providing funds for new schools and other public facilities. The current economic climate however has reduced landfill revenues while still providing a needed service. The revenue the landfill generates is a dependable stream of income to the county

9. RICE INSTITUTE/CONSERVATION AREAS: The Chickahominy Wildlife Management Area, located in the eastern portion of the county, provides the public with opportunities to hunt, fish, hike, or just enjoy the outdoors. The Kittiewan Wildlife Management Area, located at the south end of Route 619, offers an opportunity to observe wildlife in an unspoiled setting. Both areas insure that a part of the county will always retain its undeveloped character. These areas also add to the number of persons who visit the county each year.

The Virginia Commonwealth University has established a 342 acre preserve and educational facility between Route 5 and the James River for training not only VCU students but also local school students and citizens in the principles of environmental science. The District Office of the Virginia Department of Game and Inland Fisheries is housed on the VCU preserve.

The United States Fish and Wildlife Service maintain a fish hatchery on Harrison Lake which provides passive recreational opportunities such as fishing, bird watching and hiking for county citizens and guests.

Additional lands are set aside by private individuals in perpetual easement, never to be developed as urban land uses. According to Virginia Outdoors Foundation (VOF) records there are 1,225.89 acres under such easements within Charles City County.

10. HERITAGE RESOURCES: The county is a treasure chest of historic and archeological resources. These resources document the contribution of all population groups that have contributed to the making of present day Charles City County.

The continued existence of these resources is due in part to the limited development that has occurred. Future development must be done in a manner that respects and preserves these valuable assets.

The Comprehensive Plan of 1998 noted the link between the county's historic resources and the local economy. The county works with private land owners to protect these valuable resources from incompatible development.

11. INDUSTRIAL EXPANSION: The county has a great opportunity to expand its industrial base. While the existing Roxbury Industrial Park on Rt. 106 is reaching full capacity, there continues to be prospective industrial interests. This continued interest level indicates that there may be a need for an additional industrial park within the county.

The county has many assets which make it an ideal location for industrial uses. The county's' large contiguous tracts along Rt. 106 make it highly marketable as prospective clients look at the time and cost savings associated with not having to compile the desired amount of land for industrial uses. In addition, the Rt. 106 corridor is within close proximity to Interstate 64 as well as Rt. 60 and Rt. 10, as well as the port facility near Shirley Plantation, Port Tobacco at Weanack.

Recently, the Virginia Port Authority requested a listing of large tracts in the county with access to Rt. 106 and the Port Tobacco facility for inquiries from marine-dependent industries. The market for developable large tracts with waterfront or near-water access in the Hampton Roads area is limited by a low number of sites available and by congestion of infrastructure and daily transportation capacity.

The 64 Express Project (a tug and container barge service) provides a growing alternative to traditional trucking. The 64 Express Project offers a cost effective, environmentally friendly, congestion relieving alternative to truck freight shipments to and from the Hampton Roads. James River Barge Line, LLC initiated the container-on-barge service in late 2008 and currently operates twice a week between the Port of Richmond and the Port of Hampton Roads but expects to make three trips a week in the immediate future and continue the growth over time. The 64 Express along the James River passes by Port Tobacco near Shirley Plantation and the Rt. 106 Industrial Development Corridor.

12. SAND AND GRAVEL DEPOSITS: Large deposits of sand and gravel are found in the county. Areas with the potential for sand and gravel production cover much of the area between the John Tyler Memorial Highway (Route 5) and the James River as well as land adjacent to the Chickahominy River. Mining sites along the James River are especially valuable due to access to river transportation.

Sand and gravel mining operations can create problems if operated without regard to surrounding land uses. Truck traffic can interfere with other highway users. Mining operations can also create noise and dust problems, disturbing the highly prized serenity of rural living.

To date, mining has not been a major contributor to the local economy. Any decision to permit sand and gravel mining must consider the potential impacts on the area as well as the need to mine this valuable product.

CONSTRAINTS

There are factors which limit or constrain development in the county. Some of these constraints, such as the availability of public water and sewer utilities, can be eliminated or reduced over time. Other constraints, such as soil conditions, will always be present. Of particular importance are those items discussed that are believed to have greater significance to the future of land use growth in the county.

1. NATURAL ENVIRONMENT: The natural environment that makes Charles City County the beautiful place it is also impacts land use development potential. Of significance is the prevalence of poor soil for on site septic treatment throughout the county. These poor soils not only limit the ability of new homes to be built, but are most often the cause of failed septic systems that are too costly to repair.

In addition, some of the natural features found in the county are extremely sensitive to development. An example of the most sensitive areas is wetlands. Wetlands serve a variety of functions including reabsorbing and filtering water, and providing necessary wildlife habitat that is an important quality of life indicator for rural residents. Other natural features, such as steep slopes and floodplains, are less sensitive to development but require special engineering considerations that increase development cost.

The county's natural environment is an important quality of life indicator that should not be overcome by inappropriate and/or insensitive development. The county should continue to protect the natural environment through enforcement of environmental regulations, and good site design. Development that is not sensitive to the environment can threaten the county's water supply, increase the likelihood of

flooding, lead to the deterioration of the rural environment so important to county residents.

Undeveloped lands in the county, including farms and forest contribute to the environmental health and add to the county's high quality of life. Preservation of and investment into healthy farms and forestry is a valued investment of the county's rural character and quality of life.

2. LACK OF PUBLIC WATER AND SEWER SERVICE: The county's residents have relied primarily on groundwater to provide their potable water needs; however, the continued withdrawal of groundwater has caused a lowering of water levels throughout the aquifer system creating problems for existing shallow wells and raising concerns about the long-term viability of groundwater as a dependable, safe source of water. Poor soils throughout the county also create the need for public sewer systems. According to a recent analysis of generalized soil characteristic, 67.5 percent of the soils in the county are unsuitable for on-site sewage treatment systems. This is based on current Virginia Department of Health standards.

The 1979 comprehensive plan stated that the county's top goal was to improve the standard of living for its residents. Associated with this goal was the objective of providing water and sewer utilities. Unless efforts are made to provide comprehensive water and sewer services in designated growth areas of the county, future land uses will continue to be limited (primarily residential), scattered where adequate soils for on site septic can be found, and low density (large lots of a minimum of one acre). This type of development will continue to consume rural land and limit the diversity and choices of housing types, and commercial and industrial growth.

3. LIMITED TELECOMMUNICATIONS: Affordable high speed internet is critical to attracting the valuable industrial and commercial uses to the county. High speed internet is available in very limited areas of the county.

Commercial internet providers need a certain number of customers to generate a profit large enough to justify bringing internet services to a locale - considerations of both the costs of installation and continued maintenance of high speed internet. Providing each county resident an opportunity to have high speed internet service is a priority of the County Supervisors.

4. LIMITED HIGHWAY SYSTEM: The county is somewhat removed from the major transportation corridors in the region. Interstate Route 64 and U.S. Route 60 pass near, but not through the county. State Route 5 is the only major east-west road in the county. North-south access is somewhat better with two primary routes, State

Routes 106 and 155. The lack of alternatives for east-west travel could lead to a change in character of the Route 5 corridor. This is especially true if large scale development occurs in the southern part of the county. The construction of alternative east-west roads incorporating existing secondary routes could help maintain the Route 5 corridor as it is now. Alternatively, improvements could be made to Route 5 that maintain the parkway appearance of the road. Portions of Route 60 in New Kent County could serve as a model should widening of Route 5 become necessary. Any such activity should include roads built with the assistance of developers contributing to the traffic increase. This same technique could be used to improve internal circulation within the county.

All other roads in the county are secondary and some are narrow and twisting. A trip through the interior of the county may require switching from one road to another. The traffic limitations on these roads prohibit extensive development in the more rural areas of Charles City County.

5. LIMITED RENTAL OR MULTI-FAMILY DEVELOPMENT: Housing opportunities in the county are limited primarily to owner-occupied, single family houses on lots of one to five acres in size. Multi-family housing is virtually unavailable. This situation is due in part to the lack of public utilities coupled with poor soil conditions. The net result is that young families starting out or older residents wanting to forego the upkeep of a large residence have few alternatives available within the county.

The desire to reduce housing costs is shown by the trend toward the use of manufactured housing (mobile homes) in the county. Over 50 percent of the single family residences added in the county between 1980 and 1989 were mobile homes. Manufactured homes are usually viewed as a less expensive alternative to conventional, stick-built housing.

The county also recognizes that multi-family development will require some form of public or community utilities. This will be expensive. The alternative, however, is to continue the existing scattered development pattern. This course will only delay the installation of utilities while allowing more land to be converted to urban uses. This course may also lead to the loss of some residents due to the limited housing opportunities available.

6. LIMITED EMPLOYMENT OPPORTUNITIES: Employment opportunities are limited in the county. According to the Virginia Employment Commission data, Charles City County's total civilian labor force at the end of 2012 was 3,843 persons with 297 of those unemployed. This was an approximate 8 percent average unemployment rate in 2012.

Due to the economic decline occurring in the latter part of 2008, these numbers have changed significantly. In February of 2009, the unemployment rate had almost

double the 2008 average of 5 percent, placing the county's unemployment rate at 9.6 percent

Of that total labor force, 2,285 individuals commuted out of the county for work. While this may not be unusual in a rural area, it may have long term negative impacts on the county – a relative brain drain effect. High school and college graduates that cannot find employment in the county tend to leave to live near their jobs, buy their groceries and shop outside of the county – further draining the county economically and also not reinvesting in future economic growth. As the young population leaves, the attractiveness of Charles City County as a business location is further reduced.

The loss of the younger population affects the citizen quality of life also in that the demand for commercial recreational activities such as movies, and bowling can not be supported.

7. LIMITED COMMERCIAL DEVELOPMENT: The county has very little commercial development. This impacts residents in many ways. First, residents purchase most goods and services outside the county, stripping the county of essential tax revenues. In addition, county residents lose potential employment opportunities offered by commercial development.

As the population grows, commercial development should increase. However, the continuation of a scattered development pattern hinder the concentration of population that is necessary to attract certain types of commercial activities. In addition, scattered residential development contributes to scattered commercial development and the further loss of open space.

8. LIMITED ECONOMIC BASE: Industrial and commercial developments are usually prime contributors to a local tax base. The lack of a strong industrial and commercial base has a profound impact on the county and its residents. Without industrial and commercial components to contribute to the local tax base, the county is forced to rely on other sectors for revenues. This means that other types of development must either shoulder a larger than average portion of the tax bill or the county must go without some services.

CONCLUSION

After reviewing the development assets and constraints within the county, one can begin to understand the need to formulate a plan for guiding future development. This plan must seek to take advantage of the county's assets and work with, or overcome, the constraints.

CHAPTER 9
GOALS, OBJECTIVES and STRATEGIES

GOALS

1. **GOAL**: Provide areas for commercial development that support and enhance existing uses that will lead to complete economic communities; i.e. both residential and commercial, and lead to greater availability of mixed cost housing.

2. **GOAL:** New development will be consistent with the scenic integrity and quality of life of existing communities and be size and location appropriate, overall be compact.

3. **GOAL:** Retain lands for farms and forests outside of Development Centers and Neighborhood Service Areas.

4. **GOAL:** Promote and preserve the heritage, cultural diversity and quality of life of the county for residents and visitors alike.

5. **GOAL:** Provide areas for industrial development**.**

6. **GOAL:** Encourage residential development of varying types and price ranges in Development Centers and Neighborhood Service Areas

DEVELOPMENT CENTERS

Objective: Promote areas of existing high public and private investment.

These areas are designated as follows:

- Roxbury Development Center
- Courthouse Development Center

Investments include but are not limited to:

- Existing and planned community facilities
- Existing residential, commercial, and industrial zoning, and/or institutional uses
- Internet service areas

Strategies:

1. **Development Incentives:** In order to be economically healthy, the county should maintain 30 percent of its tax base in commercial and industrial properties. As of November 2013, 6 percent of the tax base was comprised of commercial and industrial properties exclusive of the regional landfill. If it is included, the commercial and industrial base is approximately 26% of the tax base. The landfill has a limited life span and an increase of commercial and industrial uses over time is desired to reach 30% when the landfill closes.

2. **Housing:** A diversity of housing choices provides significantly greater opportunities for existing and prospective individuals and families who live and/or want to live in Charles City County.
   a. Develop a housing plan for housing diversity that includes strategies to address the lack of quality, affordable housing including multi-family rental housing. Until specific recommendations of such a housing plan are adopted, multi-family residential is strongly encouraged within Development Centers and Neighborhood Service Areas and will be evaluated on a case by case basis.
   b. Develop a public relations program to provide information about the benefits of housing assistance.
   c. Prepare an assessment of forming a public housing authority to serve the county.

3. **Traffic Safety/New Development:** Roads should support traffic generated by new development.
   a. Require new development be reviewed to ensure the road network will safely support it.

4. **Environmental Protection:** Environmentally sensitive areas including but not limited to water quality should be protected when development occurs.
   a. Enforce environmental protection regulations including but not limited to the Chesapeake Bay Act, Erosion and Sediment Control, Stormwater, Floodplain and Wetlands.

5. **Area Plans:** The county has a diverse cultural history that creates a highly valuable quality of life and unique communities.
   a. Develop specific area plans to guide how developments should look and how community facilities will support these areas including but not limited to water and sewer utilities, underground electric and cable utilities, sidewalks/cross walks, decorative street lighting, public transportation services, and open spaces.
   b. Develop specific design standards to regulate building appearance, orientation, landscaping, parking and signage standards of future development.
   c. Develop a mixed use zoning district to allow for the co-location of residential and commercial uses in a density that could exceed 6 dwelling units per acre. This zoning district should also include provisions for cluster development.
   d. Diversify industrial and commercial tax base.

NEIGHBORHOOD SERVICE AREA

Objective: Encourage residential and light commercial development that is compatible with surrounding uses, and does not further degrade the rural character of the area. New Roadside Residential development is discouraged.

The planned extension of public water or sewer service into Neighborhood Service Areas is highly unlikely except as required to address threats to the public health and as installed by private developers. Neighborhood Service Areas are designated on the future land use map by being in or around the following communities: Adkins Store, Old Union, Ruthville, Wayside and Wilcox Neck.

Strategies:

1. **Area Plans:**
   a. Support local communities' efforts to develop area plans that incorporate ideas for future land uses within Neighborhood Service Areas.

2. **Rezoning Criteria:**
   a. Develop criteria for evaluating development proposed outside of Development Centers. Priority should be given to high quality, affordable medium density residential development and commercial development that will serve surrounding neighborhoods and outlying rural areas.

3. **Mixed Use Zoning:**
   a. Develop a mixed use zoning district to allow for the co-location of residential and commercial uses. This zoning district should also include provisions for cluster development.

RURAL AREAS

Objective: Certain areas of the county should remain rural and not be developed. These areas are generally defined as follows:

- Farms and forestry operations
- Wildlife Management Areas, state and federal parks
- Conservation lands and similar dedicated easements
- Hunting areas
- Wetland banks
- Resource-rich mining areas

County citizens desire to maintain existing farming and forestry operations as they define much of the scenic and rural characteristics and are the top tax revenue generator. These areas are designated as Rural Areas in the comprehensive plan to strongly discourage their development.

Strategies:

1. **Preservation of Rural Areas:** Rural areas should not be developed and major subdivisions not allowed.
   a. Rezone areas outside of Development Centers and Neighborhood Service Areas to prohibit major subdivisions and development not associated with existing uses. (Future development of these properties would require a rezoning.)
   b. Develop brochures that explain the need for residential rezoning and the rezoning procedures.
   c. Ensure that county land-use ordinances, such as the Zoning and Subdivision Ordinances, direct intensive business and residential uses towards identified Development Centers and Neighborhood Service Areas.

2. **Conservation Easement Tax Rate:** As an additional incentive for property owners to maintain their properties as a scenic resource for all county residents.
   a. Prepare a report that addresses the pros and cons of adopting a lower tax rate for lands placed in permanent conservation easements that allow for existing farming and forestry to continue in perpetuity.

3. **Historical and Archeological Resource Inventory:** The county has many cultural, architectural, archeological, and historical resources that need to be identified before development occurs.
   a. Conduct an inventory of areas that are known for their historical, cultural, architectural, or archeological presence.

4. **Route 5 Scenic Standards:** Route 5 is a valuable county scenic resource and its scenic quality should be maintained.
   a. Develop design standards to ensure the scenic value of the undeveloped sections of Route 5 is maintained.

5. **Resource Dependent Uses:** Some rural areas contain valuable natural resources, and, therefore, necessitate the location of resource dependent activities such as mining.
   a. Closely regulate resource dependent activities to assure that the location and operation is sensitive to the environment, to significant historic and archeological resources and to the serenity of surrounding land uses.

ECONOMIC DEVELOPMENT RESOURCES

Objective: Support existing and attract new commercial and industrial businesses, especially those that partner with the high school and youth services to provide college readiness and career to work training.

Strategies:

1. **Chamber of Commerce:**
   a. Establish a Chamber of Commerce to support and enhance the existing business community.

2. **Business Plan:**
   a. Develop a business plan that takes advantage of the James River, and existing and planned public investment.

3. **Job Training Program:**
   a. Develop a youth job training program to coalesce the public school system, VCU and other partners such as businesses, colleges and universities.

4. **Industrial Park Growth:**
   a. Plan for a second industrial park based on the successful Roxbury Industrial Park.

5. **Farmers Market:**
   a. County should develop a strategy for developing a farmers' market and/or co-ops.

6 **Industrial Corridor Overlay District**
   a. Create an Industrial Corridor Overlay District along Rt. 106 with development regulations that protect the industrial integrity along the different segments of the corridor, while also preserving its rural character and aesthetics.

7 **Industrial Reserve Area**
   a. Create Industrial Reserve Areas to accommodate heavy industrial uses and closely related commercial uses.

8. **Developable Land**
   a. Identify and ensure that, where appropriate, there is developable land that is already zoned for commercial and industrial uses. For land to be considered developable, it should have established sale prices, quality infrastructure and be site ready.

Objective: Promote tourist-oriented commercial activities.

Strategies:

1. **River Access:**
   a. Obtain public boat access to both the James and Chickahominy Rivers and the Chickahominy Lake.
   b. Identify existing and potential new portage locations along the James and Chickahominy Rivers.
   c. Attract and obtain river outfitter.
   d. Provide and encourage various forms of river access.
   e. Establish a viable "blueways" trail that connects river access points and river attractions.

2. **Tourism Expansion:** The county has a long tradition of hunting and fishing. It also has plantations for touring and bed and breakfast inns.
   a. Cultivate the county's marketing strategy to further promote the county's rich cultural heritage. "The essence of the County."
   b. Determine what hunt clubs are "open for business".
   c. Develop partnership between B&B, restaurants, plantations and/or hunt clubs for reduced-price weekend get-aways.
   d. Work with the local craftsmen to explore the possibility of marketing arts and crafts using existing B&Bs, restaurants and during special events.
   e. Market the Capital-to-Capital Bike Trail and encourage eco-tourism based businesses along the trail.

f. Encourage the development of farm wineries and breweries, and create a wine and agri-tourism trail.

COMMUNITY FACILITIES

Objective: Work with public agencies and private developers to assure that necessary facilities and services are provided to support the Development Goals and economic health of the county.

In order to support quality development areas and promote economic development interests, the county must identify priorities and actively fund their implementation. Areas to be pursued are as follows:

Strategies:

1. **Water and Sewer:** Water and sewer is essential to support smaller residential lot sizes, encourage attractive commercial development, and provide essential support for growing industry within Development Centers.
   a. Develop a mechanism for providing water and sewer services that bring needed commercial services and industrial growth.
   b. Identify underserved areas of the county with failing septic systems and, as resources allow, provide assistance with replacing failed septic systems to underserved areas of the county.
   c. Update the County Water and Sewer Study.
   d. Proactively utilize the Capital Improvement Plan process to budget new and/or replacement water and sewer infrastructure.

2. **Internet:** High speed Internet is essential to provide quality education for children and adults, as well as for economic growth and diversity. All county residents need access to high speed Internet. Work with internet service providers and state agencies to:
   a. Identify ways to better provide high speed internet access to targeted areas.
   b. Expand service to un-served areas over time. Provide countywide service.

3. **Library:** A full service library is essential for all county residents, especially children and the elderly.
   a. Partner with the school board, youth and elder services, local businesses, and volunteer groups to provide a full service library.

4. **Government Services:** County services should be more user-friendly and transparent.
   a. Use resources such as but not limited to the Internet and public broadcasting to communicate to citizens.
   b. Continue to work with surrounding governments on issues of mutual interest.

   c. Prepare a facilities plan that incorporates the future space and technology needs of all county services and evaluate existing buildings to meet those needs.
   d. Create a viable Capital Improvement Plan and follow a defined long-term budget schedule.

5. **Public Safety:** County citizens desire emergency services similar to those provided in neighboring localities. Services include both professional training and rapid response times.
   a. Prepare a feasibility study that addresses emergency service delivery.
   b. Prepare an assessment of reverse E911 implementation.
   c. Renew Commonwealth Public Broadcasting memorandum of understanding for emergency notifications by radio.

6. **Schools:** The county school system needs to provide the best possible instructional programs and access to current technology to the county's youth.
   a. Encourage the school system to more closely plan and coordinate capital improvements.
   b. Encourage the school system to better utilize technology to benefit students.
   c. Determine opportunities for additional adult education programs including but not limited to VCU and technical school courses.
   d. Closely monitor and encourage the number of high school graduates who enter the workforce and obtain college degrees.

7. **Recreation:** The county has many under-utilized recreational resources that enhance the quality of life for many county citizens.
   a. Work with the Planning Department to develop a strategy for providing public boat access to both the James River and Chickahominy River.
   b. Work with the Department of Public Works and the Parks and Recreation Department to address the feasibility of converting the county landfill into a "Mt. Trashmore" when it closes.
   c. Work with the Department of Parks and Recreation to update the County's Recreation Plan.
   d. Work with the Parks and Recreation Department to develop additional recreational activities for the youth.

8. **Health and Human Services:** A multitude of services are needed to support the aging population including adult day care, assisted living and medical services.
   a. Develop a comprehensive human services plan that can be coordinated with the county capital improvements program.
   b. Develop a housing plan for affordable housing that includes strategies to address the severe lack of quality, affordable housing and multi-family rental housing. The plan should include a redevelopment component for existing sub-standard housing including but not limited to failed/failing septic systems.

9. **Road Design, Maintenance and Safety:** Many of the existing roads in Charles City County lack adequate surface area and/or shoulders. Some of these road segments are also prone to flooding and/or vegetation obstructs driver's view. In addition, posted speed limits should not exceed 45 MPH on sections of curved roads, roads without adequate shoulders and roads with narrow lanes.
    a. Continue to work with VDOT to address safety issues and the development of private road standards.
    b. Educate and inform citizens of their responsibilities with regards to private road maintenance.
    c. Work with VDOT and emergency response personnel to identify roadways that routinely flood or ice and eliminate these hazards.
    d. Make it a priority to allocate funding for improving and/or upgrading county roadways for county residents and businesses.

10. **Transportation Choices:** A good transportation system that includes alternative modes of transportation attracts good businesses and industries.
    a. Develop a multimodal transportation plan that offers steps on how to provide transportation choices such as public bus service, bike and pedestrian pathways, and park and ride lots to help with high commuting costs.
    b. Work with the community to identify future bicycle routes that could be incorporated into the Regional Rural Long Range Transportation Plan for construction.

CHAPTER 10
FUTURE LAND USE

DETERMINING FUTURE LAND USE AMOUNTS

There are many factors that can affect future land use needs. Population growth, past trends, existing zoning, as well as anticipated development affect the amount of land set aside for different types of uses. In addition, the county's goals and objectives, as discussed in Chapter 9, as well as its attitudes toward change play a role in shaping future growth.

Agriculture and Forest Lands

Agriculture lands are farming operations and pasture lands. Forest lands are occupied by trees and managed for forest products, environmental benefits, wildlife and/or recreation. These lands are typically lost to development if development controls are not put into place to protect them. The county seeks to preserve its rural character by centralizing development into growth centers thereby relieving the pressure on agriculture and forest lands.

Residential

Rural residential housing is found scattered throughout agricultural and forestal areas of the county. A large portion of the County is zoned Agricultural (A-1) and used for residential purposes. For these reasons, rural residential housing is not shown on the Existing Land Use Map as a separate land use. The zoning and subdivision ordinances allow for one acre lot sizes within the Agriculture Zoning District (A-1). Based on these ordinances and past trends, rural residential housing likely will continue to be a popular type of residential development. Development controls have been put in place to restrict residential development in Agricultural areas, such as not allowing major subdivisions (as defined in the Zoning Ordinance) with the goal of reducing the risk of widespread sprawl throughout the County. Sprawl can destroy rural character and drain the County's ability to provide services.

For purposes of estimating future land use needs, the County assumes that 15 percent of all future residential development until 2035 will be rural residential while the remaining 85 percent will be neighborhood residential. This assumption marks a direct shift from current policies. The County seeks to break from historic growth patterns, which encourage sprawl and consume agriculture and farm lands, by establishing development controls which direct growth to neighborhood residential areas within development centers.

Neighborhood residential consists of smaller lots served by an internal road system, or cul-de-sac thereby encouraging the creation of a neighborhood, including multi-family housing. Neighborhood Residential is the preferred form of residential development because it centralizes growth thereby preserving rural character by reducing the strain on surrounding agriculture and forest lands, providing for more orderly and attractive development patterns and allowing the County to focus services which allows for the

more efficient use of tax dollars. Neighborhood residential growth is increasing and the County desires to encourage this type of development, especially as part of Development Centers where higher densities that support water and sewer services are encouraged. Single family housing likely will continue to be preferred over multi-family housing. However, multi-family development is also encouraged.

Commercial

Historically, the County has had very little commercial development. Commercial land within the County typically consists of country stores with gas pumps, antique shops, garages, greenhouses, banks, marinas, and retail and professional services. Commercial development per person is very low in Charles City County when compared to neighboring localities. However, the County desires to encourage commercial growth in areas that are categorized and prioritized as follows (from highest to lowest priority): Development Centers, which allows centralization of more intensive commercial and residential uses; neighborhood service areas, which are centered around locally important transportation nodes and established neighborhoods that emphasize denser residential development with limited non-intensive commercial uses; and, in the immediate area of commercial anchor businesses (such as the River's Rest Marina / Hideaway Area) and at the corners of rural high traffic intersections (identified as Routes 5 and 106; Herring Creek area; Routes 5 and 614; and Routes 155 and 614) as long as any proposed commercial development is considered to be in harmony with the character of the surrounding area.

Charles City County's rich history, cultural, and scenic qualities is a great asset to the business community. Historic commercial businesses (i.e. B & B establishments, plantations and related businesses) are expected to increase because of the growing popularity and promotion of tourism and ecotourism in the County and across the State. In addition, the Capital to Capital trail along Rt. 5 will bring many tourists through the County allowing others to see the beauty and history that the County has to offer. However, it should be noted that historic commercial growth will eventually taper off because of the limited number of historic properties.

Industrial

Light (i.e. light manufacturing, trucking operations) and heavy industrial (i.e. landfill, sand and gravel operations, tire recycling, saw mills, ports) growth is expected to continue, especially in light of the expansion of Ft. Lee. In addition, the County's access to Interstate 64, the Roxbury Industrial Park, the relatively low land prices, as well as the potential of barging along the James River all make Charles City an attractive place for industrial development.

Public/Semi-Public

Public/semi public uses typically consist of transportation, community facilities and utilities as well as public open space. Transportation which is made of road networks is anticipated to be focused due to the policy of directing growth within development centers. Community facilities and utilities are made up of the lands allocated to local, State and Federal government buildings, fire stations, transfer stations, schools and churches. Most of these cost tax dollars to maintain therefore the County wishes to centralize these as much as possible within development centers in order to provide services to citizens with the least amount of tax dollars. Public open space includes the wildlife management area, wildlife refuge area, the fish hatchery and existing County park land. Public open space is encouraged throughout the County both within development centers as well as agriculture and forest areas throughout the County.

FUTURE LAND USE PATTERNS

The County has established six future land use patterns as follows:

Highest Intensity

- **Development Centers**: The primary focus for future growth where high intensity development is intentional and planned and infrastructure is planned or provided.

- **Neighborhood Service Areas**: Located around crossroads and other community anchors that provide limited space for high density residential development and associated neighborhood commercial activities. These are areas where citizens from the outlying rural areas may come to get goods and services without having to drive to development centers. Public, government sponsored water and sewer infrastructure is not planned for these areas. However, as Neighborhood Service Areas grow overtime it is anticipated that some may take on the aspects of and become development centers.

- **Industrial Corridor Overlay District:** A 500 foot wide buffer along the entire length of Route 106 measured from the centerline of the roadway extending west and east. The purpose of the overlay is to manage access, signage, landscaping and uses along the identified industrial purpose roadway.

- **Industrial Reserve**: Large tracts located along a section of Route 106 and reserved for future industrial uses that cannot locate within Roxbury Development Center**.**

- **Landfill Reclamation Area:** The parcel(s) currently permitted and being used as the landfill. Once the landfill reaches its permitted capacity, the disturbed land will be properly reclaimed, monitored, and utilized as an area for public recreation.

Lowest Intensity

- **Rural**: The majority of the land area within the County is designated to remain rural. Public water and sewer, community facilities and road improvements are not anticipated. Farm and forestry operations predominates this area with limited commercial and industrial development.

DEVELOPMENT CENTERS

A *Development Center* is an area of the County with a geographic delineation, or designated boundary line, within which development of a higher intensity is intentional and planned, and infrastructure (roads, water, and sewer) to serve such development is provided or planned. These centers provide the primary location for major employers and smaller businesses that serve the daily needs of all County residents. Each development center is further defined by the businesses primary market area, the existing types and sizes of businesses found there as well as those likely to locate there in the future.

Development within these areas encourages the blending of the new with the existing and is planned at densities that support the installation of affordable centralized utilities where they do not currently exist. Potential uses are limited only by the design characteristics of the particular Development Center. Care must be taken to assure that proper site planning and necessary buffering and separation of uses is accomplished.

Development Centers are a means to geographically indicate where more development is appropriate. Benefits of Development Centers are as follows:

1) Leveraging private infrastructure investments and public tax dollars to provide the biggest bang for the buck by concentrating development;
2) Adding certainty to the development process and encouraging investment by clearly delineating where infrastructure is planned and will be provided;
3) Concentrating jobs, residential and commercial uses, and community facilities and services to make life more affordable.
4) Stimulating community development patterns that support more accessible public transit;
5) Relieving development pressure on rural lands to preserve forest and agricultural;
6) Encouraging long-term strategic thinking about a community's future.

The Development Centers are Roxbury and Courthouse. A detailed description about the specific types of development the County encourages within each of the designated Development Centers follows.

ROXBURY

The Roxbury Development Center, located on both sides of Roxbury Road (Route 106) in the northwest corner of the County, has traditionally been the County's industrial hub and one of the major employment centers. The County's industrial park as well as several other industrial activities is located in this development center.

Proximity and easy access to transportation systems such as roadways, railways and nearby shipping ports, and possible future installation of centralized water and sewer

service make this an ideal location for business parks, industrial parks, and commercial businesses that support industrial development.

COURTHOUSE

The Charles City Courthouse is located in the south central portion of the County. This center is now, and will continue to be, the governmental and public educational center of the County. The John Tyler Memorial Highway (Route 5), a designated Virginia Scenic Highway**,** and Courthouse Road (Route 155) transit the area. A portion of the Capital to Capital bikeway, running from Williamsburg to Richmond, is within the right of way of the Scenic Highway.

The newly opened County Visitors Center, future County library and schools complex provide educational opportunities to both residents and non residents. High density single family and multi-family housing is anticipated to be the primary type of residential development in this area. Professional and commercial uses providing goods and services for tourist, residents and County workers are also located in this area. Offices and other support services, especially those related to governmental activities, education and tourism are encouraged to locate in this area.

NEIGHBORHOOD SERVICE AREAS

While more intentional and concentrated growth is directed toward Development Centers, there is a recognized need for basic goods and services throughout the County. This requires a greater concentration of people than is typically found in Rural Areas. Over the years neighborhoods have grown around the commercial activities designed to meet these needs, many near a transportation intersection. As more people came, more residences were built and the commercial goods and services activities grew to include general stores, garages, professional offices, personal services and other light commercial uses. In many cases these communities include community centers, houses of worship, and public facilities, e.g., schools, parks, emergency services, etc. This Comprehensive Plan identifies these Neighborhood Service Areas (NSAs) on the Future Land Use Map.

Commercial and higher density residential growth is expected to continue in Neighborhood Service Areas as long as it is compatible with and serves surrounding uses without overwhelming the neighborhood or further degrading its rural character. Any development proposal must be geographically connected well enough to reasonably expect it to be incorporated into the existing neighborhood. Developers will be allowed to install private decentralized water and wastewater treatment systems, but the extension of government sponsored public water and wastewater treatment systems into NSAs is highly unlikely, except as required to address threats to the public health. New roadside residential development is discouraged in NSAs.

ROUTE 106 INDUSTRIAL CORRIDOR OVERLAY DISTRICT

The Virginia Department of Transportation (VDOT) has designated Route 106 as an industrial corridor. VDOT designed and built the road to safely carry the extra weight of industrial trucks and heavy equipment. Route 106 provides direct access from industrial areas inside and outside of the County to major transportation nodes such as airports, railroad spurs, interstate highways and port facilities. This corridor is economically significant to the County, region and the State. The County seeks to protect the integrity of Route 106 as an industrial corridor and thereby designates the Route 106 Industrial Corridor Overlay District.

Overlay districts are typically developed in conjunction with the preparation of a comprehensive land use plan. An overlay district is an additional zoning requirement(s) that is placed on a geographic area but does not change the underlying zoning. Overlay districts are used to impose development restrictions in specific locations in addition to standard zoning requirements.

The Route 106 Roxbury Industrial Corridor Overlay District will run the entire length of Route 106; however, regulations of the overlay district will differ along Route 106 depending on if it is within the Roxbury Development Center, a Neighborhood Service Area, the Industrial Reserve Area, or the areas outside of those development boundaries. The Industrial Corridor Overlay District is shown on the future land use map as a 500 foot buffer on either side of Route 106. The specific regulations of the overlay district will be developed and the current zoning ordinance will be amended following the adoption of this Comprehensive Plan Update.

In general, the design guidelines and regulations established for the overlay district will encourage proper site design, traffic control, and planning standards. In some areas of the corridor where industrial uses are priority, regulations will discourage proposed uses that may someday conflict with industrial uses as well as limit the potential negative impacts of industrial uses on surrounding existing land uses. In other areas of the corridor, where residential and commercial uses are planned, the overlay district regulations will encourage design guidelines that create a sense of place while also creating a harmonious blend between the outlying industrial uses that share the corridor. Access Management regulations that are conducive to maintaining traffic flow of industrial trucking will be key in protecting the economic viability of the corridor while providing for the blend of uses the County seeks to sustain along Route 106.

INDUSTRIAL RESERVE AREAS

In addition to the Roxbury Development Center, the County seeks to encourage additional areas for industrial growth. While the Roxbury Development Center is planned for a mix of residential, commercial, and industrial uses, the County recognizes the need to allow for an area to accommodate heavy industrial uses which are not

compatible with other uses such as residential. The Industrial Reserve areas are meant to delineate where the County would like to see heavy industrial uses as well as closely related commercial uses. These areas are meant to be buffered from surrounding residential uses in order to avoid any negative impacts of incompatible uses.

The Industrial Reserve Areas are shown on the future land use map as defined boundaries that do not follow parcel lines. The County chose to be flexible with the boundaries of the Industrial Reserve Areas so that they may grow as appropriate for the needs of the County. These Industrial Reserve boundaries are meant to sever as a guide; individual parcel designations along the periphery of those boundaries will be decided within the context of a rezoning application.

LANDFILL RECLAMATION AREA

This area is comprised of approximately 1,100 acres that has and/or is currently permitted to be used by the existing landfill. The area is located directly east of Barnetts Road and south of Cool Hill Road and is accessed via Chambers Road. Even though the current use(s) of the land is intensive in nature, once the landfill reaches maximum capacity there are plans to reclaim the land and use it for recreational and public purposes. The landfill reclamation area is not part of the Roxbury Development Center and does not support future commercial or industrial uses within its designated boundaries. Land surrounding this designated area is developed with single family dwellings that are oriented on existing public road corridors. Recreational plans will be created for the site in the future to determine its final use.

RURAL AREAS

Rural Areas are the majority of the County, i.e. the area outside of Development Centers, Industrial Reserve and Neighborhood Service Areas. Rural areas typically contain large tracts of land dedicated to forestry and agricultural uses, conservation lands and similar dedicated easements. Clustered and low density residential uses are allowed, however the conversion of rural areas into Neighborhood Service Areas or Development Centers is discouraged. Industrial uses related to farming, forestry, or mineral extraction is allowed in Rural Areas provided the development is compatible with the rural nature of the area, adequate infrastructure is provided, and such development cannot otherwise locate in a designated industrial area.

Where development is permitted, it must be undertaken with a very deliberate and professionally responsive recognition of the value of rural areas and their contribution to quality of life.

FUTURE LAND USE MAP

An important part of the Comprehensive Land Use Plan is the Future Land Use Map. This map graphically portrays the desired future land use pattern based on the goals, objectives, strategies and policies set forth in the Plan. Together, the map and written text in this document serve as development guidelines for public and private decisions regarding land development. They also serve as informational tools for the general public.

The Future Land Use Map is shown in **Map 19**. In reviewing the Future Land Use Map, five points must be kept in mind:

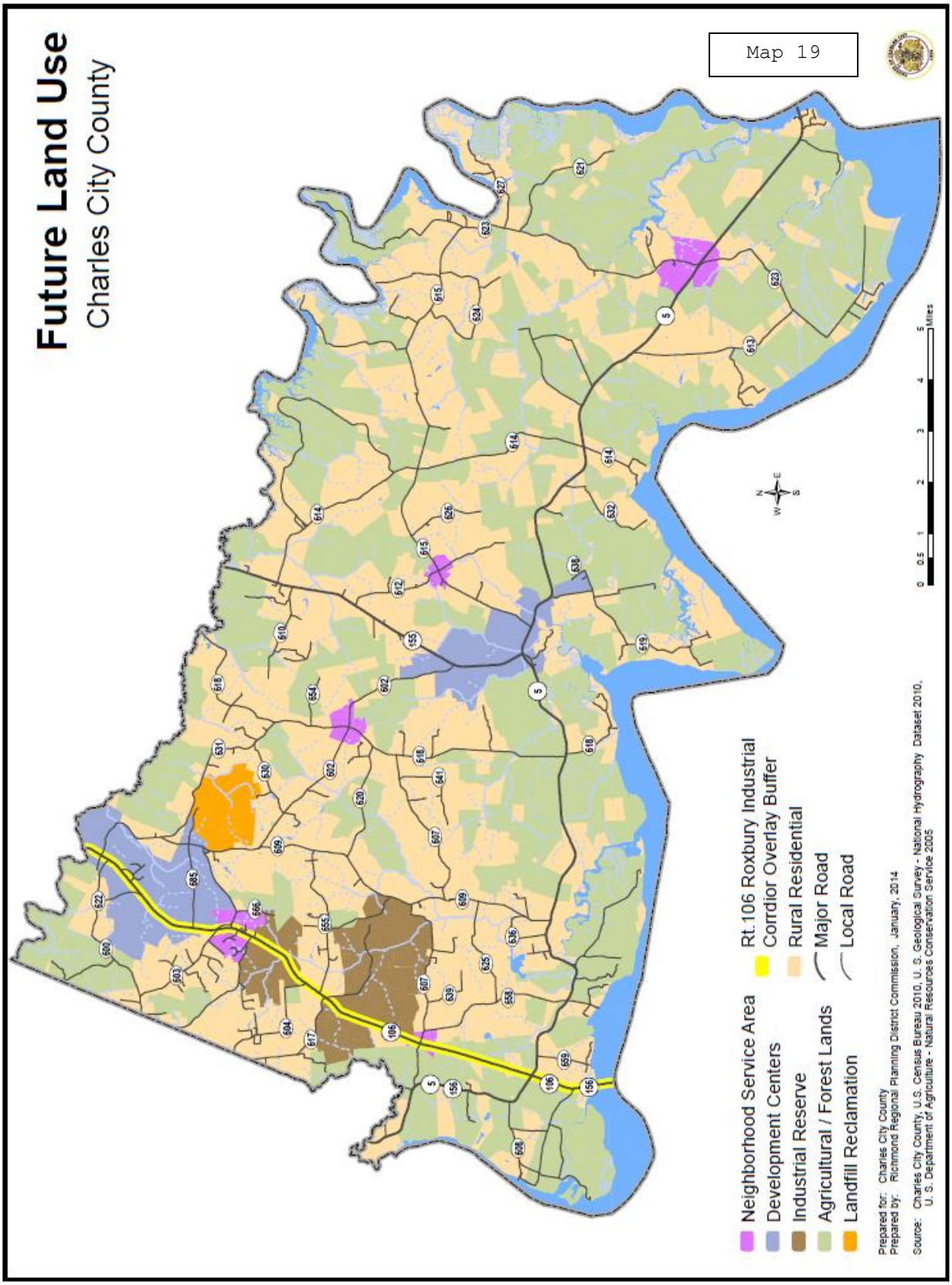
1. The Map is a guide. The purpose of the Map is to assist in making development decisions; it does not dictate what decision will be made. The Map is to assist in making zoning decisions, but it is not a zoning map.

2. The Map is general in nature. Boundaries between land use categories are approximate locations, not precise property lines.

3. The land use categories shown on the map and described in this section are very general. They do not list every permitted or excluded use as done in the zoning ordinance.

4. The Map represents a long term view of the County. This Map attempts to look 20 years into the future. Many things will happen before the year 2035. This is why a periodic review of the Map is necessary. State law requires a review of comprehensive plans at least once every five years.

5. Adoption of the Future Land Use Map does not rezone any property nor does it permit the use of property for uses not allowed by the current zoning classification. The zoning, and currently permitted uses, on any tract remain until the property is rezoned by the Board of Supervisors after Planning Commission review and public hearing.


Future Land Use
Charles City County
Map 19
Neighborhood Service Area
Development Centers
Industrial Reserve
Agricultural / Forest Lands
Landfill Reclamation
Rt.106 Roxbury Industrial
Corrdior Overlay Buffer
Rural Residential
Major Road
Local Road
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010, U.S. Geological Survey - National Hydrography Dataset 2010,
U.S. Department of Agriculture - Natural Resources Conservation Service 2005
0 0.5 1 2 3 4 5 Miles


Roxbury Industrial Corridor Overlay District
& Industrial Reserve
Charles City County
Map 19-A
Rt. 106 - Roxbury Industrial Corridor Overlay
Industrial Reserve Areas
Railroad
Road
River / Lake
Stream
Intermitent Stream
Prepared for: Charles City County
Prepared by: Richmond Regional Planning District Commission, January, 2014
Source: Charles City County, U.S. Census Bureau 2010,
U. S. Geological Survey - National Hydrography Dataset 2012
0 0.5 1 2 3 Miles

APPENDIX

Charles City County Planning Commission

November 9, 2006 SWOT Analysis Summary

Community Facilities and Transportation

- Water resources – two rivers CF
- Centrally located government CF
- New schools CF
- Richmond Regional Planning District Commission CF(resource)
- Rice Institute CF
- Virginia Department of Game and Inland Fisheries CF
- Cingular telecommunications CF
- New ambulance CF
- Access to Henrico sewage treatment CF
- Groundwater resources – sole source CF
- Reliance on external public safety (Henrico) CF
- Poor soils CF
- Lack of water and sewer (public) CF
- Three-phase power CF
- Lack of telecommunications CF
- No natural gas CF
- Lack of medical personnel CF
- Public safety (volunteer system) CF
- Post secondary education low CF
- Good transportation infrastructure, access to interstate T
- Limited public transportation T
- Free landfill fees for co. citizens for 25 years CF
- Technology innovations i.e. internet CF
- **Education facilities – CIP requests for increased security and classrooms/buildings CF**

Demographics and Governance

- Steady population D
- Communities D
- Unity D
- Small bureaucracy D
- Location, historic and tourism D
- Leadership G
- Legal review and processes G
- Political will to implement G
- Grant awareness G
- County as industrial partner G
- Not over-developed G
- Good land use control ordinances G
- Community involvement G
- Hopewell air quality G
- Eagles G
- Education mandates – no child and SOL G
- Dillon rule state G
- Limited community involvement – volunteerism G
- Perceived lack of education G
- Pressure to change D
- Located between to MSAs G
- **Census data flawed D**

Land Use

- Lack of affordable housing (decent) LU
- Environmental regulations LU
- Escalating land prices and real estate taxes LU
- Vanishing farms, right to farm and forestry operations LU
- Uncontrolled growth spilling over into county LU
- Peninsula – surrounded on three sides by water LU
- Limited housing choices (mostly single family) LU
- Limited "good location" properties for commercial sale LU
- Family subdivision provisions LU
- Local commercial, not regional commercial LU
- Industrial Park Reserve Corridor LU/B
- New ability to accept proffers for rezonings LU
- **Development centers too large – difficult to manage LU**
- **Zoning ordinance allows for scattered development LU**
- **Zoning ordinance weak – needs refinement LU**
-

Business/Retail

- Growing industrial base B
- Deep water port B
- 2007 celebration and tourism B
- Rural but quick access to services in metro area B
- Reliance on few large big businesses, number and types B
- Unfunded mandates B
- External threats to landfill – limit trash imports B
- Geographic isolation – businesses B
- Need business licensing B
- Lack of commercial retail B
- No chamber of commerce B
- Lack of youth activities i.e. movies and bowling B
- Lack of employment base and jobs B
- Adjacent localities have good commercial areas B

Charles City County Planning Commission
November 9, 2006 SWOT Analysis Summary

Strengths

- Communities
- Political will to implement
- Legal review and processes
- Unity
- Small bureaucracy
- Water resources – two rivers
- Location, historic and tourism
- Rural but quick access to services in metro area
- Adjacent localities have good commercial areas
- Good transportation infrastructure, access to interstate
- Leadership
- Centrally located government
- New schools
- Growing industrial base
- Steady population
- Not over-developed
- Good land use control ordinances
- Community involvement
- Free landfill fees for co. citizens for 25 years
- Family subdivision provisions
- Peninsula – surrounded on three sides by water

Opportunities

- Richmond Regional Planning District Commission
- Grant awareness
- Rice Institute
- Virginia Department of Game and Inland Fisheries
- Cingular telecommunications
- New ambulance
- Local commercial, not regional commercial
- 2007 celebration and tourism
- Deep water port
- Access to Henrico sewage treatment
- County as industrial partner
- Industrial Park Reserve Corridor
- New ability to accept proffers for rezonings
- Technology innovations i.e. internet
- Located between to MSAs

Weaknesses

- Need business licensing
- Lack of commercial retail
- Poor soils
- Lack of water and sewer (public)
- Lack of affordable housing (decent)
- Three-phase power
- Lack of telecommunications
- No chamber of commerce
- No natural gas
- Limited community involvement – volunteerism
- Lack of emergency medical personnel
- Public safety (volunteer system)
- Post secondary education low
- Limited public transportation
- Lack of youth activities i.e. movies and bowling
- Lack of employment base and jobs
- Limited housing choices (mostly single family)
- Limited "good location" properties for commercial sale
- **Development centers too large and too difficult to manage**
- **Zoning ordinance allows for scattered development**
- **Zoning ordinance weak – needs refinement**
- **Census data flawed**

Threats

- Groundwater resources – sole source and may be used by others
- Uncontrolled growth spilling over into county
- Escalating land prices and real estate taxes
- Hopewell air quality
- Eagles
- Vanishing farms and right to farm and forestry operations
- Reliance on external public safety (Henrico)
- Reliance on few large big businesses, number and types
- Unfunded mandates
- Pressure to change
- Education mandates – no child and SOL
- External threats to landfill – limit trash imports
- Environmental regulations
- Dillon rule state
- Geographic isolation – businesses
- Perceived lack of education by outsiders
- **Education facilities – CIP requests for increased security and classrooms/buildings**