



*Surry County*  
*Virginia*

# SURRY COUNTY

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**2040  
COMPREHENSIVE PLAN**

Surry County  
Board of Supervisors  
September 3, 2020



# Acknowledgments

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## Acknowledgments

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The 2040 Surry County Comprehensive Plan was developed under the leadership of the Surry County Planning Commission. The Planning Commission would like to thank Surry County residents who participated in the planning process. This Plan is for the people of Surry County, and their contributions enabled the Plan to reflect the vision of the community. The Planning Commission would also like to recognize the work of Surry County and Hampton Roads Planning District Commission staff in development of the Plan.



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# About the Comprehensive Plan

*“The best way to predict your future is to create it.”*

- Abraham Lincoln

## Plan Purpose

Surry County's Comprehensive Plan is a “blueprint” that provides guidance about how the community will move into the future. The Plan incorporates the visions of residents, businesses, and local officials. Surry County faces many choices about the community it wants to become. The Plan provides direction for making these decisions in a way that will allow the County to continue transforming itself into a community that is consistent with its vision and goals.

The Plan addresses four main questions in setting the course for the physical, social, and economic development of the County:

- What is the current status of the County?
- What do trends indicate about the County's future?
- What are the County's goals for the future?
- How can it achieve those goals?

The Plan is also a legal document. The Commonwealth of Virginia requires that localities prepare and adopt a comprehensive plan for the physical development of the land within its jurisdiction under Section 15.2-2223 of the Code of Virginia. The Plan must include assessments of existing conditions, growth trends, and future needs for the order, convenience, prosperity and general welfare of the County's inhabitants. The Code of Virginia also requires the Plan to include transportation, land use, affordable housing, and coastal resources management components. The Plan may also consider future needs regarding public facilities such as parks, schools, waterworks, sewage disposal, historical areas, and environmental preservation.

## Planning Process

### Plan Leadership

The Plan was developed under the leadership of the Surry County Planning Commission, which also served as the steering committee for plan development. This committee was considered the most appropriate body to incorporate the diversity of interests in the community including: business, agriculture, education, tourism, environment, recreation, transportation, history, and culture.

## ***Public Engagement***

Meaningful public participation was essential in developing a plan that addresses the concerns, needs, and aspirations of Surry County and its residents. Surry County and Hampton Roads Planning District Commission (HRPDC) staff met with several groups representing different aspects of the community during the planning process. Meetings were held with the Tourism Advisory Committee, Economic Development Authority, Surry County Chamber of Commerce, Youth Services Citizens Board, and Surry County High School students to identify important issues and the priorities of each group. The Planning Commission used what it heard from these groups to structure the Plan around a common vision and themes important to the community. Through the course of the planning process, more than a dozen meetings were held directly with community groups by staff or with the general public by the Planning Commission.



Youth Services Citizens Board stakeholder meeting



Tourism Advisory Committee stakeholder meeting

## Plan Structure

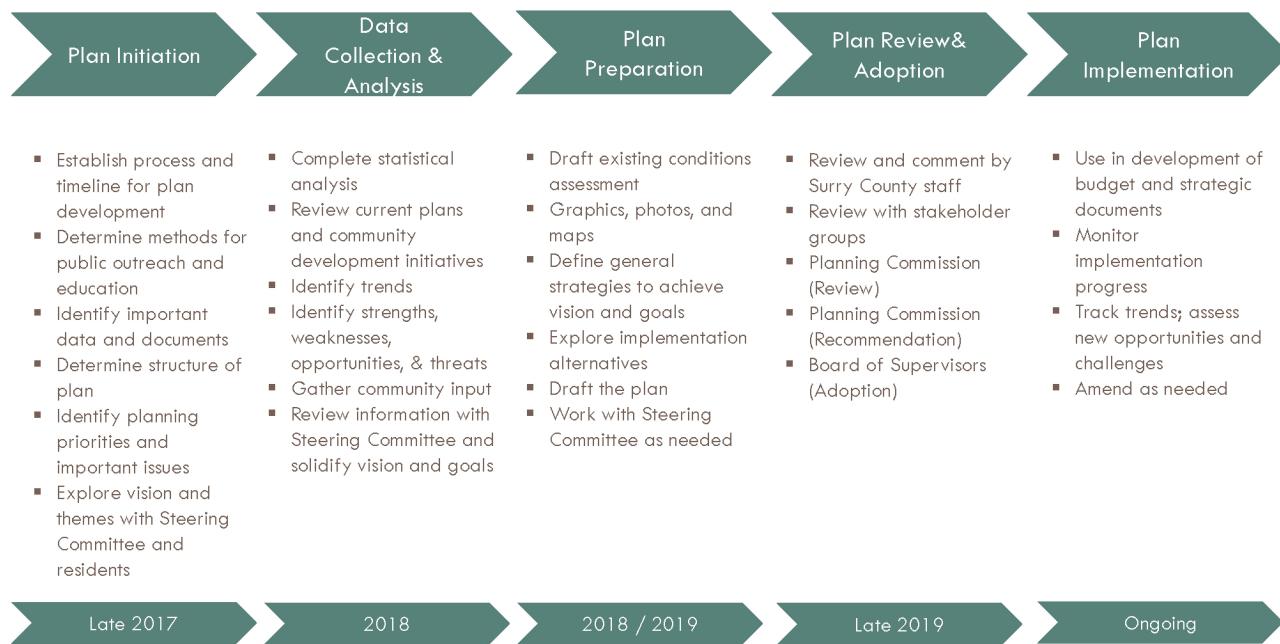
The Plan is arranged around several key principles. One is that the organization of the Plan should reflect the structure of the community. Communities are built upon complex systems, the components of which are dependent upon and interact with each other. The Plan focuses on important themes to help understand these relationships. In meetings with stakeholders, the most important themes identified were preserving Surry's character, growing Surry's economy, and enhancing quality of life for all Surry residents.

To the extent possible, elements of the Plan make recommendations within the context of furthering outcomes related to these themes. This approach was taken to align goals and policies in a way that most effectively addresses community priorities. The approach also results in a user-friendly Plan. The data and analysis that support the Plan are mainly found in the *Planning Influences and Opportunities Report*. The Plan itself focuses on how to achieve goals related to the key themes identified by stakeholders.

## Plan Development

Surry County and HRPDC staff met in late 2017 to consider and propose a strategy for Plan development to the Planning Commission. Stakeholder meetings took place during the first half of 2018. The *Planning Influences and Opportunities Report*, a synthesis of community input, information on existing conditions, and statistical analysis, was delivered to the Planning Commission in September 2018. Development of the Plan occurred from late 2018 through the summer of 2019. The Plan was reviewed by stakeholders, recommended for approval by the Planning Commission, and adopted by the Surry County Board of Supervisors on September 3, 2020.

## Comprehensive Planning Process



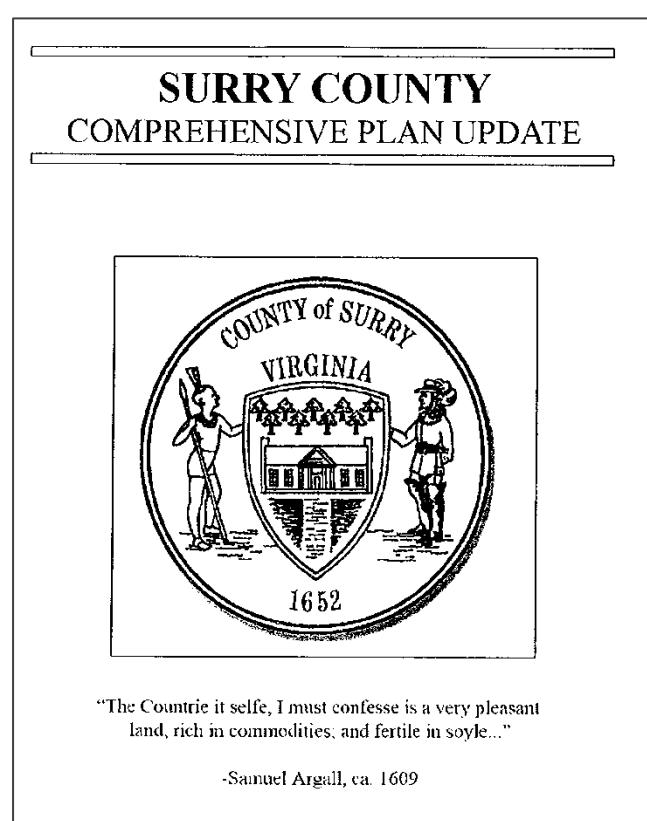
## Previous Planning Efforts

Surry County has a planning tradition that dates back over fifty years, beginning with formation of the Planning Commission in 1964. Since then, numerous and consistent planning efforts have helped shape the County and led to this comprehensive plan update. Shortly after the Planning Commission was formed, Surry County adopted a Subdivision Ordinance to provide for the orderly division and development of land. Many land use planning and regulatory milestones were reached in the 1970s including adoption of the Land Development Plan and Zoning Ordinance, establishment of the County Planning Department, formation of the Board of Zoning Appeals, and completion of a capital improvement plan.

Surry County's first Comprehensive Plan was adopted in 1980 and revised or updated in 1981, 1988, 1997 and 2006. The Waterfront Access Plan and Chesapeake Bay Preservation Act Program Supplement were adopted as part of the Comprehensive Plan in 1993 and 2000, respectively.

The most recent Comprehensive Plan update identified four primary goals, which remain as key principles around which this Plan was formed. These foundational principles state that the County should:

- Achieve a balanced pattern of land use that meets the needs of County residents, stimulates physical, social, and economic development, and protects the ecological integrity of the land.
- Protect productive agricultural land and timber from premature conversion by discouraging competing and conflicting uses.
- Support and institute (where necessary) community-facility and service programs in areas demonstrating the need for such activities in order to promote a safe, convenient, and healthy living environment.
- Encourage decisive community action (private and public) and careful planning to foster a favorable climate for attracting new economic development.



## ***Relationship to Surry County Zoning Ordinance***

The Comprehensive Plan is the primary policy document that guides how land will be used in Surry County. It contains recommendations regarding the overall pattern of future land use in the County, and the appropriate types of uses and intensity of development that should occur in specific locations. The Plan is also the main source of guidance regarding legislative zoning decisions. The Plan studies existing conditions, trends, and needs to provide direction about how the community can achieve certain goals through its zoning regulations.

Zoning is the process of classifying land into districts and establishing regulations in each district concerning the use of land and the location and design of buildings on the land. The general objectives of zoning regulations are to promote the health, safety, and general welfare of the community. To achieve these objectives, zoning regulations consider purposes such as:

- Creation of a convenient, attractive, and harmonious community
- Fire and flood protection
- Provision of adequate community services
- Protection of historic areas
- Promotion of economic development activities
- Preservation of agricultural and forest lands and the natural environment
- Provision of affordable housing

This function of land use planning and regulation is one of the most important responsibilities and powers of local government. Surry County's zoning regulations consist of both a zoning map and a written ordinance that divides the County into zoning districts, including various residential, commercial, and industrial districts. As described above, the zoning regulations specify land uses permitted in each district and regulate the character of development. The successful implementation of this Plan, in particular its land use policies, rests in part upon the effectiveness of the zoning ordinance to translate long-term policies onto the physical realm.

Additionally, the zoning ordinance provides procedures for rezoning – a change in the zoning district that applies to a parcel of land. The Comprehensive Plan should be the primary source of guidance for the Planning Commission and Board of Supervisors in considering legislative zoning decisions.

# Community Context

## History of Surry County

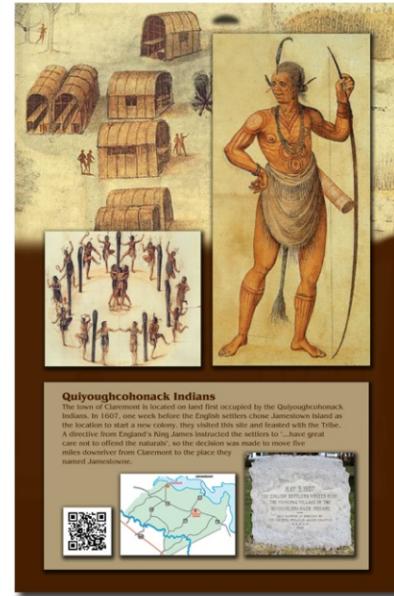
Surry County is located on the south shore of the James River. The area was rich in natural resources and home to a number of Native American tribes prior to English settlement. Surry was settled in 1609 as part of the Jamestown settlement, the first permanent English settlement in British North America.

To help defend Jamestown, Captain John Smith built Smith's Fort in Surry on land that was given to John Rolfe by Chief Powhatan. James City County was established in 1634, and colonists owned property on the north and south sides of the James River. In 1652, Surry became an independent county with land stretching from the James River to what would become North Carolina. The early history of Surry County saw several instances of rebellion against British colonial rule, including Bacon's Rebellion in 1676. At the site of the rebellion is Bacon's Castle, the oldest brick building in America.



Ferry services across the James River to Jamestown were established before 1690 in various locations. Great plantations such as Chippokes, Claremont, Smith's Fort, Bacon's Castle and others flourished on or near the River. Further inland, small family farms were settled. By 1700, nearly all of present day Surry County had passed into private hands by land patents from the King of England. During the Revolutionary War, British troops marched through the County, and skirmishes took place in Surry itself. A century later, over 500 men from Surry County fought in the Civil War.

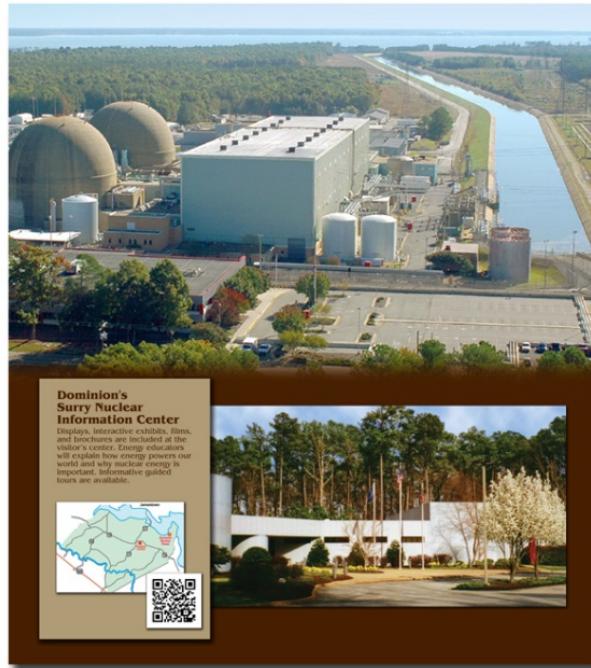
Traditionally, Surry County's economy has been based on its abundant natural resources, primarily farm and timberland. The first major industrial activity in Surry was in timber production. In the late 1800s and early 1900s, the Surry Lumber Company was extremely prosperous. The Surry, Sussex, and Southampton (SS&S) Railroad was chartered to transport its production, and the towns of Dendron and Elberon grew around the mill. The Surry Lumber Company closed in 1927.



Today, Surry's economy is driven by Dominion Energy's Surry Nuclear Power Station on the James River near the Hog Island Wildlife Management Area. The Surry Power Station went on-line in 1972 and is expected to be permitted for operation through 2053. The station supports 900 jobs and produces 14 percent of Virginia's electricity.



Surry County remains a rural

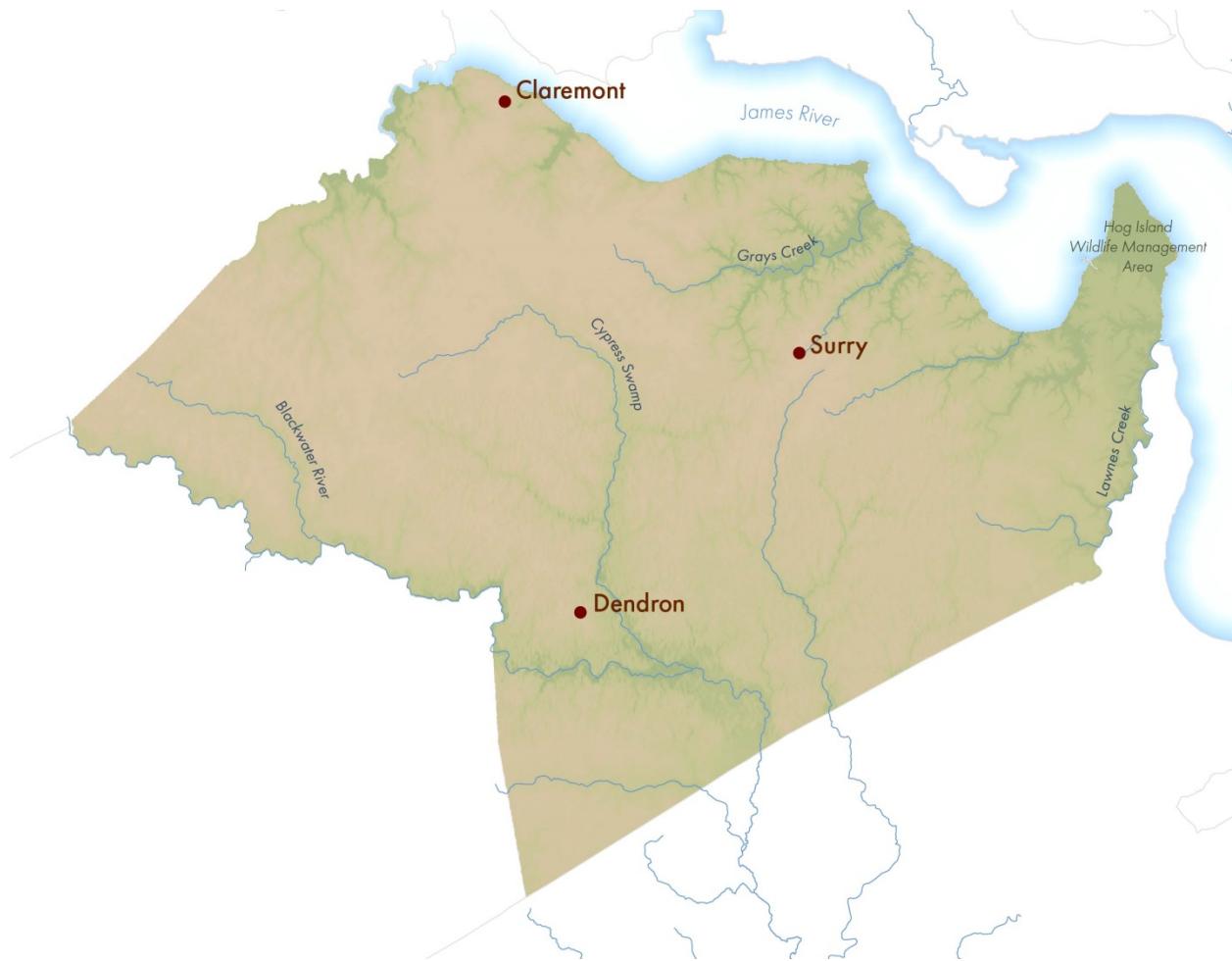


community. Its dominant land uses are agriculture and forestry. Many significant historical sites are preserved in the County that attract tourists, especially from Jamestown and Williamsburg. Surry also has exceptional outdoor recreational resources, including Chippokes Plantation State Park and the Hog Island Wildlife Management Area.

## Geographic Context

Surry County is located in the coastal plain of southeastern Virginia. It is bordered by Prince George County and Sussex County to the west, Southampton County to the south, Isle of Wight County to the east, and the James River to the north. The County has a land area of 279 square miles, and there are approximately 75 miles of frontage along the James River and its tributaries. The terrain is level to gently rolling, and generally steepens around waterways. Elevations range from sea level to 120' in the western part of the County. The County contains three towns: Surry, Claremont, and Dendron. The Town of Surry is the county seat.

### Landform Map of Surry County

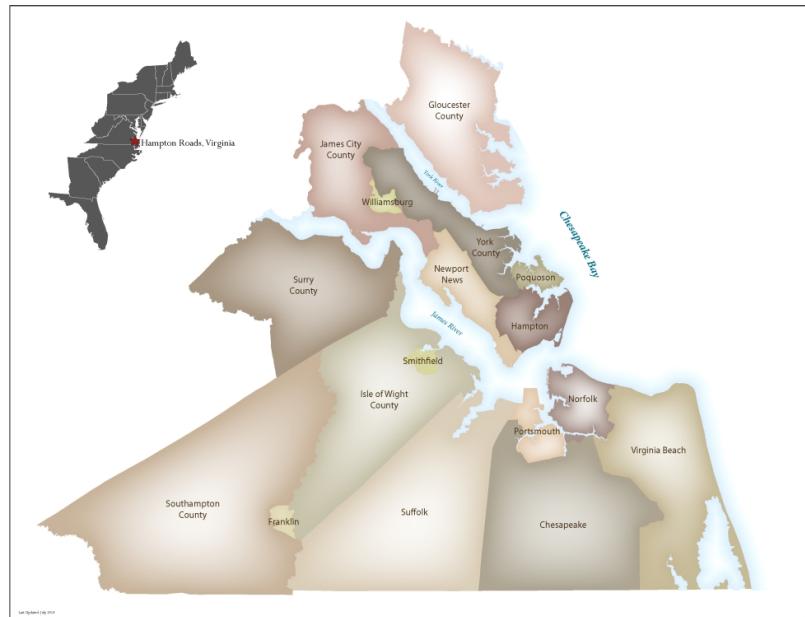


## Regional Influences

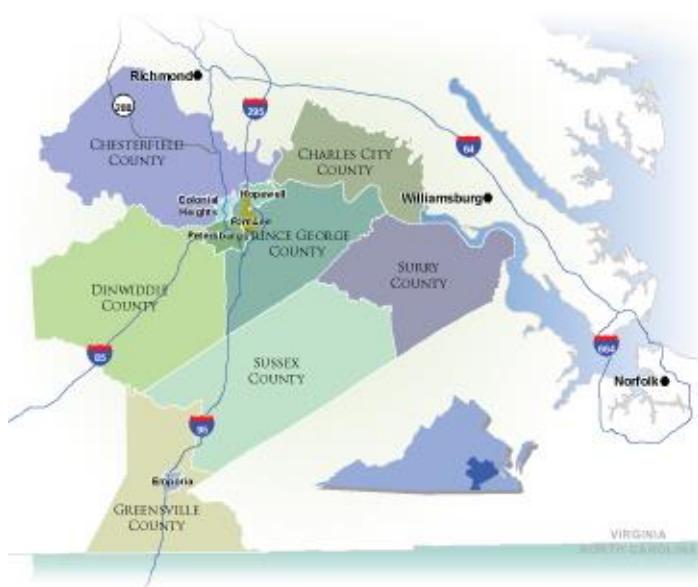
Surry County is located between two of Virginia's most populous metropolitan areas, Richmond and Hampton Roads. The County was a part of the Virginia Beach-Norfolk-Newport News VA-NC Metropolitan Statistical Area (MSA) until changes were made to the MSA based on 2010 Census data. Surry County was removed from the MSA in 2013, but remains closely aligned with the Hampton Roads region. Because of its western location, Surry County is also influenced by the Richmond region. Transportation connections (U.S. 460; State Route 10) provide access to both Hampton Roads and the Richmond region in about an hour. Growth of these two regions will be important to the future of Surry County.

Hampton Roads comprises a significant part of Virginia's economy. Its 2017 GDP of \$94.9 billion represents almost one fifth of Virginia's total economic output, and is the second largest economic region in the state, behind Northern Virginia.

Hampton Roads is also the second most populous region in Virginia, with 1.7 million residents. Roughly one in five Virginians live in Hampton Roads. The Hampton Roads economy is predominantly driven by the military, industries related to the Port of Virginia, and tourism. Particularly important industry clusters are advanced manufacturing, shipbuilding and repair, logistics and warehousing, and shared services. Industries that are smaller but potentially poised for growth are cyber security, water technologies, and unmanned systems and aerospace. Hampton Roads has been slow to recover from the recession, and neither its population nor economy has been growing at the pace of the State or U.S. as a whole.<sup>1</sup>



Hampton Roads Planning District Commission localities



PlanRVA and Crater Planning District Commission localities

## Surry County Key Conditions and Trends

The Richmond region is the third largest region in the state in terms of population and economy. It performs well on many economic and labor force measures, including population growth, inflow of commuting workers, and industrial diversity. Though Richmond was hit particularly hard during the recession, the region recovered fairly well relative to Virginia, surpassing the previous peak level of employment before the State. The industry clusters most important to the region are bio & life sciences, defense & security, financial services, and logistics & warehousing. The region also has a small but competitive creative services cluster.<sup>2</sup>

<sup>1</sup> GO Virginia Region 5 Growth and Diversification Plan

<sup>2</sup> GO Virginia Region 4 Growth and Diversification Plan

Documenting existing conditions and long-range projections is essential for identifying challenges, determining opportunities, and planning for capital improvements and public services. The following information summarizes key findings of the *Planning Influences and Opportunities Report*. The data and statistical analyses in the *Report* serve as the foundation for the Plan's policy recommendations.

### ***Socioeconomic Conditions and Trends***

Surry's population has changed relatively little over the past 50 years, **growing only 13.5% since 1970**. This trend is expected to continue over the next several decades.

Surry's population is older than typical population distributions, and is aging. **The median age increased from 38.4 in 2000 to 48.2 in 2016**.

**Household income in Surry is comparable to Hampton Roads**, but housing costs are lower.

Almost all homes in Surry County are **single-family** or mobile homes.

### ***Land Use Conditions and Trends***

**90%** of the land in Surry County is used for **agriculture or is forested**. Another 5% is used for conservation or recreation purposes.

**Only 3% of land in Surry is in residential use**. Most residences are on large lots, averaging almost 2 acres.

Almost no land in Surry is zoned for more intense use than the underlying land use, indicating **existing conditions are generally in alignment with legislative direction**. However, around the Town of Surry, the predominant agricultural zoning does not reflect the previous Comprehensive Plan's policy of centering "future development at and around the historic towns".

### ***Economic Conditions and Trends***

Surry County's private sector economy is **driven by Dominion Energy's Surry Power Station** and companies providing services to the power station. Roughly **one third of all jobs** in the County are related to the power station.

Surry's traditional agriculture sector is growing according to the last USDA Census of Agriculture, but **only generates about 150 jobs**.

There are enough jobs in Surry to employ every worker living in the County, but **80% of Surry's workforce commutes outside the County**.

Surry residents are typically **leaving the County for lower paying jobs** than those available in Surry.

Surry has a **large industrial park** with infrastructure in place to accommodate moderate development in the near term, but it is remotely located relative to regional economic assets.

Employment is expected to **grow faster** than the population through 2045.

Surry's strongest labor force **connection is to Hampton Roads**, but many workers also commute to and from the Richmond region.

Surry's tourism economy is growing. **Surry's tourism strengths align well with tourist preferences and State tourism priorities.**

#### ***Natural Resources Conditions and Trends***

Surry's natural resources are **diverse and exceptional**. Few other localities possess such a combination of coastal, agricultural, and other natural resources.

Adequate measures are in place to preserve these resources from **current pressures and risks**. As pressures and risks change, preservation measures should continue to be evaluated.

Surry is at **lower risk from coastal recurrent flooding and sea level rise** than many Hampton Roads communities.

#### ***Infrastructure and Transportation***

Traffic conditions have not changed significantly over the last decade. While marginal improvements may be warranted, **the existing roadway network adequately serves Surry County's needs.**

Surry is located in close proximity to one of Virginia's **major economic transportation corridors** (U.S. 460).

**Wastewater and broadband infrastructure improvements** are very important to development in Surry. Fully realizing the benefits of these improvements will take dedicated planning and investment efforts.

### ***Government and Finance***

Opportunities exist for better **coordination and cooperation between County and town governments**.

The **revenue generating capacity** of the existing tax base provides fiscal stability and the opportunity for flexibility in planning for the future.

Policies that prioritize **revenue generating land uses** and diversification of the tax base are desired.

### ***Community Facilities***

Changing demographics indicate that **declining school enrollment trends will continue**.

State education funding is allocated in a way that **short-changes** Surry County.

**Surry residents are generally less healthy than Virginians.** The County is pursuing grocery store, community facility, and waterfront recreation initiatives that have the potential to improve health outcomes.

## SWOT Analysis

SWOT Analysis is a strategic planning technique used to help an organization identify the **Strengths**, **Weaknesses**, **Opportunities**, and **Threats** related to planning objectives. It is intended to identify the internal and external factors that are favorable or unfavorable to achieving community goals.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"><li>- Schools</li><li>- Safe community</li><li>- Inexpensive cost of living</li><li>- Major employer (Dominion Energy)</li><li>- Outdoor/environmental resources</li><li>- Community pride</li><li>- Strong faith-based community</li><li>- Relatively high median household income</li></ul>	<ul style="list-style-type: none"><li>- Remote location</li><li>- Lack of diversity in housing stock</li><li>- Most residents commute to jobs outside of Surry</li><li>- Employment opportunities concentrated in few sectors</li><li>- Agriculture industry does not employ many people</li><li>- Lack of shopping options for convenience and necessity items</li></ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"><li>- Agricultural/active tourism</li><li>- Connections to Hampton Roads and Richmond regions</li><li>- Large industrial site with infrastructure</li><li>- James River waterfront</li><li>- Desirability as a bedroom community and retirement destination</li><li>- Hampton Roads Sanitation District ownership and operation of wastewater systems</li><li>- Nascent broadband infrastructure</li><li>- Coordinated planning with towns and neighboring jurisdictions</li></ul>	<ul style="list-style-type: none"><li>- Over reliance on one taxpayer</li><li>- Aging population</li><li>- Stagnant population growth</li><li>- Perceived lack of opportunity for young people</li><li>- Division between County and towns</li><li>- Racial tension</li><li>- Decline in school-aged children</li><li>- Younger residents may have a decreasing willingness to live in Surry and commute long distances to jobs</li></ul>

# Plan Outline

## Community Vision

Surry residents embrace living in a “connected community”. They are deeply connected to their community’s heritage, land, and natural resources. They also prize physical and digital connections that allow them to pursue opportunities available only to those who choose Surry’s unique mix of rural and modern life. This idea of community connectivity is embodied in a vision for the future of Surry County based on the concepts of balance, choice, and opportunity.

- Balance
  - Surry County will plan for change while respecting the past and present.
- Choice
  - Surry County will strive to be a community of choice for residents and businesses.
- Opportunity
  - Surry County will proactively and continually seek opportunities to improve the community.

## Planning Framework

The Plan’s framework is hierarchical. Its overall direction is based around the community’s vision for the future and themes that establish planning priorities.

The Plan then identifies goals, objectives, and strategies to improve the community. Goals set the course for achieving the community vision. Objectives provide policy direction for addressing the Plan’s goals. Strategies are specific actions that will be undertaken.

## Plan Themes

The Plan is structured around three key themes that were identified early in the planning process. These themes provide the foundation on top of which the plan is built. The elements of the plan are designed to further outcomes related to these themes.

- Preserve Surry’s Character
- Grow Surry’s Economy

- Enhance Quality of Life for All Residents

## Plan Elements

The Plan contains four elements which provide recommendations to address the key themes identified by stakeholders. The plan elements are supported by data and analysis in the *Planning Influences and Opportunities Report*.

- **Element 1:** Enhancing Quality of Life for Surry Residents

- Improving the quality of life of Surry residents is the Plan's highest purpose. Surry residents identified two factors that fundamentally influence quality of life in the County. These are preserving community institutions, connections, and character, and expanding opportunities for Surry residents.

- **Element 2:** Surry County Future Land Use

- Surry's future land use planning reflects a two-part strategy to promote development primarily in and around the Town of Surry and along the Rt. 31 corridor, while maintaining the rural character of the rest of the County.

- **Element 3:** Transportation - More Than Roadways

- Surry's transportation planning prioritizes investments that provide multiple benefits to the County and its residents. The Plan's three transportation planning priorities are facilitating convenient interregional connections, ensuring safe travel, and using investments in the transportation system to further land use, placemaking, and economic development goals.

- **Element 4:** Economic Growth and Diversification

- Surry's economic development goals focus on both growing and diversifying its economy. The Plan makes recommendations based on local and regional assets and the needs of the community. Recommendations are intended to:
  - Build Surry's local economy by cultivating businesses that improve quality of life, attracting retirees to Surry County, and supporting entrepreneurs and small businesses.
  - Maintain Surry's heritage economy based on agricultural and forest lands.
  - Grow Surry's economic base by designing an effective economic development strategy and focusing investment in priority industry sectors such as advanced manufacturing, distribution<sup>3</sup>, and tourism and recreation.

## Enhancing Quality of Life for Surry Residents

The main goal of the 2040 Surry County Comprehensive Plan is to establish a decision-making framework to guide County leaders and officials in their actions to improve quality of life for Surry residents.

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<sup>3</sup> Surry's opportunity in the distribution sector most likely lies in a partnership with neighboring counties positioned directly on the U.S. 460 corridor.

All other goals - those related to housing, economic development, the environment, and others - are meant to further this primary purpose.

In discussions with Surry residents, it is evident that a high quality of life is determined by two fundamental factors:

1. Preserving community institutions, connections, and character
2. Expanding opportunities

The *Planning Influences and Opportunities Report* provides detailed information on characteristics of the community that residents value or want to improve. Goals, objectives, and strategies to improve quality of life in Surry County are organized around these priorities.

### ***Important Characteristics to Preserve***



- A family-oriented and safe community
- Schools that are a source of pride and a community asset
- Faith-based organizations that play an important role in the community
- Agricultural, forested, and natural land that forms the basis for much of the County's identity
- A healthy agriculture industry
- Rural residential housing
- Household incomes that support families
- Relatively low cost of living
- Diverse and exceptional natural resources
- Fiscal responsibility
- Historic assets

### ***Important Opportunities to Pursue***

- Retaining and attracting young residents
- Providing housing choices for all people

- Focusing investment around the Town of Surry and along the Rt. 31 corridor (See Future Land Use Chapter)
- Becoming a community of choice for those who want a rural lifestyle and connections to urban areas
- Economic development opportunities, including tourism (to be addressed in the Economic Growth and Diversification Chapter)
- Connections to Hampton Roads and Richmond (to be addressed in the Transportation Chapter)
- Attracting high-wage earners to live in the County, especially those who already work in Surry
- Expanding access to Surry's natural resources to residents and visitors
- Providing utility service that facilitates Surry's land use and economic development goals
- Improving working relationships with residents and town governments
- Planning capital investments to ensure future prosperity
- Investing resources to improve healthy living opportunities, especially those related to exercise and diet
- Improving broadband internet access



Chippokes Plantation State Park

## Preserving Community Institutions, Connections, and Character

Surry residents are proud of their community. They value its history, people, and abundant resources. They also want to race opportunities to build a prosperous



future. To achieve this balance, this plan places a priority on preserving important community characteristics.

<b><u>Goal</u></b>	<b>Preserve important community institutions, connections, and character to serve as a foundation to build the Surry County of the future.</b>
<b><u>Objective 1</u></b>	<b>In addition to delivering basic services, Surry County should strive to provide services that enrich residents' lives and instill pride in the community.</b>
<b>Strategy 1</b>	Surry County Public Schools are considered one of the County's most important assets. The Surry County Board of Supervisors should work with the Surry County School Board to provide resources in a manner that maintains the public school system as a source of community pride.
<b>Strategy 2</b>	Advocate at the state level for changes in the way average wage data influences the allocation of education funding to ensure that Surry County receives its fair share of funding.
<b>Strategy 3</b>	Surry County is unique in that it must prepare for emergencies at the Surry Nuclear Power Station, as well as provide traditional safety services to residents. The County should recognize this as a community asset and build on its reputation as a prepared and safe community.
<b>Strategy 4</b>	Seek new opportunities for community organizations to meaningfully communicate with County leaders.
<b>Strategy 5</b>	Support community organizations as a way to leverage investment in community services.

**Strategy 6**

Compared to the average Virginian, Surry residents have more limited access to healthy foods and exercise opportunities. Surry County should continue its effort to attract a grocery store and build a community center to address these health concerns.



The Surry Farmers Market

**Objective 2**

**Conserve and encourage utilization of Surry's exceptional natural resources.**

**Objective 2A**

**Manage shorelines in a manner that is cost-efficient and that protects property, preserves natural features and resources, and provides recreational resources.**

**Strategy 1**

Minimize the amount of property and infrastructure threatened by shoreline erosion.

**Strategy 2**

Prioritize nature-based approaches for shoreline protections wherever feasible.

**Strategy 3**

Use information in the Natural Resources section of the *Planning Influences and Opportunities Report* to evaluate impacts of development proposals.

**Strategy 4**

Use the guidance provided in the Surry County Comprehensive Coastal Resource Management Portal prepared by the Virginia Institute of Marine Science to guide decisions regarding shoreline erosion control and shoreline management best practices.

**Strategy 5**

Most access to the James River and its tributaries is controlled by private

	<p>landowners or the State government. Surry County should initiate a planning process with the Virginia Departments of Conservation and Recreation (DCR) and Game and Inland Fisheries to better utilize Chippokes State Park and Hog Island Wildlife Management Area to the benefit of Surry residents.</p>
<b>Strategy 6</b>	<p>According to the HRPDC <i>Regional Strategic Plan for Public Access to Waterways</i>, there is no public access to the Blackwater River. The <i>Plan</i> also found that there is no public access to the James River above Gray's Creek. Surry should pursue opportunities for water access sites in these areas, possibly in coordination with development of the James River Heritage Trail by the Virginia Department of Conservation and Recreation.</p>
<b>Strategy 7</b>	<p>Surry County is less vulnerable to sea level rise than many localities in Hampton Roads due to steep slopes, higher elevations, and minimal development along its tidally influenced shorelines. Nevertheless, with the support of the Hampton Roads Planning District Commission and the Virginia Institute of Marine Science, Surry County should continue to monitor potential impacts of climate change and sea level rise and amend its policies, ordinances, and capital programs as needed. Priorities for potential adaptation measures include preserving natural resources, maintaining transportation access to the County, and limiting the location of critical facilities in vulnerable areas.</p>



Gray's Creek Boat Launch

**Objective 2B**

**Provide a high-quality drinking water supply that meets the current and**

	<b>future needs of Surry County.</b>
<b>Strategy 1</b>	Protect existing and potential potable water supplies from degradation caused by land use activities, especially in source water protection areas.
<b>Strategy 2</b>	Encourage conservation of potable water supplies.
<b>Strategy 3</b>	Work with the Virginia Department of Health to educate residents about the importance of maintaining septic systems and replacing failing systems, especially in groundwater recharge and source water protection areas.
<b>Strategy 4</b>	Continue to work with Virginia DEQ to register existing and proposed underground storage tanks and remediate pollution from leaking tanks.
	<b>Protect and improve the quality of waterways in and connected to Surry County.</b>
<b>Strategy 1</b>	Work with the Virginia Department of Environmental Quality to maintain and restore the quality of Surry's surface waters for recreational, fishing, and other beneficial uses.
<b>Strategy 2</b>	Work with the HRPDC, Virginia DEQ, Peanut Soil and Water Conservation District, and non-government organizations to incorporate best management practices that will address nitrogen, phosphorus, and sediment loads from stormwater and agricultural sources to implement the Chesapeake Bay TMDL Phase III Watershed Implementation Plan. The Plan encourages and incentivizes localities without regulatory requirements to address these loads to improve local water quality and address local flooding concerns.
<b>Strategy 3</b>	Promote development that has minimal impacts to water quality and the environment.
<b>Strategy 4</b>	Promote redevelopment that improves water quality over the existing use.
<b>Strategy 5</b>	Minimize pollution from on-site sewage disposal systems through the use of appropriate site design, technical best practices, and by limiting their use in environmentally sensitive areas.

<b><u>Objective 3</u></b>	Preserve valued aspects of the community that make up the traditional character of Surry County.
<b>Strategy 1</b>	Work as a proactive liaison between the farming community and federal and state governmental organizations to preserve Surry's agricultural tradition by promoting opportunities for financing, research, market access, and conservation of land resources.
<b>Strategy 2</b>	Promote historical and cultural resources through improved wayfinding and signage.
<b>Strategy 3</b>	Pursue historic resource training through the Virginia Department of Historic Resources (DHR) and consider becoming a Certified Local Government through DHR as a way to promote community-wide historic preservation and access to state and federal resources.
<b>Strategy 4</b>	New land uses may conflict with traditional recreational activities, such as hunting, fishing, water, and other outdoor activities. Recognize that these traditional activities are well-established and are an important part of life for many Surry residents. The County should prioritize their preservation in managing potential conflicts.
<b>Strategy 5</b>	Many communities adopt a slogan that embodies their identity, such as Austin, Texas' famous slogan "Keep Austin Weird". While many residents like Surry for its comfortable pace of life, Surry is also becoming a connected, 21 <sup>st</sup> century rural community. Surry should develop a traditional and social media profile that exemplifies its desire to look to the future while respecting its tradition.
<b>Strategy 6</b>	Maintain and periodically evaluate policies and regulations to manage risks to Surry's exceptional natural and cultural resources.



## Expanding Opportunities to Improve Quality of Life

Surry residents know that simply maintaining the status quo is not a sound strategy for achieving a more prosperous future. Advances that improve quality of life are constantly being made in healthcare, education, access to information, and economic opportunity. Surry residents want to participate in and contribute to these opportunities in order to improve their lives.

<b><u>Goal</u></b>	<b>Surry County will be creative and proactive about identifying and pursuing partnerships with organizations to help increase opportunities available to County residents.</b>
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<b><u>Objective 1</u></b>	<b>Provide quality housing choices for all Surry residents.</b>
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Surry County's housing needs and opportunities are varied and stem from changing demographics, economic trends, and housing conditions. They include providing appropriate housing for an aging population, addressing issues related to vacancy and home maintenance, and encouraging an adequate supply of affordable rental housing and "starter homes". Solutions to many of these issues will require proactive partnerships with nonprofit organizations.

**Strategy 1** Many seniors want to remain in their own homes as they age. Explore partnerships with organizations that work with seniors to make their homes safer and more accessible.

**Strategy 2** Encourage and facilitate development of a volunteer and cooperative "self-help" program that provides a platform for volunteers and seniors to help each other. Such a program can help address issues related to home maintenance, transportation to services, and social visits.

**Strategy 3** Work with low-income residents to expand utilization of the USDA Single Family Housing Repair Loans and Grants (Section 504) Program to repair, improve, and modernize their homes.

**Strategy 4** Where appropriate, work with the Virginia Housing and Development Authority (VHDA) to explore development of new rental housing for seniors and low-income families through the Low-Income Housing Tax Credit (LIHTC) program.

**Strategy 5** Where appropriate, work with USDA through their Multi-Family Housing Loan Guarantee programs to increase the supply or preserve affordable rural rental housing.

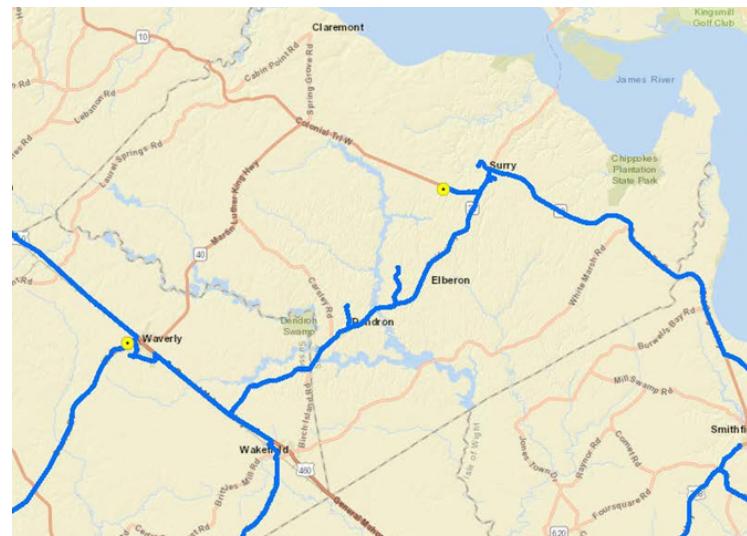
<b>Strategy 6</b>	Support proposals compatible with Comprehensive Plan goals for high-quality, modest-size housing in Residential Investment Areas.
<b>Strategy 7</b>	Encourage the development of higher-value homes near waterfronts and other natural amenities to help attract high-wage earners to live in Surry, especially those who already work in the County.
<b>Strategy 8</b>	Encourage the removal and replacement of vacant or blighted housing when renovation is not feasible through available government programs.



<b><u>Objective 2</u></b>	Make Surry County the most connected rural community in Hampton Roads.
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The National Broadband Plan states that, “Broadband is the great infrastructure challenge of the early 21st century”. This is true for Surry County. Broadband is a foundation for economic growth, job creation, global competitiveness, and a better way of life. It can enable new industries and unlock new possibilities for existing ones. It can also change how we educate students, deliver health care, manage energy, ensure public safety, engage government, and access, organize, and disseminate knowledge.

Broadband deployment in Surry County will be guided by this core principle: **Facilitate the availability of fast, reliable, and reasonably-priced broadband service to all residents who want to subscribe.**



Surry County Broadband Fiber Network

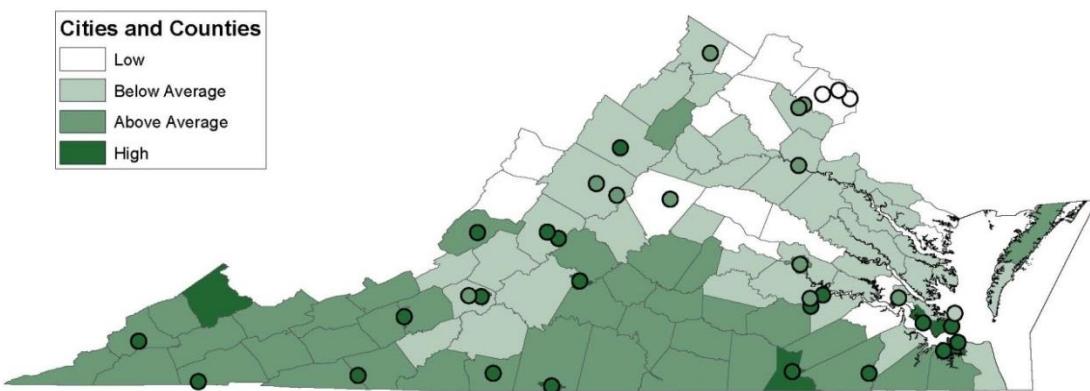
<b>Strategy 1</b>	Consider broadband as critical infrastructure. Treat broadband service in the same manner as water, sewer, electric, and telephone service.
<b>Strategy 2</b>	Facilitate the deployment of “last mile” connections to areas that are unserved or underserved.
<b>Strategy 3</b>	Educate residents about the benefits and availability of broadband service to increase subscribership and spur investment by private providers.
<b>Strategy 4</b>	Embrace a hybrid approach to network development that recognizes that various providers, delivery systems, and technologies will be needed to provide broadband access to all Surry residents.
<b>Strategy 5</b>	Work with service providers to facilitate access to public and private tower sites.
<b>Objective 3</b>	<b>The government of Surry County will work in an efficient and transparent manner to advance the long-term interests of the County and its residents.</b>

During focus group meetings seeking input from the community for this plan, one of the most consistent messages from residents was that the County and town governments need to work together better. There are two main reasons this cooperation is essential. First, investment must be focused in and around the towns, especially the Town of Surry, to build momentum and maximize benefit. Second, rural areas must make the most of limited opportunities. Surry County and the town governments need to work together to align priorities.

Another circumstance that must be considered is the source of Surry’s tax revenue. On average, Virginia counties raise about 65% of their tax revenue from the real property tax. Unlike most counties, the real property tax is not Surry County’s dominant source of revenue. In 2015, only 30.3% of Surry’s local tax revenue was raised from the real property tax. 60.9% of local tax revenue came from the tax on public service corporation property. This unique circumstance has both benefits and drawbacks. The primary benefit is that according the Virginia Department of Housing and Community Development, Surry County is one of the least fiscally stressed counties in Virginia. The primary drawback is that this source of revenue is not sustainable in the long-term, posing a risk to the County’s financial position.

<b>Strategy 1</b>	Surry County and its towns should develop a strategic plan that establishes fundamental goals that reflect shared priorities. This process should begin with a discussion led by a third-party facilitator.
<b>Strategy 2</b>	The Surry County Board of Supervisors and the town councils should conduct at least one joint work session per year.
<b>Strategy 3</b>	Surry County must use its financial resources to make capital and other investments now that will provide return in the future.
<b>Strategy 4</b>	Comprehensive plans typically have a 20-year planning horizon. Because of the uncertainty involved, planning efforts beyond this timeframe are rare. Sometimes, however, communities are faced with the unusual circumstance of needing to plan for a situation that is both foreseeable and far in the future. An example of this type of planning effort is the City of Norfolk's Vision 2100, which is focused on long-term community resilience. Surry is in a similar situation. Eventually the Surry Power Station will be shut down and tax revenue from the facility will be lost. Surry should develop a vision plan to reimagine its economy in the long term.

## Commonwealth of Virginia: Fiscal Stress Classification FY 2014



Source: VA Department of Housing & Community Development, Commission on Local Government

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2/16/2016

## Surry County Future Land Use



In communication with Surry County residents and leaders, three planning priorities emerged in which land use policy will play a key role. First, Surry highly values and wants to preserve its rural character. Second, diversification of Surry's economy and tax base is critical. Third, additional commercial options are needed in the community to improve residents' quality of life.

Two main challenges and one prerequisite exist in attaining the latter two goals. The first and most difficult challenge is inducing necessary investment in the County. The second is anticipating and mitigating the potential effects of what appear to be competing priorities: economic growth versus preservation of the community's character. These priorities are not inherently incompatible, especially given the limited extent of development in Surry County. The prerequisite is that population growth is required. Surry's population is forecast to shrink or remain flat. It must grow to diversify the economy and bring in desired commercial establishments.

Protection of valuable agricultural and natural areas remains paramount. Investment in the community can be directed to appropriate areas through land use and other policies, magnifying its benefits while minimizing potential conflict. Maintaining the existing rights of property owners is also an important consideration in the County's land use policy-making.

The Future Land Use Plan set out in this chapter reflects a two-part strategy to promote development in and around the Town of Surry and along the Rt. 31 corridor, while maintaining the rural character of the rest of the County.

## Existing Land Use

The vast majority of land in Surry County is either used for agriculture, is forested, or is in a natural state. Approximately 90% of the land in Surry is used for these purposes, and is distributed relatively evenly around the County. This land is valued at \$426.8 million, or about 70% of the total value of land in Surry. The average parcel size is 49 acres, with a land value per acre of \$2,618.

Five percent of the land in Surry is used for conservation or recreation purposes. It includes significant amounts of state parkland, land under conservation easements, and large private camps or retreats. Most of this land is located in the northern portion of the County near or along the James River. These are generally large parcels with an average size of 266 acres.

The next largest land use category is residential. Roughly 3% of the land in Surry is used for this purpose. The average size of these parcels is fairly large at 1.8 acres. While residential land makes up 3% of Surry's land area, it accounts for about 19% of assessed land value. Residential land is assessed at an average of \$21,170 per acre.

Other types of land uses in Surry County include Commercial, Industrial, Public/Semi-Public, Mobile Home, and Multi-Family. Of these uses, only Industrial constitutes more than 1% of land use in Surry at 1.3%.

**Table 5: Land Use Characteristics**

	Agriculture/ Forest	Commercial	Conservation / Recreation	Industrial	Public/ Semi-Public	Mobile Home	Multi- Family	Residential
Parcels	3,355	38	34	23	163	9	5	3,047
Acres	163,054	57	9,035	2,313	521	303	16	5,543
Acreage (%)	90.16%	0.03%	5%	1.29%	0.29%	0.19%	0.01%	3.07%
Mean Area	49	2	266	101	3	34	3	1.8
Land Value	\$426.8M	\$1.6M	\$51.1M	\$2.4M	\$6.7M	\$2.1M	\$608,000	\$117.3M
Land Value (%)	70.1%	0.3%	8.4%	0.4%	1.1%	0.3%	0.1%	19.3%
Land Value/Acre	\$2,618	\$28,696	\$5,655	\$1,021	\$12,848	\$6,936	\$38,000	\$21,170
Total Value	\$570.6M	\$6.9M	\$72.7M	\$10.4M	\$87.3M	\$3.4M	\$5.2M	\$436.3M
Total Value (%)	47.8%	0.6%	6.1%	0.9%	7.3%	0.3%	0.4%	36.6%
Total Value/Acre	\$3,499	\$120,326	\$8,046	\$4,510	\$167,637	\$11,336	\$321,906	\$78,718

## ***Surry County Existing Land Uses***

### ***Agricultural/Forest***

Definition: Use of land for the production of food or fiber, including the production of crops, livestock, and poultry. This classification also includes land used for timber harvesting.

### ***Commercial***

Definition: Use of land for the buying and selling of products and services; includes retail, food, lodging, personal service, and office uses.

### ***Conservation/Recreation***

Definition: Use of land for the preservation and management of natural resources, or for passive or active outdoor leisure activities.

### ***Industrial***

Definition: Use of land related to assembling, fabricating, manufacturing, packaging, or processing products. This classification also includes warehousing, distribution, and mineral extraction.

### ***Mobile Home Park***

Definition: Use of land where mobile home sites and any common area are under common ownership and lots are rented for the siting of mobile homes.

### ***Multi-Family***

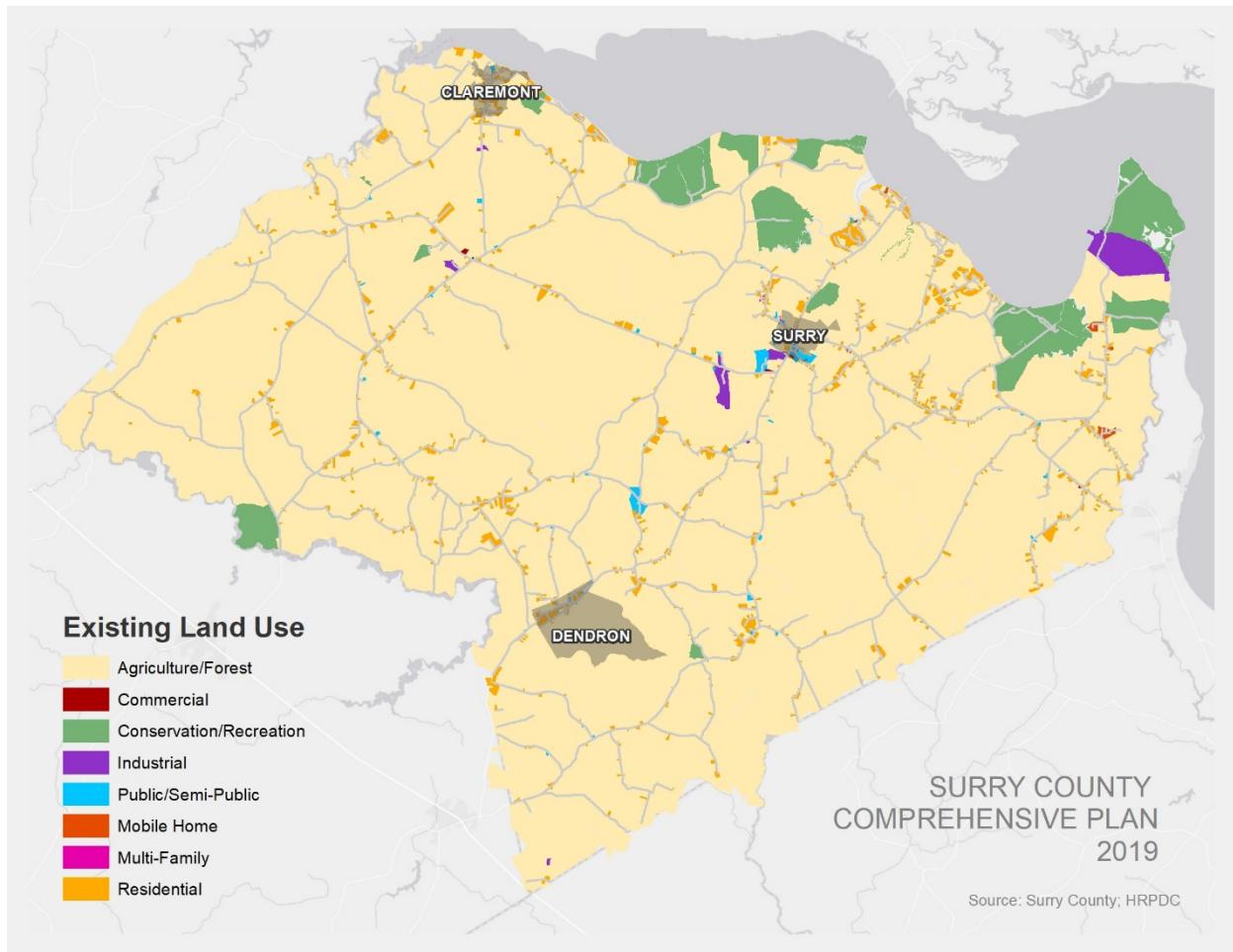
Definition: Use of land containing residential structures with two or more separate dwelling units.

### ***Public/Semi-Public***

Definition: Use of land for government buildings, public or private institutional uses, and community facilities.

### ***Residential***

Definition: Use of land for buildings consisting of single-family dwelling units.

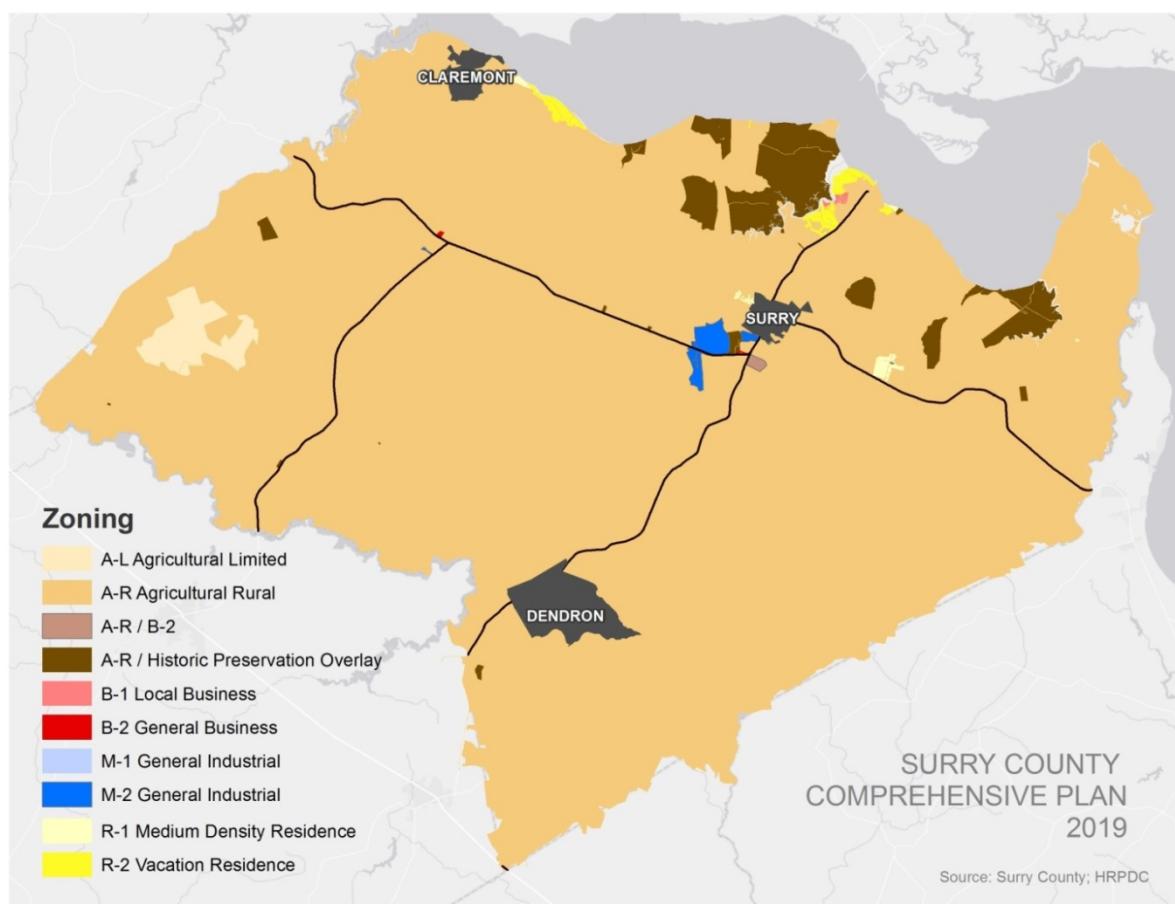


### **Zoning**

Zoning in Surry County generally reflects existing land use. Most of the County is zoned A-R (Agricultural Rural). Major conservation and recreational land is regulated by the Historic Preservation Overlay. Smaller lot, suburban style residential development near the James River is zoned R-2 (Vacation Residence). Almost no land in Surry is zoned for more intense use than the underlying land use, indicating existing conditions are generally in alignment with legislative direction. However, around the Town of Surry, the predominant agricultural zoning does not reflect the previous Comprehensive Plan's policy of centering "future development at and around the historic towns".

## Base Zoning Districts

Zoning District	Acres	% of Total Zoned Acres	Definition
A-L (Agricultural-Limited)	1,987	1.12%	Indented primarily for agriculture and forestry uses
A-R (Agricultural-Rural)	174,305	97.96%	Protect and conserve agricultural and forest land while allowing certain other uses
B-1 (Local Business)	52	0.03%	Intended for low intensity retail shopping and personal service uses
B-2 (General Business)	98	0.06%	Intended for a wide variety of commercial, automotive, and miscellaneous recreational and service activities that serve the entire County
M-1 (General Industrial)	3	0.00%	Intended for light industrial uses
M-2 (General Industrial)	591	0.33%	Intended for heavy industrial uses
R-1 (Medium Density Residence)	258	0.14%	Intended to provide for residential development adjacent to towns with existing or planned public water and sewer service
R-2 (Vacation Residence)	650	0.37%	Intended to provide for vacation home development near the James River



## **Projected Growth and Land Use Analysis**

Since 1970, Surry County's population has grown 13.5%, from 5,882 in 1970 to 6,674 in 2017. Future population growth is forecast to be minimal. The University of Virginia's Weldon Cooper Center estimates that Surry's population will decline to 6,403 by 2040. The Hampton Roads Transportation Planning Organization's (HRTPO) *Hampton Roads 2045 Socioeconomic Forecast* anticipates that the County will grow by 8% to 7,374 by 2045.

This Plan's future land use policy considerations begin with these projections. Significant land use policy changes are not necessary to accommodate or manage forecast population change. The Weldon Cooper Center's forecast requires no action relative to anticipated population change. The HRTPO's forecast for population growth should be able to be accommodated under existing policy.

The HRTPO expects Surry County's population to grow by 555 people by 2045. That amount of population growth equates to .26% per year. In Surry, an average of 2.49<sup>4</sup> people live in each household. In order to accommodate the growth projected by the HRTPO, Surry would only need to add eight dwelling units per year or about 230 dwelling units over the next 25 years.<sup>5</sup> The average size of a residential property in Surry is 1.8 acres. At this average density, projected future growth would consume 412 acres, or just .23% of the County's total land area. For point of reference, at a density of 1.8 dwelling units per acre, Surry County's population could double and require conversion of less than 3% of the County's total land area to residential use. At a density of 1 dwelling unit per acre, Surry's population could double by using just 1.5% of the County's land area. This simple exercise does not account for infrastructure or service costs, rather it illustrates the possibility that the growth necessary to attain some of the County's goals does not inherently threaten the existing rural character of the County.

An important takeaway from this information is that the primary goal of land use policy in Surry County is not to manage pressure from a naturally growing population. Land use policy in Surry County should be viewed as a tool to help achieve its goals by inducing strategic investment in the community.

Along with an abundance of land, Surry County also has some available or planned infrastructure and service capacity. Wastewater treatment capacity will increase with the HRSD connection to the Nansemond Treatment Plant. Surry's transportation system is not overburdened. Excess capacity in the school system exists because of declining enrollment over the past decade. The significance of these factors is that Surry can grow using the capacity of existing community systems at minimal cost.

Instead of accepting projections for a shrinking population or stagnant growth, Surry County should seek to grow its population by an average of at least one percent annually through 2040. Under this scenario, Surry's population would grow by 1,470 people or 22% to 8,144 by 2040.

<sup>4</sup> U.S. Census Bureau 2016 American Community Survey

<sup>5</sup> For the sake of comparison, in the decade from 2000 – 2010 674 housing units were built in Surry County.

This is the approximate rate Surry County grew during the decade from 1990 to 2000, and it is essentially the same rate that the State of Virginia and neighboring Isle of Wight County are expected to grow during the period from 2020 to 2040. Realization of this growth rate can be accomplished through a variety of strategies and objectives, including land use policy.

## Future Land Use

The future land use recommendations and map provide guidance to decision-makers in Surry County regarding the overall pattern of development that should occur in the County and the appropriate types of land uses and intensity of development that should occur in specific locations.

In the majority of the County, the future land use map calls for maintaining existing land use policy, which preserves working lands and natural areas. In and around the Town of Surry and along the Rt. 31 corridor, the plan provides a framework for targeted development that reinforces Surry's role as the County seat and existing transportation connections to the Hampton Roads region.

### Future Land Use Designations

Future Land Use	Maximum Residential Density	Land Uses	Wastewater Service
Environmental Preservation	N/A	Protected lands	N/A
Rural Preservation	1 dwelling unit / acre	Low density residential Farms and supporting uses Forestry and mining Environmentally sensitive lands Recreation and open space Single commercial establishments Public uses	Private wastewater
Residential Investment Areas	3 dwelling units / acre	Low to moderate density residential Recreation and open space Public uses	Public sanitary sewer
Residential Corridor	3 dwelling units / acre	Low to moderate density residential Recreation and open space Public uses	Public sanitary sewer
Commercial	N/A	Community-serving commercial Offices Open space	Private wastewater or public sanitary sewer
Employment	N/A	Business parks Industrial Employment-servicing commercial	Public sanitary sewer
Public	N/A	Public / Semi-Public Uses	Private wastewater or public sanitary sewer

## Environmental Preservation



### ***Description***

Land designated for environmental preservation consists of managed conservation lands including Chippokes Plantation State Park, Hog Island Wildlife Management Area, land under conservation easements, and large private recreational camps.

### ***Intent***

These areas should be kept in a natural state. Federal, state, and local protections are in place for many parcels with this designation. Development of nature-based recreational uses is appropriate and should emphasize passive recreation and limit impervious surfaces of facilities and infrastructure.

### ***Policies***

Land designated for environmental preservation should:

- Remain in an undeveloped, natural state, except for the development of nature-based recreational uses.
- Be treated as a key community asset.
- Be considered when development occurs nearby. Wooded or vegetated buffers around natural conservation lands are appropriate to reduce the impacts on these lands from noise, traffic, and external lighting.

### ***Appropriate Uses***

- Open space
- Recreational facilities
- Hunting preserves/clubs

## Rural Preservation



### ***Description***

Land designated for rural preservation contains farms, forestry sites, environmentally sensitive lands, and low-density residential development. Residential densities are typically less than one dwelling unit per acre, although concentrations of denser residential use do exist in the County, particularly in the areas bound by Rt. 31, Rt. 10, the James River, and Chippokes Plantation, and also land along the James River east of Claremont. Some commercial properties are also located in rural preservation areas, often at crossroads sites such as Spring Grove and Bacon's Castle. These are typically single properties that provide basic goods and services.

### ***Intent***

Rural preservation areas promote the continued use of working lands and protection of environmentally sensitive lands from more intense development. Residential properties in these areas accommodate residents who prefer to live away from towns in the more rural areas of the County. Concentrations of residential use are not appropriate in rural preservation areas unless it can be demonstrated that they significantly contribute to County-wide goals. Businesses located in these areas usually serve nearby residences and visitors to attractions.

### ***Policies***

- Encroachment upon these lands by neighboring development could affect the operations of existing working enterprises. Development of land surrounding rural preservation areas should consider impacts on these lands, particularly agricultural operations. Significant efforts should be made to reduce such conflicts. Wooded or vegetated buffers are appropriate to reduce the impacts on these lands from noise, traffic, external lighting, and stormwater flows.
- The extension of public utilities within rural preservation areas is not recommended.

### ***Appropriate Uses***

- Working lands and supporting uses
- Low-density residential
- Recreation facilities and open space
- Public/semi-public uses (schools, places of worship, government facilities)
- Small retail, restaurant, and personal service establishments

## Residential Investment Areas



### ***Description***

Residential investment areas are intended to induce strategic investment in the community that can help Surry achieve its broader goals. These are areas of low to moderate density single family residential development of up to three dwelling units per acre located around the Town of Surry and along the Rt. 31 corridor.

### ***Intent***

These areas are intended to concentrate future residential development to the benefit of the County as a whole. Their purpose is to counteract population decline forecast by the Weldon Cooper Center and preserve the rural character of the rest of the County. Ideally, they will provide strategic growth that will sustain essential commercial uses that support families; diversify and bolster the County's tax base; spur investment and revitalization in the Town of Surry allowing it to become a more active community; and encourage investment near the James River and strengthen Surry's connection to James City County and Williamsburg.

### ***Policies***

- Public utility service within residential investment areas is appropriate.
- Linkages should be made to provide vehicular, bicycle, and pedestrian access between residential developments, the Town of Surry, and recreational amenities.
- A pattern book should be developed to guide the character of development in these areas.
- Larger residential developments should generally be screened from major roadways.
- Stormwater management best practices should be designed to be integrated with and contribute to the character of the development.

### ***Appropriate Uses***

- Low to moderate density residential uses
- Recreation facilities and open space
- Public/semi-public uses (schools, places of worship, government facilities)
- Limited commercial development fronting Rt. 31 and Rt. 10.

### ***Land Use Analysis***

The areas identified on the Future Land Use Map as Residential Investment Areas (RIA) around the Town of Surry and along the Rt. 31 corridor are about 5,250 acres. Roughly one third of this area is already in residential use. Much of the RIA borders creeks and wetlands, constraining its development potential. It must also be assumed that many landowners will choose not to develop their property. Based on these observations and assumptions, buildup potential of the RIA is considered to be 1,000 acres for this analysis. 1,000 acres constitutes less than one percent of Surry's land area.

### Population Projections Based on RIA Build-Out

#### Build-out Calculations

- (Buildable Area / Lot Size) x Avg. Household Size = RIA Population Capacity
- RIA Population Capacity + Current Population = 2040 Population

#### *Scenario 1: RIA Development at 1 Dwelling Unit per Acre*

##### Build-out Calculation

- $(1000/1) \times 2.49 = 2,490$
- $2,490 + 6,674 = 9,164$

Under Scenario 1, average density is fairly high for Surry County at one dwelling unit per acre. This is probably the most aggressive growth scenario to reasonably consider. Surry's population would increase by 2,490 people to 9,164 by 2040, or 37%. Average annual growth rate under this scenario is 1.6%.

#### *Scenario 2: RIA Development is 1 Dwelling Unit per 2 Acres*

##### Build-out Calculation

- $(1000/2) \times 2.49 = 1,245$
- $1,245 + 6,674 = 7,919$

Under Scenario 2, density is close to the existing average residential density in Surry County. Surry's population would increase by 1,245 people to 7,919 by 2040, or 19%. Average annual growth rate under this scenario is .86%.

## Residential Corridor



### ***Description***

The Rt. 31 corridor between Surry and Dendron should serve as an option for the location of residential development secondary to Residential Investment Areas. The corridor is appropriate for some areas of low to moderate density single family residential development of up to three dwelling units per acre. Public wastewater infrastructure runs along the corridor. It is in close proximity to Surry County public schools and the Surry West Business Park, and it links the Towns of Surry and Dendron. However, the corridor also contains high value agricultural land and forests and sensitive environmental features.

### ***Intent***

The corridor is intended to concentrate future residential development to the benefit of the County as a whole. Its purpose is to counteract population decline forecast by the Weldon Cooper Center and preserve the rural character of the rest of the County. Ideally, it will provide strategic growth that will sustain essential commercial uses that support families; diversify and bolster the County's tax base; and spur investment and revitalization.

### ***Policies***

- Public utility service within residential investment areas is appropriate.
- Special scrutiny should be placed on the impacts of development to high-value working lands and sensitive environmental features.
- Stormwater management best practices should be designed to be integrated with and contribute to the character of the development.

### ***Appropriate Uses***

- Low to moderate density residential uses
- Recreation facilities and open space
- Public/semi-public uses (schools, places of worship, government facilities)
- Limited commercial development fronting Rt. 31.

## Commercial



### ***Description***

The areas designated as Commercial include the land adjacent to Rolfe Highway from the intersection of Rt. 10 and Rt. 31 to the boundary of the Town of Surry, and land just outside the eastern boundary of the Town of Surry on Rt. 10.

### ***Intent***

These areas will contain retail and commercial uses that serve the greater community and tourists. In general, they should provide convenience shopping, including restaurants, retailers, professional offices, and personal service establishments. To the extent possible, master planning of these areas is preferred so that development is contextually appropriate, access points to the highway are consolidated, and accessibility and safety is ensured.

### ***Policies***

Design guidelines for the corridor should include standards for:

- Signage
- Landscaping
- Orientation to the highway of developments along the corridor
- Consolidation of access points to enhance safety and circulation
- Shared parking
- Accommodation for pedestrian and bicyclists due to the proximity to the Town of Surry

### ***Appropriate Uses***

- Retail, restaurants, and personal service establishments
- Professional offices
- Open space

## Employment



### ***Description***

Employment areas provide a high percentage of the jobs in Surry County. They are mainly campus settings that have the necessary infrastructure for manufacturing and industrial uses, and also shield these uses from the surrounding community. They include Dominion Energy's Surry Power Station and the Surry West Business Park.

### ***Intent***

Employment areas, especially the Surry West Business Park, should provide the infrastructure and resources necessary to attract businesses to Surry County. These resources include utility infrastructure, easy highway access, and completion of many site development processes that make it simple for businesses to begin operation. While some supporting commercial uses are appropriate, it is very important to reserve land in employment areas for job-creating uses.

### ***Policies***

- Employment areas should be served by public utilities.
- Employment areas containing industrial uses should be screened from major roadways and surrounding areas.
- Entrances to employment areas should be attractive from the roadway.
- Uses should generate high-quality jobs

### ***Appropriate Uses***

- Light industrial, manufacturing, and logistics
- Research and development
- Supporting commercial uses

## Public



### ***Description***

Public land uses include those owned by local, state, and federal governments. They are primarily local government facilities used for schools, parks, and public safety. Semi-public uses, such as places of worship, are also included in this land use designation.

### ***Intent***

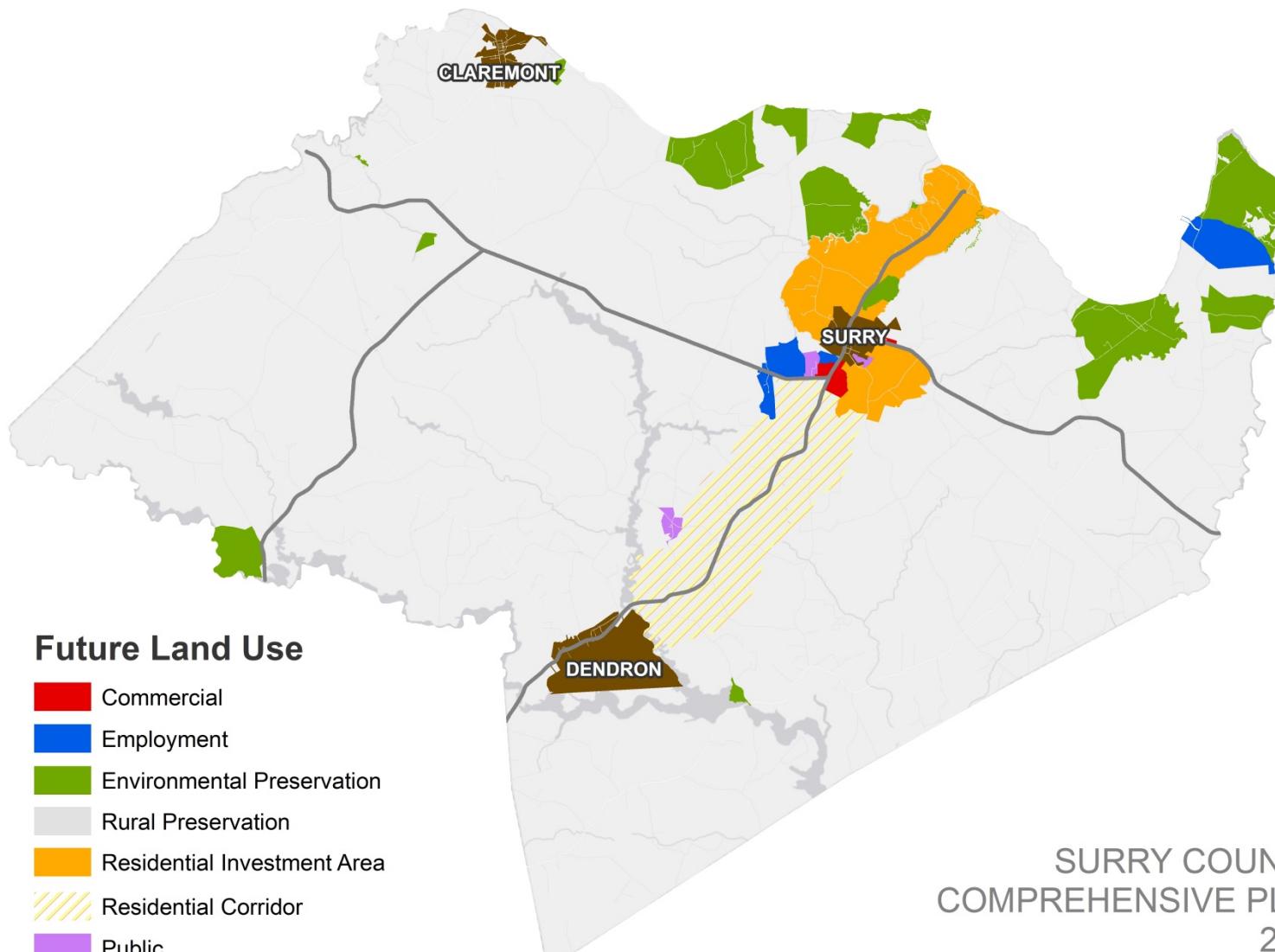
Government facilities serve a wide variety of purposes. Their location is highly dependent on the type of service provided and the population intended to be served.

### ***Policies***

- Critical public facilities should be located away from vulnerable areas, such as flood plains.
- Public facilities should exemplify the ideals of the community and set a standard for private development.
- Public facilities should respect and contribute to the character of the surrounding environment.

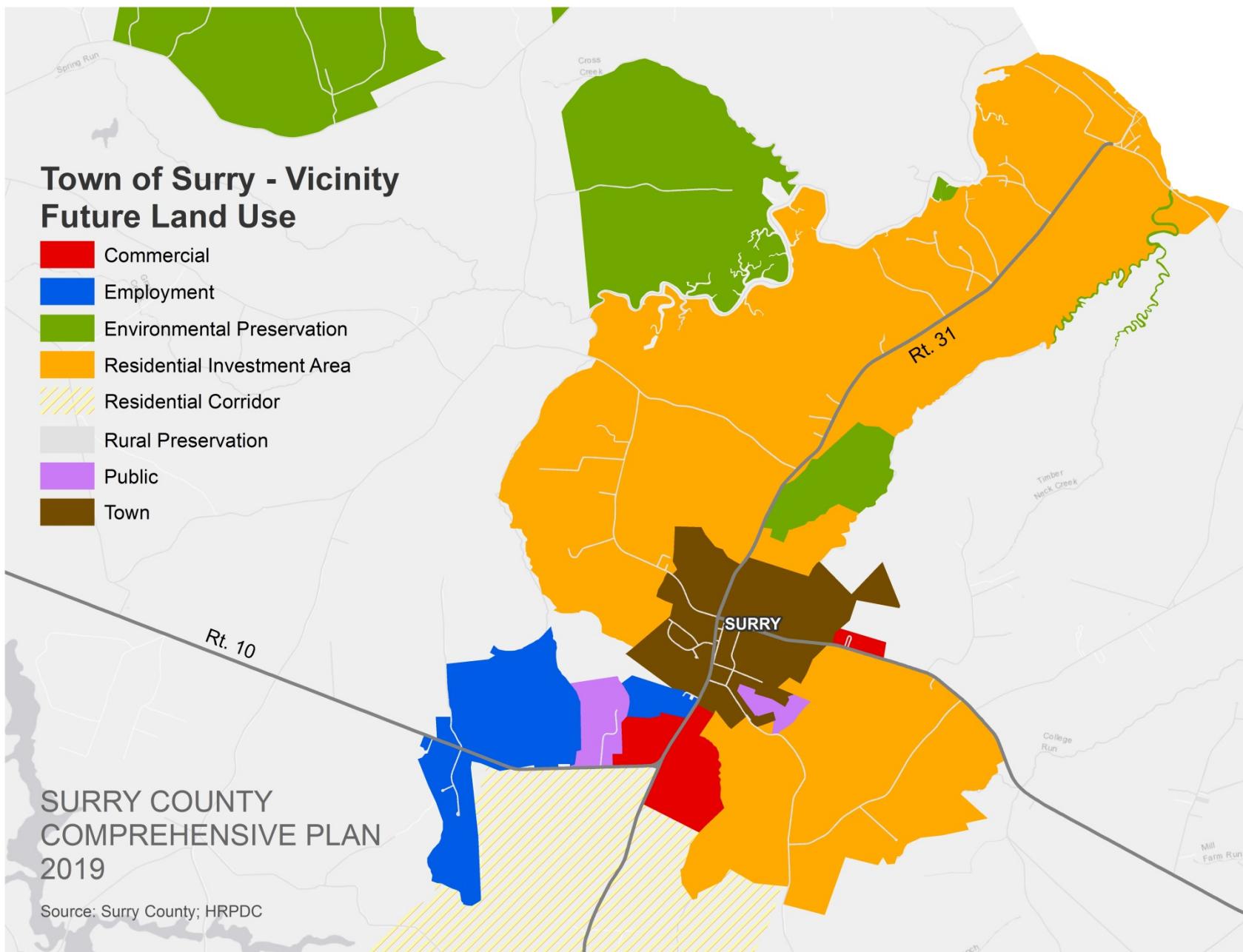
### ***Appropriate Uses***

- Public/semi-public uses (schools, places of worship, government facilities)



## SURRY COUNTY COMPREHENSIVE PLAN 2019

Source: Surry County; HRPDC



## Future Land Use Goals, Objectives, and Strategies

Surry County's land use goals are based on four guiding principles. Ingrained more deeply than specific objectives and strategies, these principles should infuse the County's strategic decision-making.

### Land Use Principles:

1. Land use policy should be viewed foremost as a tool to induce strategic investment in the community. Policies promoting strategic community investment innately protect the rural character of the majority of the County.
2. Prosperity and rural preservation are not inherently incompatible goals.
3. Strongly encourage strategic concentration of new investment. Minimize diffusion of limited opportunities.
4. Grow using existing community capacity at minimal cost.

<b><u>Future Land Use Goal</u></b>	<b>Surry County will maintain its rural character, but will actively pursue high-quality residential and economically productive commercial development.</b>
<b><u>Objective 1</u></b>	<b>Internal and External Investment Will Be Focused around the Town of Surry and along the Rt. 31 corridor.</b>

It is essential to concentrate limited investment and development opportunities to maximize their benefit and minimize their potential for conflict. The Town of Surry is at the intersection of the two main transportation routes in the County, Rt. 31 and Rt. 10. It is the seat of government, the location of most commercial activity, and is the only place in the County that potentially provides a civic center of gravity for investment. The segments of Rt. 10 east of Surry and Rt. 31 north of Surry provide the County's primary connections to Hampton Roads. This corridor also contains almost all existing and planned utility infrastructure in the County. Dendron and the section of the Rt. 31 corridor between Dendron and Surry are similarly situated to be a secondary focal area for investment. Utility infrastructure exists and capacity is being expanded. This area is also in close proximity to U.S. 460, a transportation route of statewide significance.

<b>Strategy 1</b>	Carry forward the 2006 Comprehensive Plan's policy of promoting "future development around the historic towns".
<b>Strategy 2</b>	Seek discussions with developers and builders who have experience with residential projects in rural areas about the challenges and opportunities presented by Surry's goals for high-quality residential investment.

<b>Strategy 3</b>	Continue to hold discussions with stakeholders and land owners regarding Surry's goals for high-quality investment in the Rt. 31 Corridor.
<b>Strategy 4</b>	Develop a master plan, possibly in combination with follow-on economic development efforts, for the Rt. 31 Corridor.
<b>Strategy 5</b>	New, County-serving commercial development should be located in areas designated as "Commercial" in the future land use plan.
<b>Strategy 6</b>	Work with the Town of Surry to develop land use policies, zoning regulations, and investment decisions that promote the Town as the center of civic and commercial activity in the County.
<b>Strategy 7</b>	To the extent practical, steer small business investment to existing buildings and infill lots in the Town of Surry.
<b>Strategy 9</b>	Create design standards for development along Rt. 31 and Rt. 10 in and nearby the Town of Surry.
<b>Strategy 9</b>	New development in Residential Investment Areas along Rt. 31 north of Rocky Bottom Road should be screened from the highway to the greatest extent practicable.
<b>Strategy 10</b>	Linkages should be made to provide vehicular, bicycle, and pedestrian access between residential developments, the Town of Surry, and recreational amenities.

<b><u>Objective 2</u></b>	<b>The Preservation of Working Lands and Natural Areas Is the Highest Priority Outside the Rt. 31 Corridor.</b>
<b>Strategy 1</b>	Maintain zoning appropriate for rural areas outside the Rt. 31 Corridor.
<b>Strategy 2</b>	Carefully consider impacts of development proposed outside of the Rt. 31 Corridor, including effects on nearby areas, the lost opportunities from clustering investment, and the potential loss of valuable agricultural and forest land.

(See plan section "Enhancing Quality of Life for Surry Residents" for additional strategies.)

### **Objective 3**

### **Strengthen Surry County's Financial Position by Considering the Fiscal Impact of Land Use Policy Decisions**

The Virginia Department of Housing and Community Development considers Surry County to be in a healthy financial position. As described in the Government and Finance section of the *Planning Influences and Opportunities Report*, Surry is one of the least fiscally stressed communities in Virginia. However, Surry relies heavily on public service corporation taxes from Dominion Energy's Surry Power Station. Surry has the opportunity to diversify its tax base through land use policy and strengthen its financial position by using existing and planned infrastructure and service capacity to promote strategic, revenue-positive growth.

#### **Strategy 1**

Focus efforts to promote desired investment in areas where public infrastructure facilities exist or are planned.

#### **Strategy 2**

Work proactively with the Hampton Roads Sanitation District to plan for investment in the northern Rt. 31 Corridor.

#### **Strategy 3**

At a minimum, develop cost of service estimates by land use. Ideally, develop a fiscal impact model that incorporates tax revenue, infrastructure, service, and government administration impacts of land use and proposed investment.

#### **Strategy 4**

Carefully consider the Comprehensive Plan when evaluating Capital Improvement Plan projects to ensure that capital investments help achieve goals of the Comprehensive Plan.

### **Objective 4**

### **Seek to Provide Appropriate, High-Quality Housing Choices for All Surry Residents.**

#### **Strategy 1**

Use the Future Land Use Plan to identify and then evaluate areas near the Town of Surry and along the Rt. 31 corridor that are appropriate for R-1 (Medium Density Residence) zoning.

#### **Strategy 2**

Development proposed in Residential Investment Areas should be closely scrutinized for consistency with Comprehensive Plan goals, but should generally be presumed appropriate.

#### **Strategy 3**

Develop a pattern book(s) to guide the character of development in Residential Investment Areas.

See plan section "Enhancing Quality of Life for Surry Residents" for additional strategies.

## Objective 5

While recognizing the benefits of renewable energy and the interests of property owners, Surry County should minimize the impact of utility-scale solar facilities to Surry's natural, agricultural, and cultural resources, as well as the visual impact on Surry's primary transportation routes.

### Strategy 1

Solar facilities should avoid or minimize impact to prime farmland and farmland of statewide significance.

### Strategy 2

Solar facilities should not be located within Residential Investment Areas.

### Strategy 3

Solar facilities should be screened from towns, Residential Investment Areas, and Routes 10 and 31.

### Strategy 4

Solar facilities should not visually impact scenic and cultural resources.

### Strategy 5

Solar facilities should be sited as close to existing electric transmission lines as possible. (See Map 36 of the *Planning Influences and Opportunities Report*)

### Strategy 6

Surry County should advocate for more flexible local taxing options for solar facilities.



High voltage power lines near Surry Power Station

## Transportation – More than Roadways

### Planning for Multiple Benefits from Transportation Investments

The three primary roadways in Surry County are Routes 10, 31, and 40. These routes serve an important purpose, moving people and goods around and through Surry County. They are part of a network that links places within Surry, and Surry to surrounding regions. The remainder of the road network in Surry County consists of collector and local roads that provide land access and traffic circulation within the County.

As outlined in the *Planning Influences and Opportunities Report*, Surry's transportation network and travel patterns have not changed significantly over the past decade, yet the County's transportation needs are evolving as Surry plans for the future. Above all, Surry residents desire convenient intraregional connections. They also want safe roads to travel on within the County. Finally, active transportation infrastructure is becoming a higher priority as Surry seeks to capitalize on its growing potential as a tourism and recreation destination.

Like most counties in Virginia, the Virginia Department of Transportation (VDOT) has the authority and responsibility to operate and maintain Surry County's road network. Planning for this network is primarily conducted through the Crater Planning District Commission's *Rural Long-Range Transportation Plan* (LRTP; 2011).



Core principles of the Crater Rural LRTP align closely with Surry's planning goals of inducing strategic investment and rural preservation. The LRTP states:

Rural counties throughout the Commonwealth and in the CPDC are working either to seek new economic growth and diversification or to balance growth, while striving to preserve the rural character of the landscape. Most of the land in these counties is in agricultural or forested use, with more intensive land uses in the towns and village centers, typically at the intersection of two roadways... Many of the rural counties are trying to direct any new growth towards existing towns, village centers, or service districts in order to provide services and to continue to address the needs of residents as well as maintain a general agricultural setting.

The Crater LRTP identifies five key goals, and makes recommendations based on these goals, analysis of demographic and land use trends, facility conditions, and local needs. The Crater LRTP Goals are:

1. Provide a transportation system that facilitates the efficient movement of people and goods.
2. Plan a safe and secure transportation system.
3. Improve the region's economic vitality and provide access to economic opportunities for all citizens of the region.
4. Improve quality of life and minimize potential impacts to the environment.
5. Preserve the existing transportation system and promote efficient system management.

### ***CPDC Rural Long-Range Transportation Plan Recommendations***

#### **SURRY COUNTY RECOMMENDATIONS**

##### **67 VA-626 (Beaverdam Rd.)/VA-618 (Hollybush Rd.)**

Short-term: Install pavement markings including edge lines, centerline and stop bar. Repave the depression on the NE corner.

##### **68 VA-10 (Colonial Trail E.)/VA-650 (Mount Ray Dr.)/Hog Island Rd.**

Short-term: Install advance intersection warning signs (W2 series) on VA-10; install pavement marking on northbound Mount Ray Dr.

##### **69 VA-617 from VA-10 to VA-650**

Mid-term: Explore the feasibility of bike/trail system; Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

##### **70 VA-650 from VA-617 to James River**

Short-term: Install no passing (W14-3) and horizontal alignment (W2) signs at appropriate locations.

##### **71 VA-31 from VA-10 N to VA-637**

Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

##### **72 VA-10 from VA T-1001 to Isle of Wight Co. Line**

Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

##### **73 VA-634 from VA-665 to VA-10 E.**

Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

##### **74 VA-626 from VA T-1001 to VA-616 S.**

Long-term: Reconstruct road to address geometric deficiencies (10-foot lanes).

##### **75 VA-622 from VA-31 to VA-617 W.**

Long-term: Reconstruct road to address geometric deficiencies (11-foot lanes).

##### **76 VA-617 from VA-622 E to VA-626**

Long-term: Reconstruct road to address geometric deficiencies (10-foot lanes).

##### **77 VA-617 from VA-604 W to VA-618 E.**

Long-term: Reconstruct road to address geometric deficiencies (11-foot lanes).

##### **78 VA-615 from VA-40 to VA-31**

Long-term: Reconstruct road to address geometric deficiencies (11-foot lanes).

##### **79 VA-646 from VA-626 to VA-613**

Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

##### **80 VA-10 (Colonial Trail E.)/N. VA-31 (Rolle Hwy.)**

Short-term: Improve signal timings at the intersection; Long-term: Develop bikeways.

##### **81 VA-626 (Lebanon Rd.)/VA-618 (Southwark Rd.)**

Short-term: Reconstruct roadway to straighten curves, widen, and grade (improve horizontal and vertical alignment) and remove dips.

##### **82 VA-627 (Moonlight Rd.) from VA-10 E. to 0.5 Mi. S. of VA-10**

Short-term: Widén road, improve ditches, straighten curve.

##### **83 VA-617 (White Marsh Rd.) from VA-10 E. to 2.8 Mi. S. of VA-10**

Short-term: Reconstruct and widen the roadway, straighten curve.

##### **84 VA-609 (Sunken Meadow Rd./River Rd.) from VA-626 to TI1209**

Short-term: Rework road and improve curves.

##### **85 VA-633 (Chippokes Farm Rd.) from VA-10 E. to VA-634**

Short-term: Reconstruct and widen roadway.

##### **86 VA-616 (Golden Hill Rd.) from VA-10 E. to VA-632**

Short-term: Reconstruct roadway and straighten curve.

##### **87 VA-634 (Highgate Rd.) from VA-10 E. to VA-633**

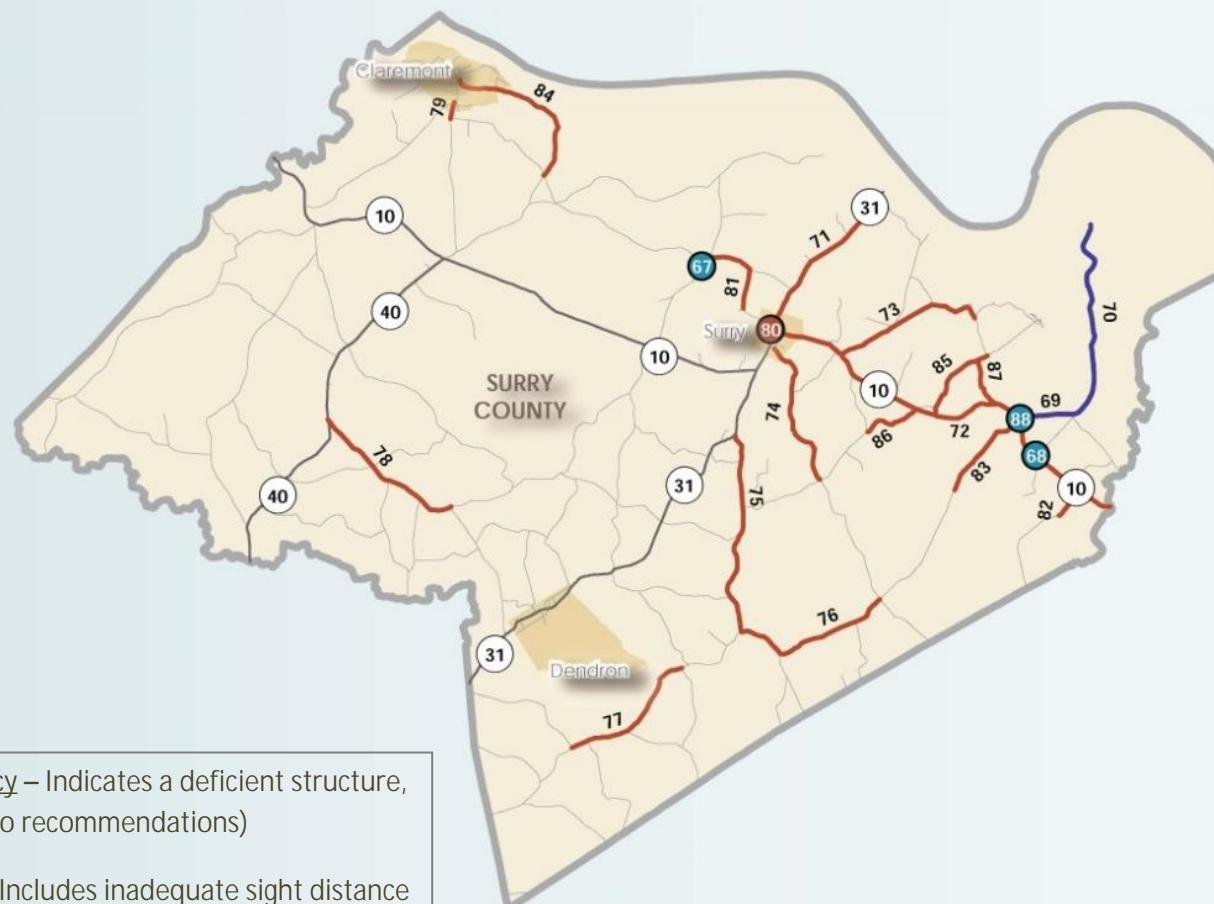
Short-term: Reconstruct and widen roadway.

##### **88 VA-10 E. (Bacon Castle Trail) at VA-617 (Colonial E.)**

Short-term: Install a left-turn lane for eastbound VA-10.

\*Legend provided on following page

## CPDC Rural Long-Range Transportation Plan Recommendations



Operation Deficiency – Indicates a deficient structure, typically a bridge (no recommendations)

Safety Deficiency – Includes inadequate sight distance and visibility, access management, or signage

Geometric Deficiency – Includes substandard lane width, shoulder width, or horizontal or vertical curvature

### SURRY COUNTY DEFICIENCIES

Intersection Deficiency

- Operation Deficiency
- Safety Deficiency
- Both Deficiencies

Segment Deficiency

- Operation Deficiency
- Safety Deficiency
- Geometric Deficiency
- Both Operation & Safety Deficiency

Surry County is in a desirable position when it comes to transportation planning. In many communities, transportation network capacity is strained from the existing level of traffic, requiring significant resources to maintain an acceptable level of service. In other words, most communities are simply trying to keep up with existing demands.

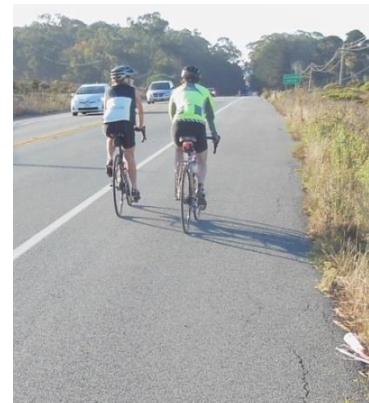
Surry's existing roadway network largely meets the community's needs. This circumstance allows Surry the opportunity to think strategically about how transportation system improvements can provide multiple benefits to the County.

In 2015, Surry developed its *Comprehensive Bicycle and Pedestrian Plan*. The primary goals of the plan are to improve connectivity, safety, and community health. The plan also recognizes Surry's potential as a destination for active tourists and recreational bicyclists. Making investments to capitalize on this potential can be part of the foundation for development of a network that attracts visitors to Surry County.

The *Plan* provides policies and project recommendations to create a multi-modal transportation network in Surry County that include sidewalks, bike lanes, paved shoulders, signed routes, bicycle facility amenities, trails, and shared-use paths.

Surry has already made significant progress toward implementation of the *Plan*. In 2019, the Commonwealth Transportation Board approved \$9.6 million in SMART SCALE funding for bicycle accommodations on Rt. 31 from the Town of Surry to the Jamestown-Scotland Ferry. The project consists of 4 miles of new paved shoulders that will connect destinations such as the Jamestown-Scotland Ferry, the Town of Surry, and Smith's Fort Plantation.

The *Plan* also recognizes the importance of linking Surry to larger trail systems. The Virginia Capital Trail is a pedestrian and bicycle path that runs from Jamestown to Richmond. Plans are underway for the development of the Birthplace of America Trail. The Birthplace of America Trail will connect the Virginia Capital Trail to Fort Monroe and Southside Hampton Roads. The Southside Route will begin by traveling from Jamestown to Surry by ferry and showcase aspects of Surry's scenic, cultural, and historic heritage. Surry is also on the route of the East Coast Greenway, a biking system that stretches from Maine to Florida. The bicycle accommodations along Rt. 31 strengthen the attraction of these trails of state and national significance.



Paved shoulder

## Birthplace of America Trail



## ***Multi-Modal Main Street***

A core tenant of this plan is to focus investment in and around Surry's towns, especially the Town of Surry. Improvements to public spaces in the Town of Surry to promote a "Main Street" type of environment are functionally important to residents, and can attract visitors and investment. Because many of Surry's basic transportation needs are already met by the existing system, streetscape improvements can be more highly prioritized. These types of public investments make for more user-friendly and safe environments for pedestrians and bicyclists, they aesthetically improve the public realm, and they incentivize private investment in the community.

Surry's towns, especially Surry and Dendron, are like many small towns across America. They are located on state-controlled roadways that were built to move cars between destinations at relatively high speeds. While these interjurisdictional connections are important to residents of rural areas who must travel to access some basic needs and services, the roadways that provide them do not serve the towns themselves very well. This "highway as Main Street" problem prioritizes through traffic over local access.

There are additional reasons for rural towns to invest in developing more "complete" streets. The main reasons have to do with safety and equity. The National Highway Traffic Safety Administration has found that residents of small towns are more likely to be hurt or killed using the transportation system than those in urban areas. In addition, rural communities tend to have higher concentrations of older adults and low-income residents, two populations that can particularly benefit from alternative modes of transportation. The U.S. Department of Transportation defines "Complete Streets" as:



Example streetscape project in small town

... Streets designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are travelling as drivers, pedestrians, bicyclists, or public transportation riders. The concept of Complete Streets encompasses many approaches to planning, designing, and operating roadways and rights of way with all users in mind to make the transportation network safer and more efficient.



Example streetscape project in small town

Complete streets also provide visual appeal. A traditional “Main Street” is designed with street-fronting land uses, slow travel speeds, and pedestrian-oriented design features such as sidewalks and lighting. These types of streets can strengthen community identity by creating enhanced aesthetics, spaces for civic activities, and creating conditions to attract and retain businesses.

<b><u>Goal</u></b>	<b>Surry County's transportation system will enable convenient intraregional connections and further Surry's land use, placemaking, and economic development goals.</b>
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Surry County's transportation planning objectives to achieve this goal are based on several key principles:

1. Transportation planning is about more than moving vehicles along roadways.
2. Know the system - Transportation planning is defined by highly regimented state and federal processes.
3. Use the system - Funding opportunities exist for those who can creatively make the system work to meet their needs.
4. Recognize that transportation planning is data driven.
5. Always consider how transportation projects can provide multiple benefits.

<b><u>Objective 1</u></b>	<b>Provide safe and convenient connections to the Hampton Roads and Richmond regions.</b>
<b>Strategy 1</b>	Work with VDOT, the Crater Planning District Commission, and the Hampton Roads Planning District Commission to study the need for improved intraregional connections, with specific focus on the James River crossing from Scotland Wharf to Jamestown.
<b>Strategy 2</b>	Work with community stakeholders to prioritize recommendations in the CPDC <i>Rural Long-Range Transportation Plan</i> . Many of the <i>Plan</i> 's recommendations are related to safety deficiencies. Surry should work with CPDC and VDOT to pursue Highway Safety Improvement Program (HSIP) funding for high-priority projects.
<b>Strategy 3</b>	Strengthen connections to the U.S. 460 corridor through improved signage along U.S. 460.
<b>Strategy 4</b>	U.S. 460 is one of the most important freight corridors in Virginia. Consider ways to capitalize on Surry's location adjacent to this corridor, potentially through joint ventures with Sussex, Prince George, and Isle of Wight Counties.
<b>Strategy 5</b>	Work with leaders from the Richmond and Hampton Roads regions to advance projects that emphasize U.S. 460's role in connecting interior parts of Virginia to coastal tourism and historic assets.

## Objective 2

Surry County's highest priority transportation projects should provide multiple benefits to residents and further strategic objectives of the Surry County Comprehensive Plan, the Comprehensive Bicycle and Pedestrian Plan, and other plans.

### Strategy 1

Work with CPDC and the VDOT Local Assistance Division to make "Complete Street" enhancements to Routes 10 and 31 in the Town of Surry and Route 31 in the Town of Dendron. Funding should be primarily pursued through the Transportation Alternative Set-Aside Program, which is specifically intended to advance community-based projects that expand non-motorized travel choices and enhance the transportation experience.

### Strategy 2

Leverage planning for the Birthplace of America Trail to implement recommendations of the *Comprehensive Bicycle and Pedestrian Plan*.

### Strategy 3

Convene a standing staff committee to pursue funding for projects from sources identified in the *Comprehensive Bicycle and Pedestrian Plan*. These programs are intended to fund a wide variety of projects that provide benefits beyond basic bicycle and pedestrian infrastructure.

### Strategy 4

Improve gateways to the County and towns along Routes 10, 31, and 40. High-priority gateways include Route 31 at Scotland Wharf and gateways to the Town of Surry.

### Strategy 5

Closely coordinate tourism and transportation planning efforts.



Cyclists touring Surry County

# Economic Growth and Diversification

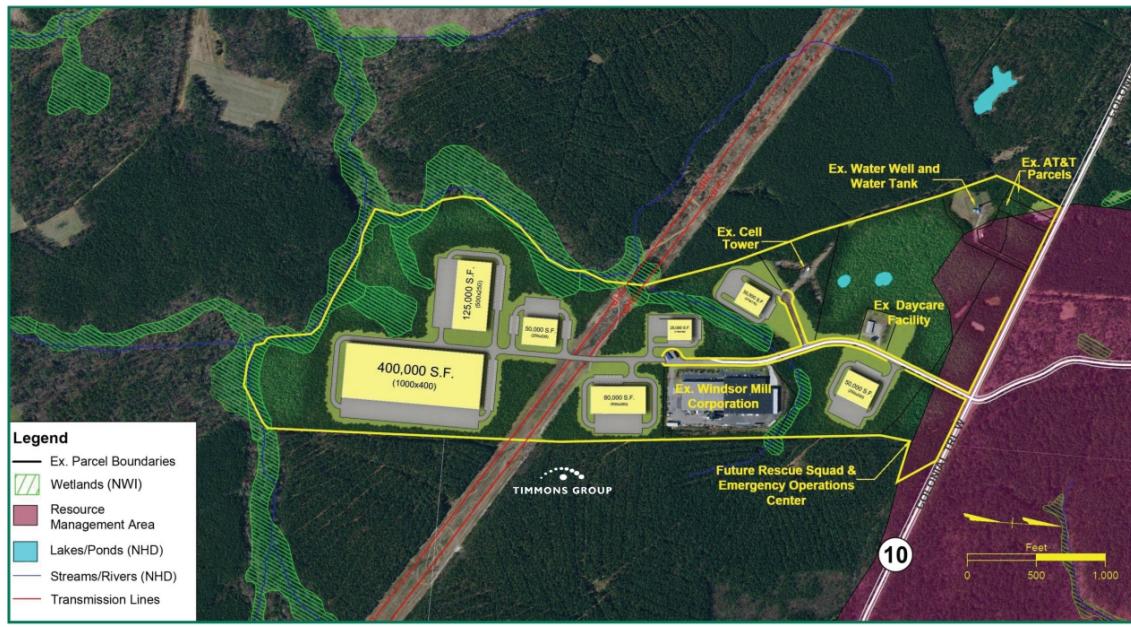
## Composition of Surry's Economy

Surry County's economy is a reflection of the residents, visitors, employers, employees, and businesses that interact in and around the County. A large portion of the County's economy is driven by Dominion Energy's Surry Power Station, companies providing services to the power station, and local and state government. Ten of the fifteen largest employers in the County fall into these three categories. Other top-15 employers include wood products and lumber companies, construction and trade companies, and a producer of pork products. Most people working in Surry are employed by or at these establishments. Over the past ten years, the construction and government sectors have grown the most.

### Geographical and Physical Assets

Surry County is located between two of Virginia's most populous metropolitan areas, Richmond and Hampton Roads. The U.S. 460 Corridor is the primary connection to these two regions, linking Surry to regional markets and workforces, three interstate highways, and the Port of Virginia. Additionally, the Jamestown-Scotland Ferry provides a direct connection for residents and tourists between Surry and the Williamsburg area.

Surry is also home to one of Hampton Roads' largest industrial development sites. The Surry West Business Park is a 173-acre, publicly-owned industrial park with utility infrastructure in place and a buildout potential of approximately 1,000,000 SF.



### Labor Profile and Commuting

Based on 2015 Census data, 2,665 people hold primary jobs in Surry County. Most of these workers are not Surry County residents, with 80% of Surry's workforce commuting to Surry from outside the County. Only 20% of Surry's workforce both live and work in the County. This means that over 2,000 Surry residents commute outside the County to work every day. Surry has more than enough jobs to employ every worker living in the County, but most commute outside the County for jobs in the retail and service sectors.

### Agriculture

Although agricultural employment has declined by almost 15% in the past 15 years, agriculture remains an important part of Surry County's economy. According to the 2012 USDA Census of Agriculture, there are over 45,000 acres of farmland in Surry. This represents about 25% of the County's total land area. The market value of products produced in Surry County doubled from 2007 to 2012, from \$13.9 million to \$27.7 million.

### Tourism

Tourism also contributes significantly to Surry's economy. According to the Virginia Tourism Corporation (VTC), tourists spent over \$10.3 million in Surry in 2017, up from \$9.7 million in 2012 and \$8.3 million in 2007. This spending has led to increased tax revenue and jobs. Details about Surry's tourism economy and tourism planning are included the *Surry County Tourism Assessment Report*, 2017 addendum to that report, and associated documents. Major tourism assets include Chippokes State Park, significant colonial-era historic sites, unique agri-tourism destinations, and numerous opportunities for outdoor recreation.



### Tax Revenue

The County's blend of industry employment has led to a unique stream of tax revenue for Surry County. Local tax revenue in Virginia typically comes from four main sources; the real property tax, the personal property tax, the local option sales and use tax, and the business license tax. On average, Virginia counties raise about 65% of their tax revenue from the real property tax. Unlike most Virginia localities, the real property tax is not Surry County's dominant source of revenue. In 2015, only 30.3% of Surry's local tax revenue was raised from the real property tax. 60.9% of local tax revenue came from the tax on public service corporation property (Surry Power Station). Surry County highly values the power station as a corporate citizen that is invested in the community. The County seeks to explore ways to deepen this mutually beneficial relationship, while also planning to diversify revenue sources.

### ***Composition of Rural Economies***

Economies are made up of three basic types of industries – local industries, resource dependent industries, and traded industries. Economic performance is affected by the nature of this composition.

Local industries provide goods and services to the local market. Employment in local industries is roughly proportional to the local population. Growth in the number of businesses serving the local market is important for two main reasons. These businesses can improve quality of life for residents by providing better access to jobs, shopping, services, and healthcare. They also allow people to spend money where they live, to the benefit of the community. Because local industries grow in proportion to population, they should not be considered an independent driver of economic growth.

Resource-dependent industries are those based on utilization of an area's natural resources. Examples are farming and mining. Employment is located where natural resources are found. In advanced economies, resource-dependent industries have a limited impact on employment growth. For example, technological advances have increased farm yields and efficiency, reducing farming jobs while boosting output. This circumstance is familiar to Surry County. Historically, Surry's economy has been based on farming and forestry. Today, farming provides only about 150 jobs in the County.

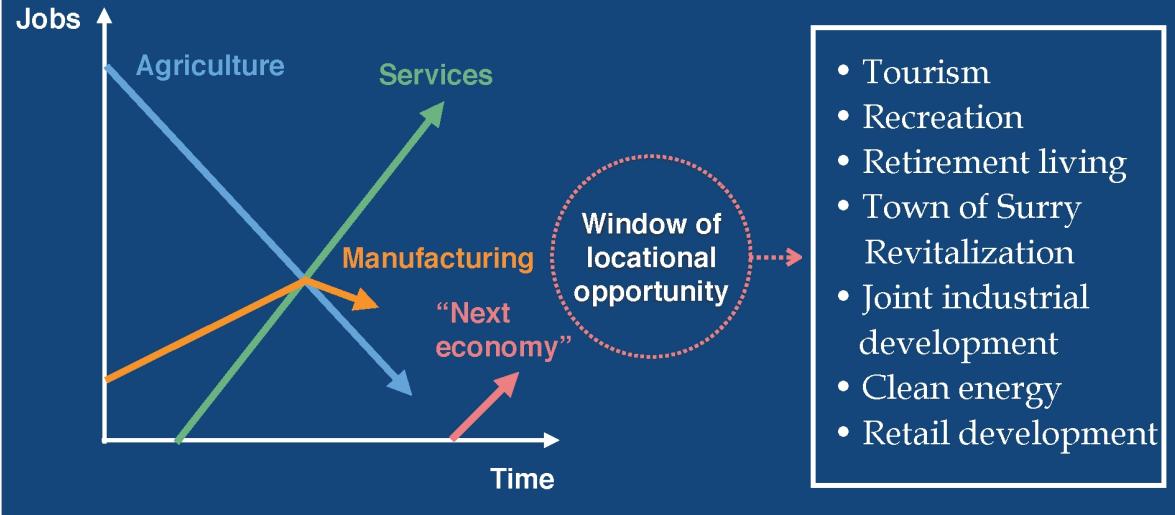
Traded-industries sell products and services outside of a local area. They are located in a particular area based on considerations of competitive advantage. Traded industries have a disproportionate influence on local prosperity and economic growth. They tend to have higher wages and can grow beyond the size of the local market. They not only provide employment themselves, but drive demand for local services. Traded-industries bring new dollars into an economy.

This explanation of economic structure is both applicable and important to Surry County. Studies have shown that in terms of industry type the composition of rural and metropolitan economies is roughly similar. The main differences are in sectors of specialization. (i.e. farming vs. biotechnology) It is important because understanding this framework can help set priorities. Surry County has an interest in supporting each of these components of its economy for a variety of reasons.

### ***The Shift to the Service Economy***

Over the past forty years, the U.S. economy has shifted from one driven by manufacturing to one driven by services. This shift can seem particularly daunting to rural communities that fear being left behind in this new economy. The needs of the service economy appear to magnify some of the traditional economic disadvantages of rural areas. Rural areas have lower population density, fewer specialized educational institutions, a less competitive business environment, and less clustering of related businesses. There are, however, service sectors where rural areas can be very competitive. Some of these include tourism, recreation, and retirement living, which could form a part of the foundation of Surry's "next economy". Surry County has the assets to grow its economy through these sectors.

## Setting the Stage to Grow Surry's "Next Economy"



While Surry should consider this shift in formulating economic development strategies, it should not overlook possible opportunities in more traditional sectors. As outlined in the next section, some of the shared strengths of the Hampton Roads and Richmond regions are in these sectors, such as manufacturing and logistics. Surry has assets to grow its economy through competitive regional positions in these industry clusters.

### ***Regional Economies and Industry Clusters***

Regions are the basic functional unit of all economies. The linkages that make up regional economies are apparent everywhere. Commuters travel across local and even state borders on the way to work. Businesses rely on suppliers, customers, and workers from many cities, counties, and towns. Surry County participates on the periphery of both the Hampton Roads and Richmond regional economies. In developing strategies to grow and diversify Surry's economy, it is essential to understand the regional economies in which it participates.

#### *What are industry clusters and why are they important?*

Industry clusters are regional concentrations of related industries. They consist of companies, suppliers, and service providers, as well as government agencies and other institutions that provide specialized training and education, information, research, and technical support. In other words, clusters are a network of economic relationships that improve productivity and create a competitive advantage for the related firms in a particular region. This advantage then becomes an incentive for similar industries and suppliers to those industries to develop or relocate to a region.

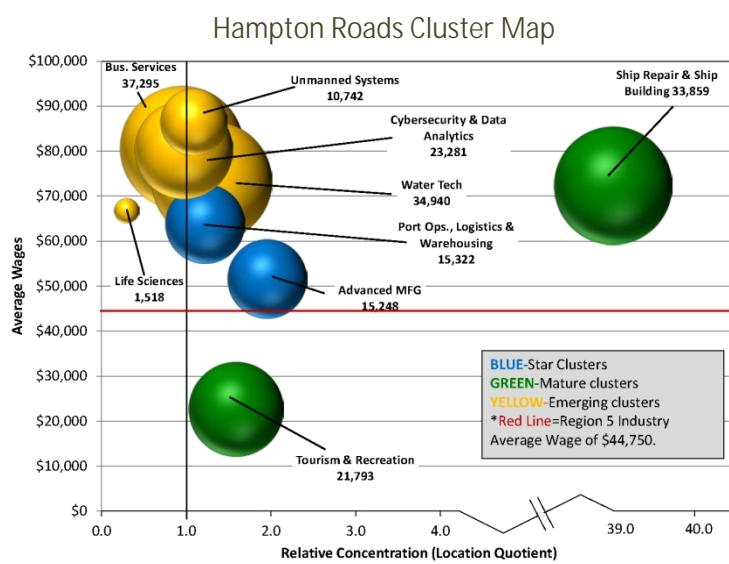
### Why are clusters important to Surry County?

Clusters are important to Surry because it can use the region's strengths to its advantage. Few cities or counties in Virginia can attract and foster economic growth on their own, especially one the size of Surry County. While the economies of Hampton Roads and the Richmond region are different, they share advantages in certain clusters, particularly advanced manufacturing and logistics. These are also two of the clusters that best suit the assets of rural localities.

### Hampton Roads

The Hampton Roads economy is a significant part of the Virginia economy. In 2017, the region's GDP was \$94.9 billion, or 18.6% of Virginia's total gross product. This makes Hampton Roads Virginia's second largest economic region, behind Northern Virginia. However, the region's economy has underperformed for over a decade. The reasons for this stagnation include a reduction in federal spending and slow growth in private sector employment. Additionally, population and job growth lag state and the national growth rates.

Hampton Roads' economy is often referred to as a three-legged stool, with the military, the port, and tourism representing the three legs. Recently, several studies have been conducted to better understand the composition of regional industry clusters and identify "priority clusters". Industry clusters that have been identified in these studies include advanced manufacturing, food & beverage manufacturing, ship building & repair, port operation & logistics, life sciences, business services, cyber security, tourism & recreation, water technologies, and unmanned systems. Some of these clusters are mature and stable, like ship building & repair and tourism. Some are mature and also poised for growth, like port operations & logistics and advanced manufacturing. Some are just emerging, such as water technologies and unmanned systems. Across these studies, several clusters have been identified as "priority clusters" around which the region should focus strategic investment. These include advanced manufacturing, food processing, port operations & logistics, and business services.



Source: Region 5 Growth and Diversification Plan

### *Richmond Region<sup>6</sup>*

The Richmond region performs well relative to the state and nation on many economic and labor force measures. Population has been growing more rapidly in the region, overall labor force participation is high, and employment growth is supported by a diverse mix of industries. However, significant intraregional differences exist. Population has declined in each of the five localities with the smallest populations (Emporia, Surry, Sussex, Greensville, and Charles City). Labor force participation is also lower than the regional average in these areas.

The creative services, financial services, defense & security, bioscience, and logistics clusters perform well compared to growth in these industries nationally over the last 10 years. Some of these clusters, including professional services, energy, financial services, manufacturing, and defense & security, are also the largest in terms of regional production.

Logistics is an important industry cluster due to the region's natural locational advantages. These include the intersection of three interstate highways and Port of Virginia facilities, which now include the inland Richmond Marine Terminal. If the cluster is to support higher paying jobs, however, it will be important to link logistics to other clusters such as manufacturing.

Although employment in manufacturing has declined over time, proximity to the port will help ensure that advanced manufacturing will continue to create high-paying jobs in the region. Addressing workforce development concerns and infrastructure issues that inhibit site development are necessary for success in the manufacturing and logistics clusters.

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<sup>6</sup> For purposes of economic analysis, the Richmond region is considered GO Virginia Region 4.

## ***Growing and Diversifying Surry's Economy***

This Plan makes sector-specific policy recommendations for growing and diversifying Surry's economy based on local assets and regional economic structure. It also identifies several core principles that are relevant across sectors to provide cohesion among the recommendations. They are the following:

1. Surry's long-term goal is to develop an economy that can support the delivery of high-quality services without excessive dependence on tax revenue from the Surry Power Station. Strategies identified in this plan should be used as the basis for developing an economic development work program, including specific objectives and performance measures, to achieve that goal.
2. Business attraction is an important economic development strategy, but it is not a comprehensive economic development strategy.
3. Focus on ecosystem development and building capabilities. Prioritize public investments that advance strategic priorities and provide foundations for business formation, growth, and retention.
4. Leverage regional strengths, assets, and relationships to amplify local initiatives.
5. Invest in the workforce. Demographic data and observations from Surry residents indicate Surry may "lose" much of its investment in young workers to other areas. Those investments must be made anyway. A talented workforce is the currency of competitiveness in the modern economy. It is also the right thing to do for Surry's youth.
6. Make reinvestment of local wealth and resources a cornerstone of the community's identity.



Windsor Mill, Surry West Business Park

## Building Surry's Local Economy

- Cultivating Businesses That Improve Quality of Life



### ***Intent***

Growing the number of businesses that serve residents is a key to improving quality of life in Surry County. These types of businesses can provide some additional employment. More importantly, they provide choices for Surry residents:

- The choice not to leave Surry for essential goods and services
- The choice to support local businesses and develop a more vibrant community
- The choice to continue to live in or move to Surry County

The adage is that retail and service businesses follow rooftops. It is also understood that the “local” sector of the economy exists in relative proportion to the size of the population. For these reasons, policies and strategies to grow the number of local-serving businesses are complimentary to and include land use policies. The Land Use element of this Plan identifies Residential Investment Areas that are intended to induce strategic investment in the community and foster sustainable population growth.

### ***Strategies***

1. Implement strategies identified in Land Use Objective #1 to focus residential investment around the Town of Surry and the Rt. 31 corridor.
2. Improve public spaces, particularly rights-of-way in the Town of Surry, as outlined in Transportation Objective #2, to aesthetically enhance the public realm and incentivize private investment in the community.
3. Carry out an evaluation of the process to attract a grocery store to Surry County. Lessons learned from this process should inform future efforts to attract retail and service businesses.
4. Work to build the existing “Shop Local” campaign to encourage residents to support local businesses and increase local retail sales tax revenue.
5. Explore ways for new businesses to test their viability without making expensive, long-term commitments. Support could be in the form of setting up vendor space on County property during special events, facilitating short-term leases in vacant buildings in the Town of Surry, and mini-grants to assist with start-up costs.

## Building Surry's Local Economy

### - Attracting Retirees to Surry County



#### ***Intent***

In the nation and the region, the elderly population is growing faster than the total population, increasing the economic importance of the elderly. Freed from the geographic constraints of living near their jobs, retirees are expected to move to places more suited to a comfortable and leisurely lifestyle. From the perspective of local government, the potential benefits of retiree-based economic development strategies are attractive.

These potential benefits include<sup>7</sup>:

- *Timing*: Demographic trends are favorable.
- *Job Creation*: One job is created for every 1.8 retirees. 100 attracted retirees will create 55 jobs.
- *Fiscal Impacts*: Net impacts of retirees on local government finances are neutral, or positive if it is assumed that retirees generate no new need for K-12 education spending and have wealth.
- *Economic Diversity*: Retiree-based economic development benefits service industries such as health care, home building, retail, and household services rather than manufacturing, agriculture, or government. Recruiting retirees can therefore help rural areas diversify their economies.
- *Reduce Economic Risk*: Retiree recruitment can make rural areas less vulnerable to macroeconomic trends, and less dependent on the actions of a few large employers.
- *Critical Mass*: Retirees may provide the critical mass necessary to support certain types of businesses that previously did not exist, reducing out-shopping by long-term residents.

#### ***Strategies***

1. Develop a workgroup to explore the potential of Surry to attract retirees. Potential workgroup participants should include experts from the academic, housing and health-related non-profit, and development communities.
2. Retirees are often drawn to the same places that attract tourists. Develop a joint marketing effort to attract retirees and tourists.

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<sup>7</sup> Terry College of Business, University of Georgia, "Golden Rules: Evaluating Retiree-Based Economic Development in Georgia"

## Building Surry's Local Economy

### - Supporting Entrepreneurs and Small Businesses



#### ***Intent***

Most new jobs are created by small businesses. Further, young businesses contribute significantly to overall small business job creation. These types of businesses employ local residents, and play an important role in creating a sense of place that enhances a community's quality of life. Additionally, contemporary best practices in economic development emphasize growth from within by strengthening assets rather than just recruiting businesses from elsewhere.

Local governments can encourage entrepreneurs and small businesses in a variety of ways by creating an ecosystem that provides resources and removes barriers. Generally, this is achieved by understanding how small businesses develop, fostering a supportive and transparent attitude toward small businesses within government, and serving as a conduit linking small businesses to resources and expertise.

#### ***Strategies***

1. Understand the needs of small businesses to craft effective policies and actions, such as workshops that connect small business owners to resources and experts.
  - a. Earliest stage businesses need help turning an idea into a product or service.
  - b. Businesses that have made it out of the “start-up” stage are often focused on building a customer base and securing financing.
  - c. Established small businesses may need to build managerial capacity to grow beyond the personal capacity of the owner.
2. Establish a culture of leadership to support small businesses that encourages participation in policy-making, motivates internal and external stakeholders through awards and other recognition, and legitimizes the reasonable use of resources for small business programs.
3. Engage with stakeholder groups that represent the business community to get input on the positive or negative effects of policy and regulations, promote community resources, and celebrate successes.
  - a. Develop a “business needs” survey.
4. Provide an accessible interface for businesses to interact with government that is responsive to questions, can coordinate internal review processes, and provide transparent timelines.

## Maintaining Surry's Heritage Economy



### ***Intent***

Agriculture remains an important part of Surry County's economy. According to the 2012 USDA Census of Agriculture, there are over 45,000 acres of farmland in Surry. This represents about 25% of the County's total land area of 279 square miles. There were 127 farms in Surry County with an average size of 355 acres. Both the number of farms and the average farm size increased since 2007, the date of the previous Census of Agriculture. The market value of products produced in Surry County doubled from 2007 to 2012, from \$13.9 million to 27.7 million.

Support for working lands in this plan primarily takes the form of land use and environmental policy. These policies are based in part on an extensive analysis of the quality of agricultural, forest, ecological, and coastal environmental resources in Surry County provided in the *Planning Influences and Opportunities Report*. The majority of these policies can be found in Objective #1 of the Land Use chapter and Objective #2 of the Enhancing Quality of Life chapter. In general, they focus on directing development to the Rt. 31 corridor and utilizing and protecting Surry's natural resources.

Several additional strategies to maintain Surry County's heritage economy are outlined below. The guiding principle for these strategies is to support the rural landscape by creating an economic climate that enhances the viability of working lands and conserves natural lands.

### ***Strategies***

1. There is not currently much residential development pressure on Surry's working lands. However, if such pressure increases, County staff should understand the preservation tools that are the best fit for the County, such as use-value taxation and right-to-farm policies.
2. Agri-tourism has been identified as a potential opportunity to grow Surry's tourism industry. Through the Tourism Advisory Committee, or through other means, the agriculture community should continue to be closely engaged in Surry's tourism planning efforts.
3. Help facilitate direct marketing to consumers through community supported agriculture, farmers' markets, and agri-tourism.

## Growing Surry's Economic Base

### - Designing an Effective Economic Development Strategy

#### ***Intent***

The purpose of economic development is to influence growth through investment in excess of what markets alone can do. Traditionally, this has consisted of business attraction – convincing a business to locate or expand in one place instead of somewhere else. Modern economic development programs are broader in scope and attempt to position communities for sustained growth through a variety of activities. Surry must consider its circumstances in deciding on the scope of its economic development program. As a community with limited resources, it is unrealistic to develop robust programs across the spectrum of economic development activities. In addition, because of Surry's size, a few successful attempts to attract new businesses to the County can have a significant impact on the economy and the County's financial resources. Given these considerations, strategies focused on supporting entrepreneurs and business attraction within specific industries make the most sense for Surry County.

#### ***Strategies***

1. Of the priority industry clusters in the Hampton Roads and Richmond regions, the distribution and manufacturing clusters are the two which provide the most opportunity for Surry County.
  - a. Make targeted investments that provide capacity to help grow these priority clusters, including the completion of due diligence studies necessary for Surry West Business Park to achieve Virginia Business Ready Sites Program (VBRSP) Tier 4 certification.
  - b. Evaluate Surry's position within other regional priority clusters.
2. Carefully consider the potential for timely return on investment in a second industrial site. Site development is expensive, especially in areas where high-capacity utility service and other infrastructure are not in place. Additionally, Virginia is prioritizing site-readiness statewide, increasing competition from other sites in Virginia. As an alternative, consider joint site development with neighboring counties better positioned on the U.S. 460 corridor.
3. Develop a program to visit existing businesses to learn about their decisions to locate or remain in Surry County, and to understand how the County can continue to support these businesses.
4. The GO Virginia Region 4 Growth and Development Plan places a heavy emphasis on developing a skilled workforce. It specifically identified a “middle skills” gap associated with jobs that require more than a high school diploma and less than a four-year degree. County staff should work with Surry County Public Schools, Dominion Energy, community colleges, and Virginia career centers to align training with workforce needs and promote skilled trade careers.
5. Develop enhanced branding materials. Promote their use across public and private platforms.
6. Inventory property with potential for use in business attraction and retention activities.
7. Evaluate the need for additional staff capacity to support economic development activities.

## Growing Surry's Economic Base

### - Tourism and Recreation



#### ***Intent***

Tourism is the fifth largest industry in Virginia, generating over \$20 billion in visitor spending annually, supporting over 200,000 jobs, and raising almost \$1.5 billion in state and local taxes. The Coastal Virginia tourism region that includes Surry is the second most popular region in the state based on spending, jobs, tax dollars, and visitor volume. This type of commercial activity can be a significant benefit to rural communities. In some rural counties tourism is a top source of revenue generation. Tourism strategy<sup>8</sup> implementation should be considered one of Surry's highest economic development priorities.

Increased tourism supports many economic development goals. It brings in money from outside the County, creates jobs, raises tax revenue, supports local businesses, and provides amenities that enhance quality of life for residents. Consultants have identified segments of the tourism market in which Surry can be competitive. These include agri-tourism, eco-tourism, event & festival tourism, food & beverage tourism, history & heritage tourism, and outdoor recreation tourism.

#### ***Strategies***

1. Tourism strategies are well defined in the Goldman and Associates and Virginia Tourism Corporation reports for Surry County. They primarily revolve around drawing visitors already in the Williamsburg area to a day trip in Surry County. The brand vision for Surry is for visitors to Coastal Virginia to spend at least one day of their vacation in Surry County. Specific areas of focus in these reports include: aggressive marketing of tourism initiatives, attractions, and events; building partnerships with localities in the region; and developing new tourism products and services for tourists.
2. Improving public access to Surry's waterfront is important as a recreational amenity for Surry residents and as a tourism asset. The County should consider developing a small area plan to guide capital improvements and other projects for the area around Gray's Creek Marina.
3. Surry County should explore opportunities to attract cyclists. Surry has excellent natural assets (scenic and uncongested roads) and is making investments in its bicycle infrastructure.<sup>9</sup> Surry is already well known in the Hampton Roads biking community as the home of the Surry Century Ride. It is also on the route of the Birthplace of America Trail and the East Coast Greenway.

<sup>8</sup>Surry County tourism studies include: "Surry County Competitive Tourism Position Travel Market Research Study"; "Surry County Recommended Marketing Strategy"; "Surry County, Virginia Tourism Assessment Report"

<sup>9</sup> In 2019, the Commonwealth Transportation Board approved a \$9.6 million project to improve bicycle accommodations on Rt. 31.

This Plan recognizes that the foundations for economic growth are built throughout the community. They include high-quality schools, affordable housing, reliable transportation networks, and community amenities. Understanding this, the Surry County Economic Development Department takes a comprehensive approach to its work by focusing on innovative ways to provide business-enabling infrastructure, closing resource gaps, branding the community in a positive manner, providing timely and transparent service, and establishing partnerships across levels of government and among diverse stakeholders.

The Economic Development Department is guided by two goals and a set of principles that reflect this holistic approach to growing the local economy:

### Goals

1. Provide quality services, programs, and information to support business location, growth, and development.
2. Promote the County's dynamic blend of assets, strategic location, and environmental resources that make Surry County a great place to live, work, and grow business.

### Principles

1. Determine our inherent strengths
2. Commit to build upon those strengths
3. Identify specific challenges and opportunities
4. Craft strategies to address challenges and take advantage of opportunities

### ***Immediate Implementation Actions***

1. Complete due diligence studies necessary for Surry West Business Park to achieve Virginia Business Ready Sites Program (VBRSP) Tier 4 certification.
2. Fully implement the Recommended Marketing Strategy for tourism developed by Goldman and Associates.
  - Assess effectiveness of implemented items.
  - Revisit strategy with Goldman and Associates or another consultant, as needed.
3. Hold a roundtable meeting, at the invitation of the County Administrator, with representatives of the local business community, to communicate the County's economic vision and encourage input on policy and planning issues.
4. Develop a workgroup to explore expanding Surry's potential to attract and retain retirees.

## 2040 Surry County Comprehensive Plan

# Appendix: Planning Influences and Opportunities Report



# Planning Influences and Opportunities Report

This is the first product of the Surry County 2040 Comprehensive Plan process. The Comprehensive Plan is an opportunity for Surry County to create a common vision for the future by identifying community concerns and aspirations and creating an action plan to achieve that vision. This Plan will carry forward and update the Comprehensive Plan adopted by the Surry County Board of Supervisors in 2006.

This report identifies planning influences and opportunities. The content of the report comes from stakeholder meetings, tours of the community, review of existing plans, studies, other community documents, and extensive analysis of socioeconomic, environmental, cultural, transportation, land use and other community-related data and information.

There are many planning issues that have been identified through this process. This report begins synthesizing these issues and identifies key influences for focus in the Plan.

## ***Summary of Existing Conditions***

Documenting existing conditions and long-range projections is essential for identifying public service needs, determining opportunities for new development, and planning for capital improvements. The following report details the data and projections that are used in the 2040 Comprehensive Plan for Surry County. This summary of existing conditions provides the background data and statistical analysis that serves as the foundational information for making policy decisions.

### **Key Conditions and Trends**

#### ***Socioeconomic Conditions and Trends***

Surry's population has changed relatively little over the past 50 years, **growing 13.5% since 1970**. This trend is expected to continue over the next several decades.

Surry's population is older than typical population distributions, and is aging. **The median age increased from 38.4 in 2000 to 48.2 in 2016**.

**Household income in Surry is comparable to Hampton Roads**, but housing costs are lower.

Almost all homes in Surry County are **single-family** or mobile homes.

### ***Land Use Conditions and Trends***

**90%** of the land in Surry County is used for **agriculture or is forested**. Another 5% is used for conservation or recreation purposes.

**Only 3% of land in Surry is in residential use.** Most residences are on large lots, averaging almost 2 acres.

Almost no land in Surry is zoned for more intense use than the underlying land use, indicating **existing conditions are generally in alignment with legislative direction**. However, around the Town of Surry, the predominant agricultural zoning does not reflect the previous Comprehensive Plan's policy of centering "future development at and around the historic towns".

### ***Economic Conditions and Trends***

Surry County's private sector economy is **driven by Dominion Energy's Surry Power Station** and companies providing services to the power station. Roughly **one third of all jobs** in the County are related to the power station.

Surry's traditional agriculture sector is growing according to the last USDA Census of Agriculture, but **only generates about 150 jobs**.

There are enough jobs in Surry to employ every worker living in the County, but **80% of Surry's workforce commutes outside the County**.

Surry residents are typically **leaving the County for lower paying jobs** than those available in Surry.

Surry has a **large industrial park** with infrastructure in place to accommodate moderate development in the near term, but it is remotely located relative to regional economic assets.

Employment is expected to **grow faster** than the population through 2045.

Surry's strongest labor force **connection is to Hampton Roads**, but many workers also commute to and from the Richmond region.

Surry's tourism economy is growing. **Surry's tourism strengths align well with tourist preferences and State tourism priorities.**

### ***Natural Resources Conditions and Trends***

Surry's natural resources are **diverse and exceptional**. Few other localities, especially in Hampton Roads, possess such a combination of coastal, agricultural, and other natural resources.

Adequate measures appear to be in place to preserve these resources from **current pressures and risks**. As pressures and risks change, preservation measures should continue to be evaluated.

Surry is at **lower risk from coastal recurrent flooding and sea level rise** than many Hampton Roads communities.

### ***Infrastructure and Transportation***

Traffic conditions have not changed significantly over the last decade. While marginal improvements may be warranted, **the existing roadway network serves Surry County's needs**.

Surry is located in close proximity to one of Virginia's **major economic transportation corridors** (U.S. 460).

**Wastewater and broadband infrastructure improvements** are very important to development in Surry. Fully realizing the benefits of these improvements will take dedicated planning and investment efforts.

### ***Government and Finance***

Opportunities exist for better **coordination and cooperation between County and town governments**.

The **revenue generating capacity** of the existing tax base provides fiscal stability and the opportunity for flexibility in planning for the future.

Policies that prioritize **revenue generating land uses** and diversification of the tax base are desired.

### ***Community Facilities***

Changing demographics indicate **declining school enrollment trends will persist**.

State education funding is allocated in a way that does not **fairly treat** Surry County.

**Surry residents are generally less healthy than Virginians.** The County is pursuing grocery store, community facility, and waterfront recreation initiatives that have the potential to improve health outcomes.

## SWOT Analysis

SWOT Analysis is a strategic planning technique used to help an organization identify the *Strengths*, *Weaknesses*, *Opportunities*, and *Threats* related to planning objectives. It is intended to identify the internal and external factors that are favorable and unfavorable to achieving community goals.

### Surry County 2040 Comprehensive Plan SWOT Analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"><li>- Schools</li><li>- Safe community</li><li>- Inexpensive cost of living</li><li>- Major employer (Dominion Energy)</li><li>- Outdoor/environmental resources</li><li>- Community pride</li><li>- Strong faith-based community</li><li>- Relatively high median household income</li></ul>	<ul style="list-style-type: none"><li>- Remote location</li><li>- Lack of diversity in housing stock</li><li>- Most residents commute to jobs outside of Surry</li><li>- Employment opportunities concentrated in few sectors</li><li>- Agriculture industry does not employ many people</li><li>- Lack of shopping options for convenience and necessity items</li></ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"><li>- Agricultural/active tourism</li><li>- Connections to Hampton Roads and Richmond regions</li><li>- Large industrial site with infrastructure</li><li>- James River waterfront</li><li>- Desirability as a bedroom community and retirement destination</li><li>- Hampton Roads Sanitation District ownership and operation of wastewater systems</li><li>- Nascent broadband infrastructure</li><li>- Coordinated planning with towns and neighboring jurisdictions</li></ul>	<ul style="list-style-type: none"><li>- Over reliance on one taxpayer</li><li>- Aging population</li><li>- Stagnant population growth</li><li>- Perceived lack of opportunity for young people</li><li>- Division between County and towns</li><li>- Racial tension</li><li>- Decline in school-aged children</li><li>- Younger residents may have a decreasing willingness to live in Surry and commute long distances to jobs</li></ul>

### Population

#### What We Heard...

- Declining population is a concern.
- Much of the white population lives in Surry by choice for the rural character. Some of the African American population lives in Surry because they feel like they are “stuck”.
- There is fear that younger generations do not value Surry County’s attributes and are more likely to move away.
- There was concern about perceived lack of opportunity for young people in Surry and the desirability of the County to attract and retain younger generations.

Population growth over the last 50 years in the Western Tidewater, Southside Virginia, and the Upper Peninsula localities neighboring Surry County has varied by locality. Since 1970, James City County has grown over 300%. Isle of Wight County and the City of Suffolk have grown over 100%. During the same time, the populations of Southampton and Sussex Counties remained essentially flat. Prince George and Surry Counties grew modestly over this period.

As of 2017, Surry County’s population was 6,674. The County’s population peaked around 2010 and has declined 5.4% over the past several years.

**Table 1: Population (1970 – 2017)**

Jurisdiction	1970		1980		1990		2000		2010		2017		1970-2017
	Pop.	Pop.	Pop.	10-year % Change	7-year % Change								
Surry	5,882	6,046	2.8%		6,145	1.6%	6,829	11.1%	7,058	3.4%	6,674	-5.4%	13.5%
Isle of Wight	18,285	21,603	18.1%		25,053	16.0%	29,728	18.7%	35,270	18.6%	37,333	5.8%	104.2%
James City	17,853	22,763	27.5%		34,859	53.1%	48,102	38.0%	67,009	39.3%	74,722	11.5%	318.5%
Prince George	29,092	25,733	-11.5%		27,394	6.5%	33,124	20.9%	35,725	7.9%	37,025	3.6%	27.3%
Southampton	18,582	18,731	0.8%		17,550	-6.3%	17,482	-0.4%	18,570	6.2%	18,119	-2.4%	-2.5%
Suffolk	45,024	47,621	5.8%		52,141	9.5%	63,677	22.1%	84,585	32.8%	92,533	9.4%	105.5%
Sussex	11,464	10,874	-5.1%		10,248	-5.8%	12,504	22.0%	12,087	-3.3%	11,655	-3.6%	1.7%
Virginia	4.7M	5.3M	14.9%		6.2M	15.7%	7.1M	14.4%	8.0M	13.0%	8.5M	5.9%	82.1%

Source: Weldon Cooper Center; US Census Bureau American Community Survey

*Figure 1: Surry County Population*

Source: Weldon Cooper Center and HRPDC

Indexing population growth provides a way to compare growth in communities with populations of different size. While Surry's population has been growing, its growth rate has been slower than the U.S., Virginia, and Hampton Roads.

*Figure 2: Indexed Population Growth (Indexed Growth of 5-Year Moving Average)*

Source: US Census Bureau, Weldon Cooper Center, HRPDC

Many of these neighboring localities that experienced population growth over the last 50 years are expected to continue to grow in the future, although at a slower rate. The University of Virginia's Weldon Cooper Center estimates James City County and Suffolk will grow about 40% to 50% over the next 20 years. Prince George and Isle of Wight Counties are expected to grow by about 20% over this period. Southampton County should experience moderate growth. The populations of Surry and Sussex Counties are expected to decline by 2045. The Weldon Cooper Center estimates that Surry County's population will be 6,403 by 2040.

**Table 2: Population Projections (2017 – 2040)**

Jurisdiction	2017	2020		2030		2040		2017 - 2040
	Pop.	Pop.	2017 - 2020 % Change	Pop.	2020 – 2030 %Change	Pop.	2030 - 2040 %Change	% Change
Surry	6,674	6,597	-1.1%	6,545	-0.8%	6,403	-2.2%	-4.1%
Isle of Wight	37,333	37,459	0.3%	41,640	11.2%	45,161	8.5%	21.0%
James City	74,722	79,404	6.3%	95,549	20.3%	110,044	15.2%	47.3%
Prince George	37,025	38,379	3.7%	40,816	6.3%	42,640	4.5%	15.2%
Southampton	18,119	18,499	2.1%	19,078	3.1%	19,382	1.6%	7.0%
Suffolk	92,533	95,879	3.6%	112,920	17.8%	128,053	13.4%	38.4%
Sussex	11,655	11,687	0.3%	11,197	-4.2%	10,563	-5.7%	-9.4%
Virginia	8,470,020	8,744,273	3.2%	9,546,958	9.2%	10,201,530	6.9%	20.4%

Source: Weldon Cooper Center

Differing from the projections from the Weldon Cooper Center, the Hampton Roads Transportation Planning Organization's (HRTPO) *Hampton Roads 2045 Socioeconomic Forecast* anticipates that Surry County will grow moderately over the period from 2015 to 2045. The *2045 Socioeconomic Forecast* projects Surry's population to grow by about 8%, from 6,819 to 7,374. The difference in the projections by the Weldon Cooper Center and the HRTPO is due to the methodologies used by each organization. The Weldon Cooper Center uses past population growth rates to project future population. The HRTPO incorporates land use factors in its population projections.

Whites and African Americans make up over 98% of Surry's population. Since 2000, the white population of the County has increased by around 11%, from 46.9% of the population to 52.1% of the population. The African American population has declined by about the same amount, from 51.6% of the population to 46.1% of the population. Few people in Surry County are of Hispanic or Latino ethnicity.

These trends are in contrast to state and regional trends in which people of other races (not white or African American) are making up increasing percentages of the population. In 2000, Virginia was 72.3% white and 19.6% African American. In 2016, Virginia was 68.8% white and 19.2% African American. Similar aggregated regional statistics are not readily available for the 2000 Census. However, in 2005, Hampton Roads was 61.7% white and 31% African American. In 2016, Hampton Roads was 59.9% white

and 30.7% African American. In both Virginia and Hampton Roads, the African American population has remained flat and the white population has declined.

**Table 3: Race and Ethnicity**

	2000		2010		2016		2000-2016
	Total	% of Total	Total	% of Total	Total	% of Total	% Change
Total Population	6,829	100.0%	7,058	100.0%	6,731	100.0%	0.0%
White	3,201	46.9%	3,618	51.3%	3,508	52.1%	11.2%
Black or African American	3,524	51.6%	3,254	46.1%	3,104	46.1%	-10.6%
American Indian or Alaska Native	17	0.2%	21	0.3%	13	0.2%	-22.4%
Asian	9	0.1%	24	0.3%	29	0.4%	226.9%
Native Hawaiian or Other Pacific Islander	2	0.0%	2	0.0%	0	0.0%	-100.0%
Some Other Race	17	0.2%	21	0.3%	15	0.2%	-10.5%
Two or More Races	59	0.9%	118	1.7%	62	0.9%	6.6%
Hispanic or Latino (of any race)	51	0.7%	86	1.2%	24	0.4%	-52.3%

Source: US Census Bureau Decennial Census and 2016 American Community Survey

The population of Surry County has aged since the year 2000. The median age in 2000 was 38.4. In 2016, the median age of the population increased by almost ten years to 48.2. During the same time period the median age in the U.S. and Virginia also rose, but only by about two years, from 35.3 to 37.7 in the U.S. and from 35.7 to 37.8 in Virginia.

As shown in *Figure 3: Age of Residents*, there was population loss in Surry County from 2000 to 2016 in the “0 – 19” and “35 – 54” cohorts, and population gain in the “55 – 64” and “65 – 74” cohorts.

**Figure 3: Age of Residents**

Source: US Census Bureau Decennial Census and 2016 American Community Survey

The two following population pyramids for the United States and Surry County also provide valuable information about the makeup of Surry's population. The population pyramid for the U.S. shows relatively consistent distribution across age groups until an expected decline in population in the oldest age groups. Slight "bulges" in population can be seen in the age groups corresponding to the Baby Boomer and Millennial generations. The population pyramid for Surry County is heavily skewed toward older age groups (late Generation X and older). Instead of a population "bulge" corresponding to the Millennial generation, it is one of the age groups with the fewest people in Surry County. Additionally, many Millennials are at a stage in life where they are having children. The population pyramid for Surry shows very few children under the age of ten.

***Figure 4: United States Population Pyramid (2016)***

Source: US Census Bureau and HRPDC

***Figure 5: Surry County Population Pyramid (2016)***

Source: US Census Bureau and HRPDC

### ***Policy Considerations***

- Surry did not experience rapid population growth, like some neighbors, over the last several decades.
- Many of Surry's neighbors are expected to continue grow. Surry should consider the potential implications of significant growth in neighboring communities.
- Some forecasts indicate Surry will lose population over the next few decades.
- Surry's population is not diverse. Whites and African Americans make up 98% of the population.
- Surry's population is aging, while becoming less diverse.
- The decreasing number of residents who are Millennials and young children is of particular concern.

## ***Housing***

### ***What We Heard...***

- There is a lack of quality affordable housing.
- Surry should capitalize on its role as a bedroom community, particularly in relation to Hampton Roads.
- Housing choices for all are needed, not just waterfront properties and small farms for retirees.
- Assistance is needed for rundown houses that are a visual eyesore on key corridors.
- There is no desire for general suburbanization.
- Development can work if limited and well managed.

Housing in Surry County is primarily comprised of moderately priced, owner-occupied, single-family dwellings. In 2016, there were 3,502 housing units in Surry. The median value of owner-occupied units was \$166,600.<sup>10</sup> From the 1960s through the 2000s, a steadily increasing number of homes were built in Surry. Substantially fewer homes were built from 2010 through 2016 than was typical in past decades.

<sup>10</sup> US Census Bureau 2016 American Community Survey

**Figure 6: Housing Units Built by Decade**

Source: US Census Bureau 2016 American Community Survey

Over 80% of homes in Surry County are owner-occupied. This rate is quite high compared to the State (65.8%) and Hampton Roads (61%). About 20% of housing units in the County are vacant. This is roughly double the vacancy rate in Hampton Roads and Virginia.

Almost 80% of homes in Surry are single-family units. The majority of the remainder are mobile homes. Only 4.2% of housing units in the County are multi-family. From 2010 to 2016, Surry County issued about 23 residential building permits per year for structures valued at approximately \$3 million per year. During that time, no building permits were issued for multi-family units.<sup>11</sup> Housing in Surry County is relatively affordable. Median monthly ownership costs for homes with a mortgage are \$1,222. This is \$400 to \$500 less than monthly ownership costs in Hampton Roads and Virginia. Median rent is also relatively low in Surry. Median rent in Surry County is \$829, while it is about \$1,100 in Hampton Roads and the State.

Also, as a percentage of household income, housing costs in Surry are relatively low. Fewer people are burdened by excessively high housing costs relative to their income than in Hampton Roads and Virginia. Renters in Surry are more likely to be burdened, however, than homeowners.

**Table 4: Monthly Ownership Costs/Rent as a Percentage of Household Income**

	Surry	Hampton Roads	Virginia		Surry	Hampton Roads	Virginia
Housing units with a mortgage	1,297	286,559	1,420,172	Occupied units paying rent	310	235,508	980,754

<sup>11</sup> Weldon Cooper Center Annual Building Permit Data for Virginia, Counties and Cities

Less than 20%	41.6%	36.0%	42.6%	Less than 15.0%	22.9%	8.8%	11.8%
20.0 to 24.9%	24.1%	16.8%	16.8%	15.0 to 19.9%	8.4%	10.7%	12.7%
25.0 to 29.9%	12.7%	12.5%	11.8%	20.0 to 24.9%	4.5%	13.7%	13.9%
30.0 to 34.9%	3.9%	8.9%	7.7%	25.0 to 29.9%	12.9%	12.7%	12.0%
35.0 % or more	17.7%	25.8%	21.2%	30.0 to 34.9%	17.4%	10.1%	9.5%
				35.0 % or more	33.9%	43.9%	40.1%

Source: US Census Bureau 2016 American Community Survey

### ***Policy Considerations***

- Address lack of housing diversity.
- Address appropriate housing options for an aging population.
- Consider implications of the drop-off in construction in after 2010.
- The data indicate Surry can offer affordability to potential residents.
- Further investigate and potentially address concern about the amount of the affordable single-family housing stock.
- Consider whether adequate options exist for renters.

### ***Families and Education***

#### ***What We Heard...***

- Surry is a family-oriented community.
- Surry is a safe place to raise a family.
- There are strong community ties for older generations.
- Some see a disconnect between generations.
- Youth and young adults do not feel like there is great opportunity in Surry.
- Surry schools are seen as a major community asset.

More people live in family households in Surry County than is typical in Virginia or Hampton Roads. Almost 75% of Surry residents live in family households, compared to about 65% in Hampton Roads and Virginia. Also, Surry has a very high percentage of native Virginians living in the County. Almost 80% of Surry residents are from Virginia. This figure is about 50% statewide and in the Hampton Roads region. This indicates that Surry residents are much less transient than is common.

Surry residents tend to have achieved lower levels of education than state and regional averages. Surry has more residents who have not graduated high school and fewer residents with a Bachelor's degree or higher.

**Figure 9: Educational Attainment**

Source: US Census Bureau 2016 American Community Survey

#### **Policy Considerations**

- Evaluate whether perception of the school system matches the performance of the school system.
- Educational funding at the State level is determined, in part, by average wages. Surry County has relatively high average wages due to jobs at the Surry Power Station. Unfortunately, not many Surry residents are employed at the Power Station. In essence, Surry is penalized for having high-paying jobs, and not getting its fair share of money for education.

## ***Income and Poverty***

Surry's median household income (MHI) of \$56,632 is comparable to the MHI in Hampton Roads (\$60,059) and about \$10,000 below the MHI for the State. A closer look at the data reveals that Surry residents, on average, have comparable financial circumstances to the average Hampton Roads resident due to housing costs that are considerably lower than the region's. Furthermore, Surry compares favorably to some of its closest neighbors. For example, Sussex County has an MHI of \$37,917, almost \$20,000 lower than Surry County.

Additionally, as shown in the figure below, Surry's per capita income historically tracks but lags the figures for the region, State, and U.S.

***Figure 10: Comparative Per Capita Income***

Sources: Bureau of Economic Analysis and HRPDC

Similarly, the poverty rate in Surry County is comparable to poverty rates in Hampton Roads and Virginia at around 11% to 12%.

***Figure 11: Poverty Rate***

Source: US Census 2016 American Community Survey

#### ***Policy Considerations***

- Consider how to leverage high MHI relative to Western Tidewater and Southside Virginia peers.

## Land Use and Zoning

### ***Existing Land Use***

The vast majority of land in Surry County is either used for agriculture, is forested, or is in a natural state. Approximately 90% of the land in Surry is used for these purposes, and is distributed relatively evenly around the County. This land is valued at \$426.8 million, or about 70% of the total value of land in Surry. The average parcel size is 49 acres, with a land value per acre of \$2,618.

Five percent of the land in Surry is used for conservation or recreation purposes. It includes significant amounts of state parkland, land under conservation easements, and large private camps or retreats. Most of this land is located in the northern portion of the County near or along the James River. These are generally large parcels with an average size of 266 acres.

The next largest land use category is residential. Roughly 3% of the land in Surry is used for this purpose. The average size of these parcels is fairly large at 1.8 acres. While residential land makes up 3% of Surry's land area, it accounts for about 19% of assessed land value. Residential land is assessed at \$21,170 per acre.

Other types of land uses in Surry County include Commercial, Industrial, Public/Semi-Public, Mobile Home, and Multi-Family. Of these uses, only Industrial constitutes more than 1% of land use in Surry at 1.3%.

***Table 5: Land Use Characteristics***

	Agriculture/ Forest	Commercial	Conservation / Recreation	Industrial	Public/ Semi-Public	Mobile Home	Multi- Family	Residential
Parcels	3,355	38	34	23	163	9	5	3,047
Acres	163,054	57	9,035	2,313	521	303	16	5,543
Acreage (%)	90.16%	0.03%	5%	1.29%	0.29%	0.19%	0.01%	3.07%
Mean Area	49	2	266	101	3	34	3	1.8
Land Value	\$426.8M	\$1.6M	\$51.1M	\$2.4M	\$6.7M	\$2.1M	\$608,000	\$117.3M
Land Value (%)	70.1%	0.3%	8.4%	0.4%	1.1%	0.3%	0.1%	19.3%
Land Value/Acre	\$2,618	\$28,696	\$5,655	\$1,021	\$12,848	\$6,936	\$38,000	\$21,170
Total Value	\$570.6M	\$6.9M	\$72.7M	\$10.4M	\$87.3M	\$3.4M	\$5.2M	\$436.3M
Total Value (%)	47.8%	0.6%	6.1%	0.9%	7.3%	0.3%	0.4%	36.6%
Total Value/Acre	\$3,499	\$120,326	\$8,046	\$4,510	\$167,637	\$11,336	\$321,906	\$78,718

### ***Policy Considerations***

- 95% of land in the County is devoted to uses that generate few jobs and produce relatively little revenue per acre. Conversely, this land use generates the need for few services and contributes to a valued lifestyle for many Surry residents.
- There is concern about policies that may encourage excessive and potentially unwanted residential development. However, only 3% of land is in residential use, and the average lot size is large at 1.8 acres, which is consistent with the rural character of the County.
- Additionally, the value of residential land per acre is very high compared to other land uses in the County. While the provision of services to residential use is costly, Surry staff should consider factors regarding residential land use:
  - The assessed value of residential property that would generate enough tax revenue to cover cost of County services.
  - Existing or expected excess infrastructure and community facility capacity that could accommodate some of the service demand generated by residential use. Could additional residential development be accommodated without the County bearing the “full” typical cost of new residential development?
- While Surry derives little direct revenue from its significant conservation/recreation lands, it should consider additional ways to leverage the value of this land use since it comprises 5% of the County’s land area and is concentrated in around some of the most accessible and desirable areas of the County.
- Based on the assessed value per acre, industrial properties are not attracting users and revenue-generating development. The County should assess the causes for this underperformance and develop policy accordingly.
- Surry County should consider developing targets for land use mix that take revenue generation and cost of services into account.

## ***Existing Land Use Methodology and Definitions***

The Surry County existing land use map developed for this plan is parcel-based, meaning that there is a land use designation assigned for each parcel, based on characteristics of that parcel. Land use designations were developed and assigned using a combination of methods. Zoning information was the foundation for land use review, but a systematic analysis of all parcels in the County was conducted to group the parcels into land use categories. The primary tools for this review were examination of aerial imagery, parcel ownership, and Google Street View.

A majority of the parcels were assigned a single land use with a few exceptions. Some multi-part parcels (two geographically separate polygons linked to same land record) were split into two records if the apparent land use was vastly different between the parts. Also, large single parcels containing different uses (such as a mobile home park surrounded by fields) were geographically split into two polygons and assigned to two different categories.

### ***Surry County Existing Land Uses***

#### **Agricultural/Forest**

Definition: Use of land for the production of food or fiber, including the production of crops, livestock, and poultry. This classification also includes land used for timber harvesting.

Classification Criteria: Evaluation of aerial imagery indicating use for agriculture or forestry. Residences on large parcels (10+ acres) were primarily assigned to this category.

#### **Commercial**

Definition: Use of land for the buying and selling of products and services; includes retail, food, lodging, personal service, and office uses.

Classification Criteria: Evaluation of zoning, aerial imagery, Google Street View, and ownership.

#### **Conservation/Recreation**

Definition: Use of land for the preservation and management of natural resources, or for passive or active outdoor leisure activities.

Classification Criteria: Identification of land owned by the State or non-profit organization for the purpose of resource protection and recreation. Also included are parcels with conservation easements as identified in the Department of Conservation and Recreation's conservation lands database. Wetlands as shown in the National Wetlands Inventory were also taken into account.

#### **Industrial**

Definition: Use of land related to assembling, fabricating, manufacturing, packaging, or processing products. This classification also includes warehousing, distribution, and mineral extraction.

Classification Criteria: Evaluation of zoning, aerial imagery, Google Street View, and ownership.

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**Mobile Home Park**

Definition: Use of land where mobile home sites and any common area are under common ownership and lots are rented for the siting of mobile homes.

Classification Criteria: Evaluation of aerial imagery and Google Street View.

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**Multi-Family**

Definition: Use of land containing residential structures with two or more separate dwelling units.

Classification Criteria: Evaluation of aerial imagery and ownership.

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**Public/Semi-Public**

Definition: Use of land for government buildings, public or private institutional uses, and community facilities.

Classification Criteria: Evaluation of ownership by governments or non-profit entities.

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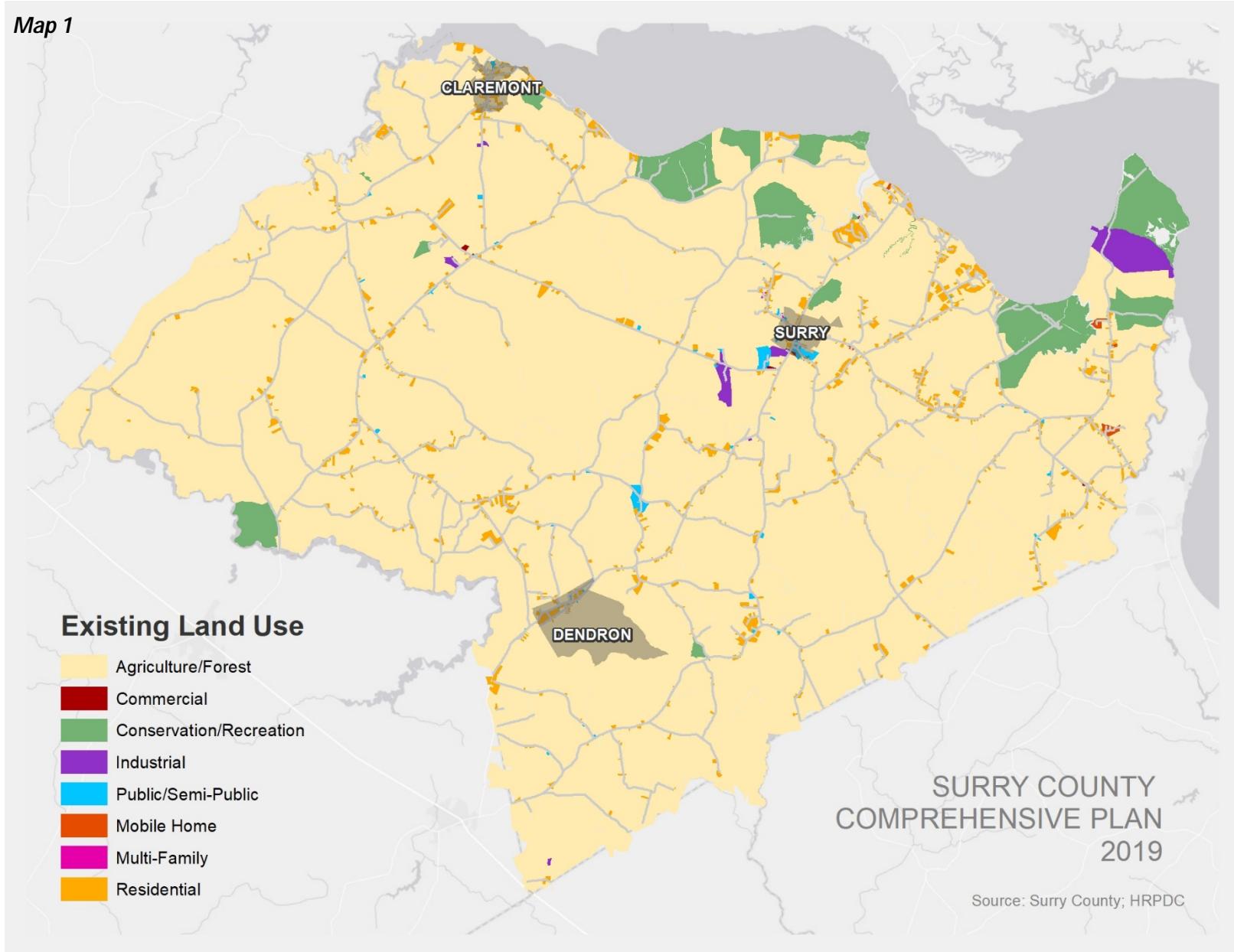
**Residential**

Definition: Use of land for buildings consisting of single-family dwelling units.

Classification Criteria: Evaluation of zoning, aerial imagery, Google Street View, and ownership. Residences on parcels less than 10 acres were primarily assigned to this category.

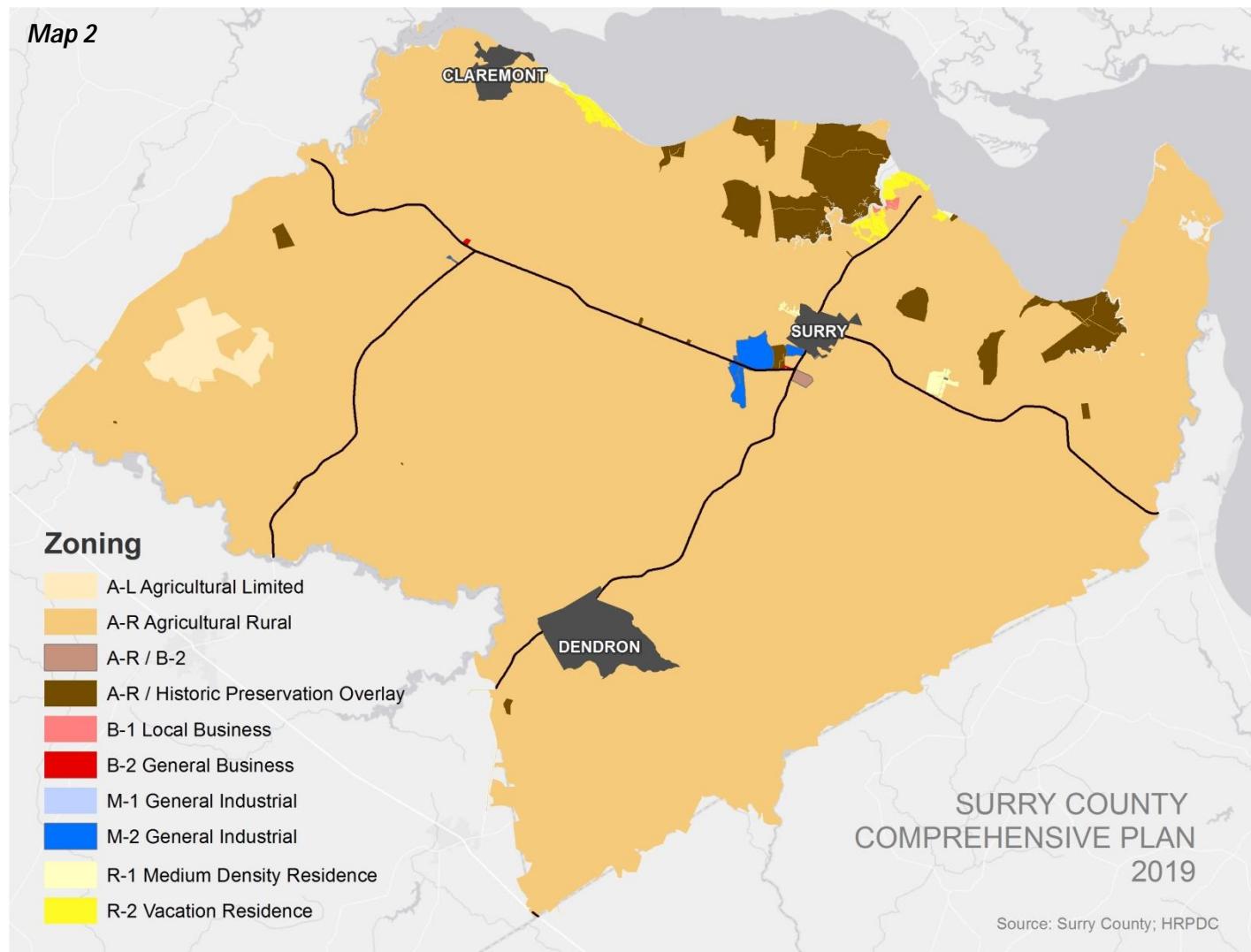
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Map 1



### **Zoning**

Zoning in Surry County generally reflects existing land use. Most of the County is zoned A-R (Agricultural Rural). Major conservation and recreational land is regulated by the Historic Preservation Overlay. Smaller lot, suburban style residential development near the James River is zoned R-2 (Vacation Residence). The main inconsistency between existing land use and the zoning map is that there are pockets of residential use that may be more appropriately zoned R-1 Medium Density Residence District rather than A-R.



### *Economy*

#### **What We Heard...**

- There is a general sense of concern about the economic future of Surry County.
- A change of mindset regarding economic development is needed. Economic development policy needs to be more proactive to attract business and build the tax base.
- There is a need to establish metrics for economic development success.
- Surry needs to diversify its economy to become more resilient to known and unknown future circumstances.
- Surry is in a difficult location to attract businesses. Economic development activities must be proactive and incentivize investment.
- Concern about the character of Surry County experiencing unwanted change from commercial overdevelopment is not realistic.
- More vocational and technical training is needed.
- Broadband internet service and expansion of sewer capacity in the near future should be used to spur economic development.

Surry County's economy is driven by Dominion Energy's Surry Power Station, companies providing services to the power station, and local and state government. Ten of the fifteen largest employers in the County fall into these three categories. Other top-15 employers include wood products and lumber companies, construction and trade companies, and a producer of pork products. Most people working in Surry are employed by these larger organizations. Historically, Surry has been known as a farming community. Today, farming provides about 150 jobs in the County.

## Figure 12: Employment by Industry in 2016

Sources: Bureau of Economic Analysis; Dominion Energy; HRPDC

\*Other employment includes undisclosed industry sectors

Over the past ten years, the construction and government sectors have seen the most growth, by far. It is uncertain from the data whether companies classified in the construction sector are power station contractors.

## Figure 13: 10-Year Change in Employment by Industry (2006 – 2016)

Sources: Bureau of Economic Analysis; HRPDC

## ***Employment Outlook***

As part of the Socioeconomic Forecast for the Long-Range Transportation Plan, the HRTPO forecasts number of workers by place of residence, employment by place of work, and employment by industry sector.

While it is estimated that the number of workers living in Surry will remain flat through 2045, it is expected that the number of jobs in the County will increase. The largest increase is expected in the industrial sector. Compared to the region, the employment outlook in Surry County is good. Surry is expected to outpace the region in terms of percent employment growth overall and in each sector. Overall employment is expected to increase by 14% in Surry by 2045 and 8% in Hampton Roads.

***Figure 14: Workers and Employment (2015 v. 2045)***

Source: HRTPO

***Figure 15: 2045 Workers and Employment (Surry v. Hampton Roads)***

Source: HRTPO

## ***Economic Development Sites***

Surry West Business Park is a 173-acre, publicly-owned industrial park. The park is located off VA-10 and is 16 miles from US 460. It is zoned for general industrial use, and has a buildout potential of approximately 1,000,000 SF.

Surry West Business Park is served by major utilities. It has 5 megawatts of electric capacity. The site has a well with a capacity of 125 GPM and an elevated water tank with a capacity of 150,000 gallons. Water is distributed by a network of 8" lines. Water capacity could possibly be expanded through connection to a new 250,000-gallon elevated storage tank in Dendron.

The park is also served by the Surry County Wastewater Treatment Plant, which is owned and operated by the Hampton Roads Sanitation District (HRSD). The plant is permitted for a flow of 65,000 GPD and is near capacity. Wastewater treatment capacity will be expanded in the near future through improvements being planned by HRSD to connect the Surry County wastewater system to the HRSD's Nansemond Treatment Plant.

While no formal plans have been developed, a second industrial park site located on VA-40 closer to US 460 has been considered.

### ***Policy Considerations***

- Surry's economy is dominated by one employer with an extremely expensive capital asset that has a finite lifespan. Long-term economic development policy must focus on diversification.
- Would dedicated economic development staff be a net benefit to Surry County?
- Employment in Surry County is expected to increase through 2045, but the number of workers living in Surry is expected to remain flat. What measures can Surry take so that more residents can fill these jobs?
- Surry West Business Park is a valuable asset in a difficult location. Hampton Roads lacks large development-ready sites. Surry should continue working with regional and state partners to consider how this asset can be best put to use.

### ***Labor Profile and Commuting Patterns***

### **What We Heard...**

- There is a concern that younger generations will not be willing to commute long distances from Surry for work. They will choose not to live in Surry.

The U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) program provides information on jobs, workers, and local economies. Using LEHD information, profiles can be assembled of workers commuting to Surry County and of workers residing in Surry County.

Based on 2015 LEHD data, 2,665 people held primary jobs<sup>12</sup> in Surry County. Most of these workers were not Surry County residents. 80% of the Surry County workforce commutes to Surry from outside the County. Only 20% of Surry's workforce both live and work in the County. This means that over 2,000 Surry residents commute outside the County to work every day. Strangely, Surry functions as a bedroom community<sup>13</sup>, but also has more than enough jobs to employ every worker living in the County.

Furthermore, the jobs that Surry residents are leaving the County to take are lower paying jobs than those that exist in the County. About 63% of Surry residents are commuting for jobs that pay less than \$3,333 per month. Conversely, 75% of workers commuting to Surry are coming for jobs that pay more than \$3,333 per month. Surry in essence is exporting lower skilled workers to surrounding communities and importing more skilled workers to fill high-paying jobs in the County. These workers commuting to

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<sup>12</sup> The LEHD program defines a primary job as the highest paying job for an individual worker for the year. The count of primary jobs in an area is the same as the count of workers in an area.

<sup>13</sup> Merriam-Webster defines a bedroom community as a small community that has no major industries and that is lived in by people who go to another town or city to work.

Surry then take the earnings from their high-paying job to spend in their community of residence, which has implications for the retail market in Surry and educational funding.

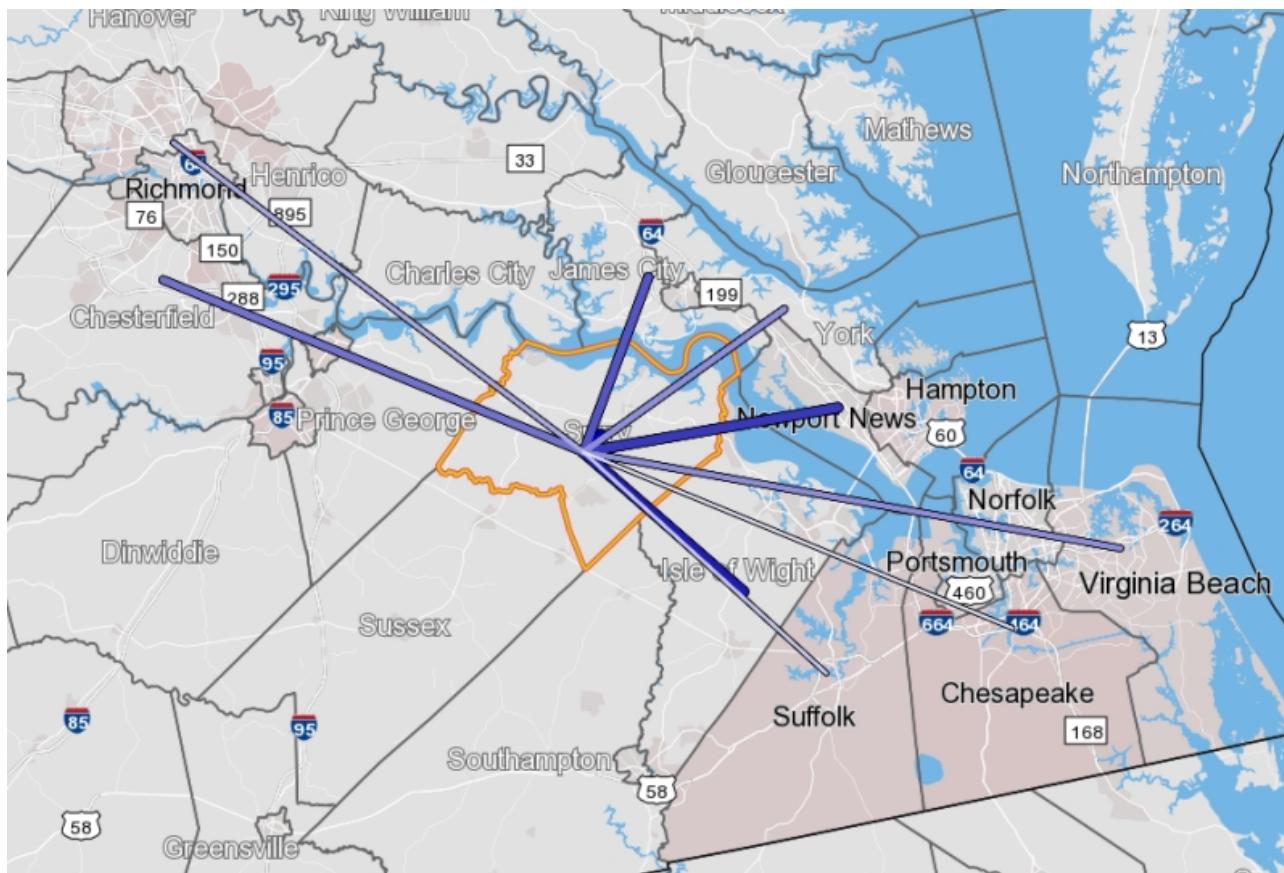
***Figure 17: Commuter Earning Characteristics***

Not surprisingly, over 51% of commuters to Surry work in the “Trade, Transportation, and Utilities” sector. Based on the heat map below and the fact that 42% (1,120 of 2,665 total jobs) of jobs in Surry are in the utilities sector, it can be inferred that workers are commuting to Surry for high-paying jobs at Dominion Energy’s Surry Power Station. On the other hand, Surry residents are typically commuting from the County for lower-paying jobs in the “Other Services” sector.

The highest number of workers commuting to Surry are coming from Isle of Wight County, Newport News, and James City County. A significant number of commuters are also coming from other Hampton Roads localities, as well as the Counties of Chesterfield and Henrico in the Richmond metro area.

Surry residents are mainly commuting to the neighboring Counties of Sussex, James City, and Isle of Wight. Chesterfield and Henrico Counties and the City of Richmond also draw a large number of Surry commuters. This data indicates a primary connection to the Hampton Roads region, but also a strong secondary connection to the Richmond region.

***Map 4: Commuter Inflow***



Source: US Census Bureau Longitudinal Employer-Household Dynamics

### Map 5: Commuter Outflow

#### Policy Considerations

- There are more than enough jobs in Surry to employ every worker, but 80% of Surry residents leave the County for lower paying jobs.
  - Does this data indicate a skills mismatch?
  - Is more and appropriately tailored technical training for residents needed?
- How can Surry use its unique employment situation to its advantage?

- How best can Surry take advantage of connections to two of the State's major metropolitan regions: Hampton Roads and Richmond?
- Attract high-wage earners to live in the County, especially those who already work in Surry. Offering appropriate housing stock should be a primary consideration.

## Agriculture

### What We Heard...

- Farming is important to Surry County, but doesn't employ enough people to be a major economic driver.
- More agricultural and vocation training is needed.

Agriculture remains an important part of Surry County's economy. According to the 2012 USDA Census of Agriculture, there are over 45,000 acres of farmland in Surry. This represents about 25% of the County's total land area of 279 square miles.

There are 127 farms in Surry County with an average size of 355 acres. Both the number of farms and the average farm size increased since 2007, the date of the last Census of Agriculture. The market value of products produced in Surry County doubled from 2007 to 2012, from \$13.9 million to 27.7 million.

The top crops produced in Surry County in terms of acreage are soybeans, wheat, corn, and cotton. Surry ranks in the top twenty-five counties in Virginia in the production of these crops, including ranking as the sixth largest cotton producer in the State. Surry has the second highest inventory of hogs and pigs in Virginia.

**Figure 18: Farms by Size**

**Table 6: Agricultural Statistics**

	2007	2012
# of Farms	121	127
Land in Farms (Acres)	41,108	45,122
Avg. Farm Size	340	355
Market Value of Products	\$13,867,000	\$27,723,000
Crops	\$8,241,000	\$19,366,000
Livestock and Poultry	\$5,626,000	\$8,357,000

Source: 2012 USDA Census of Agriculture

### Policy Considerations

- Across indicators, the agricultural sector in Surry has grown. Compared to 2007, in 2012, there

were more and larger farms and the value of agricultural products produced in the County doubled.<sup>14</sup>

- Much of Surry's identity is tied to its agricultural heritage and 25% of its land area is active farmland. However, despite the farming sector's growth and cultural importance, farming produces relatively few jobs.

## **Tourism**

### **What We Heard...**

- Strengthen connections to tourists already visiting the Historic Triangle.
- Take greater advantage of the waterfront as an asset.
- Tourism priorities should include agri-tourism and outdoor activities.
- There is need for the establishment of businesses to serve tourists, especially lodging.

Tourism contributes significantly to Surry's economy. According to the Virginia Tourism Corporation (VTC), tourists spent over \$10.2 million in Surry in 2016, up from \$9.7 million in 2012 and \$8.3 million in 2007. In 2016, this spending translated into about \$300,000 in local tax receipts and \$500,000 in state tax receipts. VTC also estimates that tourism supports 103 jobs in the County.

**Table 7: Economic Impact of Tourism**

	2012	2013	2014	2015	2016	% Change 2012 - 2016
Economic Impacts						
Employment	99	101	100	103	103	4%
Expenditures	\$9.7 M	\$9.8 M	\$10 M	\$10.2 M	10.2 M	5.2%
Local tax Receipts	\$277,054	\$284,866	\$284,525	\$298,784	\$306,430	10.6%
State Tax Receipts	\$390,037	\$424,421	\$468,465	\$493,343	\$505,384	29.6%

Source: Virginia Tourism Corporation

Past planning efforts related to tourism have identified key components of Surry's tourism economy. The Surry County Tourism Assessment Report (2013) and 2017 addendum to that report, developed with the input of the stakeholder group Surry County Tourism Supporters, include a listing of Surry's "Premier Tourism Assets" that should be the focus of marketing and investment efforts. These sites and events reflect many of the characteristics and values that Surry residents feel are special about their County. They emphasize Surry's historic and natural resources and include Bacon's Castle, Chippokes State Park, College Run Farms, Surry Seafood Company, Hampton Roads Winery, the Jamestown-

<sup>14</sup> Results of the latest USDA Census of Agriculture will be available in February 2019. Growth trends in farming should be reevaluated using the latest data.

Scotland Ferry, and the Nottoway Pow Wow. They also highlight the many outdoor activities that people visiting Surry can enjoy.

The Report’s emphasis on Surry’s historic and natural resources aligns well with findings from the Virginia State Tourism Plan and many of the Plan’s strategic priorities. The State Plan found that some of the top attractions for Virginia tourists are rural sightseeing and historic sites, both strengths of Surry County. Additionally, one of the main objectives of the Plan is to further develop experiences which highlight Virginia’s natural beauty and natural assets.

The Surry County Report also contains a Community Assessment related to services and facilities that can support tourism. The report should be consulted for the full list, but it includes infrastructure needs, aspects of the community’s perception that can be improved, a business gap analysis, and major “red-flags” limiting Surry’s growth as a tourist destination. Some of the “red-flags” are ferry service wait/delays/disruptions, inadequate signage, and a lack of businesses serving tourists.

#### ***Policy Considerations***

- Consider ways to capitalize on the alignment of Surry’s tourism strengths with priorities in the Virginia State Tourism Plan.
- Consider tourism policies that take advantage of sharing economy applications.

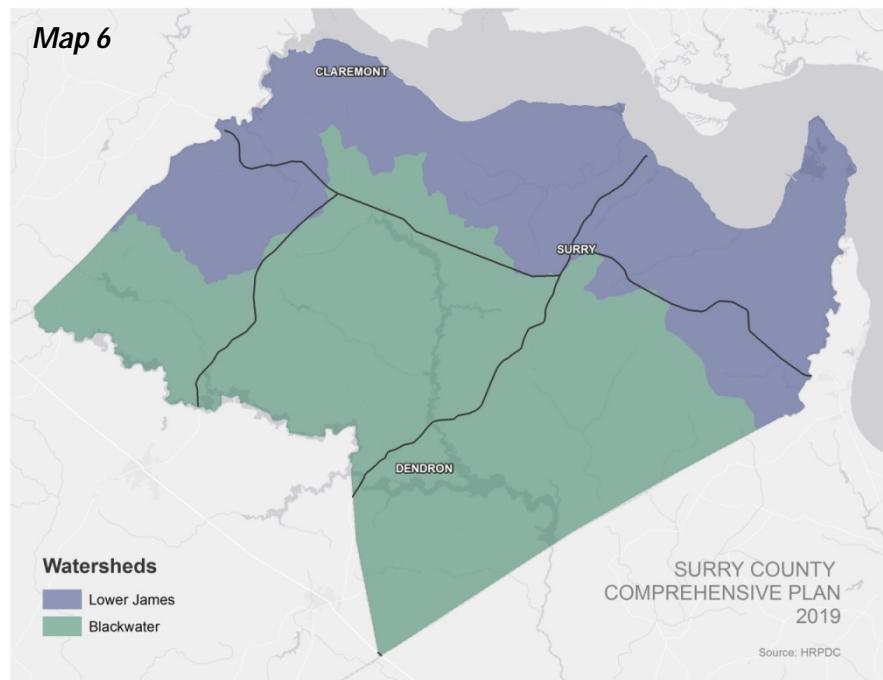
### What We Heard...

- A recurring theme heard during discussions with Surry residents was a desire to preserve Surry's natural and agricultural character.
- Residents also felt that Surry should leverage and capitalize on its natural resources to the greatest extent possible.

Surry County has approximately 280 square miles of land area and 26 square miles of inland waterways. The land varies from flat to rolling and generally steepens around waterways. Elevations range from sea level to 120 feet. The County is rural and agrarian in nature and largely undeveloped. Because the County is largely undeveloped, most of Surry's natural resources have been preserved. The abundance of natural features within the County have become part of Surry's identity and contribute to the quality of life of residents. These features are also significant economic assets, and their preservation is important to the County's prosperity.

Considerable acreage within the County is managed conservation land including Chippokes Plantation State Park, Hog Island Wildlife Management Area, land covered by conservation easements, and numerous historical sites. There are also several large private recreational camps in Surry.

The northern boundary of the County is the James River, which is a tributary of the Chesapeake Bay. The Chesapeake Bay and its tributaries are one of the most productive estuarine systems in the world, and provide important economic and recreational benefits to Virginia and Surry County. Surry has 168 miles of shoreline along the James River and tidal creeks (Shoreline Evolution Surry County, Virginia 2011).



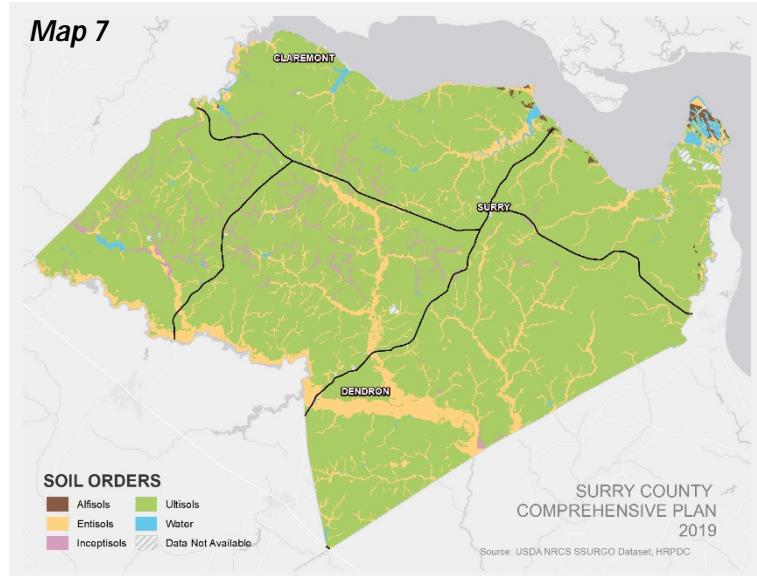
Surry County's drainage is divided into the James River drainage basin and the Blackwater River drainage basin. 25% of the County drains into the James River, and 75% drains into the Blackwater River. The Surry County Zoning Ordinance designates all properties within the James River drainage basin as a Chesapeake Bay Preservation Area.

## **Soils**

The USDA's Natural Resources Conservation Service (NRCS) produces county-level soil surveys. Soil surveys help land users determine the potentials and limitations of soils for different purposes. The applications of soil surveys are numerous. They include interpretations for the growth of plants, such as crops, forage species, and trees. They also include interpretations for urban, rural, and recreational development and for conservation and wildlife habitat planning. The soil survey for Surry County is available through the NRCS's Web Soil Survey platform. Particularly significant characteristics of the soils in Surry County are highlighted in this section of the *Planning Influences and Opportunities Report*. In addition, soil characteristics are a determinant of many other environmental features in Surry that are evaluated in this Natural Resources section of the *Report*.

### **Soil Types**

The NRCS identifies and maps over 20,000 different kinds of soil by categories of soil taxonomy. There are six categories in soil taxonomy. In order of decreasing rank and increasing number, the categories are order, suborder, great group, subgroup, family, and series. The soil orders in Surry County are shown in Map 7. Information on lower categories of classification can be found in the NRCS's Soil Survey Geographic Database using the Web Soil Survey platform.

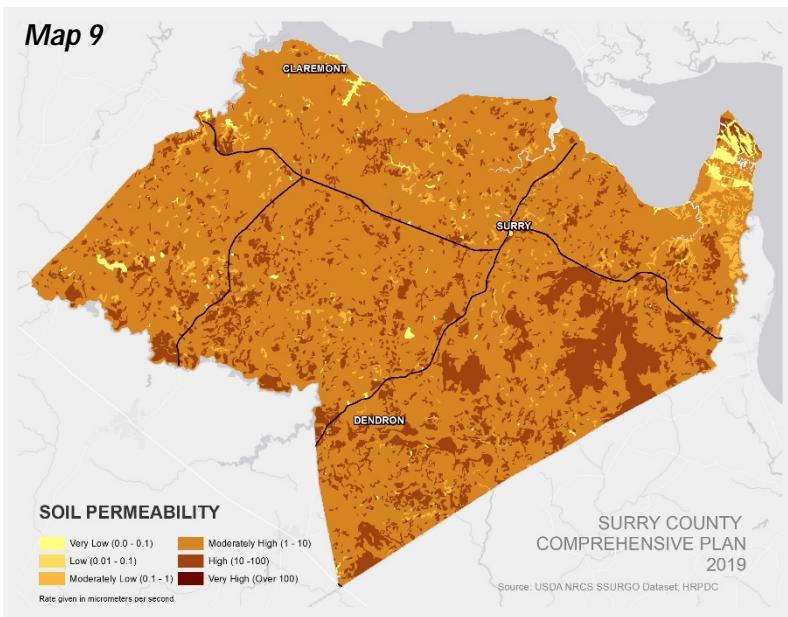
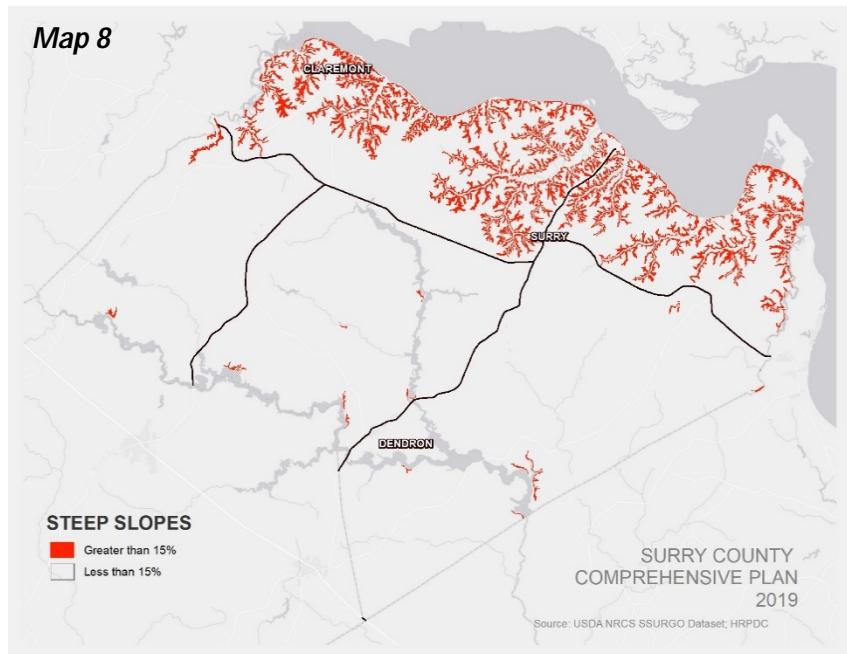


Most soils in Surry County are classified as Ultisols. Ultisols are found primarily in humid temperate and tropical areas of the world, typically on older, stable landscapes, including in the southeastern US. Ultisols often support productive forests, but are poorly suited for continuous agriculture without the use of fertilizer and lime. With these inputs, however, Ultisols can be very productive, as they are in Surry. Other soil orders found in Surry are Alfisols, Entisols, and Inceptisols. These other soil orders are found along water courses in the County.

### **Slopes**

Steep slopes are less suitable for development for a variety of factors. Soils on steep slopes are generally erosive and their stabilization can require costly engineering solutions. Because the soils on steep slopes can be erosive, land-disturbing activities on steep slopes may result in increased sedimentation and pollutant loads in waterways.

Surry County has generally flat topography. Steep slopes are almost exclusively found on the banks of creeks in the James River watershed and along the banks of the James River itself. While Surry County's Zoning Ordinance does not define the term "steep slope", the Chesapeake Bay Preservation District uses a threshold of 15% grade to apply certain regulatory criteria. Slopes in the County greater than 15% are shown in Map 8.

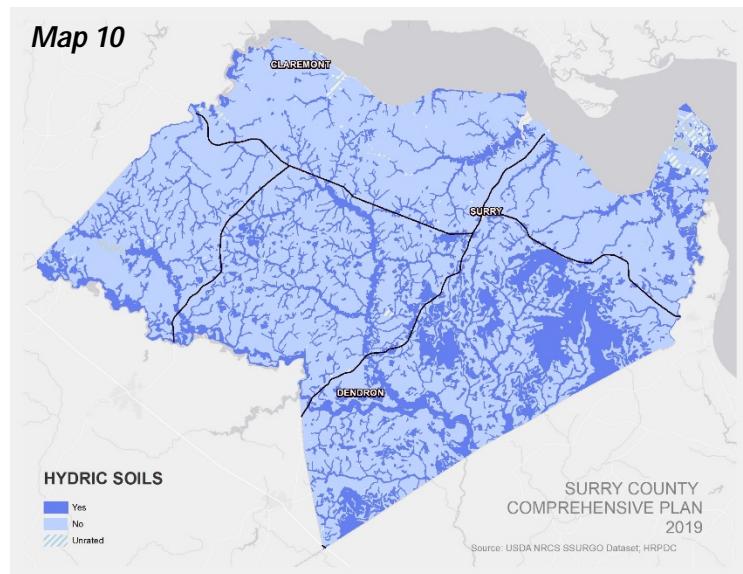


### Permeable Soils

Permeability is used to describe the ability of a soil type to percolate water. Because of their draining characteristics, highly permeable soils can transport pollutants from the soil surface directly into the ground water. The ground water system eventually feeds into local streams. In highly permeable soils, pollutants, contaminate ground water and eventually streams. Potential polluting activities include septic tank absorption fields, underground storage tanks, and excess pesticide and fertilizer use.

### *Hydric Soils*

According to the NRCS, hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. These soils are typically saturated long enough for hydrophytic vegetation to grow and reproduce. Hydric soils are indicators of potential wetlands and may limit development and conventional septic system installation.

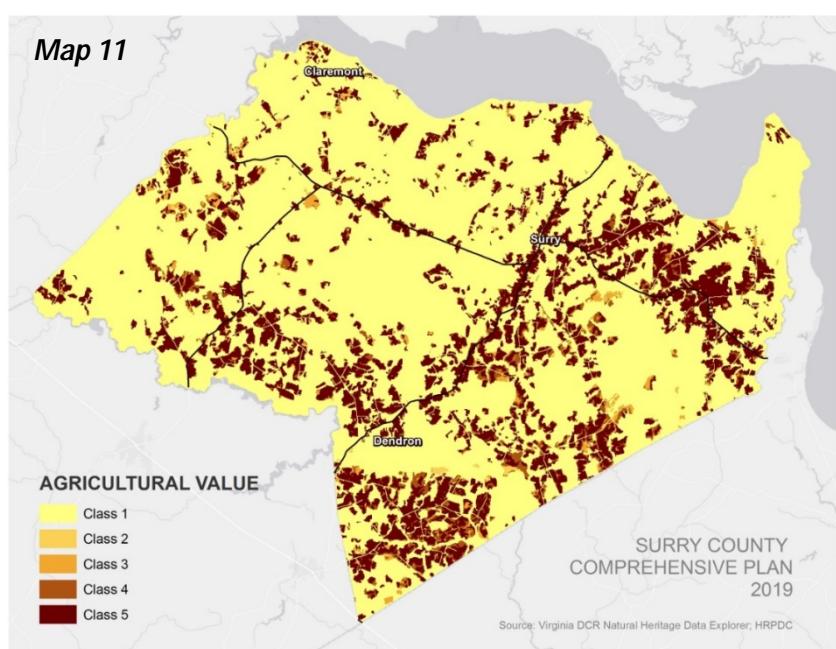


### *Resource Conservation*

Community members have expressed a strong desire to preserve Surry's natural resources. These lands provide benefits in terms of open space, recreation, cultural and historic resource protection, natural resource protection, water quality improvement and maintenance, and carbon sequestration, along with the economic benefits associated with activities like farming and tourism. In order to manage and conserve these resources, it is important to be able to identify land that contains high-value natural resources. The Virginia Department of Conservation and Recreation (DCR) has developed the Virginia ConservationVision, which is a set of tools and models to help identify and prioritize conservation targets. Maps 11, 13, 14, and 18 use the Virginia ConservationVision toolset to identify land with high natural resource value.

### *Agricultural Resources*

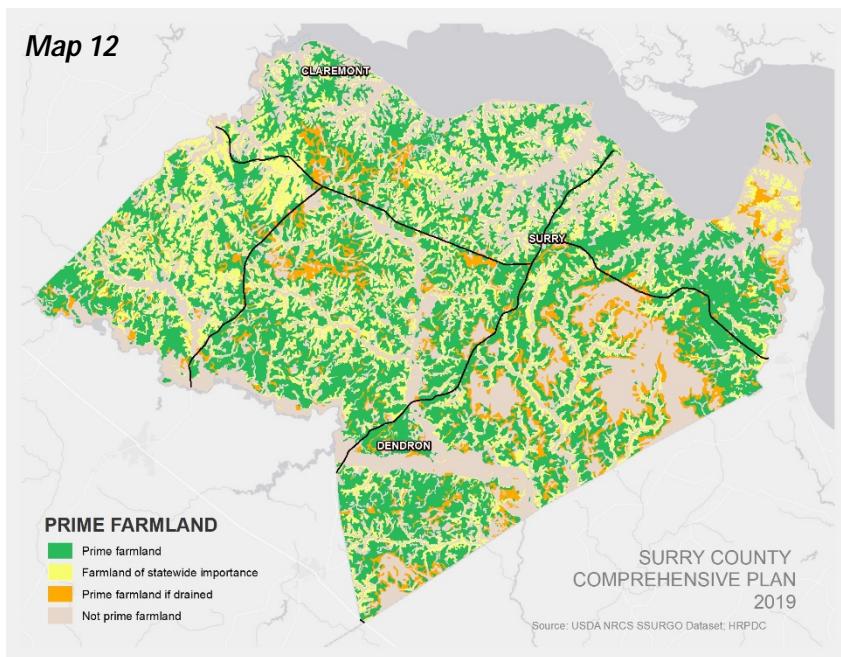
Agricultural lands are important to Surry's economy and the regional economy. Agricultural lands also provide benefits that cannot be readily quantified in dollars, including opportunities for recreation and tourism, maintenance of wildlife habitat and biodiversity, and protection of soil and water resources.



Surry County has significant agricultural resources. As part of the Virginia ConservationVision, DCR developed the Virginia

Agricultural Model<sup>15</sup> to quantify the relative suitability of lands for agricultural activity. In the model, agricultural value is assessed primarily based on inherent soil suitability, but also accounts for current land cover as well as travel time between agricultural producers and consumers.

Surry County has 53 square miles of Class V agricultural land, land identified by DCR as the most suitable for agriculture. This represents 19% of Surry's total land area. Most of the highest quality agricultural land is east of Rt. 10 in areas not encumbered by wetlands, and in the Carsley area.



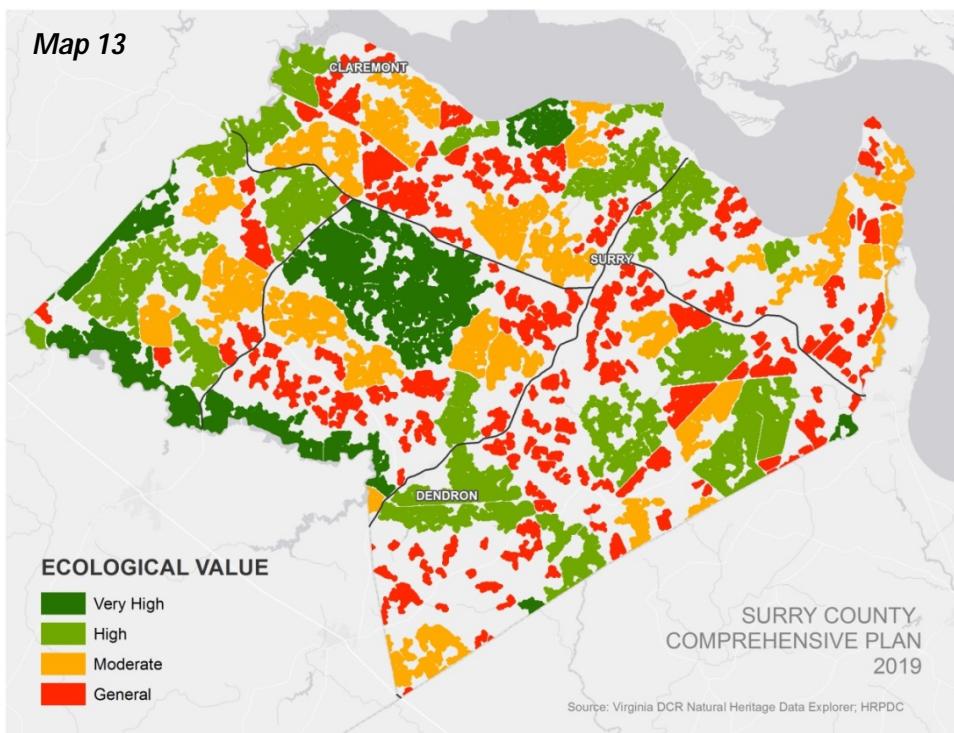
The NRCS also identifies areas that are appropriate for farming, based on their potential agricultural productivity. Prime farmland is land that has the best combination of characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops. Farmland of statewide importance includes areas of soils that nearly meet the requirements for prime farmland.

### Ecological Resources

Large contiguous areas of natural vegetation are important to the conservation of many natural resources. Large areas of natural lands preserve biodiversity because they have a variety of habitats and a high number of species. These areas are also important for their ecosystem services, including filtering nutrients and pollutants from water, preventing erosion, retaining soil, providing pollinators for crops, removing carbon from the air, slowing and absorbing runoff so groundwater is recharged, and providing protection from storm and flood damage. The value of ecosystem services is often overlooked because traditional analyses do not include the financial benefits of ecosystem services. These financial benefits are further increased when considering the recreational opportunities natural lands provide and the tourism revenues they generate.

<sup>15</sup> The Agricultural Model is derived from three major components, which are scored values ranging from 0 (unsuitable) to 100 (optimal). The Soil Quality Score quantifies inherent soil suitability, based on soil classifications provided by NRCS in their Gridded Soil Survey Geographic (gSSURGO) database. The Foodshed Score is based on travel times between agricultural producers and their potential consumers, an important consideration for foodshed analysis (Peters et al. 2008). The Land Cover Score quantifies how current land cover affects the potential for the land to be used for agricultural purposes. Technical documentation is available at <http://www.dcr.virginia.gov/natural-heritage/vaconvisagric>.

Much of the land in the urban areas of Virginia, including Hampton Roads, has been developed or is under pressure to be developed, making the large areas of natural land in Surry County even more valuable. DCR has created the Virginia Natural Landscape Assessment (VaNLA)<sup>16</sup> to identify large patches of natural land with at least 100 acres of interior cover. VaNLA also scores these areas to rate their ecosystem service values. Lands are scored as “Outstanding”, “Very High”, “High”, “Moderate”, and “General”. Roughly one third of the land (107 square miles) in Surry County scores “Very High” or “High” in terms of ecosystem service value.



Much of this land is concentrated around Surry's wetlands, swamps, creeks, and rivers. Lands of particularly high value are located around the Blackwater River, Upper Chippokes Creek and Otterdamp Swamp, Cypress Swamp, Mill Swamp, Grays Creek, and the Pipsico Scout Reservation.

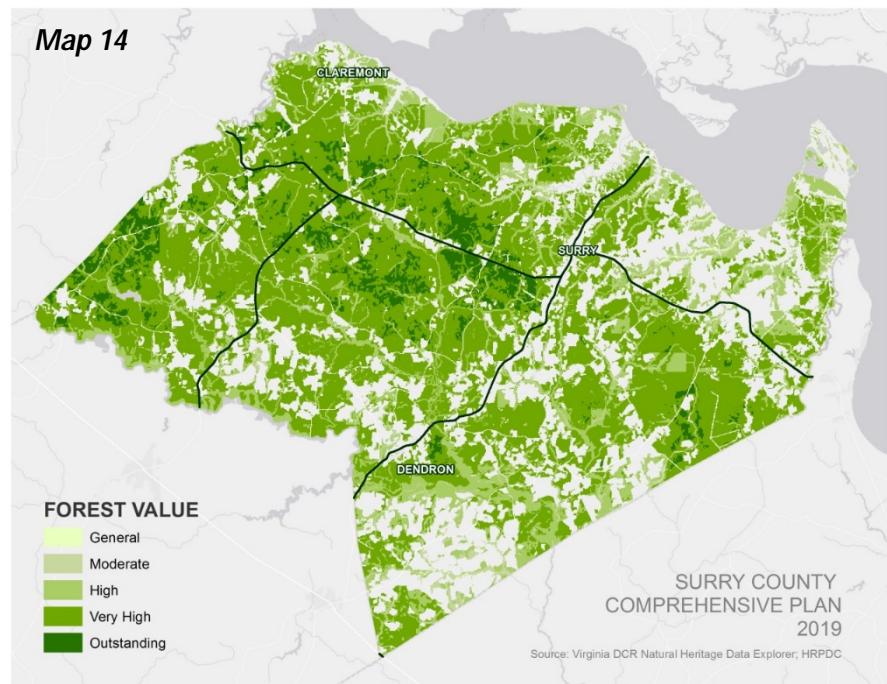
### Forest Resources

Timberland has long been important to Surry County, and continues to play a key role in the economic and ecological health of Surry. The first major industrial activity in Surry was in timber production. In the late 1800s and early 1900s, the Surry Lumber Company was extremely prosperous. The Surry, Sussex, and Southampton (SS&S) Railroad was chartered to transport its production, and the towns of Dendron and Elberon grew around the mill. Today, two of the largest employers in Surry are Windsor Mill and Seward Lumber Company.

<sup>16</sup> VaNLA technical documentation can be found at <http://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>.

Similar to the agricultural model, DCR developed the Virginia Forest Economics Model<sup>17</sup> to map viable forest lands with economic value. Biophysical parameters evaluating forest suitability and productivity, management constraints, timber harvesting constraints and socioeconomic data were assessed to create a forest economic layer showing ranked forest land. Forest lands were scored as

“Outstanding”, “Very High”, “High”, “Moderate”, and “General”. Roughly one half of the land (147 square miles) in Surry County scores as “Very High” or “High” value forest land. This land tends to be located west of Rt. 10. The vast majority of the land in Surry that isn’t high-value agricultural land is high-value forest land.



### ***Coastal Resources Management***

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

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

In the 1980s, interest arose in the use of planted wetlands to provide natural shoreline erosion control. Today, a full spectrum of living shoreline design options is available to address the various energy

<sup>17</sup> Virginia Forest Economics Model technical documentation can be found at <http://www.dcr.virginia.gov/natural-heritage/vaconvisforest>.

settings and erosion problems found. Depending on the site characteristics, they range from marsh plantings to the use of rock sills in combination with beach nourishment. Research continues to support that these approaches combat shoreline erosion, minimize impacts to the natural coastal ecosystem, and reinforce the principle that an integrated approach for managing tidal shorelines enhances the probability that the resources will be sustained.

### Shorelines

A series of reports<sup>18</sup> by the Virginia Institute of Marine Science (VIMS) provide comprehensive information about Surry County's shorelines. The reports form a resource for assessing conditions along the tidal shoreline. They provide important baseline information to support shoreline management and improve the decision-making capacity of local and state governing boards. The reports assess riparian land use, bank conditions, and shoreline structures.



Virginia Institute of Marine Science: Shoreline Evolution: Surry County, Virginia James River Shorelines

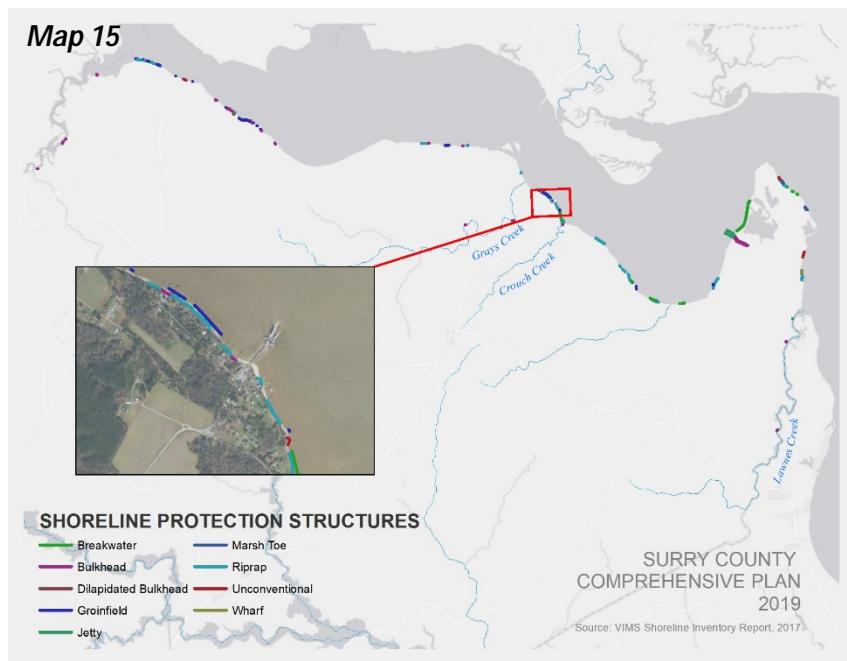
Through time, the County's shoreline has evolved, and determining the rates and patterns of shore change provides the basis to know how the coast has changed through time and how it might proceed in the future. The rates of change shown in Table 8 are averaged across large sections of shoreline and may not be indicative of rates at specific sites within the reach. Along Segment A in Upper Chippokes Creek, most of the shoreline has experienced low to medium erosion except for one marsh spit that has eroded completely away. The average rate of change increases down river, as expected, since the Surry coast is exposed to greater fetches. The Hog Island shoreline has the highest rates of change. VIMS provides

<sup>18</sup> VIMS reports: Shoreline Evolution: Surry County, Virginia James River Shorelines; Surry County, Virginia – Shoreline Inventory Report: Methods and Guidelines; Summary Tables: Surry County, Virginia Shoreline Inventory Report

tools, such as decision trees, through the Surry County Comprehensive Coastal Resources Management Portal (CCRMP) to guide shoreline management under a variety of conditions.

**Table 8: Shoreline Change (1937 – 2009)**

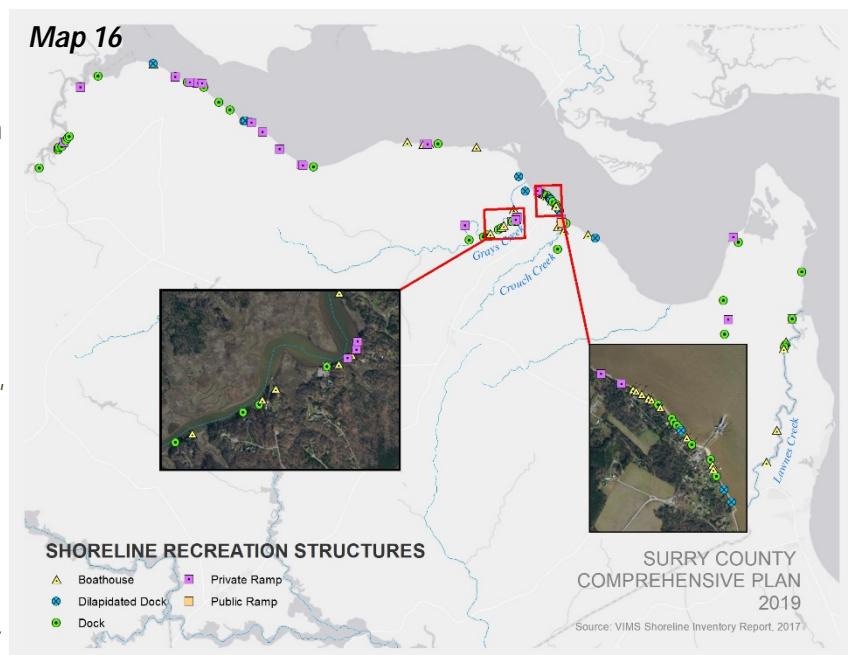
Segment Name	Location	Avg. Rate of Change (ft./year)
A	Upper Chippokes Creek	-1.4
B	James River	0.0
C	James River	-0.1
D	James River	-0.6
E	Swanns Point	-0.6
F	Grays Creek	-0.7
G	James River	-0.1
H	James River	0.2
I	James River, Cobham Bay	0.0
J	James River	0.4
K	James River, Hog Island	-1.8
L	James River, Hog Island	-1.2
M	James River	-1.1
N	Lawnes Creek	-0.7



land cover include agriculture, residential, and grass. There are 74 docks, 30 boathouses, 26 boat ramps, and one marina located along Surry's shores. Maps 15 and 16 show shoreline protection and shoreline recreation structures in the County

The shoreline inventory report conducted by VIMS for Surry County assessed 109 miles of shoreline. Most of Surry's shoreline is in a relatively natural state. Only 7.5 miles of Surry's shoreline is defended with structures like breakwaters, bulkheads, or riprap. Marshes are typically found along the shorelines of Surry's creeks. Beaches are found along the James River shoreline. Most of the riparian area (>50%) along shorelines is forested. Other riparian land uses and

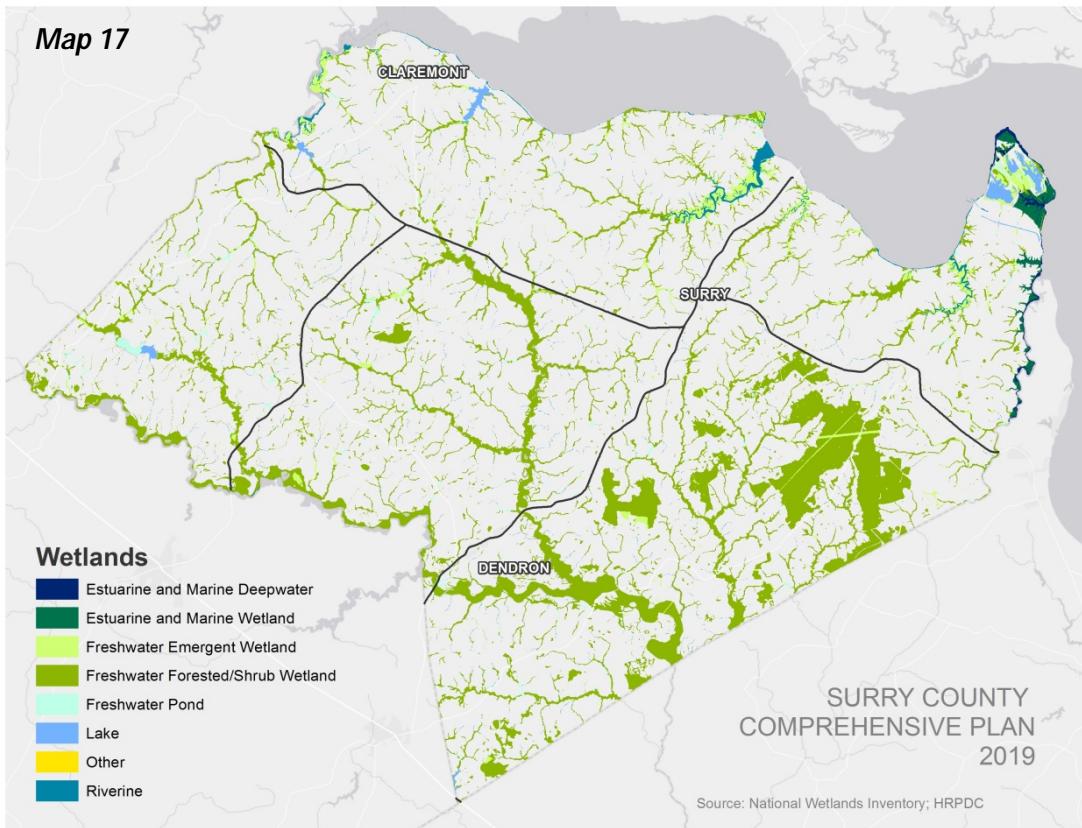
Detailed information on Surry County's shoreline features can be found on the Surry County Comprehensive Map Viewer, which is part of Comprehensive Coastal Resources Management Portal (CCRMP) for Surry County developed by VIMS. The Portal contains shoreline and tidal marsh inventories, sea level rise scenarios, and preferred shoreline management best practices. The reports and dynamic tools in the Portal should be considered an extension of the Coastal Resources Management section of this report.



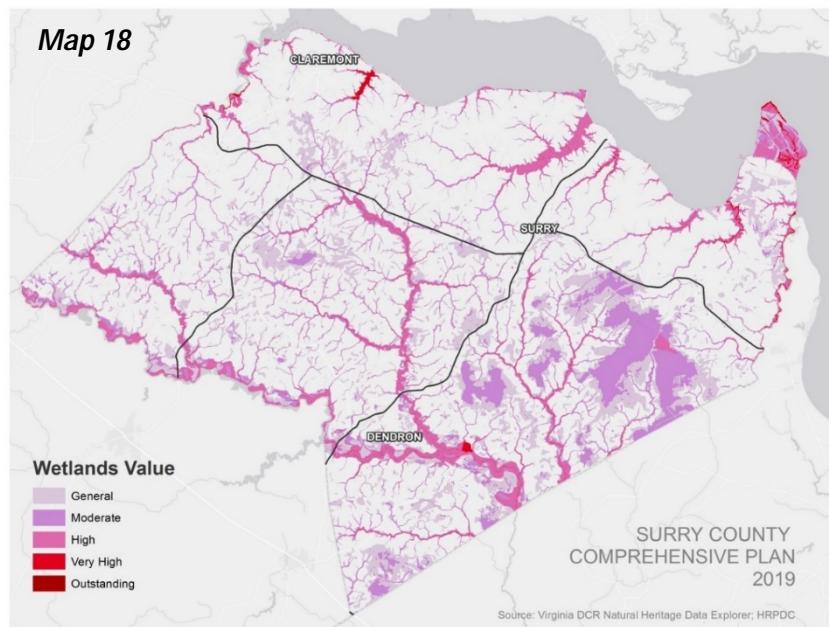
### Wetlands

Wetlands are among the most productive ecosystems in the world, comparable to rain forests and coral reefs. They provide many benefits – such as fish and wildlife habitats, natural water quality improvement, flood storage, shoreline erosion protection, and opportunities for recreation and aesthetic appreciation. Protecting wetlands can also protect our health and safety by reducing flood damage and preserving water quality.

Surry County has both tidal and non-tidal wetlands. Tidal wetlands are located along the James River and its tributaries. They are classified as riverine or estuarine wetlands. Riverine wetlands include all wetlands and deepwater habitat contained within a channel. Estuarine wetlands consist of deepwater tidal habitats and adjacent tidal wetlands in which ocean water is diluted by freshwater runoff from the land. Surry's estuarine wetlands can be found around Hog Island and Lawnes Creek in the northeastern part of the County. Most of Surry's wetlands are (non-tidal) palustrine wetlands. Palustrine wetlands are freshwater wetlands that consist either of trees and shrubs or grasses. These wetlands exist all over Surry County, but are mainly found along the Blackwater River, Cypress Swamp, and Mill Swamp east of Elberon.



DCR also grades wetlands for the purpose of prioritizing conservation. Variables used for conservation prioritization indicate plant and animal biodiversity, significant natural communities, natural lands that provide ecosystem services, natural corridors and stream buffers, proximity to conserved lands, relatively clean watersheds, and drinking water sources. Wetlands were graded as "Outstanding", "Very High", "High", "Moderate", and "General". Wetlands receiving the three highest grades include wetlands around Hog Island, all of the tidal creeks, the Blackwater River, and the streams at the core of the larger swamps.



### Chesapeake Bay Preservation Act

The Chesapeake Bay and its tributaries are one of the most important and productive estuarine systems in the world, providing economic and social benefits to the residents of Surry County and Virginia. Despite its importance, the water quality of the Bay is significantly impaired, although encouraging improvements have been made in recent years.

The Bay's water quality problems were found to be pollution from both point and nonpoint sources. Significant progress has been made to limit pollution from point sources. Nonpoint source pollution remains a major problem. Nonpoint source pollutants are carried into local waterways by stormwater runoff from urban and agricultural lands, and from malfunctioning septic systems.

In an effort to address nonpoint source pollution, the Virginia General Assembly enacted the Chesapeake Bay Preservation Act. The CBPA, established between state and local governments, aimed to reduce nonpoint source pollution by protecting environmentally sensitive land from inappropriate use and development. Surry County complies with the Bay Act through implementation of its CBPA program, outlined here and in the Surry County Chesapeake Bay Preservation Act Program Supplement. The Supplement contains an extensive base of information and guidance about land use and development that will protect the water quality of the Bay.

The purpose of the Chesapeake Bay Preservation Act (CBPA) is to protect and improve the water quality of the Chesapeake Bay, its tributaries, and other state waters by minimizing the impacts of human activity on the waters and within locally designated Chesapeake Bay Preservation Areas. The program's regulations require that a 100-foot wide buffer area be designated as the landward component of the Resource Protection Area (RPA). The regulations require that "...a 100-foot wide buffer area of vegetation that is effective in retarding runoff, preventing erosion, and filtering non-point source pollution from runoff shall be retained if present and established where it does not exist."

Generally, the intent of the Regulations is to:

- Protect existing wooded buffers, while allowing certain modifications to the extent that they do not diminish the ability of the buffer to perform its water quality functions.
- Where no vegetation exists in a buffer, or the existing vegetation is insufficient to accomplish the three functions of retarding runoff, preventing erosion, and filtering non-point source pollution, effective vegetation must be established and woody buffer plantings are encouraged.
- Where a property had a lawn prior to the adoption of the local Bay Act program, no additional planting is required, although the addition of woody vegetation is encouraged for the benefits they would provide.

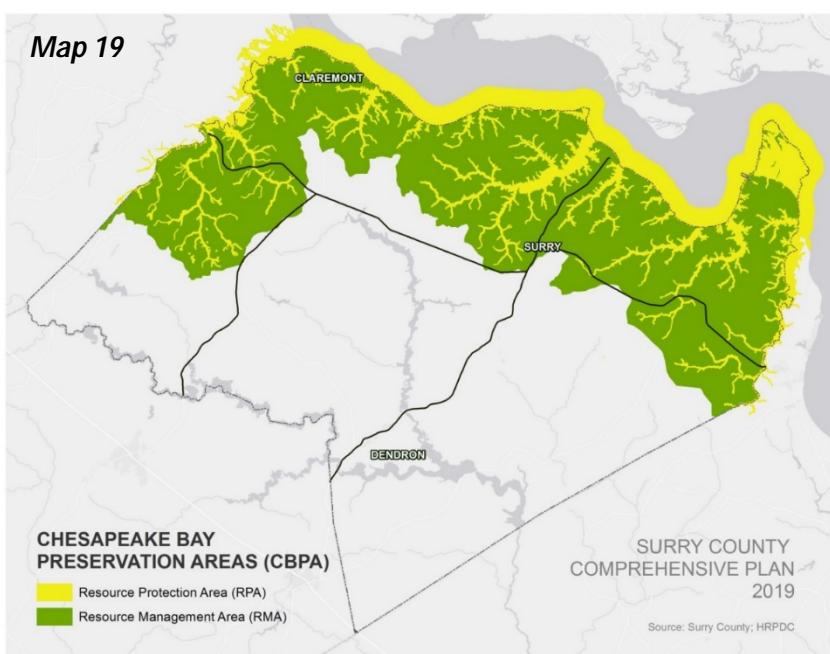
Riparian buffers are complex hydrologic and ecological areas that are transitional zones between surface waters and upland areas. Benefits derived from vegetated riparian buffers, especially forested buffers,

include water quality enhancement, stormwater and floodwater management, stream bank and shoreline stabilization, water temperature modification, wildlife habitat protection, and absorption of airborne pollutants.

#### *Surry County CBPA Program*

Surry County implements these regulations through its Zoning Ordinance. The Zoning Ordinance's Chesapeake Bay Preservation District (CBPD) recognizes that, "The health of the Bay is vital to maintaining Surry County's economy and the welfare of its citizens". The stated purpose of the CBPD is to:

Support the goals and objectives of the Chesapeake Bay Preservation Act and the Surry County Comprehensive Plan by protecting and improving the water quality of the Chesapeake Bay, its tributaries, buffer areas and other sensitive environmental lands by minimizing the potential adverse effects of human activity upon these areas.



In Surry County, the CBPD consists of the RPA and a Resource Management Area (RMA). The RPA consists of tidal wetlands, non-tidal wetlands connected to tidal wetlands, tidal shores, and a 100-foot buffer from these features. The RMA includes all remaining areas of Surry County which are located within the James River watershed. Zoning regulations applicable to development in these areas preserve and improve water quality and constitute part of Surry's Chesapeake Bay Program.

The County's Resource Protection Area includes lands adjacent to the James River and the six creeks that serve as tributaries to the James. Namely, Lawnes Creek, Upper Chippokes Creek, College Creek, Couch Creek, Gray's Creek and Lower Chippokes Creek.

#### Floodplains

A floodplain is any land area subject to inundation by floodwaters from any source including riverine flooding, coastal flooding, and shallow flooding from stormwater. Riverine flooding occurs along channels such as rivers, creeks, streams, or ditches. Riverine flooding happens when a channel receives too much water and the excess flows over its banks and into the adjacent floodplain. Coastal flooding is caused by severe storms in areas on or near ocean coasts. High winds push water towards shore causing

a storm surge and raising water levels. Coastal flooding may be accompanied by waves which can be destructive as they move inland. Shallow flooding occurs in flat areas where water cannot easily drain away. The Federal Emergency Management Agency (FEMA), has mapped areas in Surry County that are subject to riverine and coastal flooding.

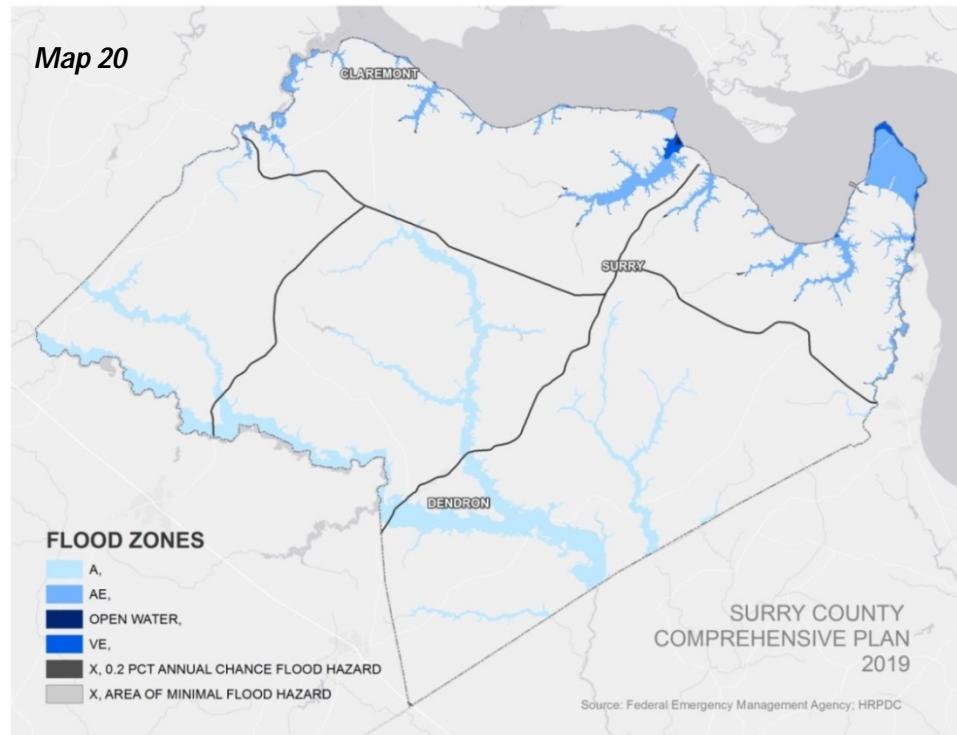
Surry County is a member of FEMA's National Flood Insurance Program (NFIP). The NFIP is based on a mutual agreement between the Federal Government and local governments. Federally backed flood insurance is made available in Surry because the County Board of Supervisors has agreed to regulate development in mapped floodplains.

There are three components to Surry's membership in the NFIP.

1. FEMA has prepared Flood Insurance Rate Maps (FIRMs) for the County, the latest of which were adopted by the Board of Supervisors in 2009 and 2015.
2. Every building located in Surry County may be covered by a flood insurance policy.
3. Surry County adopts and enforces floodplain regulations<sup>19</sup> that protect life and lower the risk of flood damage to property.

In general, FEMA maps the areas in Surry County that have a 1% chance of flooding and a 0.2% chance of flooding each year. These areas are commonly referred to as the 100-year and 500-year floodplains. The 100-year floodplain is also called the Special Flood Hazard Area (SFHA). The SFHA is the area where the regulations of Surry's Floodplain District apply.

The 100-year floodplain subject to coastal flooding is located along the James River and its tidal tributaries. Unlike areas in much of Hampton Roads, the 100-year floodplain subject to coastal flooding is not extensive due to steep slopes along the banks of tidal waterways in Surry. The 100-year floodplain subject to riverine flooding is located adjacent to the Blackwater River, parts



<sup>19</sup> Surry County regulates development in the floodplain through the Floodplain District of the Zoning Ordinance.

of Upper Chippokes Creek, and the Cypress, Otterdam, Mill, and Terrapin Swamps. In total, the 100-year floodplain covers 28.5 square miles of Surry County.

#### Recurrent Flooding and Sea Level Rise

Recurrent flooding is flooding that occurs repeatedly in the same area over time. It can be due to precipitation events, high tides, or storm surge. In coastal Virginia, all three of these factors cause recurrent flooding, and all three are predicted to get worse over the next few decades, resulting in more frequent or larger scale flood events.

Precipitation events typically cause flooding when the intensity of runoff exceeds the capacity of soil infiltration or stormwater drainage systems. This results in a backup of water into roads, homes and businesses. Precipitation-based flooding in Virginia occurs in both urban and rural areas, in coastal and non-coastal areas. Intense precipitation can lead to riverine flooding, which tends to be a bigger problem in the western part of Virginia, but can also occur in the coastal plain. It worsens when the frequency and intensity of heavy rain events increase or when new development increases the load on existing drainage systems.

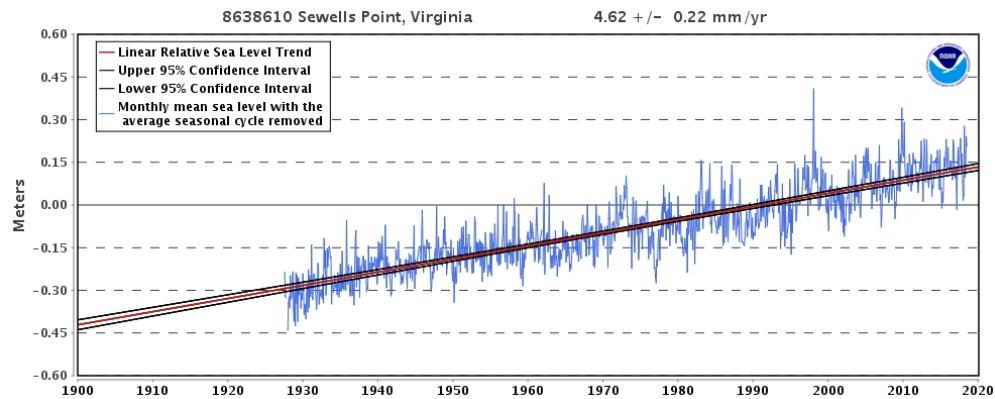
High tides cause flooding in low-lying coastal areas. Typically, areas flood only during extreme high tide events, frequently due to storm-related pressure systems. However, some areas in Virginia may flood on spring tides (which recur semi-monthly). The frequency of tidal flooding will increase with sea level rise.

Storm surge flooding is caused by large storms (hurricanes, tropical storms, and nor'easters). These storms are associated with pressure systems and intense winds that cause water to pile up against the coast. Storm surges can affect large areas of coastal lands, but the extent of flooding depends on the characteristics of the particular storm and the direction it approaches the coast. Flooding tends to be worse when the storm hits during high tide (thus combining tidal flooding with storm surge flooding). Storm surge flooding will worsen with increases in sea level, and an increase in the frequency and intensity of large storm systems.

Impacts from flooding can range from temporary road closures to the loss of homes, property, and life. In coastal Virginia, the cost of large storm damage can range from millions to hundreds of millions of dollars per storm.

Problems from flooding have been and will continue to be made worse by sea level rise. Sea level rise in Virginia is a documented fact. Water levels in Hampton Roads have risen more than one foot over the past 80 years, as shown in *Figure 19: Sewells Point Relative Sea Level Trend (1927 -2017)*. The causes of this rise are well understood and current analyses suggest the rate of rise is increasing. The consequence of higher sea level is evident in the increased frequency of significant flooding events in coastal Virginia communities.

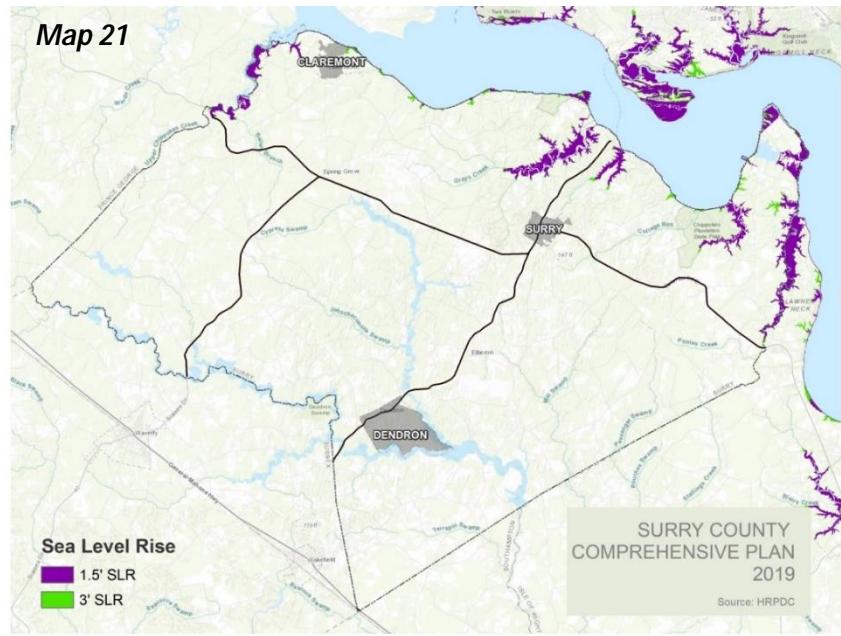
**Figure 19: Sewells Point Relative Sea Level Trend (1927 -2017)**



The future of sea level change in Virginia is most appropriately forecast by the recommendations prepared for the National Climate Assessment. In order to generate sea level rise scenarios to inform planning in Virginia, the Virginia Institute of Marine Science (VIMS) has used four scenarios developed for the National Climate Assessment and modified them by incorporating local factors. Using the National Climate Assessment and modified sea level rise scenarios, VIMS recommends anticipating a sea level rise in Virginia of approximately 1.5 feet over the next 20 to 50 years. However, sea level could rise by as much as 7.5 feet by 2100 in Hampton Roads.

Considering the projections for all of the factors that drive recurrent flooding in Virginia – precipitation, storm frequency, and sea level rise – the frequency and severity of flooding events is likely to increase. Sea level rise will make it easier for the current patterns of weather events to generate damaging flood events in the future. Increases in storm intensity and/or frequency will aggravate that circumstance.

While Surry County will be affected by sea level rise, it is less vulnerable than many localities in Hampton Roads due to steep slopes and higher elevations along its tidally influenced shoreline, as well as the fact that its shoreline is minimally developed. The HRPDC has assessed the vulnerability of each Hampton Roads locality to sea level rise. The HRPDC developed a series of estimates of the effects of inundation by one meter of sea level rise. Under the middle estimate, the HRPDC calculated that 5.4 square miles (1.9% of Surry's



land area) of land would be inundated and that this land contained 107 people, 59 housing units, 1.3 miles of roads, no businesses, and about 5,000 acres of high-value environmental lands. The total value of the land parcels inundated was estimated to be \$22.6 million.

The HRPDC also mapped two different sea level rise scenarios for Surry County: 1.5 feet and 3 feet. Most of the inundated areas are located around Upper Chippokes Creek, Greys Creek, Lawnes Creek, College Run, and Crouch Creek. Very little land fronting on the James River itself would be inundated.

#### *Recreational and Commercial Fisheries*

Surry County lies within the James River and Blackwater River watersheds. The James River flows 340 miles from its headwaters in the Appalachian Mountains to its mouth at the Chesapeake Bay. Surry is located along the lower tidal section of the River. The Blackwater River originates as a coastal plain swamp in Prince George County. It flows east through braided channels of bald cypress and tupelo in Surry County.

The Virginia Department of Game and Inland Fisheries (VDGIF) lists numerous recreational fisheries on the Lower James. These include black crappie, catfish, largemouth bass, shad, striped bass, and white perch. The Blackwater River host runs of striped bass, river herring, and American and hickory shad in the spring. Largemouth bass, bluegill, crappie, flier, blue catfish, and chain pickerel can also be caught in the Blackwater River.

Commercial fishing also occurs on the lower James, most significantly for crabs and oysters. Commercial fishing is not a significant industry in Surry County, however. According to a 2005 study<sup>20</sup> by the Virginia Institute of Marine Science, the value of commercial fish landings in Surry was only \$90,000, well less than one percent of the value of landings statewide. The study also reported no direct employment related to commercial fishing activities. While the study has not been updated, commercial fishing does not currently play a significant role in the economy of Surry County.

#### ***Water Quality***

The Virginia Department of Environmental Quality administers laws and regulations to protect and improve state waters for aquatic life, human health, and other beneficial uses. Through DEQ's water programs, much is known about water quality and existing and potential sources of water pollution. Pollution sources can be classified as point sources or nonpoint sources. Pollution that comes from a well-defined location or source is known as point source pollution. Nonpoint source pollution generally results from land runoff and comes from many diffuse sources.

#### *Point Source Pollution*

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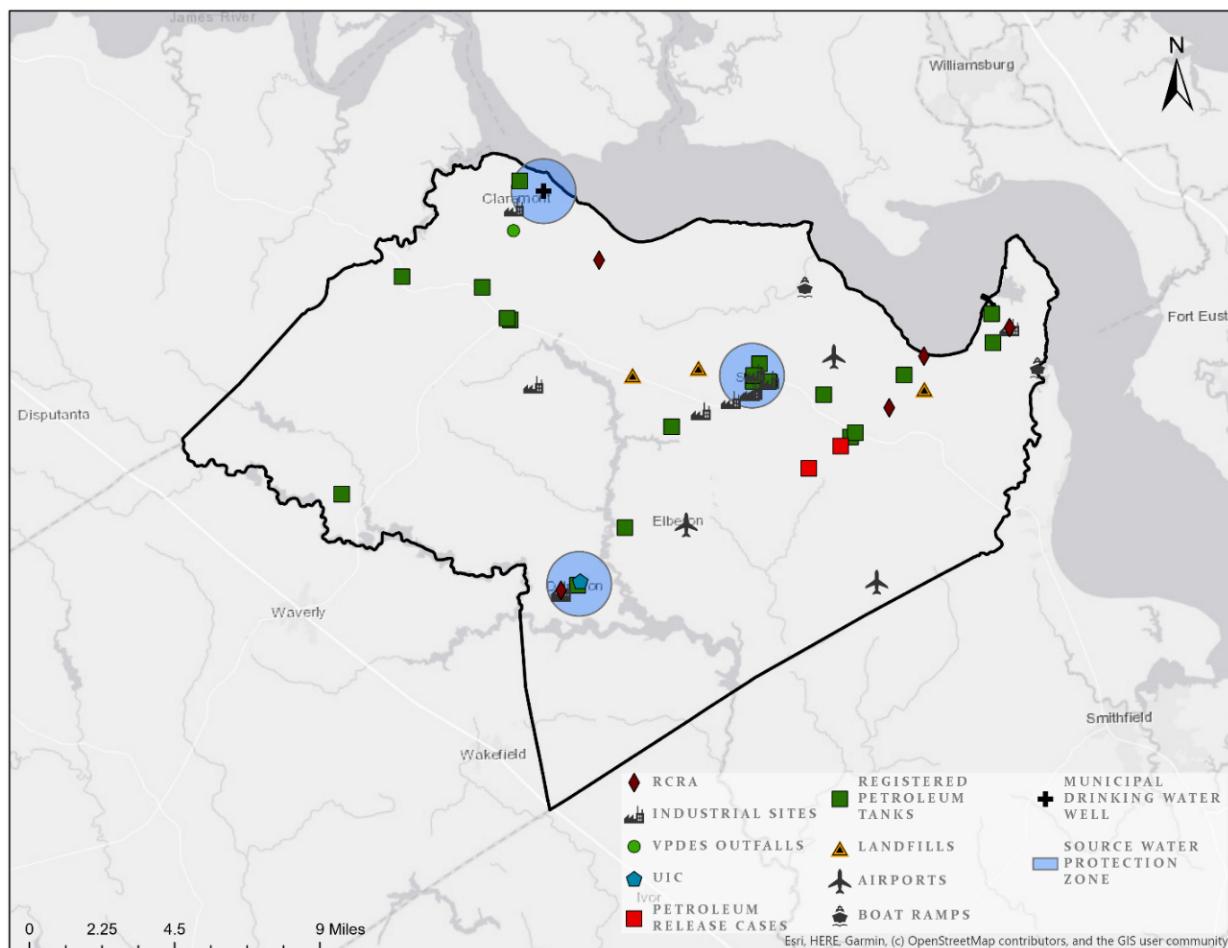
<sup>20</sup> Economic Contributions of Virginia's Commercial Seafood and Recreational Fishing Industries: A User's Manual for Assessing Economic Impacts

Typically, point sources consist of sewage treatment plant and industrial wastewater discharges. The Clean Water Act requires that wastewater dischargers have a permit establishing allowable discharge limits and specifying monitoring and reporting requirements. There are four point source discharges in Surry County regulated under the Virginia Pollution Discharge Elimination System (VPDES) program. Table 9 lists permitted point source dischargers.

#### *Potential Sources of Contamination*

There are various potential sources of contamination (PSC) in Surry County that are detailed in the following map and tables. Potential sources of contamination that fall within the source water protection zones (1-mile radius around public water supply groundwater wells) are considered a higher risk to municipal drinking water supply. There are 17 PSC's that fall within the source water protection zones in Surry County. There are no golf courses, hospitals, mines, superfund sites, active tire piles, RCRA corrective action sites, or voluntary remediation program sites in Surry County.

**Map 22. Potential Sources of Water Supply Contamination.**



#### *Virginia Pollution Discharge Elimination Systems Permits*

Table 9 lists locations of outfalls for Virginia Pollutant Discharge Elimination Systems (VPDES) permitted discharges. There are four active VPDES permits in Surry County<sup>21</sup>.

**Table 9: VPDES Permitted Discharges**

Permit No.	Owner	Facility	Contact Address	City	# Of Outfalls
VA0004090	VA Electric & Power Company	Dominion Energy- Surry and Gravel Neck Stations	5570 Hog Island Rd.	Surry County	4
VA0061646	Hampton Roads Sanitation District	Surry Town of WWTF	11463 Rolfe Hwy	Surry County	1
VAR051784		Seward Lumber Company	2514 Spring Grove Ave	Claremont	2
VA0088463	County of Surry	Surry County Wastewater Treatment Facility	2105 Holly Bush Rd.	Dendron	1

#### *Registered Storage Tanks*

Tables 10 and 11 list petroleum storage tanks. Storage tanks can contain hazardous substances, such as petroleum, gasoline, diesel fuel, acetone, or kerosene, and can be a source of pollution when they leak. There are twenty registered tanks in Surry and two open tank release cases managed by DEQ<sup>22</sup>

**Table 10: Registered Storage Tanks**

Facility Number	Name	Address	Facility Type	Active
4000192	Whites Market	7860 Colonial Trl W	GAS STATION	No
4007255	CABIN POINT GROCERY	11886 Colonial Trail West	GAS STATION	No
4011734	7 Eleven 34313	639 E Colonial Trl	GAS STATION	Yes
4012656	Surry Power Station	5570 Hog Island Rd	UTILITY	Yes
4015985	SURRY VOL RESCUE SQUAD		LOCAL	No
4015986	FARMERS UNITED INC	12051 Rolfe Hwy	COMMERCIAL	No
4015994	BLOUNTS SERVICE CENTER	Route 10	GAS STATION	No
4016005	BAILEYS CONVENIENCE MART	2772 Rolfe Hwy	GAS STATION	No
4016006	DENDRON MART	Highway 31	GAS STATION	No
4016192	CHIPOKES PLANTATION STATE PARK	695 Chippokes Park Rd	STATE	Yes
4018168	POOLE BERKLEY M (MRS)	RFD 1 Box 125	UNKNOWN	No
4018787	S. WALLACE EDWARDS & SONS	11455 Rolfe Hwy	COMMERCIAL	No
4018801	Surry County School Board (High School)	1675 Holly Bush Rd	LOCAL	Yes
4018991	Surry Quick Stop	11965 Rolfe Hwy	GAS STATION	Yes
4018992	Bacons Castle Market	6757 Colonial Trl	GAS STATION	Yes
4020962	HOLDSWORTH GARAGE	Route 1 Box 9A	COMMERCIAL	No
4024210	VDOT Surry Area Headquarters	3580 Colonial Trail W	STATE	Yes
4027975	SPRING GROVE COUNTRY STORE-FORME	7928 Colonial Trail W	GAS STATION	No
4030430	Gravel Neck Combustion Turbine Station	5208 Hog Island Rd	UTILITY	Yes
4038708	Claremont Circle Store	164 Bailey Ave	GAS STATION	Yes

**Table 11: Active Petroleum Release Cases**

Case Number	Name	Report Date	Address	City
20194238	Newby JoeAnn and John Property	1/10/2019	2942 Golden Hill Rd	Elberon
20194231	Langhorne Garland Residence	1/10/2019	4241 Golden Hill Rd	Surry

#### *Resource Conservation and Recovery Act Permits*

<sup>21</sup> DEQ VEGIS, last updated 3/12/2020

<sup>22</sup> DEQ VEGIS, last updated 3/12/2020

Table 12 lists active, hazardous Resource Conservation and Recovery Act (RCRA) sites in Virginia. RCRA hazardous waste is solid waste which meets EPA's criteria for ignitability, corrosivity, reactivity or toxicity. There are four active RCRA permits in Surry County<sup>23</sup>.

**Table 12: RCRA Active Permits**

Permit No.	Owner	Facility	Contact Address	City
VAD000619502 & VAR000511733	VA Electric & Power Company	DOMINION SURRY - GRAVEL NECK POWER STATION	5570 HOG ISLAND RD	Surry
VAR000010793	Surry County Public Schools	SURRY SCHOOL	1675 HOLLYBUSH ROAD	Dendron
VAR000005199	Commonwealth of Virginia	CHIPOKES STATE PARK	695 CHIPOKES PARK RD	Surry

#### *Solid Waste*

Landfills can be a source of leachate, nitrate, oils, household waste, metals and more. There are currently four active landfill facilities in Surry County<sup>24</sup>.

**Table 13: Landfills**

Permit Number	Owner	Facility	Contact Address	City
900000002749	Commonwealth of Virginia	VDOT Surry Area Headquarters	3580 Colonial Trail W	Spring Grove
900000002721	Surry County	Surry County Sanitary Landfill		Surry
900000000426	Surry County	Surry County Sanitary Landfill		Surry
900000000425	Surry County	Surry County Sanitary Landfill		Surry

#### *Airports*

Commercial service and general aviation airports can be sites of nonpoint source pollution. Potential contaminants can include jet fuels, chlorinated solvents, and deicers. There are three airport facilities in Surry County<sup>25</sup>

Name	Airport ID
MELVILLE AIRSTRIP	2VA2
BEAVER DAM ARPK	VA33
WHITE OAK FARM	VA78

**Table 14: Airports**

#### Boat Ramps

There are two boat ramps in Surry County<sup>26</sup>. Boat ramps can produce potential contaminants including gasoline, diesel, solvents, and other automotive wastes.

**Table 15: Boat Ramps**

Site Name	Water Body	Number of Ramps
LAWNES CREEK	James River	1
GREY'S CREEK LANDING	James River	1

*Underground Injection Wells*

Registered underground injection wells are managed by an EPA program which tracks non-hazardous injections. There is one registered underground injection well in Surry County<sup>27</sup>.

**Table 16: Underground Injection Wells**

Name	Address	City	Type
SURRY COUNTY SCHOOL BUS GARAGE	114 Liberty Street	Dendron	Septic System

*Industrial Sites*

There are ten<sup>28</sup> active industrial sites in Surry County that could potentially produce a wide variety of wastes including building wastes, lawn and garden maintenance chemicals, creosotes, and more.

**Table 17: Industrial Sites**

Registry ID	Facility	Address	City
110001888459	DOMINION SURRY - GRAVEL NECK POWER STATION	5570 HOG ISLAND RD	SURRY
110001893023	EDWARDS, S WALLACE AND SONS INC	11455 ROLFE HWY	SURRY
110001905476	SEWARD LUMBER CO INC	2514 SPRING GROVE RD	CLAREMONT
110006856795	LEBANON ELEMENTARY SCHOOL	SURRY	SURRY
110007325670	FARMERS UNITED INC	12051 ROLFE HWY	SURRY
110016667739	SURRY COMMUNITY CENTER	205 ENOS FARM DRIVE	SURRY
110020678514	SURRY SCHOOL	SURRY	SURRY
110020678541	LUTHER P JACKSON SCHOOL	DENDRON	SURRY
110020684794	WINDSOR MILL - SURRY	365 COMMERCE DR	SURRY
110020684945	JOHNSON BROTHERS INCORPORATED	ROUTE 10 E OF SURRY COURTHOUSE	SURRY

Nonpoint Source Pollution

<sup>26</sup> DGIF, data downloaded 10/01/2019

<sup>27</sup> EPA, last updated 10/9/2019

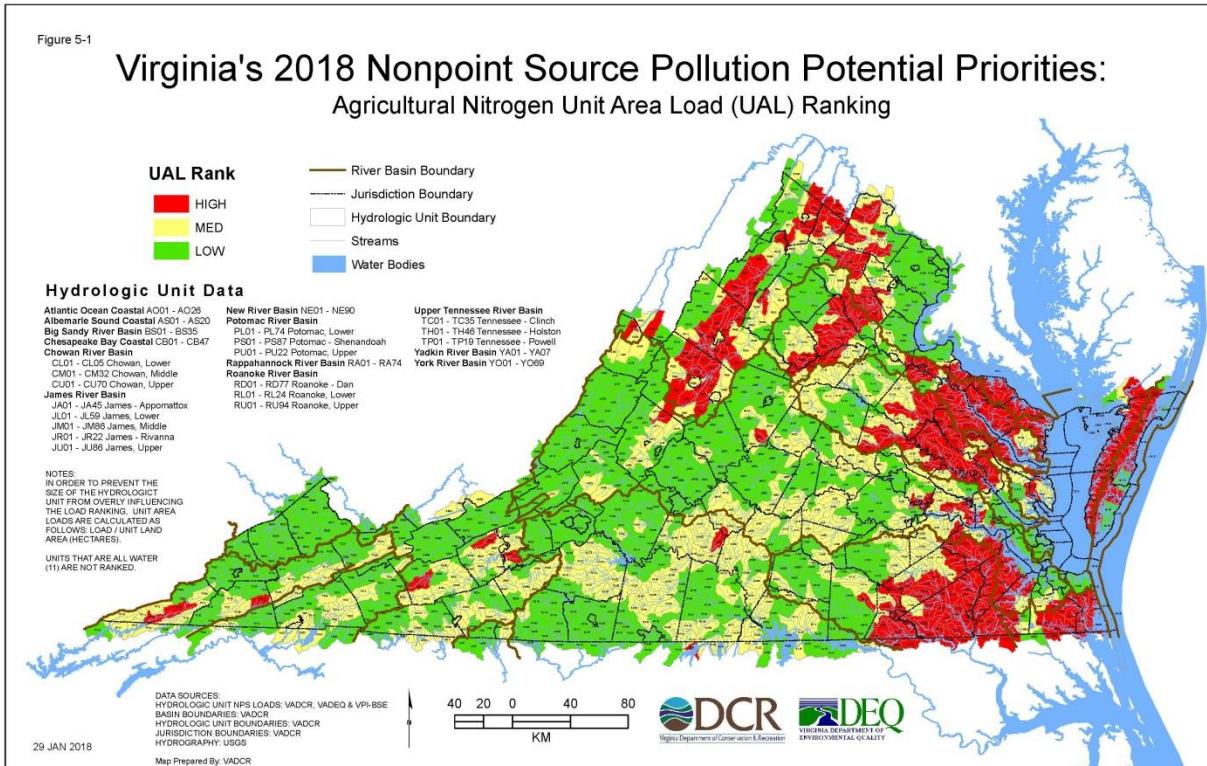
<sup>28</sup> EPA Envirofacts, last updated 9/16/2019

Nonpoint source pollution can have a significant impact on water quality. Nonpoint source pollution occurs when rain runs off farmland, city streets, construction sites, suburban lawns, roofs, and driveways and enters waterways. This runoff often contains harmful substances such as toxins, pathogens, excess nutrients, and sediments. It is called nonpoint source pollution because it does not come from a single source, or point, such as a sewage treatment plant or an industrial discharge pipe, but from many diffuse sources.

There are four main forms of nonpoint source pollution: sediments, nutrients, toxic substances, and pathogens.

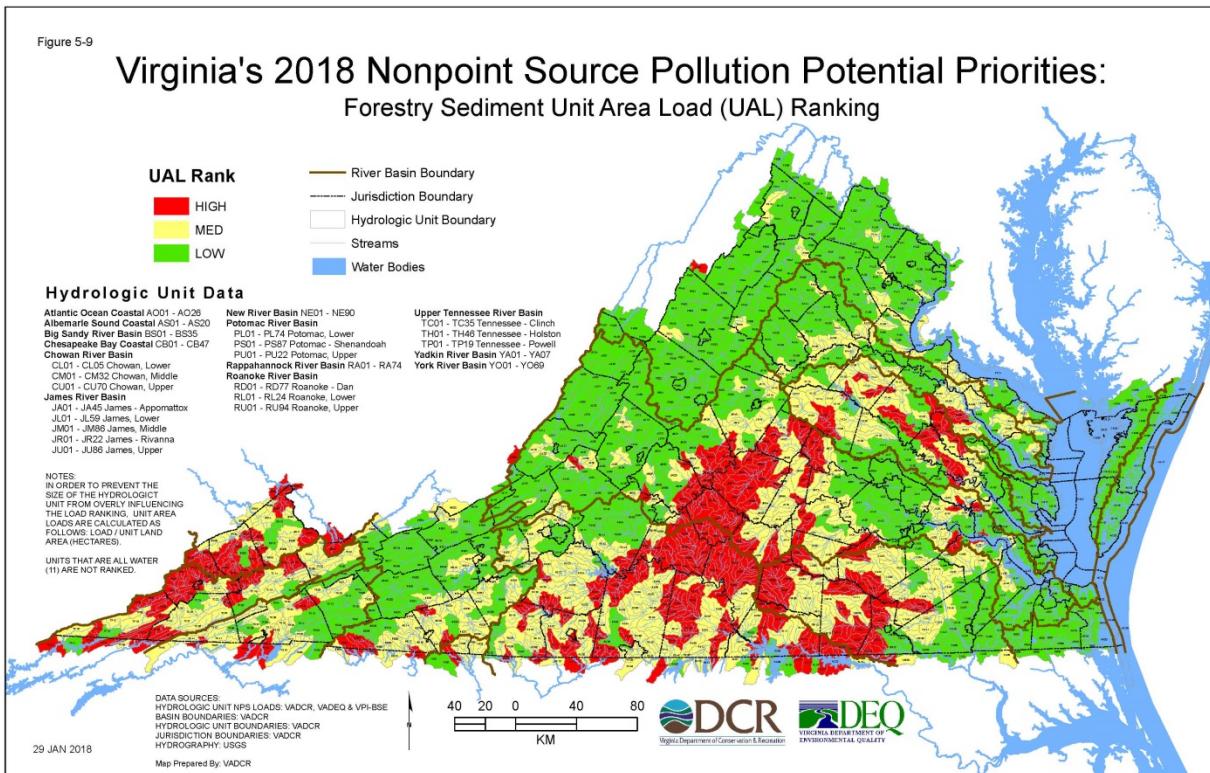
- Sediments are soil particles carried by rainwater into streams, lakes, rivers, and bays. By volume, sediment is the greatest pollutant. It is caused mainly by erosion resulting from bare land, some farming practices, and construction and development.
- Nutrients are substances that help plants and animals live and grow. The main concern is excessive amounts of two nutrients: nitrogen and phosphorus.
- Toxic substances are chemicals that may cause human and wildlife health concerns. They include organic and inorganic chemicals, metals, pesticides, household chemicals, gasoline, motor oil, battery acid, roadway salt, and other pollutants.
- Pathogens are disease-causing microorganisms present in human and animal waste. Most pathogens are bacteria.

## Map 23



Virginia DEQ assesses potential pollution sources. Nutrient (nitrogen) pollution from agriculture and sediment pollution from forestry pose the highest risk to water quality in Surry County, as shown in Maps 23 and 24. Virginia's nonpoint source pollution prevention efforts focus heavily on managing nutrients and sediments because they pose the most significant threat to the health of waterways, especially the Chesapeake Bay and its tributaries.

## Map 24



## Impaired Waters

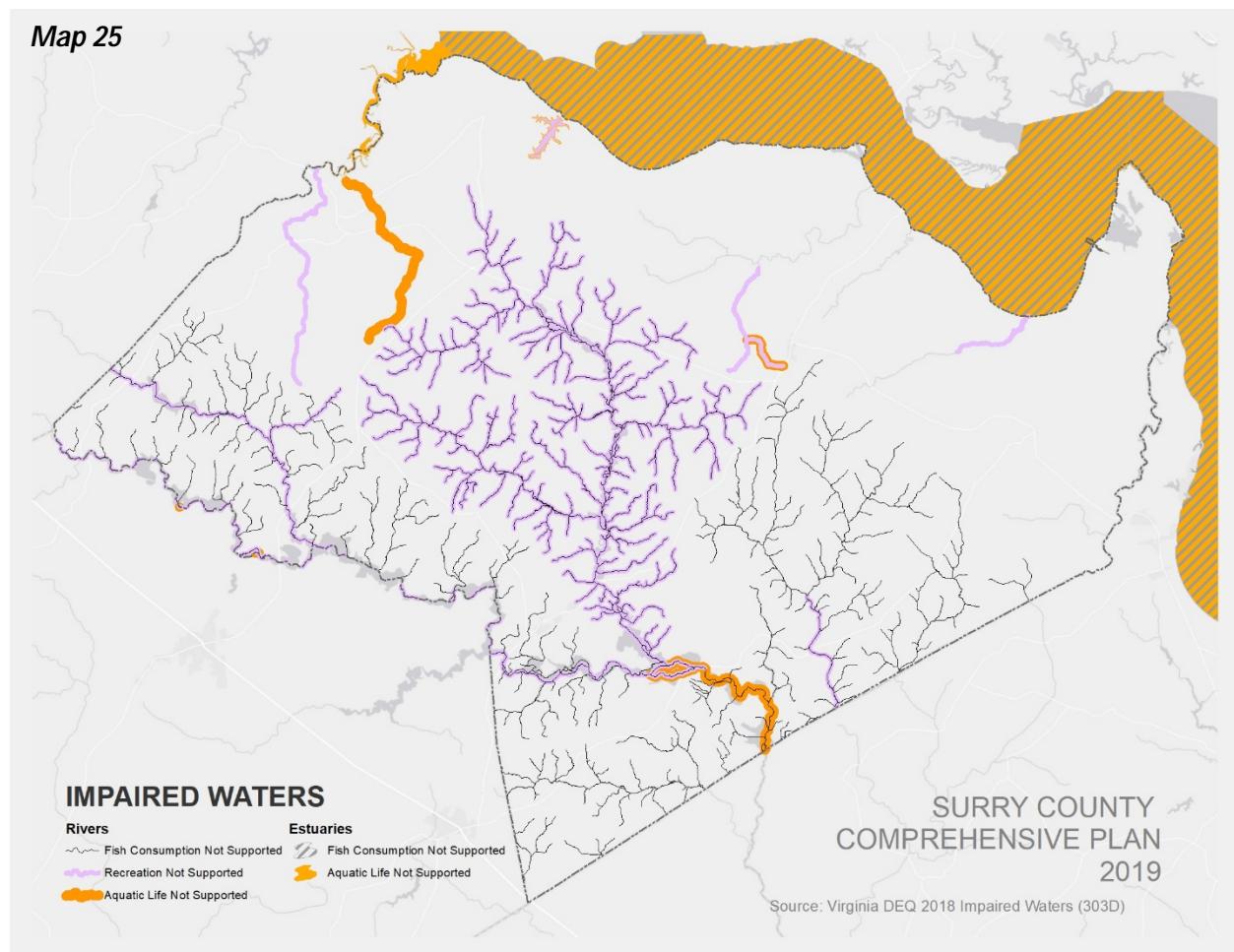
The 2018 DEQ Virginia Water Quality Assessment Report found that waterbodies in and downstream of Surry County have impairments for PCBs, benthics, Chlorophyll a, bacteria, dissolved oxygen, Mirex (an organochloride), mercury, and E. coli. DEQ provides an interactive mapping tool [VEGIS](#) that shows impaired waters and the cause and source of impairments. Impaired waterbodies (Table 18; Map 25) in Surry are:

**Table 18: Impaired Waterways**

Water Body	Use Not Met	Impairment
Bailey Branch	Aquatic Life	Mirex
Blackwater River	Recreation	E. coli
Blackwater River Basin	Fish Consumption	Mercury in Fish Tissue
Blackwater Swamp	Recreation	E. coli
College Run	Recreation	Fecal Coliform
Cypress Swamp	Recreation	E. coli

Cypress Swamp Tributaries	Recreation	E. coli
Dark Swamp (Nontidal)	Recreation	E. coli
Dark Swamp Unnamed Tributary	Recreation	E. coli
Dark Swamp Unnamed Tributary	Aquatic Life	Dissolved Oxygen
James River	Aquatic Life	Estuarine Bioassessments
James River	Fish Consumption	PCBs in Fish Tissue
James River	Aquatic Life	Chlorophyll-a
James River Tidal Freshwater Estuary	Aquatic Life	Dissolved Oxygen
James River Tidal Freshwater Estuary	Aquatic Life	Aquatic Plants
Mill Swamp	Recreation	E. coli
Otterdam Swamp	Recreation	E. coli
Otterdam Swamp Unnamed Tributary	Recreation	E. coli
Seacock Swamp – Upper and Lower	Recreation	E. coli
Seacock Swamp Unnamed Tributary	Recreation	Fecal Coliform
Spring Branch Unnamed Tributary	Recreation	E. coli
Sunken Meadow	Recreation	E. coli
Sunken Meadow Pond	Aquatic Life	Dissolved Oxygen
Upper Chippokes Creek Unnamed Tributary	Recreation	E. coli

Source: DEQ 2018 Fact Sheets for Impaired (Category 4 or 5) Waters



### *Total Maximum Daily Loads*

Virginia has established a goal that all streams support beneficial uses, including primary contact/swimming, fishing, shellfishing, drinking water, and aquatic life. To achieve this goal and fulfill EPA directives, the state identified point and non-point pollution sources, such as residential, municipal, or industrial discharges, and runoff, determined necessary reductions to meet water quality standards, and developed Total Maximum Daily Loads (TMDL's) that specify annual pollutant discharge limits for impaired waterways.

The Virginia Department of Environmental Quality has completed four local TMDL's that address water quality impairments in the following waterways: Chowan River Watershed, Non-Tidal; Lawnes Creek; Blackwater River Watershed and Tributaries; Turkey Island Creek and James River Tributaries, Westover to Claremont, VA. A TMDL implementation plan has been developed for the Chowan River Watershed. Surry County waterways are not on a list of 2-year priorities for TMDL revision or development other than for the PCB TMDL, which affects the entire lower James River watershed.

In 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay TMDL. The TMDL is the largest ever developed by EPA, encompassing a 64,000-square-mile watershed. The TMDL identifies the necessary pollution reductions from major sources of nitrogen, phosphorus, and sediment across the Bay jurisdictions and sets pollution limits necessary to meet water quality standards.

Watershed Implementation Plans (WIPs) are the roadmap for how the Bay jurisdictions, in partnership with federal and local governments, will achieve the Chesapeake Bay TMDL allocations. There are three phases of WIPs developed by the Bay jurisdictions. Phase I and Phase II WIPs were developed and submitted to EPA in 2010 and 2012, respectively. Both Phase I and Phase II WIPs describe actions and controls to be implemented by 2017 and 2025 to achieve applicable water quality standards. Phase III WIPs are based on a midpoint assessment of progress and scientific analyses. Phase III WIPs provide information on actions the Bay jurisdictions intend to implement between 2018 and 2025 to meet the Bay restoration goals.

### ***Policy Considerations***

- Surry's natural resources are diverse and exceptional. Few other localities, especially in Hampton Roads, possess such a combination of coastal, agricultural, and other natural resources.
- Adequate measures appear to be in place to preserve these resources from current pressures and risks. As pressures and risks change, preservation measures should continue to be evaluated.
- Surry is at lower risk from coastal recurrent flooding and sea level rise than many Hampton Roads communities.

### ***Existing Roadway System***

The three primary roadways in Surry County are Routes 10, 31, and 40. These routes are classified as minor arterial roads, and serve an important purpose in Surry. They are intended to move people through or to an area. They are intended for trips of moderate length at higher speeds, and form a network that link towns, cities and counties.

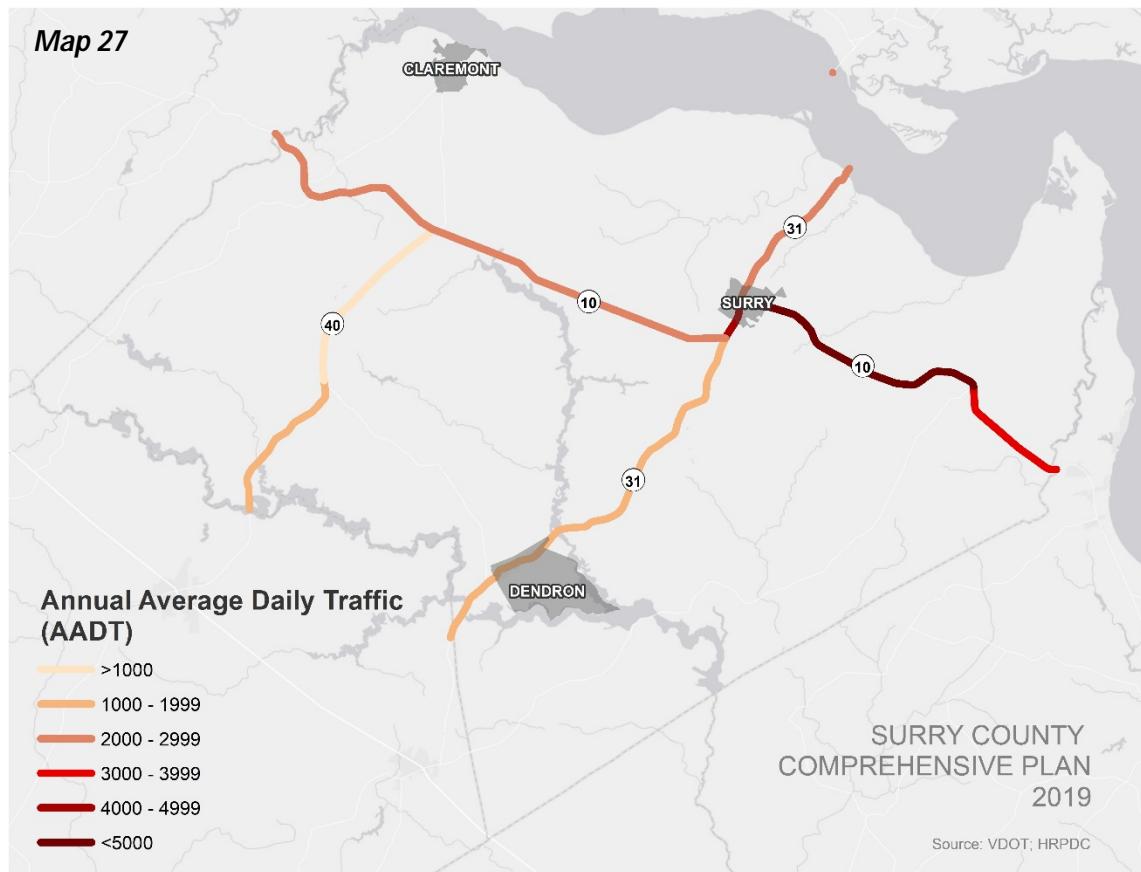
In Surry, these routes are generally two-lane highways with narrow shoulders. Rt. 10 runs east-west, passes through the Town of Surry, and provides connections to the Richmond region through Prince George County and the Hampton Roads region through Isle of Wight County. Rt. 31 runs north-south through the central part of the County and intersects with Rt. 10 in the Town of Surry. It connects to US 460, a major east-west highway that links Hampton Roads to Richmond and Southside Virginia. Rt. 31 also connects Surry County to the upper Virginia Peninsula via the Jamestown – Scotland Ferry. Rt. 40 begins in Surry County in Spring Grove at its intersection with Rt. 10 and runs north-south through the western part of the County and makes a connection to US 460 in Waverly in Sussex County. The rest of the road network in Surry consists of collector and local roads that provide land access and traffic circulation within the County.

### ***Map 26: VDOT Functional Classification – Surry County***

Source: HRTPO

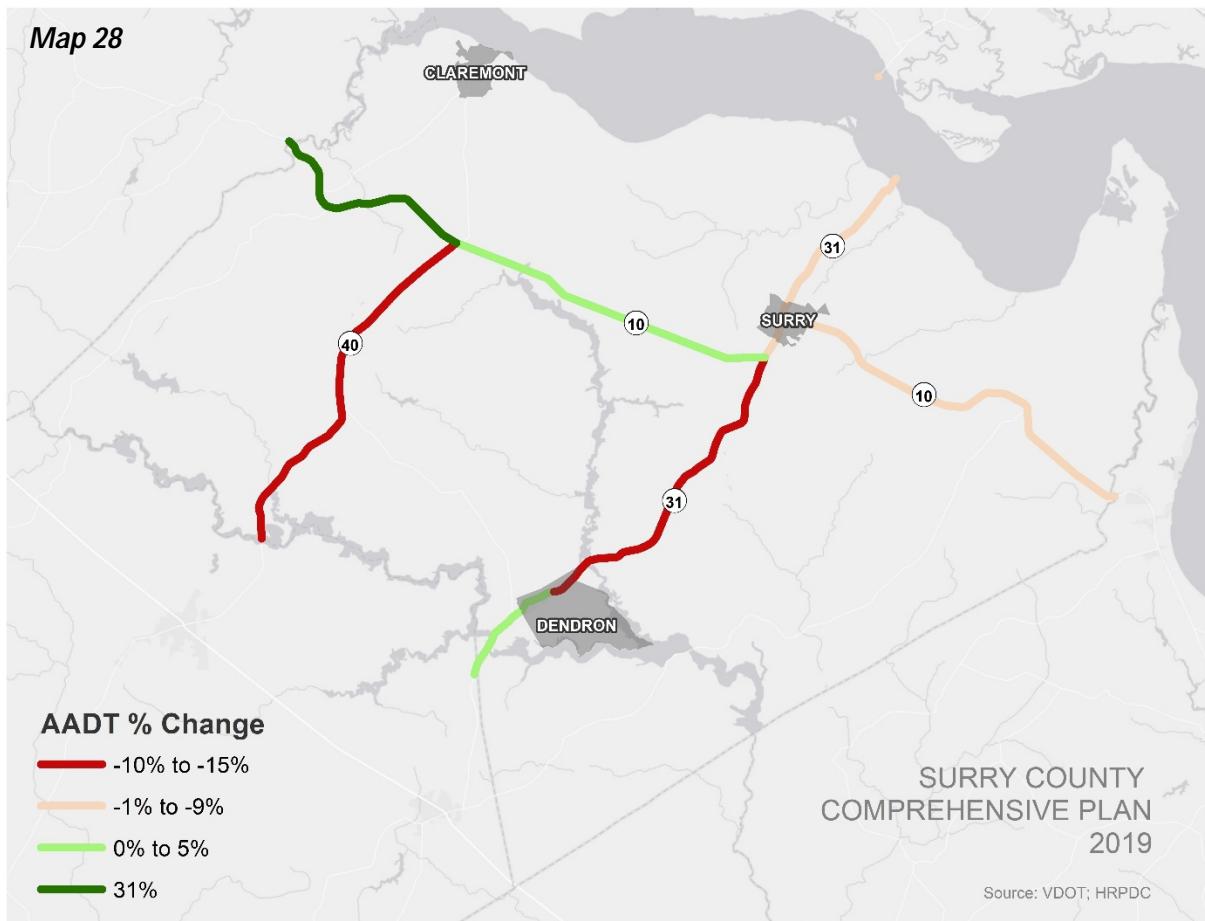
Daily vehicle miles traveled (VMT) in Surry County has remained steady over the last decade. The Virginia Department of Transportation (VDOT) collected VMT data in Surry in 2006, 2009, 2012, and 2015. VMT in 2006 was 174,200. In 2015, it was 175,800, an increase of about 1% since 2006. As Surry's population has remained essentially flat over that time period, no major change in county-wide travel behavior has been observed.

The highest traffic volumes in Surry, as measured by Annual Average Daily Traffic<sup>29</sup> (AADT), are on Rt. 10 from the Town of Surry to Bacon's Castle Trail. AADT on the segments of Rt. 10 from the Town of Surry to the Isle of Wight County line range from about 4,000 to 5,000. Traffic volume on Rt. 10 west of the Town of Surry and on Rt. 31 north of the Town is between 2,000 and 3,000 AADT. All other major road segments are below 2,000 AADT.



<sup>29</sup> AADT is the total volume of vehicle traffic on a road for a year divided by 365.

There have been changes in traffic volume on Surry's major routes from 2006 to 2015. Rt. 31 north of the Town of Surry and Rt. 10 east of Surry saw a slight decline in traffic volume of less than 10%. Traffic on Rt. 40 and Rt. 31 south of the Town of Surry declined between 10% and 15%. The road segment with the highest increase in volume over this period was the section of Rt. 10 from the Prince George County line to Rt. 40, which increased 31%, a significant amount. The sharpest spike in volume on this segment was between the years 2006 and 2009. No other segment of Surry's major roadways increased in volume more than 4%.



### ***Planned Improvements to the Roadway System***

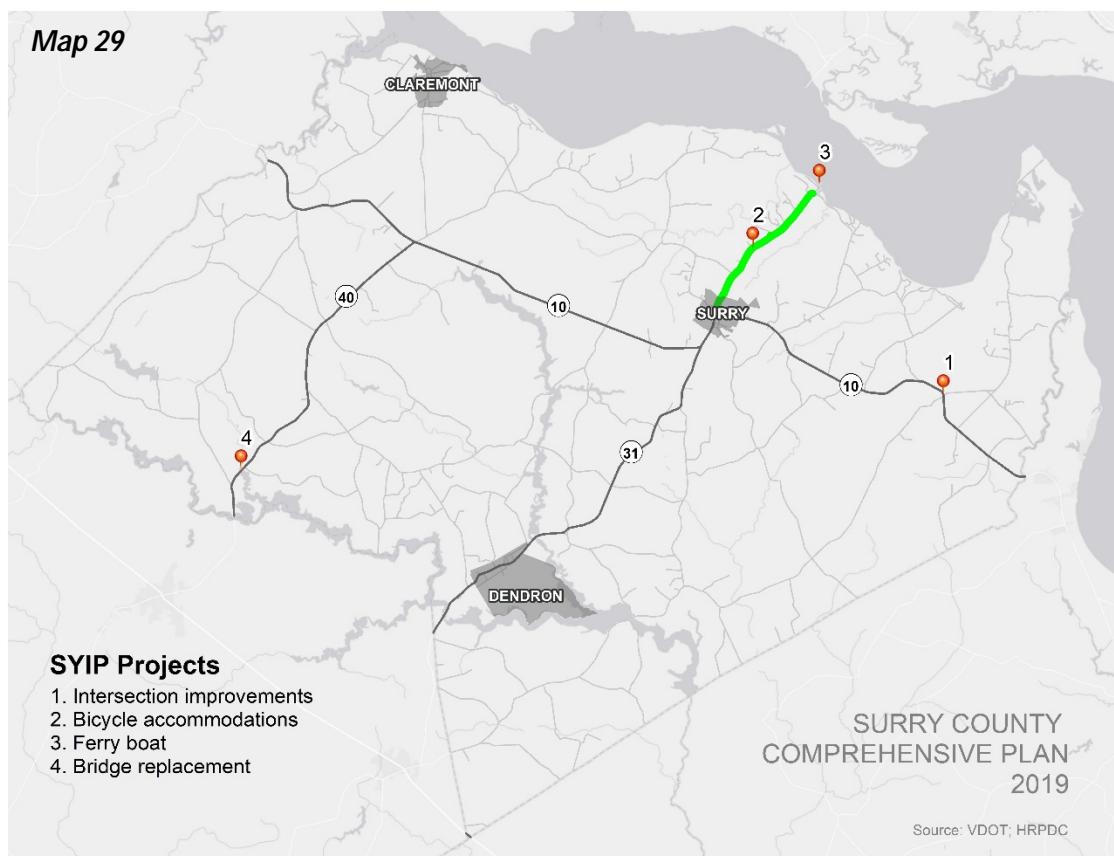
Public road construction and maintenance within Surry County is conducted by the Virginia Department of Transportation (VDOT). VDOT's Six-Year Improvement Program (SYIP) is the Commonwealth Transportation Board's (CTB) plan for allocating funding over a six-year period for projects related to the interstate, primary, secondary and urban highway systems, public transit, ports and airports, and other programs. Project allocations in the SYIP are determined by the CTB with input from the public and individual localities.

The FY 2020 Six-Year Improvement Plan includes four projects located in Surry. These include:

- Realignment of the intersection of Rt. 10 and White Marsh Road including the installation of left turn lanes on Rt. 10 and a right turn lane on White Marsh Road.
- Replacement of the Rt. 40 bridge over Otterdam Swamp.
- Design and construction of the 70-vehicle ferry boat *Powhatan*.
- 4-miles of bicycle accommodations on Rt. 31 from the Town of Surry to the Jamestown-Scotland Ferry.

**Table 19: SYIP Projects**

	UPC	Description	Route	Road System	Estimate	Previous Values in Thousands of Dollars	FY20	FY21-25	Balance
1	111789	Intersection of Colonial Trail and Rt. 617	10	Primary	\$6,017	\$0	\$466	\$5,551	\$0
2	115511	Rt. 31 Bicycle Accommodations	31	Primary	\$9,600	\$0	\$0	\$9,600	\$0
3	100947	New Jamestown-Scotland Ferry Boat	31	Primary	\$23,391	\$23,392	\$0	\$0	(\$1)
4	111342	Rt. 40 Bridge over Otterdam Swamp	40	Primary	\$5,057	\$0	\$3,342	\$1,715	\$0



### ***Bicycles and Pedestrians***

Surry County currently lacks a developed and connected bicycle and pedestrian network. The primary routes, Routes 10, 31, and 40, do not have appropriate paved shoulders for bicyclists or pedestrians. There are no signed designated bike routes or walking trails throughout the County other than in Chippokes Plantation State Park.

Existing bicycle and pedestrian facilities include 3.3 miles of sidewalks within the Towns of Surry, Claremont, and Dendron. The sidewalk networks in the towns are incomplete and have some maintenance deficiencies. Portions of Rt. 31 have paved shoulders in Dendron. There are several "Share the Road" signs near the Jamestown – Scotland Ferry and in Claremont. The East Coast Greenway has an on-road route designation through Surry County that runs from the ferry landing, through Chippokes State Park, into Isle of Wight County.

### ***Transit***

#### ***Map 30: WATA Route 13 - Surry***

The Williamsburg Area Transit Authority (WATA) provides bus service to Surry County Monday through Saturday. The route uses the ferry service to cross the James River and make stops in the vicinity of the Town of Surry along the Rt. 31 corridor.

The Jamestown – Scotland Ferry connects Surry County to James City County and the Virginia Peninsula. It operates 24 hours a day, 365 days a year, and is free to use. The ferry carries over 930,000 vehicles per year, or about 2,500 vehicles per day. Ferry usage peaked in 2007 at 1,037,546 vehicles per year. 933,534 vehicles used the ferry in 2017, a decline of 10% from 2007.

### ***U.S. 460 Heartland Corridor***

Surry County lies along the U.S. 460 corridor. U.S. 460 runs 655 miles from Hampton Roads to Frankfort, Kentucky. It has been designated by the Commonwealth Transportation Board (CTB) as a First Tier Corridor of Statewide Significance (CoSS). The CoSS serve an important role in statewide multimodal planning in that they signify the highest priority routes from a statewide perspective. First tier corridors are national corridors that support mobility for nationwide travel and freight movement. Along with Corridor Management Plans, tier designations help support prioritization of projects within regions and at a statewide level.

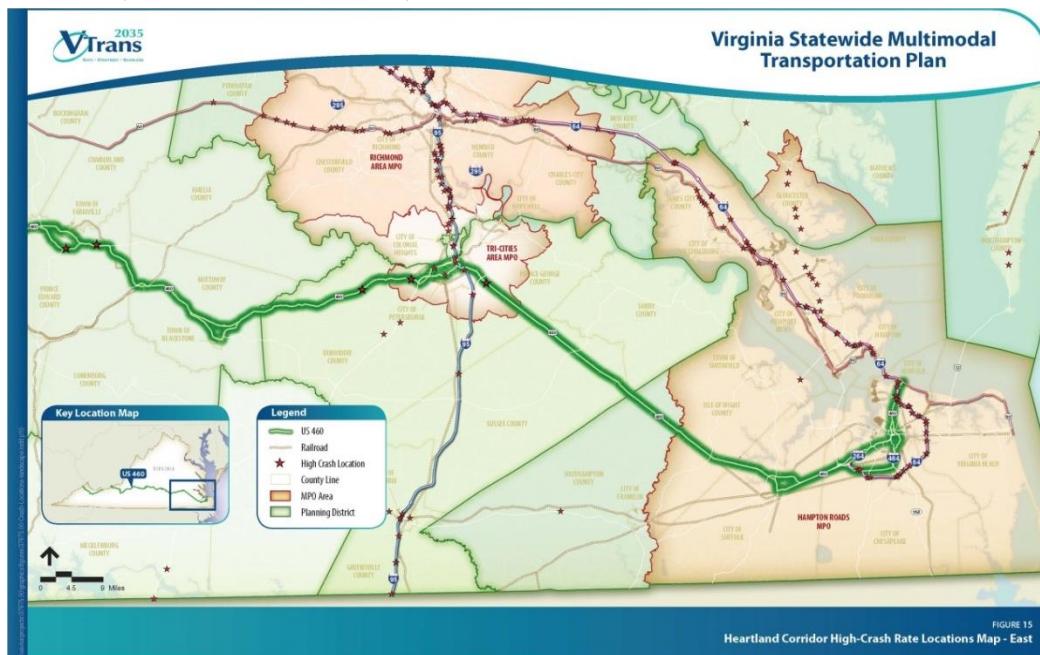
U.S. 460 travels a total of over 400 miles through Virginia, providing local access to a number of communities and connecting the larger areas of Lynchburg, Petersburg, and Hampton Roads. It also connects to U.S. 29 in Lynchburg, I- 81, I-95, and I-85. The Heartland Corridor is also an important freight

corridor. Norfolk Southern freight rail lines run along most of the corridor, one of the important freight corridors in the eastern United States, providing access between the Port of Virginia and the Midwest.

The major functions of the U.S. 460 Corridor include:

- *Freight movement*: U.S. 460 is one of the most important truck and rail freight corridors in Virginia.
- *Evacuation*: U.S. 460 is an emergency evacuation route for Hampton Roads.
- *Military*: U.S. 460 provides access to the numerous military installations in the Hampton Roads.
- *Tourism*: U.S. 460 connects interior parts of the state to coastal tourism and historic assets, including the resort area of Virginia Beach.
- *Education*: U.S. 460 is an important corridor for accessing education institutions, particularly between Hampton Roads and Richmond.

**Map 31: U.S. 460 (The Heartland Corridor)**



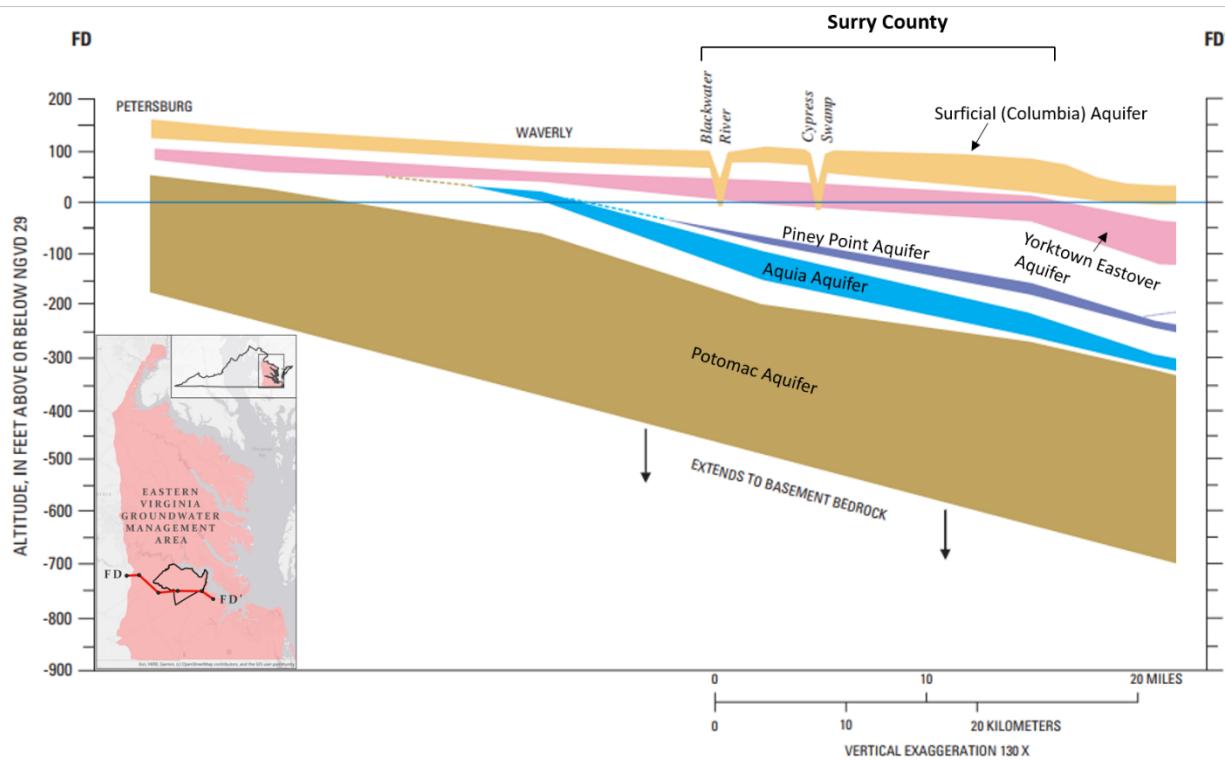
### **Policy Considerations**

- Traffic conditions have not changed significantly over the last decade. While marginal improvements may be warranted, the existing roadway network serves Surry County's needs.
- Consider how to capitalize on proximity to one of Virginia's major economic transportation corridors (U.S. 460).

### Groundwater Framework

Surry County is located within the Virginia Coastal Plain Province which extends from the fall line to the Atlantic Coast, occupying an area of approximately 13,000 square miles ( $\text{mi}^2$ ). The Plain's subsurface is characterized by wedge-shaped, unconsolidated sedimentary deposits sloping and thickening eastward at depths of 0 feet above mean sea level at the western edge to over 600 feet below mean sea level along the Atlantic coast. These deposits contain clay, silt, sand, gravel, and some shell material overlaying a bedrock basement of igneous and metamorphic rocks. To the east of Surry, there exists breccia type sedimentary deposits resulting from the Chesapeake Bay Impact Crater. The Virginia Coastal Plain's groundwater flow system (most recent study conducted in 2006) contains eight water bearing aquifers and eleven confining zones. Typically, groundwater flows eastward through the aquifers, recharging primarily along the fall line. As shown in Figure 20, immediately below Surry County, the aquifer system consists of five aquifers: Columbia Aquifer, Yorktown-Eastover Aquifer, Piney Point Aquifer, Aquia Aquifer, and Potomac Aquifer. These aquifers are described from youngest (shallow) to oldest (deep).

**Figure 20: Virginia Coastal Plain Beneath Surry County**



Source: Modified from the Virginia Coastal Plain Hydrogeologic Framework, USGS (2006)

### Aquifers Under Surry County<sup>30</sup>

*The Surficial (Columbia) Aquifer* is an unconfined aquifer that is composed of sand and gravel and extends along the whole Virginia Coastal Plain Aquifer System. Due to continuous recharge, the aquifer contains freshwater throughout its extent. However, this also means the wells in the surficial aquifer have a high susceptibility to contamination and are prone to periodically going dry depending on production demand, seasonal fluctuations in the water table, drought, and decreasing well efficiency with age. The aquifer is sparsely used with only 1% of reported withdrawals in 2018 coming from the Surficial Aquifer.

*The Yorktown-Eastover Aquifer* is immediately below the Surficial Aquifer and runs underneath the extent of Surry. The aquifer is composed of interbedded sands and clays. The aquifer yields 10-30 gallons per minute (gpm) and is moderately used with 1.26% of reported use in 2018 coming from the Yorktown-Eastover Aquifer.

*The Piney Point Aquifer* only underlays the eastern portion of Surry County and is thinner than the Aquia aquifer as it crosses under Surry. The aquifer is composed of marine sands and ranges from 10's to 100's of feet thick across the Virginia Coastal Plain. The Piney Point Aquifer is composed of two formations. The upper formation is not typically used due to the presence of hydrogen sulfide, while the lower formation has better quality water and higher yields. The Piney Point aquifer is moderately used across the Virginia Coastal Plain, with 3.64% of reported use in 2018 coming from the aquifer.

*The Aquia Aquifer* is a narrow aquifer (<50ft thick) that underlays all of Surry County and consists of coarse glauconitic quartz sand. The glauconitic sands commonly cause mechanical weathering to pumps, resulting in screen clogging and poor water quality. The aquifer has a low yield (5-10gpm) and is sparsely used with only 0.54% of 2018 reported groundwater use from the Aquia Aquifer.

*The Potomac Aquifer* is the Coastal Plain's deepest and thickest aquifer, extending across the entire Virginia Coastal Plain except for the inner part of the Chesapeake Bay Impact Crater. The aquifer is composed of sand and gravel interbedded with clays. Previously, the aquifer was classified as three separate aquifers, but was reclassified as one unit in 2006. The Potomac Aquifer is a high yield aquifer, commonly yielding 100-500 gpm. Additionally, the aquifer is the most commonly used with 93.4% of all reported withdrawals in 2018 coming from the Potomac Aquifer. The deep Potomac has high chloride concentrations, with concentrations almost 360 times higher than chloride concentration in the Aquia<sup>31</sup>. A concern associated with this is the vertical intrusion of brackish water into the upper part of the Potomac due to over pumping.

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<sup>30</sup> The Virginia Coastal Plain Hydrogeologic Framework, USGS (2006); 2018-2019 Annual Simulation of Potentiometric Groundwater Surface Elevations of Reported and Total Permitted Use, DEQ (2019)

<sup>31</sup> Groundwater-Quality Data and Regional Trends in the Virginia Coastal Plain, 1906-2007, USGS

## Water Supply

The Hampton Roads Regional Water Supply Plan assists local efforts to meet state water supply planning requirements by addressing the following elements: description of existing water sources; description of existing water use; assessment of projected water demand; statement of need; alternatives analysis to address projected deficits in water supplies; and descriptions of water management and drought response actions. The Regional Water Supply Plan includes six counties, ten cities, and eight towns. Updated data (2015) is provided through DEQ's online reporting system<sup>32</sup>.

### Current Demand

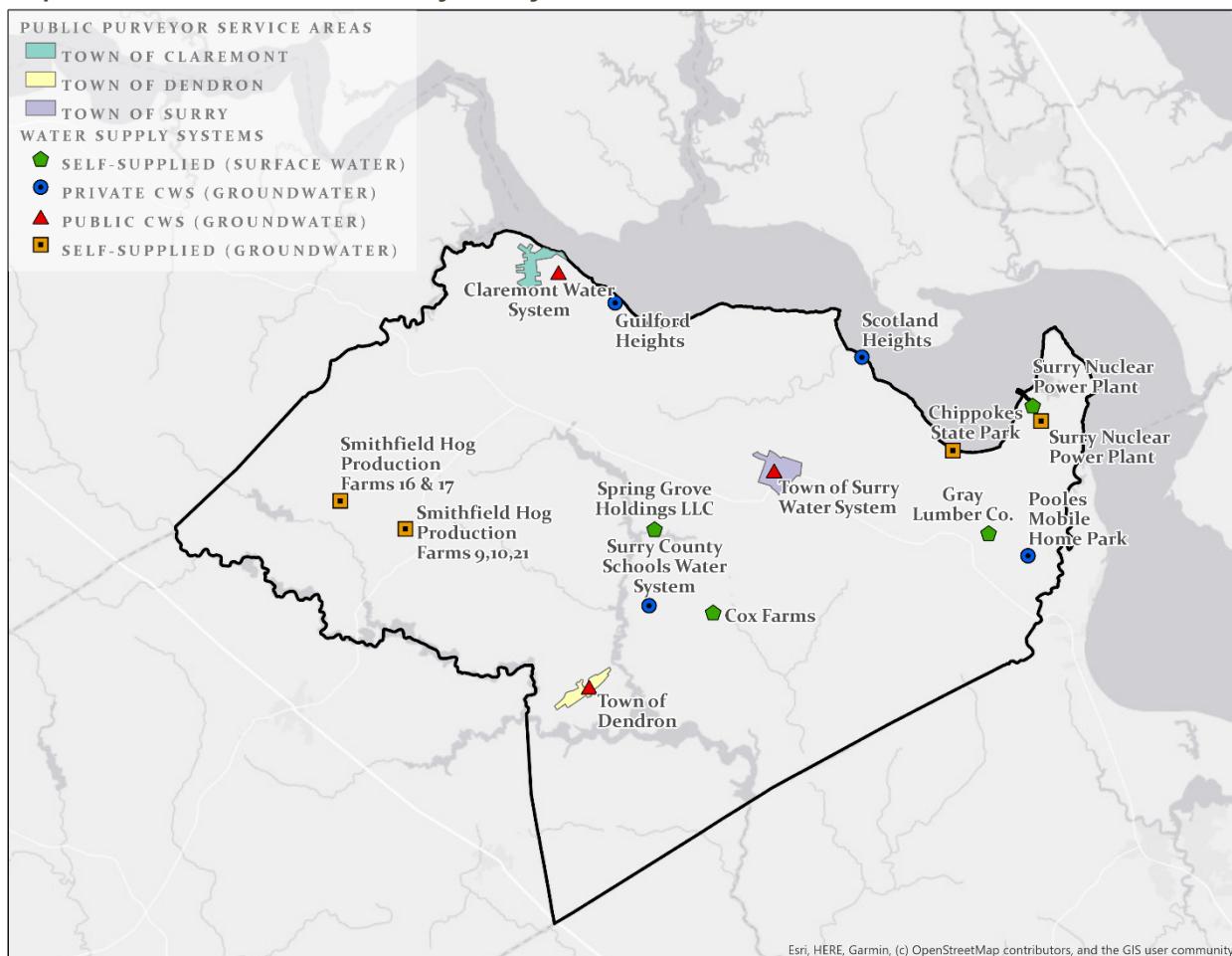
Water is supplied in Surry County through publicly-owned water systems, privately-owned water systems, and self-supplied water systems (Map 32). Each of the towns in Surry operate a publicly-owned water system that together serve approximately 1,100 people. The water source for the publicly-owned water systems is groundwater from the Potomac aquifer with a combined DEQ permit of 0.13 million gallons per day (Table 20). Recently, Surry County acquired the Town of Dendron's water system. Plans are underway for improvements to the Dendron system, including the construction of a new 250,000 gallon elevated storage tank and upgrades to the existing well site and distribution system. Surry County also operates systems that serve County schools and the Surry West Industrial Park.

**Table 20: Active groundwater permits in Surry County (only required for users withdrawing >300,000 gallons/month)**

Permit ID	Permit Holder	Use Type	Annual Withdrawal Limit (mgd)
GW0000801	Claremont Water System	Public CWS	0.05
GW0066700	Smithfield Hog Production Farms 16 & 17	Self-Supplied	0.06
GW0066300	Smithfield Hog Production Farms 9,10,21	Self-Supplied	0.10
GW0008200	Town of Dendron	Public CWS	0.02
GW0007900	Town of Surry Water System	Public CWS	0.06
GW0008400	Chippokes State Park	Self-Supplied	0.02
GW0010000	Pooles Mobile Home Park	Private CWS	0.01
GW0003901	Surry Nuclear Power Plant	Self-Supplied	0.42
GW0022200	Surry County Schools Water System	Private CWS	0.01

<sup>32</sup> VAHydro: (<http://deq1.bse.vt.edu/d.dh/>)

**Map 32: Water Service Areas in Surry County**



Three privately-owned, residential systems operate in Surry County. The Guilford Heights, Poole's Mobile Home Park, and the Scotland Heights systems are in rural areas near the James River. Each system serves less than 200 people. The systems rely on groundwater and withdraw from the Potomac aquifer. They do not have an active groundwater withdrawal permit because they withdraw <300,000 gal/mo. Demand for water is expected to increase by 0.04 mgd by 2040 for both public and private community water systems<sup>33</sup>.

Approximately 75% of the population of Surry County is served by an estimated 1,952 private residential wells. Based on the USGS study of domestic wells, the private wells in Surry County withdraw approximately 0.38 mgd from the following aquifers: Yorktown-Eastover (61%), Aquia (5%), and Potomac (34%). About two dozen businesses are also served by private wells. Virginia DEQ now requires newly constructed private wells to be logged via their online reporting system. Small self-supplied users are expected to have an 0.18 mgd increase in demand by 2040.<sup>34</sup>

<sup>33</sup> Private Domestic-Well characteristics and the Distribution of Domestic Withdrawals among Aquifers in the Virginia Coastal Plain. SIR2007-5250

<sup>34</sup> Simulation of Groundwater Flow in the Coastal Plain Aquifer System of Virginia, USGS, SIR 2009-5039

The Surry Nuclear Power Station is the only major non-agricultural self-supplied user in the County. The plant withdraws water from the James River for use as cooling water. Most of the water is discharged back into the James River. The system's design capacity is a maximum daily withdrawal of 2,535 million gallons. In addition to the surface water withdrawals by the Power Station, the plant holds a DEQ Ground Water Withdrawal Permit to withdraw 0.42 mgd from nine wells. The Surry Nuclear Power Station is not projected to have an increase in water demand. Four self-supplied agricultural users in Surry County use more than 300,000 gallons of water per month, with demand projected to increase by 0.25 mgd by 2040.<sup>35</sup>

#### Groundwater

As described above, Surry County is located in the Virginia Coastal Plain physiographic province, which is underlain by a layer of aquifers. As a result of long-term withdrawals, groundwater levels in the Coastal Plain aquifers have declined by as much as 200 feet near large withdrawal centers. Groundwater withdrawal permits are carefully considered due to concerns about preservation of the groundwater resources.

#### Eastern Virginia Groundwater Management Area

Surry County is located within the Eastern Virginia Groundwater Management Area as designated in the Virginia Ground Water Management Act of 1992. The Virginia Ground Water Management Act was enacted to preserve the available water quantity of state aquifers. The Act requires groundwater withdrawals greater than 10,000 gallons per day or 300,000 gallons per month to have a permit issued by DEQ. Permits are valid for 10 years and are based on the potential impact of the withdrawal on groundwater levels and surrounding wells, based on the results of the Virginia Coastal Plain Model. The proposed withdrawal cannot cause water levels to drop beneath the depth that is 80% of the difference in depth between the land surface and the top of the aquifer within 50 years of permit issuance. If the proposed withdrawal is in a location that already violates this rule due to other withdrawals, the permit is unlikely to be issued. In Surry County, there are pre-existing violations to the 80% rule within the Aquia aquifer in the western part of Surry County.

#### HRPDC Groundwater Mitigation Program

All groundwater withdrawal permits require the permit holder to develop a groundwater mitigation plan, which addresses how any impacts that occur due to the permit holder's groundwater withdrawal will be corrected or compensated for. To assist the localities in Hampton Roads, the HRPDC has developed a Regional Ground Water Mitigation Program. The Regional Groundwater Mitigation Program provides analysis of impacts of groundwater withdrawals, local groundwater studies, groundwater education, administrative support, and coordination for cooperative programs with the USGS and GIS support. Additionally, the program resulted in a streamlined process for claims from well owners who believe that municipal pumping may have impinged upon the use of their well.

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<sup>35</sup> VAHydro: (<http://deq1.bse.vt.edu/d.dh/>)

### Alternate Water Sources

Since it may be difficult for large commercial users to get an active groundwater withdrawal permit within Surry County, the Eastern Virginia Groundwater Management Advisory Committee has suggested the following as potential alternate water sources to groundwater<sup>36</sup>:

- Fresh surface water, both direct use and reservoirs
- Stormwater ponds to replace irrigation wells
- Stormwater treatment from pump stations
- Supplemental flows to reservoir
- Reclaimed water such as, direct potable reuse, indirect potable water reuse, or industrial/agricultural reuse
- Desalination for either brackish surface water or groundwater
- Decentralized small scale systems supplied by quarries or other impoundments
- Inter-basin transfers of groundwater rights
- Aquifer storage and recovery
- Aquifer recharge using treated surface water or purified wastewater

Recently, the Hampton Roads Sanitation District (HRSD) launched the Sustainable Water Initiative for Tomorrow (SWIFT). SWIFT is an innovative water treatment project in eastern Virginia designed to further protect the region's environment, enhance the sustainability of the region's long-term groundwater supply and help address environmental pressures such as Chesapeake Bay restoration, sea level rise, and saltwater intrusion.

The project will take highly treated water that would otherwise be discharged into the Elizabeth, James, or York rivers and put it through additional rounds of advanced water treatment to meet drinking water quality standards. The SWIFT Water will then be added to the Potomac Aquifer, the primary source of groundwater throughout eastern Virginia.

### ***Policy Considerations***

- The extent of water and wastewater infrastructure limits the density of residential development.
- Economic development opportunities in Surry are limited by availability of industrial water supply. (This may be mitigated over the long-term by HRSD's Sustainable Water Initiative for Tomorrow: SWIFT)

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<sup>36</sup> Eastern Virginia Groundwater Management Advisory Committee: Report to the Virginia Department of Environmental Quality and Virginia General Assembly, July 2017

## **Stormwater**

Stormwater is both a resource and a problem. It can soak into the soil, be held on the surface and evaporate, or runoff and end up in nearby water bodies. In natural landscapes such as forests, the soil absorbs much of the stormwater and plants help hold it close to where it falls. Stormwater becomes a problem when it flows over land or impervious surfaces picking up pollutants like trash, chemicals, oils, animal waste, and sediment that can harm rivers, streams, lakes, and coastal waters. Stormwater management refers to the development of programs and policies that preserve, enhance, or control the quality of stormwater runoff, reduce erosion, and prevent flooding.

In Virginia, stormwater management dates back to the Virginia Erosion and Sediment Control Law of 1973, the Chesapeake Bay Preservation Act of 1988, and the Stormwater Management Act of 1989. Stormwater management regulations have evolved over time, but the most significant changes occurred in 2012. Legislation passed by the Virginia General Assembly required cities and counties to adopt and administer a local Virginia Stormwater Management Program (VSMP), effectively creating a statewide program implemented at the local level.

While all cities and counties must regulate runoff from new development and redevelopment in accordance with the VSMP, stormwater management requirements differ significantly between urban communities that operate a municipal separate storm sewer system (MS4) and are regulated by an MS4 permit and those that are not. One of these differences is that non-MS4 localities may “opt-out” of administering the VSMP and designate the VA Department of Environmental Quality (DEQ) as the VSMP administrator. Surry County is an “opt-out” locality.

In general, non-MS4 or “opt-out” communities are rural and stormwater pollution is considered non-point source. Non-point source pollution is runoff that comes from a variety of sources like farms, unlike point source pollution that comes from industrial or sewage treatment plants. Authority to regulate non-point source pollution is limited and results in fewer stormwater management requirements for rural communities like Surry County.

Surry’s stormwater management activities consist mainly of administration of land development ordinances that contain provisions regulating the quantity and quality of stormwater runoff. These include the Chesapeake Bay Preservation District zoning regulations, the erosion and sediment control article of the building code, and certain requirements of the subdivision ordinance.

## **Wastewater**

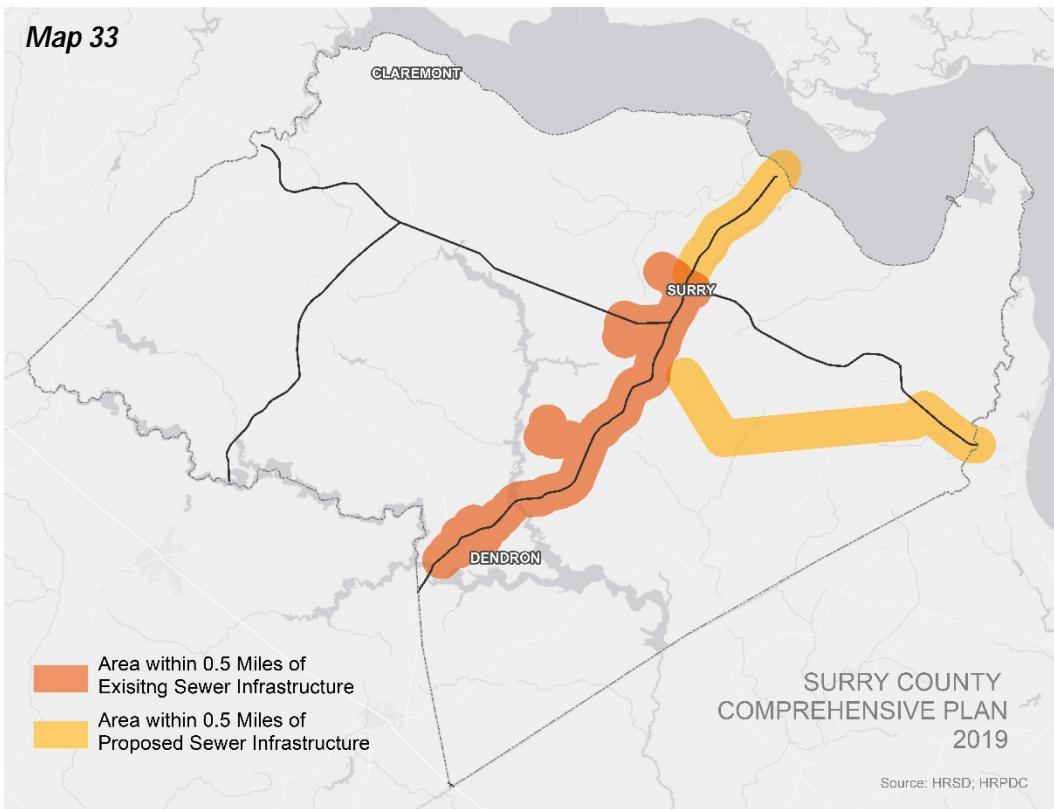
### **What We Heard...**

- The acquisition and operation of the County’s wastewater system and the Town of Surry’s wastewater system by the Hampton Roads Sanitation District is viewed as an event of major economic development significance.

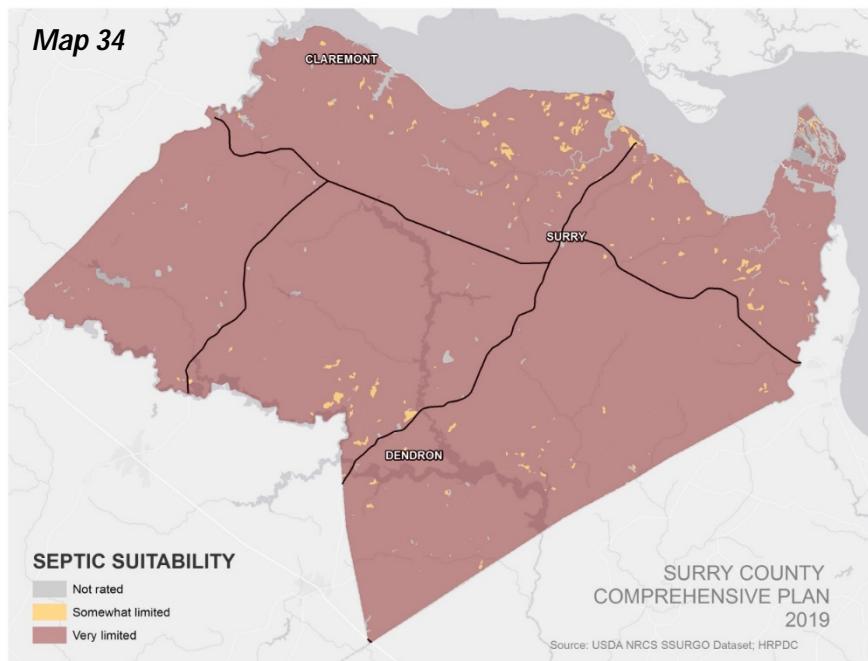
Wastewater in Surry County is treated by three small wastewater treatment plants and on-site septic systems. Until recently, the Towns of Surry and Claremont and Surry County operated three independent sewer systems. Surry County operated a system with a 65,000 GDP wastewater treatment plant that served the Town of Dendron, Surry County Public Schools and the Surry West Business Park. The Town of Surry operated a system with a 60,000 GDP wastewater treatment plant, and the Town of Claremont operated a system with a 15,000 GDP wastewater treatment plant.

In 2016, Surry County was added to the service territory of the Hampton Roads Sanitation District (HRSD), which operates a wastewater treatment system that serves about 1.7 million people in Hampton Roads. In 2017, Surry County and the Town of Surry reached agreements for HRSD to assume ownership and operate their wastewater systems and provide adequate capacity to treat all sewage generated within sewer service areas. The Town of Claremont chose to retain and operate its system.

In order to provide a long-term solution to the wastewater collection and treatment needs in Surry County, HRSD is planning a series of sanitary sewer system improvements. HRSD will construct several new pipes and pump stations that will bring sewage flows generated in the Town of Surry and vicinity to an existing HRSD pipe in Smithfield. The project will replace the existing town wastewater treatment plant with a new pump station. The new pipes and pump stations will generally be constructed along Rt. 31 (north to Marina Dr. and south to Rt. 10), along a Dominion Energy easement between the Surry West Industrial Park and Rt. 10, and along Rt. 10 to Smithfield.



Outside the areas of the County with sewer service, wastewater is treated by on-site septic systems that rely on an absorption field to distribute effluent from a septic tank. The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provides soil characteristics, including soil limitations to septic systems, collected by the National Cooperative Soil Survey. Soils are evaluated based on the presence of restrictive features for septic systems, such as flooding, permeability, depth to water table, and slope, that affect absorption of effluent, construction and maintenance of the system, and public health. Soils are given one of three ratings. The rating “Not Limited” indicates that soils are favorable for septic systems, and that good



performance with low maintenance can be expected. The rating “Somewhat Limited” indicates that soils are moderately favorable for septic systems, and that limitations can be overcome by proper design and deliver fair performance with moderate maintenance. The rating “Very Limited” indicates that the soil has features that are unfavorable for septic systems, and that special and often costly design is required to deliver poor performance with high maintenance. Most soils in Surry County are rated as being “Very Limited” for the purpose of septic tank absorption fields.

### ***Policy Considerations***

- There are significant potential economic development and land use implications of the HRSD wastewater system improvements.
- Identify potential connection points to new wastewater infrastructure during design of the extension to the Nasemond Treatment Facility.

### ***What We Heard...***

- There was a nearly universal message among all stakeholder groups that the level of cooperation between the County and town governments needs to improve. Due to the inherent difficulties of economic development in a rural community, the residents of Surry County cannot afford substantial conflict between the County and town governments.
- There is concern about the percentage of County tax revenue that comes from the Surry Power Station.

Local tax revenue typically comes from four main sources; the real property tax, the personal property tax, the local option sales and use tax, and the business license tax. On average, Virginia counties raise about 65% of their tax revenue from the real property tax. Unlike most Virginia localities, the real property tax is not Surry County's dominant source of revenue. In 2015, only 30.3% of Surry's local tax revenue was raised from the real property tax. 60.9% of local tax revenue came from the tax on public service corporation property.

It is also useful to know how real property tax revenue is broken down by land use. Generally, 70% of real property tax revenue in Virginia counties is generated by single-family residential property. Again, Surry's revenue mix is atypical. Only about 58% of real property tax revenue is generated by single-family residential property. Surry generated more revenue from agricultural land than average and less revenue from commercial and industrial property than average.

***Figure 22: Distribution of Real Property Value by Land Use Category***

Source: Weldon Cooper Center VA Local Tax Rates, 2016

### ***Fiscal Condition***

The fiscal stress of a locality, measured through a fiscal stress index calculated by the Virginia Department of Housing and Community Development, can be gauged based upon the revenue capacity per capita, revenue effort, and median household income of Virginia's 95 counties and 38 cities. The fiscal stress index illustrates a locality's ability to generate additional local revenues from its current tax base relative to the rest of the Commonwealth. Revenue capacity is a computation of how much revenue a jurisdiction could generate if it taxed its population at statewide average rates. Revenue effort is a ratio of actual tax collections by a locality to its computed revenue capacity. Median household income represents the level at which exactly half of the households in a jurisdiction earn more and the other half earns less.

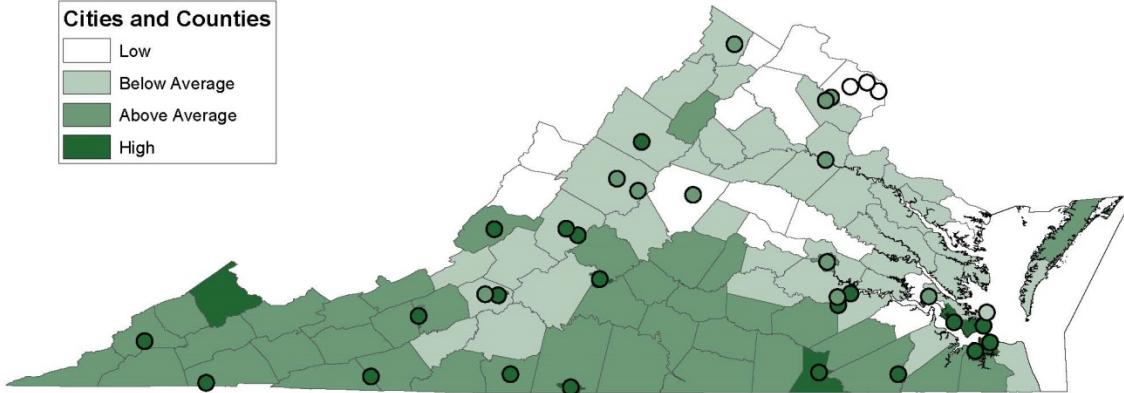
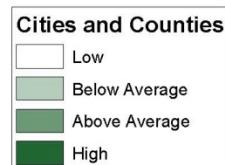
The fiscal stress index weighs all three variables evenly. For all three variables, a tally equivalent to the state average will yield a relative stress score of 100. Therefore, a composite fiscal stress score of 100 would equate to average stress relative to the rest of the Commonwealth. Composite scores above 100 indicate fiscal stress that is above the state average, while scores below 100 imply fiscal stress conditions that are lower than the state average.

Additionally, fiscal stress scores are divided into four categories: low, below average, above average, and high. The categories are based upon the standard deviation of fiscal stress scores throughout the state. Stress scores that are more than one standard deviation above the mean (which is always 100) would be placed into the high stress category, while scores more than one standard deviation below the mean would be classified as low stress. In 2014, the standard deviation of fiscal stress scores was 3.75. Therefore, a score above 103.75 would fall into the high stress category, and a score below 96.25 would fall into the low stress category.

By this measure, Surry is one of the least fiscally stressed counties in Virginia. Surry's fiscal stress score is "low" at 95.44. Surry is one of only 16 Virginia counties to be ranked as a "low stress" locality. This means that, in theory, Surry could raise additional revenue from its existing tax base without disproportionately burdening its businesses and residents.

**Map 35**

### Commonwealth of Virginia: Fiscal Stress Classification FY 2014



Source: VA Department of Housing & Community Development, Commission on Local Government

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2/16/2016

#### **Policy Considerations**

- Surry is extremely dependent on public service corporation property tax revenue from one entity for a majority of local tax revenue.
- Based on the fiscal stress index, it appears possible to raise additional revenue from the existing tax base to make community investments.
- There is very little job-producing commercial or industrial property in the County.
- Surry is less reliant than is typical on service-intensive single family residential property for local revenues.

### ***What We Heard...***

- There is a need to develop more organizations to empower young people.
- A component of the community feels that money spent on projects to improve access to Surry's waterfront, such as the Gray's Creek Marina project, would be better spent in other ways to improve quality of life, such as improving convenience retail options and job opportunities.
- The Surry County school system is a strong community asset.
- Faith-based organizations play an important role in the community.
- Surry County needs to invest in itself. Both the internal and external perception of the County needs to be improved.

### ***Schools***

Surry County Public Schools serve approximately 800 students in grades pre-kindergarten through 12 at three schools:

- Surry Elementary (PK – 4)
- Luther P. Jackson Middle (5 – 8)
- Surry County High (9 – 12)

Surry County Public Schools are a pride of the community. They are often cited by citizens as one of Surry's strongest assets. In 2017 – 2018, all three schools earned full accreditation based on student performance on the Standards of Learning (SOL).

The Virginia Department of Education provides school quality profiles for all public schools in the state. The graduation rate at Surry County High is about 90%, similar to the statewide graduation rate. A higher percentage of Surry students perform proficiently in reading, writing, math, science, and history than students statewide, although typically fewer students perform at an advanced level. Sixty seven percent of students enroll in institutions of higher education after graduation, compared to 72% statewide. Surry Public Schools also offer career and technical education (CTE) courses. Programs in agriculture, business and IT, JROTC, family and consumer sciences, STEM, technology, and trades are offered. In the 2016 – 2017 school year, 106 students earned one or more CTE credentials.

School enrollment has declined over the past several years. During the 2010 – 2011 school year, 977 students were enrolled in Surry schools. By the 2017 – 2018 school year, the number of enrolled students dropped by 19% to 792. Enrollment at Surry Elementary declined 12%. Enrollment at Luther P. Jackson Middle declined 26%. Enrollment at Surry County High declined 20%. This decline in school enrollment is reflective of shifting demographic patterns in the County.

**Figure 23: School Enrollment**

Source: Virginia Department of Education

## **Community Health**

### *Health Indicators*

There are a number of resources available that provide information to assess the health of Virginia communities. Two of the most comprehensive are from the Robert Wood Johnson Foundation and the Virginia Department of Health.

The Robert Wood Johnson Foundation produces annual County Health Rankings. Counties are ranked based on health outcomes (such as premature deaths and percentages of babies born at low birth weights) and health factors (such as air pollution levels, high school graduation rates, levels of violent crime, and length of commutes). The Virginia Department of Health (VDH) produces the Virginia Health Opportunity Index, which includes a profile of each county based on environmental factors, consumer opportunity, economic opportunity, and wellness disparities. Both resources provide a way to evaluate the extent to which people have the opportunity to live healthy lives.

The health outcomes in the County Health Rankings represent measures of how long people live and how healthy people feel. Length of life is measured by premature death and quality of life is measured by self-reported health status and the percentage of low birth weight newborns. Out of the 133 ranked communities in Virginia, Surry County ranked 68 in health outcomes. Surry ranked 63 in length of life and 78 in quality of life.

Health factors in the County Health Rankings represent the focus areas that drive how long and how well people live, including health behaviors (tobacco use, diet & exercise, alcohol & drug use, sexual activity), clinical care (access to care, quality of care), social and economic factors (education, employment, income, family & social support, community safety), and the physical environment (air & water quality, housing & transit). Surry ranked 73 out of 133 communities in health factors.

It is helpful to highlight particularly problematic or positive health factors of Surry residents compared to the state overall. A higher percentage of Surry residents smoke and are obese than Virginians. They have less access to healthy food and recreational opportunities. The ratio of primary care physicians to the population is much lower than in Virginia. The unemployment rate is higher in Surry and more children live in poverty. Surry does outperform the state in some areas. There are fewer teen births and preventable hospital stays, and more people receive diabetes monitoring.

**Table 21: Health Factors<sup>37</sup>**

	Surry	Virginia
Health Behaviors		
Adult Smoking	17%	15%
Adult Obesity	35%	28%
Food Environment Index <sup>38</sup>	7.2	8.6
Access to Exercise Opportunities	9%	83%
Teen Births (per 1,000)	17	21
Clinical Care		
Primary Care Physicians	3,350:1	1,320:1
Preventable Hospital Stays (per 1,000)	39	43
Diabetes Monitoring	92%	87%
Social & Economic Factors		
Unemployment	5.3%	4%
Children in Poverty	22%	14%
Physical Environment		
Long Commute (30 mins +)	63%	39%

Source: Robert Wood Johnson Foundation County Health Rankings

The Virginia Department of Health has developed the Virginia Health Opportunity Index (HOI) to help communities understand the many factors determining health, so they can work to improve health outcomes for residents. The HOI is a group of indicators that provide broad insight into the overall opportunity Virginians have to live long and healthy lives based on the Social Determinants of Health. It is made up of over 30 variables, combined into 13 indicators<sup>39</sup>, grouped into four profiles:

- *Community environment*: measures the natural, built, and social environment of a community
- *Consumer opportunity*: measures the consumer resources available within a community

<sup>37</sup> Table 5 does not contain all of the factors in the County Health Ranking, just the ones where Surry's value for the factor differed significantly from the value for the state population.

<sup>38</sup> Food Environment Index is based on two variables: percentage of population who are low income and do not live close to a grocery store; percentage of the population who did not have access to a reliable source of food during the past year

<sup>39</sup> Additional information on the profile indicators can be found at Virginia Health Opportunity Index [website](#).

- *Economic opportunity*: measures the economic opportunities available within a community
- *Wellness disparity*: measures the disparate access to health services within a community

The HOI provides an overall health opportunity ranking and a ranking in each of the four profiles. Surry is ranked 81 out of 134 communities in health opportunity. Surry ranks very high in economic opportunity, but ranks low in the other three community profiles.

**Table 22: Surry Health Opportunity Index**

	Rank	Opportunity Level
Economic Opportunity	26	Very High
Consumer Opportunity	100	Low
Community Environmental	119	Very Low
Wellness Disparity	113	Very Low

Source: Virginia Department of Health

#### *Healthcare Facilities*

Surry County is a part of the Crater Health District (CHD). The CHD encompasses approximately 1,800 square miles and serves a population of about 150,000 residents. The District includes the cities of Petersburg, Hopewell and Emporia and the counties of Prince George, Dinwiddie, Surry, Sussex and Greensville. The Health District operates seven local health departments in Dinwiddie, Emporia, Hopewell, Petersburg, Prince George, Surry, and Sussex.

The Surry Health Department operates a clinic in Surry County that includes family planning, immunization, maternity care, pregnancy testing, sexually transmitted infection, women, infants and children (WIC), and other screening programs. Next to the Health Department is the Horizon Health Services' Surry Medical Center. The Center's services include physical examinations, treatment of chronic conditions, treatment of acute illness, dental services, mental health services, and others.

Several facilities providing more comprehensive healthcare services are within an hour's drive of Surry. They Include:

- Sentara St. Lukes (Isle of Wight): outpatient service medical campus
- Riverside Regional Medical Center (Newport News): 450-bed hospital
- Sentara Obici (Suffolk): 172-bed hospital
- John Randolph Medical Center (Hopewell): 147-bed hospital

#### **Policy Considerations**

- Surry's recent efforts to attract a grocery store and build a recreation center display an understanding of some of the County's deficiencies and fill needs identified by the County Health Rankings and Health Opportunity Index.
- Surry has identified itself as a bedroom community to Hampton Roads and the Richmond region. In order to take advantage of this situation, it would be helpful to enhance certain facilities and services that can improve resident's quality of life.
- Surry residents are generally less healthy than Virginians.

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## Recreational and Cultural Resources

### ***What We Heard...***

- There is a need for improved access to Surry's waterfront.

The Surry County Parks and Recreation Department offers a variety of recreational, social and cultural activities. The mission of the department is to promote, advocate and provide diversified, safe and affordable programs and activities for all citizens. The Surry County Parks and Recreation Center offers a year-round program of activities for children, young adults and senior citizens in a 15,000 square foot facility off of Enos Farm Road.

The Parks and Recreation Department offers sports programs, organized leagues, and special annual events. The Recreation Division offers a summer enrichment program, outdoor camps and entertainment designed especially for children ages 6 to 15 throughout Surry County. Surry Senior Citizens meet daily at the Community Center where they may participate in activities such as arts and crafts, exercise programs, table games, and socialization.

Demand by residents for additional recreational space is high and frequently outpaces availability, necessitating that residents use fee-based services outside of the County. Private events are booked usually up to three years in advance and the Recreation Department declines as many reservations as are accepted from County residents due to availability. The County is exploring constructing a 100,000 square foot multi-use community center that could serve as a recreational facility and emergency shelter.

Surry County is also home to Chippokes Plantation State Park. Chippokes Plantation is one of the oldest continually farmed plantations in the country. A working farm since 1619, the park offers modern recreational activities and a glimpse of life in a bygone era. Visitors tour the historic area with its antebellum mansion and outbuildings, stroll through formal gardens, and view antique equipment at the Chippokes Farm and Forestry Museum. A campground and four overnight cabins allow visitors to

stay on the historic grounds. The park has an Olympic-sized swimming pool and a visitor center with a gift shop. It also provides opportunities to bike, hike, ride horseback and picnic.

The Surry County Board of Supervisors approved the purchase of the Gray's Creek Marina in the fall of 2013. The marina is at the end of Marina Drive, just off Route 31 near the Jamestown-Scotland Ferry, and is comprised of 18 acres. A boat ramp, fixed dock, and parking area have been constructed.

The Surry Seafood Company, the marina restaurant, opened in the spring of 2016. The final phase of construction for the marina itself, including the piers & floating docks and the bath house building is underway.

Other waterway access points in Surry include Chippokes Plantation, Hog Island Wildlife Management Area, and a boat ramp and dock on Lawnes Creek. Surry is also traversed by several greenways and blueways from which to enjoy the County and its waterfront. These include a portion of the 3,000 mile East Coast Greenway, which crosses the James River via the Jamestown-Scotland ferry, the Captain John Smith National Historic Trail, the Lower James River Water Trail, and the James River Heritage Trail. The James River is also designated as a Virginia Scenic River.

Surry County is also rich in historic and cultural resources. Surry County is one of the oldest areas settled by Europeans in the New World. Much of its early heritage has been preserved. There are numerous historic sites and buildings in the County. Twenty sites in Surry are listed on either the Virginia Landmarks Register or the National Register of Historic Places. Some of the most noteworthy of these include Bacon's Castle, Chippokes Plantation, Smith's Fort, Smith's Fort Plantation, and the Surry County Courthouse Complex.

### ***Public Safety***

Law enforcement in the County is provided by the Sheriff's Office. The Sheriff provides preventive patrol through community policing, responds to calls for service, arrests suspected offenders, promotes traffic safety, combats drug related activities, and conducts criminal investigations. In addition, the Sheriff's Office is responsible for the Emergency 911 Operations in the County.

The Surry County Office of Emergency Services provides management, coordination, training, and response to small or large emergencies that impact residents of the County. During emergencies, the Office of Emergency Services plans, implements, and coordinates a response as outlined in the County Emergency Operations Plan.

Surry County is unique, as staff must plan and prepare for emergencies at the Surry Nuclear Power Station under the Radiological Emergency Response Plan. Assistance with emergencies is provided by the three volunteer fire departments in the County: Surry, Dendron, and Claremont Volunteer Fire Departments, and the Surry Rescue Squad. Surry County is in the process of constructing a new Rescue Squad and Emergency Operations Center. The facility will include an 8,000 square foot rescue squad building and a 4,000 square foot emergency operations center located in the Surry West Business Park.

## Utilities

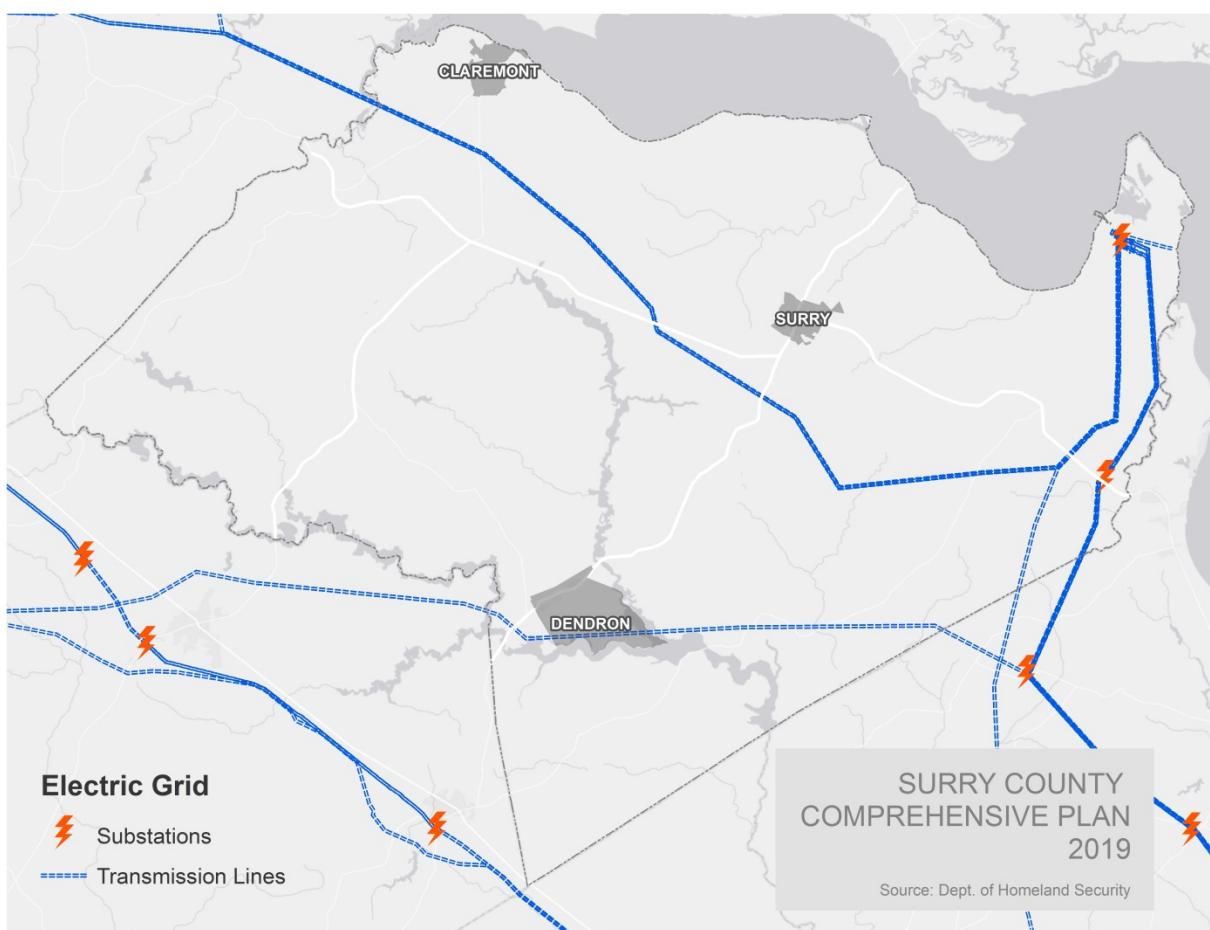
### What We Heard...

- The introduction of broadband service in the County is seen as a major factor in improving quality of life and the business environment, but level of service needs to be improved.

### Electric and Natural Gas

Power is supplied by Dominion Energy, and distributed by Dominion and Prince George Electric Cooperative. Natural gas service is not widely available in Surry County.

**Map 36: Electric Grid**



## *Solid Waste*

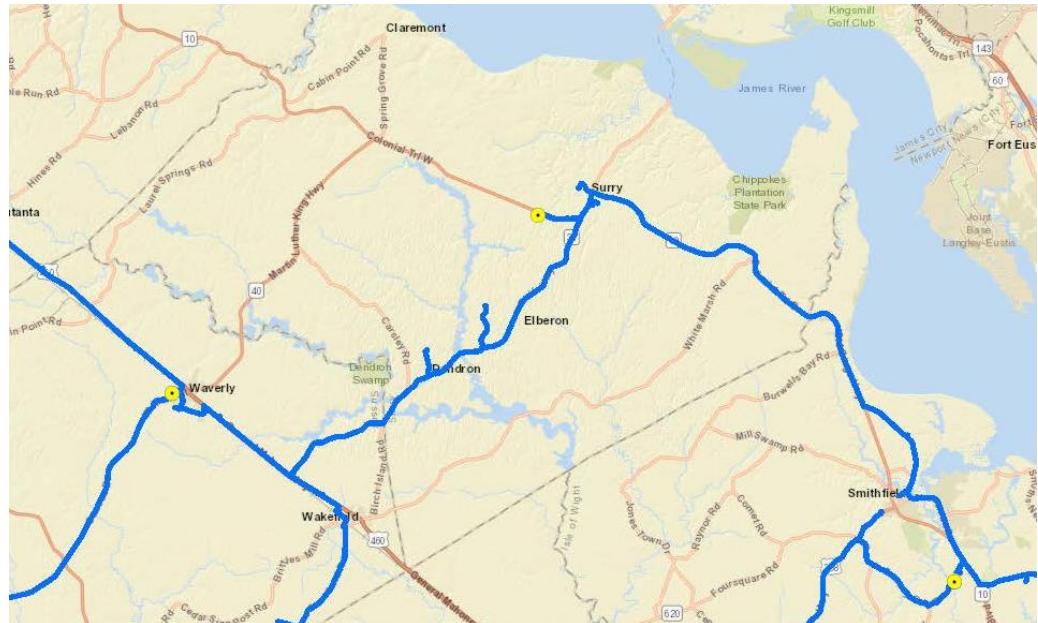
Surry County maintains four solid waste collection centers for residential waste drop-off. Curbside waste collection is available to citizens of Surry County through the services of Bay Disposal. Residential recyclables can be dropped off at all solid waste collection sites. Tires and scrap metal are accepted at the Goodson Path site.

## *Broadband Internet*

Surry County partnered with the Virginia Department of Housing and Community Development in 2008 to implement a Broadband Infrastructure project to include a fiber network of approximately 23,000 linear feet, traversing an area commencing at the Surry Industrial Park and following roads in the Town of

Surry. Locally-owned broadband assets also include a 350' dual purpose communication tower to serve public safety and wireless internet service providers. SCS Broadband began offering wireless broadband service in 2017. The Surry County Government Center, Surry County Public Schools, and some businesses are connected directly to the Mid-Atlantic Broadband fiber network.

**Map 37 Mid-Atlantic Broadband Fiber Network**



Source: Mid-Atlantic Broadband