COMPREHENSIVE PLAN

PROPOSED AMENDMENT
8/19/20 PLANNING COMMISSION RECOMMENDATION

Rappahannock County, Virginia

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CHAPTER ONE

INTRODUCTION

The Challenge

The challenges that face every community are those of planning for the future and managing the process of change. While the physical manifestations of change vary from time to time and from place to place, perhaps the most dependable constant in life is that things will not remain as they are. Accordingly, the Code of Virginia mandates that jurisdictions prepare and regularly revise a Comprehensive Plan for the physical development of their communities.

As a rural jurisdiction on the ex-urban fringe of the Washington D.C. Metropolitan Area, Rappahannock County has been made acutely aware of the ever-changing dynamic of growth and development. The post-World War II era (particularly through the development of the Interstate and Primary Highway Systems) has seen enormous changes in the physical development of the Virginia countryside. From a primarily rural, agricultural economy, jurisdictions to our east have gradually and inexorably transformed themselves into bastions of middle-class flight from closer-in areas, evolved into bedroom communities, and culminated (for the moment) in low-density suburban enclaves integrating residential, commercial and light industrial components.

In the face of this trend that has been mirrored in many suburban areas all across our nation, Rappahannock County has not been idle. Elsewhere in this document is recounted Rappahannock County's long tradition of progressive planning and land use policy. Even though these policies have quite properly evolved over time, the trend both in the citizenry of Rappahannock County and its elected and appointed representatives has been remarkably consistent.

While this community may have much to learn from our neighbors to the east, and while the economic forces which shaped them have and will continue to be brought to bear upon us, we nevertheless feel that Rappahannock is unique, and that there is a natural beauty and order that command our respect. This document presents the underpinnings of this belief, through analysis of the manifold demographic, economic, and environmental conditions that affect future growth and development.

This document is the blueprint for all land use policy in Rappahannock County, which is typically implemented through legislation adopted by the Governing Body, which is the Board of Supervisors, but which may occasionally be set by policies implemented by the Rappahannock County Planning Commission, interpreted through the Board of Zoning Appeals, and enforced through the Board's agent, the Zoning Administrator. The process whereby such land use policy is crafted, adopted and implemented is known as planning.

The primary reason why a community should plan is to prepare for and to cope with change. As previously stated, change is inevitable and whether it is a positive or negative force in a community may depend upon the planning activities carried out in the

community. By planning, a community attempts to deal with present realities and to provide for future needs, while still adhering to its goals and principles.

Essentially, planning involves:

- the collection and analysis of data,
- the development of goals and objectives,
- the formulation of planning and development policies,
- the consideration of alternative courses of action,
- the preparation of a plan, and
- the adoption of measures necessary to implement the plan.

Planning can be used to guide and coordinate the changes Rappahannock County is experiencing by providing for:

- the responsible use of land and natural resources,
- a satisfactory living environment for local residents,
- anticipated future public facility needs,
- acceptable development patterns, and
- a sound fiscal base.

The Comprehensive Plan

The Comprehensive Plan is a written document that sets forth the characteristics of Rappahannock County in general terms. The plan is Rappahannock County's statement of its aspirations and goals for future growth, or put another way, the plan is a tool by which County citizens in conjunction with the local governing body ask, "Where are we; where do we go from here; what do we become?"

In late 2002 and early 2003, and then again in 2015 and 2016, the Rappahannock County Planning Commission sponsored a series of public forums throughout the County. While attendance varied, these forums were instrumental in getting input from citizens on matters as diverse as housing, transportation, education, and local businesses including agriculture, open space, and a variety of other issues. In addition to public forums a limited survey was released in 2015 on the county website seeking broad input from the public that generated a number of responses. In general:

- When asked what makes Rappahannock County unique compared to other counties; the most prevalent answer was the beauty of the county viewshed with little development.
- When asked what brings the most pride related to Rappahannock County; there were various answers generally related to the unique

viewsheds, the rural nature, the preservation of land and open spaces, and the citizens that help keep it that way.

- When asked what should never change about Rappahannock; responses generally referenced the natural beauty and the zoning restrictions that control development.
- When asked what should change about Rappahannock; answers varied from available businesses, to affordable properties and housing, to better cell phone coverage, and better internet.
- When asked what the biggest challenges were; answers ranged from an aging population, a balance between growth and taxes, infrastructure needs including cell coverage and internet, jobs, and development pressure.
- When asked to visualize Rappahannock 10 years into the future physically; answers predicted the county would be relatively unchanged.
- When asked to visualize Rappahannock 10 years into the future socially/economically; answers suggested the demographics would change including the gap between classes and there would be more of a joint connection among citizens.
- When asked to visualize Rappahannock 10 years into the future environmentally; answers suggested that Rappahannock would be similar if not even more environmentally pristine.

The comments, opinions and concerns that were expressed at the forums and surveys informed the Goals, Objectives and Policies of Chapter 6, and indeed, are present throughout this document.

The content of the Rappahannock County Comprehensive Plan, and its technical preparation by the County Planning Commission, is guided by the Code of Virginia 1950 (as amended). The Code establishes the legislative purpose, the general context and scope, and the review and adoption procedures for a community to follow, and reads (in part) as follows:

> **Title 15.2-2223--Comprehensive Plan to be prepared and adopted; scope and purpose.** The local planning commission shall prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction and every governing body shall adopt a comprehensive plan for the territory under its jurisdiction.
>
> In the preparation of a comprehensive plan the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious

> development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants, including the elderly and persons with disabilities.

The Rappahannock County Comprehensive Plan specifically includes background materials, policies, and recommendations about various communities and areas within the County. Detailed information about the only incorporated town in Rappahannock County, the Town of Washington, is presented in the Town of Washington Comprehensive Plan.

The Rappahannock County Comprehensive Plan includes four major components. First, a series of background reports describe and analyze the County's natural features such as soils, topography, water, forests, and so on. Additional supporting materials include population and its growth, economic and employment characteristics, land use characteristics, transportation, housing and others. Secondly, based upon these background reports, the County's goals and objectives are established. This element describes the policies or principles for future County change. Thirdly, the background reports and goals and objectives are merged into a future land use plan, delineating in text and map form a visual idea of the future. Finally, a series of implementation measures are described indicating what the County's citizens and governing bodies have at their disposal in order to achieve the Plan's policies and objectives.

Previous Planning

Since it was created in 1962, the Rappahannock County Planning Commission has been active in planning. In 1962 the County's first Subdivision Ordinance was adopted, followed in 1966 by the adoption of the County's first Zoning Ordinance. Both documents were revised in 1973 with complete revisions to both the Zoning and Subdivision Ordinances in 1986 and 1987, respectively. In 1975, the County adopted an Erosion and Sediment Control Ordinance, which has been revised on several occasions since then, most recently in 2004.

In addition to these efforts, a General Commercial Area Plan, encompassing Zoning Ordinance and Comprehensive Plan amendments, was prepared and adopted in 1993.

The Comprehensive Plan itself was first adopted in 1973, and was revised in 1980, 1985, 1992, 1998, and 2004.

Various specific planning efforts have been undertaken in the areas of water quality, public facilities planning and others; they are discussed elsewhere in this document.

County Government

Rappahannock County has the traditional County Board of Supervisors form of government. The County has five voting districts that are decennially revised based upon population: Hampton, Jackson, Piedmont, Stonewall-Hawthorne, and Wakefield. One supervisor is elected from each district. The Board of Supervisors is elected to serve four-year terms and is basically responsible for the legislative, administrative, and financial

aspects of County government. The Board holds regular meetings at 2:00 PM for General Business and 7:00 PM for Public Hearings once a month at the County Courthouse located in the Town of Washington, and such other meetings as the pace of business may dictate.

Rappahannock County has a Zoning and Subdivision Administrator who works under the direction of a County Administrator and Board of Supervisors. The Rappahannock County Planning Commission and Board of Zoning Appeals are administrative agents for the County and the Circuit Court, respectively. They direct the administration of the Zoning, Subdivision and Erosion and Sediment Control Ordinances. The County Planning Commission consists of seven members, one of whom is a member of the Board of Supervisors, another of whom is a representative of the Board of Zoning Appeals and the remaining five who are appointed to four-year terms of office by the Board of Supervisors by voting district. The Board of Zoning Appeals consists of five members all appointed at large by the Circuit Court for five-year terms of office.

Some of the local government organizations involved in local planning efforts include the Rappahannock County School Board, the Rappahannock County Water and Sewer Authority (RCWSA), and the Rappahannock County Recreational Facilities Authority (RCRFA). The Rappahannock County School Board, composed of five elected members representing the five magisterial districts of the County, are the stewards of the County's public educational facilities. As such, they administer programs that consume the majority of public spending in the County in their mission to provide the highest quality education available.

The RCWSA was established in April 1968 pursuant to the Code of Virginia with the primary purpose of furnishing water and sewer facilities or both to residents and businesses in certain areas in Rappahannock County. It currently owns facilities providing sewer service to the village of Sperryville and manages those located at the County’s two public schools. A private provider manages the water and sewer facilities in the Town of Washington.

On November 2, 1978, the RCRFA was created. It currently owns and operates the Rappahannock County Park located near the Town of Washington on U.S. Rt. 211. The establishment of this Authority enables the RCRFA to raise and solicit funds from various local, state, and federal agencies and to provide increased recreational opportunities for the residents of Rappahannock County. The RCRFA’s main source of funds comes from organizing the annual Fodderstack 10-K Race as well as occasional other events and grant programs.”

Several agencies of the Commonwealth of Virginia provide services through local field offices, whose funding is provided, in part, by direct local appropriation. The relationship between these agencies, the Department of Health, the Department of Social Services, the Sheriff's Office, the Virginia Polytechnic Institute and State University (VPI&SU) Extension Office, and the local government is one of partnership with the Board of Supervisors and County staff providing funding and support, respectively.

CHAPTER TWO

THE ENVIRONMENT

Regional Setting

Rappahannock County is in the northern portion of the Commonwealth of Virginia. Washington, the County seat, is about 65 miles southwest of Washington, DC, and 120 miles northwest of Richmond, the State Capitol. The County extends north and south 24 miles and east and west about 21 miles. It has an area of approximately 267 square miles. The northwestern boundary is the peak of the Blue Ridge Mountains and separates the County from Page and Warren Counties. The Rappahannock River forms the northeastern boundary and separates the County from Fauquier County. The County is bounded on the southeast by Culpeper County and on the southwest by Madison County.

The County's residents have strong economic and social ties with jurisdictions on all sides, although the western boundary of the Blue Ridge historically has acted to lessen contacts with Page County as opposed to the more direct accessibility of Warrenton in Fauquier County, Culpeper in the County of the same name, and Front Royal in Warren County which, while over the Blue Ridge, is nevertheless served by a primary road providing relatively easy access. This in turn has led to a regionalization of many trading activities by County residents, people in the northern portion of the County (Flint Hill, Chester Gap) are more apt to shop, bank and attend events in Front Royal, while persons in the south and west (Sperryville, Woodville) often patronize Culpeper establishments, and persons in the east (Amissville, Washington) tend to favor Warrenton businesses. **(See Map No. 1: County Location)**

History

In 1607, when English colonists first arrived in Virginia, the area now occupied by Rappahannock was an uncleared primary growth wooded territory inhabited by Native Americans. At the foot of the Blue Ridge Mountains, the Manahoacs and Iroquois hunted and fished. As more and more settlers moved into Virginia their economic and, at times, martial competition pushed the native inhabitants west.

Official colonization was possible in 1722 and this opened up the Piedmont section of Virginia. The majority of the early settlers in Rappahannock were not foreign born, but had moved down from northern ports and other regions of Virginia. Rappahannock's new inhabitants were mainly of English descent from the Tidewater region. Other settlers included Scots-Irish from west of the Blue Ridge and Germans from the north and from the Germanna Ford area in modern Spotsylvania and Culpeper Counties. A few Welsh and French also moved into Rappahannock. The French settlers arrived from Manakin, a Huguenot Colony located on the James River. Amissville, one of the villages in Rappahannock County, was named after the Amiss family from the Colony at Manakin.

People from Rappahannock were active participants in the Revolutionary War and the War Between the States. Although during that conflict many small skirmishes were scattered throughout the County, the closest major battle occurred in Front Royal, north

of Flint Hill. Cavalry raiding was a more typical War Between the States-era Rappahannock activity.

Taking its name from the river that has its source in the small streams in the Blue Ridge Mountains, Rappahannock became separate from Culpeper County by an Act of the General Assembly in 1833. The five villages, Amissville, Chester Gap, Flint Hill, Sperryville, Woodville, and the Town of Washington have significant historical value. Washington is the County seat. Fondly called "the first Washington", and somewhat less politely referred to as "little Washington" to distinguish it from its larger cousin, it was surveyed and plotted by George Washington in 1749 and was established as a town in 1796. The villages of Rappahannock were frontier posts or crossroads. Today, these small residential clusters represent a focal point for County residents providing retail services, meeting places, post offices, and church activities. As it was in the 1700's, Rappahannock's economy is still agriculturally based with the surrounding villages providing basic services for the farms.

Geology

Rappahannock County is bisected by both the Piedmont and Blue Ridge physiographic provinces. The Piedmont province includes the eastern part of the County and is typified by gently sloping to moderately steep terrain. This province, especially in the Woodville area, is occasionally broken by long, low mountains or hills. The Piedmont province is primarily underlain with granitic rock, quartzite, phyllite, and arkosic sandstone.

The Blue Ridge physiographic province is located in the County's western section and includes the Blue Ridge Mountains and the neighboring foothills. This province is typified by steep and rugged terrain and is underlain with granitic rock, phyllite, greenstone and some sandstone. The County's basic geologic formations are shown on **Map No. 2: Geology**.

It is important to note that the geological conditions underpinning land have impact both on water resources that may lie within such structures and the relative suitability for development of soil types that blanket the formations.

Climate

Rappahannock County enjoys a temperate, comfortable climate with generally mild winters and warm summers. Basically, the County's climate is controlled by the Blue Ridge Mountain range to the west and the Atlantic Ocean and Chesapeake Bay to the east. Winters in the County are rigorous but not severe and summer temperatures are moderate.

Although detailed climatological data are not available for Rappahannock County, they are for Culpeper County and the results are generally applicable. While Rappahannock County's temperature is similar to that of Culpeper County, temperatures are generally 2-3 degrees lower. During the 1951-2005 period, the mean temperature was 55 degrees, a very slight decline over past decades. July was the warmest month with temperatures averaging 78 degrees. December was the coldest month with an average temperature of 37. The number of days with temperatures greater than 90 degrees has ranged from 16

in 1962 to 76 in 1943. The temperature falls below freezing 20-23 days a month during the winter months and reaches zero often enough to average one day per year.

Rainfall is well distributed throughout the year with the maximum in July and August and the minimum in February. Nearly 40 days each year have thunderstorm activity that is normal for the State. The average snowfall is 15 inches a year, but yearly amounts are extremely variable and range from zero to 45 inches; overall, the winter snowfall amounts have been in decline as measured at Great Meadow in Shenandoah National Park from 1970-2010.

The typical growing season (from the last freeze in spring to the first freeze in autumn) is 181 days. Freezes usually do not occur between April 20 and October 18. However, freezing temperatures have occurred as late as May 17 and as early as September 25.

Topography

Rappahannock County occupies a topographic position ranging from 360 to 3,720 feet above mean sea level. The lowest point in the County is where the Rappahannock River crosses into Culpeper County. The highest point is the Pinnacle, which is located in the southwestern part of the County on the Page County boundary.

Ground elevation in the Blue Ridge province primarily range from 1,000 to 3,500 feet. Most of the Blue Ridge province is well drained, but some small areas of colluvial material at the foot of the mountains are poorly drained. **Map Nos. 3a and 3b: Topography (elevations and contours respectively)** present the elevations of the County in two different ways.

Watershed

The Piedmont province is an old plain that is strongly dissected by many small streams that flow in narrow, winding valleys. Most of the mountains in the Piedmont province are moderately-steep to steep, ranging from 900 to 1,500 feet above sea level. The smoother part of the Piedmont is mostly sloping to gently sloping with some moderately steep areas. The altitudes range from 360 to 900 feet.

As shown in **Map No. 4: Rappahannock River Watershed**, all streams in the County eventually drain into the Rappahannock River. The Hazel, Rush, Covington, Thornton and Rappahannock Rivers have their source in springs in the Blue Ridge Mountains. Drainage in the County is well developed with numerous flood plains. Flood plain soils account for 7,518 acres of land or 4.4% of the County. Most of the small streams flow southeastward, perpendicular to the mountain ridges that divide the County into numerous watersheds (see **Map No. 5: Streams***). The Rappahannock and Jordan Rivers drain the northern part of the County; the Thornton, Rush, Covington, and Piney Rivers drain the central part; and the Hazel and Hughes Rivers drain the southern part. **Map No. 6: Sub-Watersheds** shows the seven 1995 Virginia Hydrologic Units which form the sub-watersheds within the County.

*Note: Specific flood plain boundaries can be found on Flood Insurance Rate Maps through the National Flood Insurance Program, Department of Housing and Urban Development.

Slope

Slope refers to the ratio of rise to distance. The relative steepness of land makes various uses at times problematic, and thus is an important determinant of the land use, stability and physical development potential of property.

Slope is expressed as a percent, with higher percentages indicating steeper land. The following list provides a description of various slope categories:

0-2%	--	flat land
3-7%	--	rolling, moderately sloping land
8-14%	--	hillside
15-25%	--	steep hillside
Over 26%	--	extremely steep

From a generalized perspective, most of Rappahannock County can be classified as steep hillside (see **Map No. 7: Slopes**). However, there are three areas of the County that consist of moderately sloping land. These three areas, two of which contain most of the County's existing development, include an area in the northern portion of the County centered generally around Flint Hill and U. S. Route 522; in the center of the County between Sperryville and Washington; and in the eastern part of the County near the Madison County border along State Route 231. These areas are also highlighted as having prime soils for agricultural uses. Note: On-site evaluations should be used to determine physical characteristics of a particular parcel of land.

The classification of an area as steep hillside does not mean that building or agricultural limitations will always be great. In such an area there will always be small zones of relatively flat land that can be used.

However, this classification does mean that extensive use either for plow farming or development is typically not appropriate. Moderately sloping land can be expected to cause the same difficulties as steep areas, but to a more limited extent. Larger areas of flat land will be available for use.

Soils

Soil characteristics are a further determinant of the suitability of land for agriculture, forestry, and development. Different soils, depending upon their structure, fertility, and drainage are more suited for various land uses.

The use that generally causes the greatest stress and number of problems is development. Construction strips the soil of its vegetative cover and exposes it to the forces of erosion. The soil is often required to support pavement or building foundations without shifting appreciably. The soil, particularly in rural areas, is also frequently used for the disposal of liquid or solid waste. Thus where soils easily accept liquid waste, very

few building limitations occur. Where soils do not accept such waste, development is limited unless central sewer facilities are available.

The Virginia Department of Conservation and Recreation and the Middle Peninsula Planning District provide data for the location of prime agricultural soils. **Map No. 8: Prime Agricultural Soils on Moderate Slopes** shows the prime agricultural soils for Rappahannock County that are on slopes of 15 percent or less.

As mapped and classified by the United States Department of Agriculture, Soil Conservation Service, there are thirteen soil associations in Rappahannock County. Five broad soil types comprise 75% of the land area of the County, and they are outlined below. These soil associations are landscapes that have distinctive proportional pattern of one or more major and minor soil types. These associations are briefly described below:

RAPPAHANNOCK COUNTY SOIL ASSOCIATIONS GENERAL DESCRIPTIONS

Louisburg-Albemarle-Culpeper Association:
Moderately deep and shallow, well drained and rapidly drained, sloping to steep soils on dissected Piedmont uplands. Comprises 13.9% of the County, or 23,752 acres. Most of it occurs in the eastern part of the County from the Hughes River to the Rappahannock River and some areas around Five Forks.

Brandywine-Eubanks-Lloyd-Chester Association:
Shallow and moderately deep, well-drained and somewhat rapidly drained, sloping and gently sloping soils on dissected Piedmont uplands. Comprises about 31.8% of the County or 54,340 acres. This area extends from the Hughes River on the Madison County line through the central part of the County to the Rappahannock River.

Brandywine-Rockland, Acidic, Association:
Shallow, rapidly drained, moderately steep and steep soils and rock land on low Piedmont mountains. Comprises about 11.2% of the County, or 19,139 acres. Mostly near Woodville but occur throughout the Piedmont Plateau.

Alluvial Land-Chewacla-Wehadkee Association:
Deep to moderately deep, moderately well drained to poorly drained, nearly level soils on flood bottoms. Comprises about 2.2% of the County, or 3,760 acres. Largest areas along the Hughes, Hazel, Thornton, Covington, and Jordan Rivers.

Rock Land, Acidic-Halewood-Very Rocky Land Association:
Well-drained and rapidly drained rocky soils on mountain foothills underlain mainly by granodiorite. Comprises about 5.4% of the County or 9,228 acres.

Very Rocky Land-Rockland, Acidic-Porters Association:
Rapidly drained, rocky and stony soils on mountains and underlain mainly by granodiorite. Comprises about 10.1% of the County, or 17,250 acres. Mostly in the Shenandoah National Park.

Very Rocky Land-Rockland, Basic-Myersville Association:
Rapidly drained rocky soils on mountains underlain mainly by greenstone. Comprises about 8.7% of the County, or 14,867 acres. Mostly in the Shenandoah National Park.

Water Resources

Rappahannock County lies entirely within the Rappahannock River Basin. Thus all streams in the County ultimately drain to this channel, which is a major source of drinking water supply to downstream jurisdictions including Spotsylvania and Stafford Counties and the City of Fredericksburg. Drainage in the County is well developed with most of the smaller streams draining southeasterly perpendicular to the mountains. Total river and stream surface area is estimated at 195 acres. (See **Map No. 5: Streams**)

Springs, wells, streams and ponds currently provide adequate water for the people and livestock in the County. Indeed, approximately 96% of the residences in the County depend upon private wells, springs or streams for their drinking water. Water quality in the County is generally good, although excessive hardness and acidic conditions are occasionally encountered.

A great deal of concern exists both to protect the quality of our water resources and to analyze in some detail the quantity of water available to support a growing population. To that end many efforts have been undertaken, including a well water testing program, a D.R.A.S.T.I.C. water pollution potential study and, an on-going study of groundwater resources in the Sperryville area, all of which are discussed elsewhere in this document.

The Board of Supervisors and Town Council of Washington adopted a Water Supply Plan for Rappahannock County and the Town of Washington in 2011 and recently underwent a five-year review. The plan was prepared by local resident and consulting engineer Timothy Bondelid, with the assistance of numerous volunteers and organizations. While the impetus for this effort was a requirement for such planning contained in the Code of Virginia, the county considers the effort a natural outgrowth of its water quality and quantity concerns. While the report is a survey level document, it demonstrates both the increasing frequency and severity of drought conditions, and notes, in its executive Summary;

“Many of these drought events have been accompanied by periods of unusually hot weather which, in combination with what seems to be increasing thunderstorm events as opposed to gentler rains, have exacerbated their effete on the water supply and stream flow. The combination of all of these elements has led to serious concerns as to whether the water supply will in fact continue to meet the County’s needs.”

Interestingly, after many years of dry to drought conditions, 2018 was one of the wettest years on record with the county receiving in excess of 150% of normal rainfall with the entire county receiving more than 60-inches of rain, eastern areas receiving in excess of 70-inches of rain, and some southwestern areas receiving more than 80-inches of rain according to the National Weather Service. The precipitation in 2018 is particularly

excessive when compared with precipitation during 2007 when much of the county received 25-35 inches of rain.

Forests

According to the Virginia Department of Forestry provided in 2018, current estimates put Rappahannock county forestland totaling 135,888 acres. 94,933 acres of that are privately owned and Shenandoah National Park owns the remaining 40,995 acres. The largest single forest type in Rappahannock is Oak-Hickory at 130,850 acres, with approximately 5,038 acres Pine species.

Map No. 9: Land Cover shows the forested areas of the County, in addition to agricultural and low-density residential land uses. According to the National Land Cover Database, 66.2 percent of Rappahannock County is forested, while 7.5 percent is in tree stands. Tree stands are comprised of an aggregation of trees or other growth occupying a specific area and sufficiently uniform in species, composition, size, ages, arrangement, and condition as to be distinguished from the other forest or other growth adjoining the area. Pasture comprises 20.1 percent of the county.

The invasion of the Gypsy Moth caterpillar into Rappahannock commencing in 1987 has had a dramatic effect on timber resources. Rapidly established as the major cause of hardwood mortality, the pest has caused an estimated 13,000 acres of hardwood losses, primarily in white, red, chestnut, black and scarlet oak. Recently, the introduction of emerald ash borer into the region has caused die off of ash trees. The Shenandoah National Park estimates that 4% of the canopy within the park is comprised of ash trees.

In aggregate, the standing timber in Rappahannock County represents a considerable value for private landowners. As with any commodity, timber prices fluctuate and value of timber on a particular property is influenced by factors other than the timber (access, soil characteristics, etc…). The values in Table 2.1 represent approximate timber value on private land within Rappahannock by product class at 2018 price estimates and are for illustrative purposes only:

Table 2.1
Approximate Timber Value on Private Land

Timber type	Volume (bd ft)	Value
Softwood Sawtimber	100,013,842	$12,001,661
Oak Sawtimber	213,680,671	$84,617,545
Mixed Hardwood Sawtimber	572,221,669	$161,938,732

Volume and acreage data source: FIA
Value Data source: Timber Mart South-South, P.O. Box 1278 Highlands, NC 28741

Timber sales represent $6,300,000 in direct and $7,800,000 in total economic impact to Rappahannock county. The Forest-related industry in Rappahannock represents 31 jobs directly and 43 jobs total. (*The Economic Impact of Virginia's Agriculture and Forest Industries, Weldon Cooper Center for Public Service May 2017*). Most landowners realize the financial value of their forests through timber sales. Rappahannock averages 16 silvicultural timber harvests per year on 610 acres. Average harvest size is 39 acres. Historical harvests are shown in Table 2.2.

Table 2.2
Historical Harvest Information

	Number of Harvests	Total Acres Harvested	Average Harvest Size
7/1/13-6/30/14	24	1034	43
7/1/14-6/30/15	14	519	37
7/1/15-6/30/16	19	714	38
7/1/16-6/30/17	15	459	31
7/1/17-6/30/18	7	326	47
Average	16	610	39

Data Source: Virginia Department of Forestry, timber harvests completed in stated time frames

While these are not large numbers in economic impact terms, they do represent real money that is important to those landowners that do harvest timber. Additionally, harvesting timber is one of the primary tools used to manage forestland. Because of how trees regenerate and grow, timber harvests are necessary to influence specie composition of the forest, to maintain, and to grow merchantable species on forestland. Policies that discourage planned timber harvests should be avoided to maintain landowners' ability to manage their forestland and maintain the forests' merchantability for future generations.

Forests provide a multitude of benefits in addition to timber production and income for landowners. Many landowners are interested in their forests for aesthetics, wildlife (both game and non-game species), and recreation. Additionally, forests provide for carbon sequestration, watershed protection, groundwater infiltration, and contribute to the rural character of the County.

An actively managed forest is always better able to provide the multitude of benefits landowners want than an unmanaged forest. Forest management planning is one tool available to landowners to aid in managing their forestland. Although this does not include plans prepared by private forestry consultants, management plans on record with the Virginia Department of Forestry indicate that a total of 7102 acres of forestland are under active planned management.

CHAPTER THREE

POPULATION CHARACTERISTICS

Historic Trend of Population

To better understand the people of Rappahannock County and their needs and requirements, an analysis of the population is necessary. Such an analysis lends insight into existing conditions and provides a basis for developing population projections.

Table 3.1 and Graph 3.1 show the dramatic changes in the population of Rappahannock County from 1940 to 2018. The population declined from 9,782 in 1850 to 5,168 in 1960. Between 1960 and 2000, the population of Rappahannock County grew by 35%, with the largest increase (17.2%) occurring in the 1970s. The population increased 7.4% from 2000 to 2010 while the State's population increased 13% in the same period. Since 2010 the population has declined slightly.

The Town of Washington's population reached its peak in 1900, with 300 persons and with some modest variation, has declined since. The County itself, by contrast, was at its most populous in 1850, with 9,782 people and has declined fairly constantly to its historic low in the 1960 and 1970 decades as noted above.

Table 3.1
Historical Population Growth 1940-2018

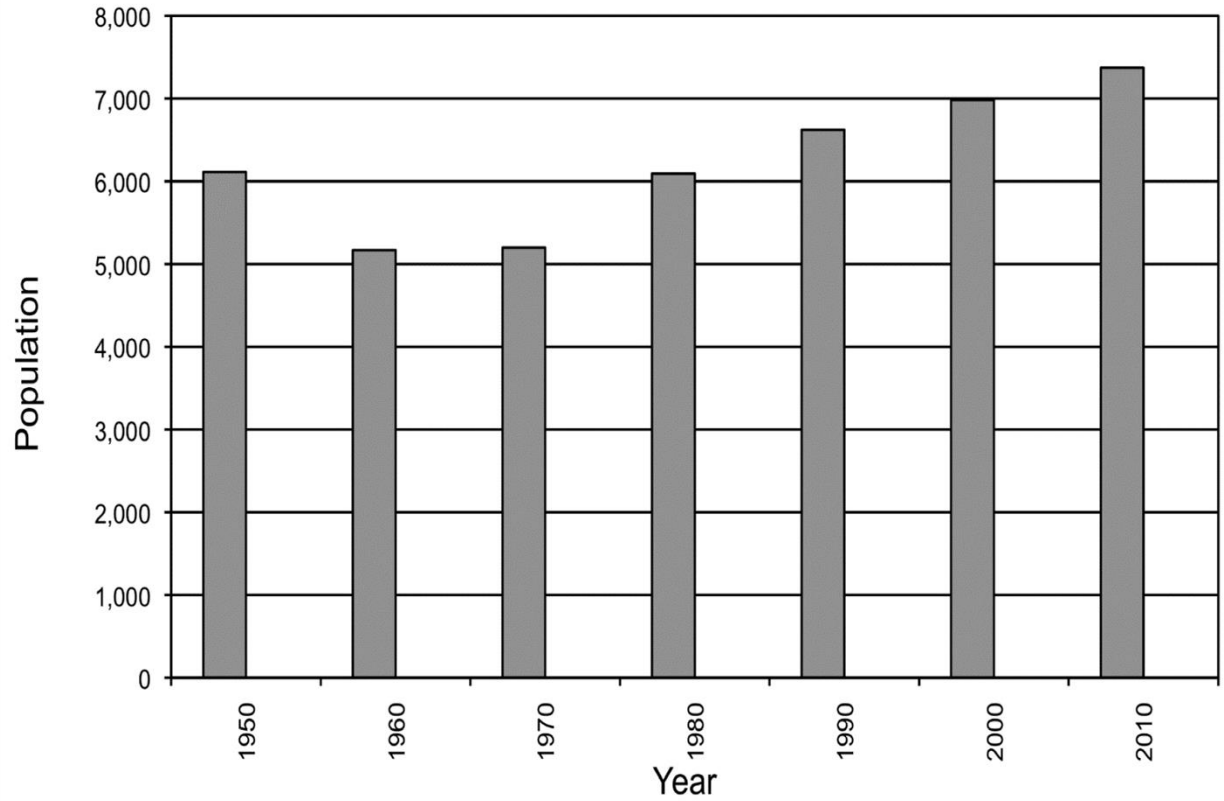
Rappahannock County, VA

1940	1950	1960	1970	1980	1990	2000	2010
7208	6,112	5,168	5,199	6,093	6,622	6,983	7,497

2011	2012	2013	2014	2015	2016	2017	2018
7,472	7,405	7,424	7,331	7,384	7,333	7,321	7,252

Source: U.S. Census Bureau, 2018 data ACS 5-year estimate

Graph 3.1
Historical Population Growth 1950-2010



Source: U.S. Census Bureau

Table 3.2
Estimate of Population Growth 2020, 2030, and 2040

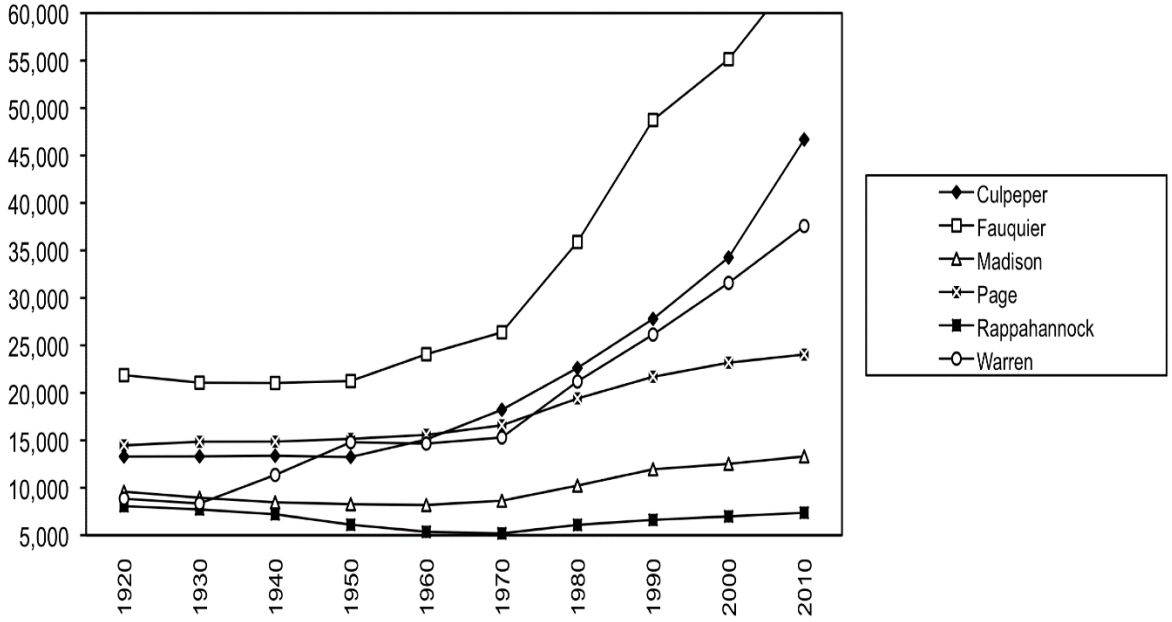
Rappahannock County, VA

2020	2030	2040
7236	7401	7460

Source: U.S. Census Bureau

The U.S. Census Bureau projects little growth over the next two decades. In terms of total population, of the 95 counties in Virginia, Rappahannock County was ranked 89th in 1980, 90th in 1990, 88th in 2000, and remains 88th in 2017. Graph 3.2 shows Rappahannock population growth compared to growth in surrounding counties.

Graph 3.2
Population by County 1920-2010
Source: U.S. Census Bureau



Source: U.S. Census Bureau

Population Density
Population density provides a general indication of development in an area. These figures are thus valuable in monitoring the County's rate of growth and development. With a land area of 266.6 square miles, in terms of persons per square mile, the 1930 population of Rappahannock County was 28.9. By 1970 this number had decreased to 19.5. In 1980 the number of persons per square mile had risen back to 22.8, the 1990 figures identified a slight increase to 24.8, while in 2017 rose to 27.7, ninth lowest of all counties in Virginia. Excluding the 49.5 square miles of the county located within the Shenandoah National Park increases the net density to 33.7 persons per square mile.

Age Distribution
The age and sex distributions of the population are important for several reasons. People under the age of 18 and over the age of 65 are generally more dependent than those of "prime" working ages. Therefore, a large percentage of an area's population in these age groups have definite economic and fiscal repercussions affecting per capita income, buying power and the costs of providing governmental services. Further, a comparatively young population with many females in the child bearing ages influences birth rates, school enrollments, public service demands, and future population totals.

Table 3.3 displays the age distribution for all age groups. With occasional variations the percentage of the population composed of individuals under 20 years decreased steadily from 1980 to 2010 while those persons 45 years and over increased dramatically. Persons 65 years and over represented similar proportions of the total population from 1980 to 1990 (from 12.2%-12.98%). In 2000, those persons 65 years and over totaled

963 or 13.8% of the population; in 2010 their numbers rose to 1,408 or 19.1%. Persons in the 45-64 age brackets edged upwards from 16.4% of the population in 1980 to 19.34% in 1990 and then grew markedly to almost 32% in 2000 with only modest growth to 34.9% in 2010. The proportion of those persons 0-19 years decreased from 37.5% in 1970 to 25.3% in 1990; fell still further to 24.3% in 2000, and was 22% of the population by 2010. The 20-44 years age brackets share grew from 35.6% in 1980 to 37.6% in 1990, fell back to 30% in 2000, and plummeted to below 20% by 2010. Graphs 3.3, 3.4, and 3.5 show further breakdown of the data.

The 1990 Census results seemed to portend real future growth in population towards the lower end of the demographics. The surge in population in the prime child-rearing years has not been repeated with the 2000 or 2010 Censuses, and indeed, the most dramatic trend since 1990 has been the growth in the oldest age groups This trend, resumes and reinforces Rappahannock's post-World War II trend towards a "graying" of our population.

Table 3.3
Age Distribution 1980 - 2010

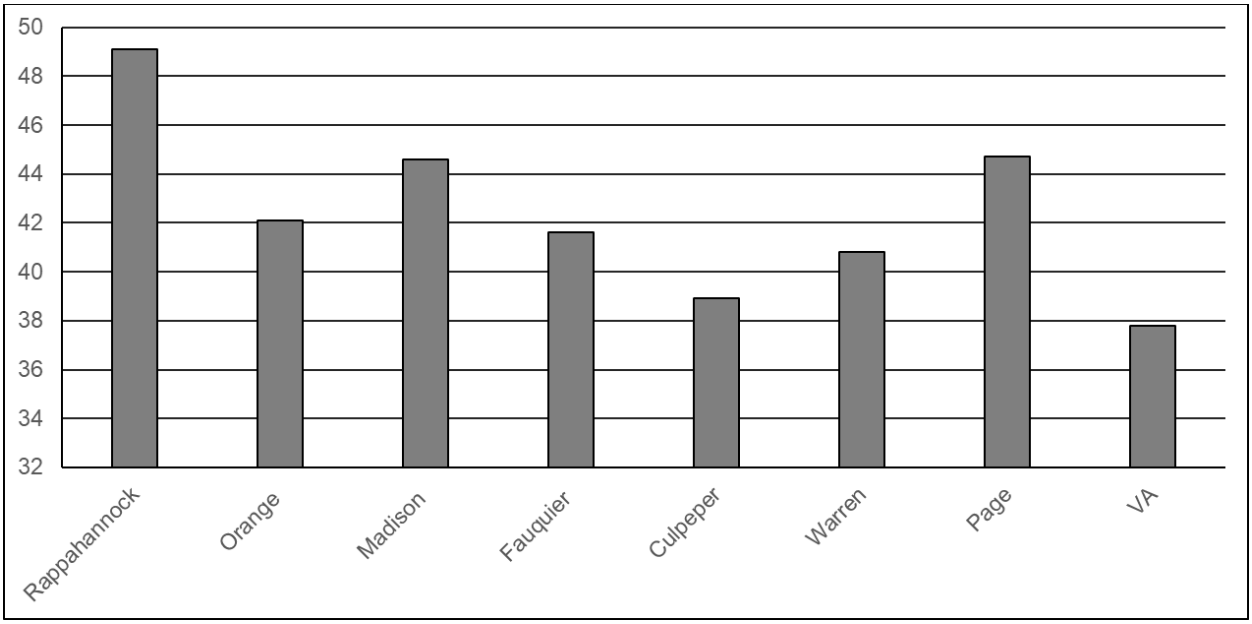
Rappahannock County, VA

	Total 1980	Total 1990	Total 2000	Total 2010	% of 2010 Total
TOTAL PERSONS	6,093	6,622	6,983	7,373	100.0
Under 5 Years	361	453	356	329	4.5
5 - 9 Years	406	409	421	386	5.2
10-14 Years	499	415	518	470	6.4
15-19 Years	535	404	403	439	6.0
20-24 Years	418	360	252	310	4.2
25-29 Years	494	492	314	280	3.8
30-34 Years	478	503	385	330	4.5
35-39 Years	414	602	528	370	5.0
40-44 Years	367	534	620	480	6.5
45-49 Years	311	492	626	589	8.0
50-54 Years	338	424	660	678	9.2
55-59 Years	362	343	507	629	8.5
60-64 Years	303	331	430	675	9.2
65-69 Years	309	285	304	503	6.8
70-74 Years	205	242	263	366	5.0
75-79 Years	142	170	198	239	3.2
80-84 Years	92	107	111	170	2.3
85 Years & Over	59	56	87	130	1.8

Source: U.S. Census Bureau

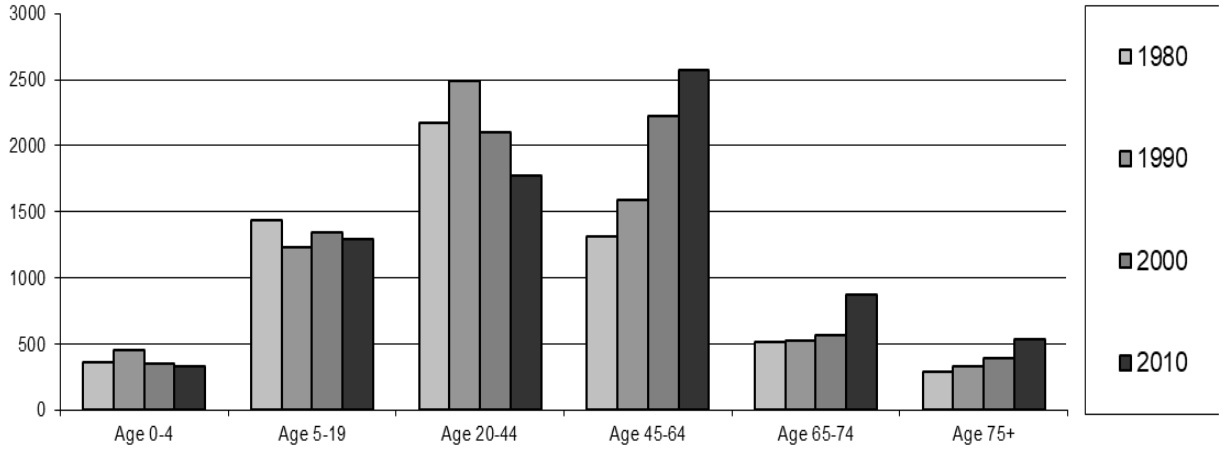
A further analysis of this data provides that the median age of Rappahannock County increased between 1980 and 2010 from 40 to 47.5 years. Comparatively, the 2010 median age for the State of Virginia rose from 29.8 to 37.5 years, while the national median age rose from 30 to 36.8 years over the same period.

Graph 3.3
2016 Median Age of Residents by County



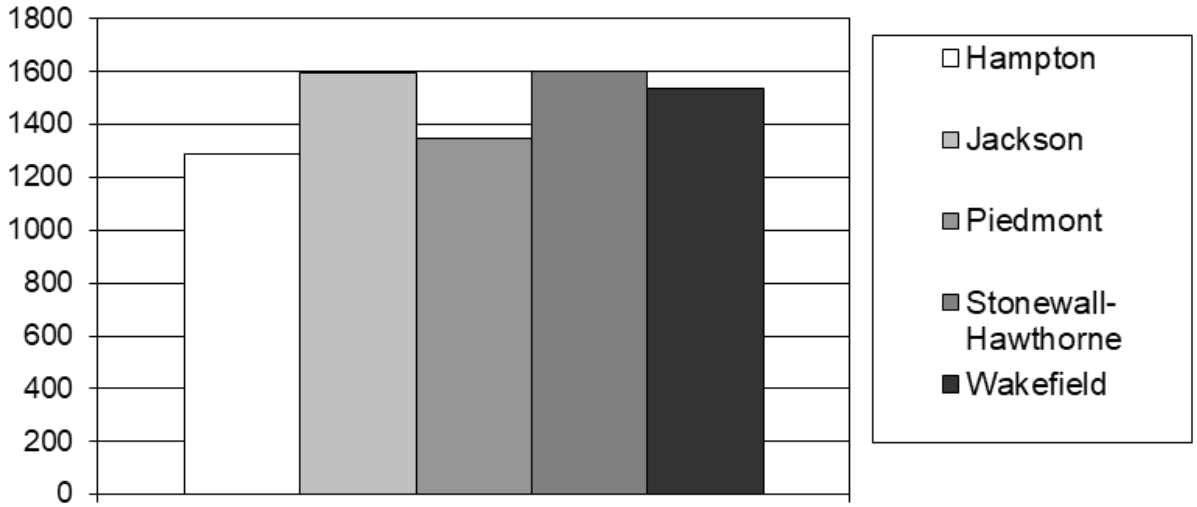
Source: U.S. Census Bureau, ACS 5-year estimate

Graph 3.4
Number of Residents in each of Six Age Groups, 1980-2010



SOURCE: U.S. Census Bureau

Graph 3.5
Number of Residents in the Five Districts- 2010



SOURCE: U.S. Census Bureau

Minorities

Table 3.4 and Graph 3.6 show the race distribution in the population of Rappahannock County from 1970 to 2016. While there are a large number of various groups included in the non-white category, including African-Americans, persons of Hispanic descent, native Americans and others, African Americans are by far the dominant group with almost 90% of the category's total. The non-white population declined sharply to 11.6% in 1980, and slipped further to 7.4% in 2000, 7.3% in 2010, with a slight increase to 7.7% in 2016.

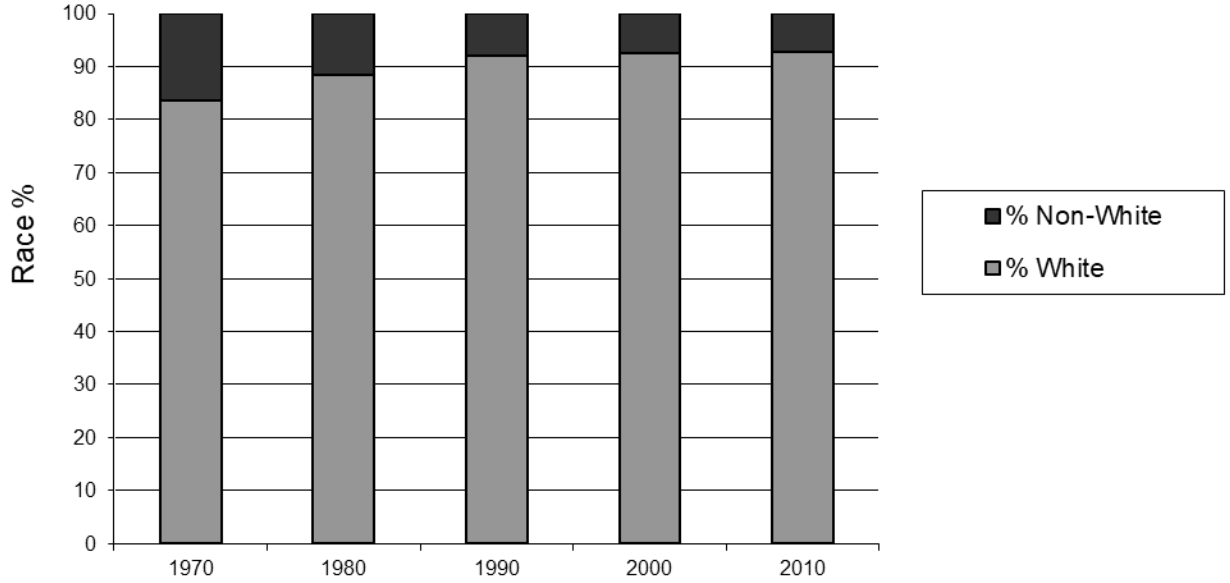
Table 3.4
Race Distribution (%) 1970 - 2016

Rappahannock County, VA

Year	White	Non-White
1970	83.5	16.5
1980	88.4	11.6
1990	92.0	8.0
2000	92.6	7.4
2010	92.7	7.3
2016	92.3	7.7

Source: U.S. Census Bureau, 2016 data ACS 5-year estimate

Graph 3.6
Race Distribution (%) 1970-2010



Source: U.S. Census Bureau

Educational Attainment

Educational attainment of Rappahannock County residents has increased dramatically over last few decades. The median number of school years completed rose from 7 years in 1960 to 14 years in 2000 (see Table 3.5). The median number of school years completed for the State was 11.7 in 1970 and approximately 13 in 2000. Major improvements can be seen in educational attainment, both since 1960 and particularly over the past decade. In 1960, 33.2% had no school or 1-4 years, only 12.6% in 1980, and 4.1% in 1990. While aggregated with other age groups in the 2000 census, it appears as though that percentage has dwindled to statistical insignificance. Likewise, the number of persons who completed 4 years or more of college rose from 3.1% in 1960, 11.2% in 1980, 18.9% in 1990, 27.6% in 2000, and 33.6 in 2017. The percentage of high school graduates also increased from 19.6% in 1960, 46.7% in 1980, 62.6% in 1990, 76.0% in 2000, and 88.6% in 2017.

2016 U.S. Census Bureau data indicates that Rappahannock County was ranked 25th in the percentage of adults with bachelor's degree or higher (35%) out of Virginia's 133 counties and independent cities.

Table 3.5
School Years Completed – Persons 25 Years and Older (%) 1980-2017
Rappahannock County, VA

	1980	1990	2000	2017	VA 2010	US 2010
No School	5.3	*	*	Less	Less	
1 - 4 Years	18.0	12.7	4.1	Than	Than	
5 - 7 Years	27.6	20.0	14.0	9th Gr.=	9th Gr.=	
8 Years	9.5	6.8	19.0	5.5	5.5	5.23
9 - 11 Years	14.9	13.8	13.8			7.63
9 - 12 (no diploma)				5.9	8.4	
High School	14.8	25.9	28.0	27.1	26.0	31.24
Some College				21.3	19.6	
Associate's Degree				6.6		
					6.7	
1 - 3 Yrs College	6.8	9.6	20.2			25.97
Bachelor's Degree				19.6	19.9	
4+ Yrs College	3.1	11.2	18.9	14.0	13.9	29.93
	100%	100%	100%	100%	100%	100%
Median School Years Completed	10.8	12.4	14.0			
High School Graduates (%)	46.7	62.6	76.0	88.6		

Source: U.S. Census Bureau, ACS 5-year estimate for 2017

Educational Trends
Student enrollment in the Rappahannock Public School System (grades k-12) generally increased from 1988 through 1997. Since the high water mark of 1,067 students in the fall of 1997, average daily membership held steady through 2002 after which it has declined steadily when measured at the start of the school year with the 2017-2018 enrollment being 820 students (see Table 3.6 and Graph 3.7).

Table 3.6
School Membership
Rappahannock County, VA

2000-2018

School Membership	30-Sep	End of Year
2000-01	1020	1004
2001-02	1041	1037
2002-03	1046	1031
2003-04	1033	1025
2004-05	1005	1020
2005-06	992	1108
2006-07	1002	981
2007-08	941	949
2008-09	921	935
2009-10	930	929
2010-11	928	921
2011-12	898	889
2012-13	916	915
2013-14	908	895
2014-15	894	882
2015-16	874	874
2016-17	846	845
2017-18	820	812

Source: Superintendent's Annual Report for Virginia, Table 1

Graph 3.7
Student Membership - September 30 Membership

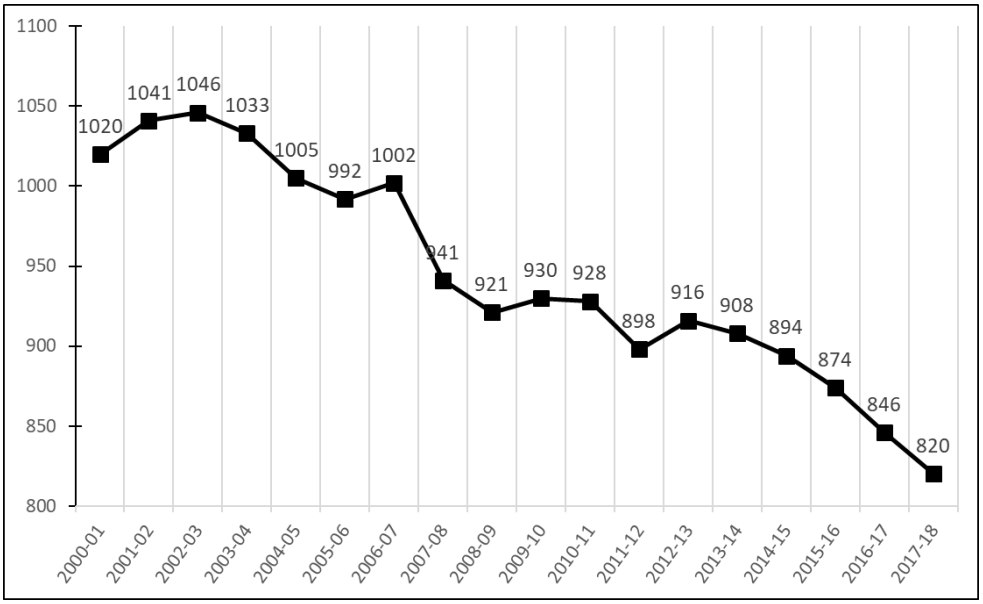


Table 3.7 shows that graduates as percent of ninth grade membership ranged from 75.9% in 2000-2001 to 110.7% in 2012-2013, with a high degree of annual variation due to the extremely small class sizes in the Rappahannock County School System.

Table 3.7
Graduates as Percent of Ninth Grade Membership

Rappahannock County, VA

2000-2018

Year	Membership Ninth Grade	Total Graduates	Percent
2000-01	79	60	75.9
2001-02	80	65	81.3
2002-03	101	87	86.1
2003-04	97	78	80.4
2004-05	100	84	84.0
2005-06	110	96	87.3
2006-07	85	84	98.8
2007-08	77	78	101.3
2008-09	889	85	95.5
2009-10	85	77	90.6
2010-11	87	80	91.9
2011-12	76	45	59.2
2012-13	65	72	110.7
2013-14	84	62	73.8
2014-15	76	72	94.7
2015-16	65	62	95.4
2016-17	76	72	94.7
2017-18	81	76	93.8

Source: Superintendent's Annual Report for Virginia, Table 5

Historically, the percent of graduates continuing education attending 2 and 4-year colleges, etc., fluctuated from year to year through 1983. However, since 1984, there has been a fairly constant increase. Generally, 70 to 90 percent of the County High School graduates now continue their education with variation observed in any given year due to the small class size (see Table 3.8).

Table 3.8
Graduates Continuing Education

Year	Number of Graduates	Attending Two-Year Colleges		Attending Four-Year Colleges		Other Continuing Education		Percent Continuing Education
		#	%	#	%	#	%	%
2001-02	65	16	24.6	20	30.8	3	4.6	60.0
2002-03	87	28	32.2	22	25.3	4	4.6	62.1
2003-04	78	19	22.9	34	41	2	2.4	66.3
2004-05	84	33	38.8	24	28.2	4	4.7	71.7
2005-06	96	36	36.7	37	37.8	6	6.1	80.6
2006-07	84	36	41.4	36	41.4	5	5.7	88.5
2007-08	78	37	46.3	29	36.3	2	2.5	85.1
2008-09	85	36	33.3	58	53.7	3	2.8	89.8
2009-10	77	30	39	34	44.2	2	2.6	85.8
2010-11	80	41	51.25	25	31.25	1	1.25	83.8
2011-12	45	19	42.22	19	42.22	0	0	84.4
2012-13	72	20	27.78	34	47.2	4	5.56	80.5
2013-14	62	29	30.21	56	58.33	3	3.13	91.7
2014-15	72	34	47.22	20	27.78	3	4.17	79.2
2015-16	62	23	37.1	18	29.03	1	1.61	67.7
2016-17	72	16	22.2	27	37.5	10	13.89	73.6
2017-18	76	20	26.3	32	42.1	9	11.8	80.3

Source: Superintendent's Annual Report for Virginia

Total expenditures for school operations increased 71 percent from 1999-00 through 2017-18. Table 3.9 shows percentages of Local, State, and Federal financial support for expenditures. Local expenditures increased from $4,163,265 to $8,644,077 or 108 percent in this time period (not adjusted for inflation). The Federal share of spending has increased in the 1990's before leveling off while the state share has remained relatively constant after declining in earlier years.

Table 3.9
Total Expenditures for Operations and Sources of Financial Support for Expenditures

	Total	Local	%	Retail	%	State	%	Federal	%
1999-00	$7,136,000	$4,163,265	58.3%	$798,309	11.1%	$1,825,051	25.6%	$349,375	4.9%
2000-01	$7,829,112	$6,266,269	80.0%	$836,676	10.7%	$493,365	6.3%	$232,801	3.0%
2001-02	$8,485,506	$5,270,837	62.1%	$850,773	10.0%	$1,860,928	21.9%	$502,968	5.9%
2002-03	$8,532,623	$5,528,275	64.8%	$824,180	9.7%	$1,693,729	19.9%	$486,439	5.7%
2003-04	$9,158,676	$6,037,968	65.9%	$882,369	9.6%	$1,793,639	19.6%	$444,700	4.9%
2004-05	$9,767,325	$6,244,035	63.9%	$1,034,214	10.6%	$1,980,701	20.3%	$508,375	5.2%
2005-06	$10,529,518	$6,808,286	64.7%	$1,084,546	10.3%	$2,008,711	19.1%	$627,975	6.0%
2006-07	$12,079,040	$8,502,746	70.4%	$1,091,649	9.0%	$1,971,126	16.3%	$513,519	4.3%
2007-08	$11,537,858	$8,132,031	70.5%	$1,103,052	9.6%	$1,818,424	15.8%	$484,350	4.2%
2008-09	$11,203,696	$8,192,116	73.1%	$1,037,760	9.3%	$1,518,103	13.6%	$455,717	4.1%
2009-10	$10,982,539	$8,200,884	74.7%	$892,578	8.1%	$1,270,944	11.6%	$618,134	5.6%
2010-11	$11,038,543	$7,921,595	71.8%	$937,672	8.5%	$1,572,148	14.2%	$607,128	5.5%
2011-12	$11,038,543	$7,921,595	71.8%	$937,672	8.5%	$1,572,148	14.2%	$607,128	5.5%
2012-13	$11,631,459	$8,21,6322	70.6%	$1,034,750	8.9%	$1,708,562	14.7%	$671,825	5.8%
2013-14	$12,094,459	$8,763,915	72.5%	$1,032,247	8.5%	$1,719,639	14.2%	$578,658	4.8%
2014-15	$12,047,730	$8,663,301	71.9%	$1,040,867	8.6%	$1,729,109	14.4%	$614,453	5.1%
2015-16	$12,279,981	$8,697,298	70.8%	$1,084,386	8.8%	$1,733,168	14.1%	$765,129	6.2%
2016-17	$12,586,480	$8,913,958	70.8%	$1,043,943	8.3%	$1,952,617	15.5%	$675,962	5.4%
2017-18	$12,191,467	$8,644,077	70.9%	$1,048,286	8.6%	$1,900,671	15.6%	$598,433	4.9%

Source: Superintendent's Annual Report for Virginia, Table 15

Table 3.10 shows per pupil expenditures based on the average daily membership (ADM) for operations from local, State, and Federal funds. Local funds increased by more than 150 percent since 1999-00. On the other hand, expenditures from of other sources when compared on a per pupil basis increased at a slower rate (26% increase for state funds).

Altogether, per pupil expenditures increased from $6,976 to $14,406 from 1999-00 to 2017-18.

Table 3.10
Per Pupil Expenditure for Operations from Local, State, and Federal Funds

Year	ADM Determining Cost Per Pupil	Per Pupil Expenditure from Local Funds ($)	Per Pupil Expenditure from Retail Use Tax Funds ($)	Per Pupil Expenditure from State Funds ($)	Per Pupil Expenditure from Federal Funds ($)	Total Per Pupil Expenditures ($)
1999-00	1,023	4,070	780	1,784	342	6,976
2000-01	1,015	6,174	824	486	229	7,713
2001-02	1,042	5,058	816	1,786	483	8,143
2002-03	1,037	5,331	795	1,633	469	8,228
2003-04	1,027	5,879	859	1,746	433	8,917
2004-05	1,014	6,156	1,020	1,953	501	9,630
2005-06	1,009	6,749	1,075	1,991	622	10,437
2006-07	989	8,599	1,104	1,993	519	12,215
2007-08	945	8,611	1,168	1,926	513	12,218
2008-09	930	8,805	1,115	1,632	490	12,042
2009-10	930	8,818	960	1367	665	11,810
2010-11	924	8,575	1,015	1702	657	11,949
2011-12	895	8,841	1,090	1804	987	12,722
2012-13	907	9,059	1,141	1884	741	12,825
2013-14	882	9,938	1,171	1950	656	13,715
2014-15	911	9,512	1,143	1898	675	13,228
2015-16	894	9,429	1,213	1939	856	13,437
2016-17	865	10,302	1,207	2257	781	14,547
2017-18	846	10,214	1,239	2,246	707	14,406

Source: Superintendent's Annual Report for Virginia, Table 15

The local private non-profit public education support group, Headwaters, Inc., in collaboration with the Rappahannock County Public Schools and the Rappahannock County Board of Supervisors, commissioned a study concerning local-state financing of education in Rappahannock County from Public and Environmental Finance Associates, of Washington, D.C. The report is entitled "Analysis of the Impact of the Local Composite Index on Rappahannock County, Virginia," and was issued in September 2002.

The LCI (Local Composite Index) in the words of the report, "is used by the Commonwealth to allocate state aid to local school districts. It is applied by the Commonwealth as a measure of relative economic well-being among Virginia cities and counties." Three weighted components make up the LCI: property values (50%), Adjusted gross Income (40%) and sales tax receipts (10%). While sales tax receipts are very low,

and the County is close to the state average for median income and median residential property values. The fact remains that the LCI for Rappahannock of 0.7672 (maximum of 0.8000) for the 2018-2020 calculation period is the eleventh highest in the state, resulting in extreme limitations on state aid, particularly for education.

The report's principle conclusion is that the success that the County has had in preserving open space has resulted, through the intricacies of the LCI formula, in a "penalty" in education funding. Succinctly, property taxed locally at its "use-value" (value for productive agricultural enterprises versus fair market value - often a reduction of 75-85%) is nevertheless valued by the Commonwealth at its fair market value in the LCI's workings.

While only an indicator of local educational investment and effort, pupil-teacher ratios are one means of measuring a local educational system. The Commonwealth as a whole had a Public-School Pupil-Teacher ratio of 13.06:1 and 12.4:1 for K-7 and 8-12 education, respectively in 2017-18. Rappahannock's ratios for 1991-92 were 15:1 and 12:1; in 2000, 11:1 and 9:1; and in 2017-18 were 10.78:1 and 9.35:1. These numbers are self-evidently lower than the state averages, and represent the advantages (and challenges) of a smaller school system. In neighboring counties, the 2017-18 ratios for elementary and secondary range from a high of 14.32:1 in Warren and 14.22:1 in Culpeper for K-7 and 8-12 respectively; to a low of 9.73:1 in Madison and 10.90:1 in Fauquier for K-7 and 8-12 respectively.

Teacher salaries are also an indicator of a localities' ability to attract and retain qualified instructional personnel (including principals, assistant principals, and central administration). A comparison between Rappahannock and other counties in the Rappahannock-Rapidan Regional Commission is included in Table 3.11.

Table 3.11
Average Public Teacher Salary by County

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Rappahannock	$49,343	$51,519	$51,609	$53,250	$51,136	$51,811
Culpeper	$48,667	$48,769	$49,318	$49,140	$50,069	$53,007
Fauquier	$57,714	$56,267	$53,705	$55,298	$54,371	$54,361
Madison	$44,429	$44,490	$42,804	$42,770	$43,419	$43,920
Orange	$48,980	$47,465	$49,388	$50,073	$49,477	$49,185

Source: Superintendent's Annual Report for Virginia, Table 19

Income Characteristics

The income of Rappahannock residents has been on a steady rise since the 1970's with particularly notable increases in the past decade. Median family income in 2010 stood at $75,975 compared with the $73,513 for the state. Anecdotal evidence of the Counties' general increase in wealth may also be showing the fact that 34.6% of families reported incomes of $100,000 or above in 2016. Unfortunately, 7.1% of families reported incomes

below $25,000 and 4.4% of all families reported incomes falling below the poverty level (in 2010 6.9% of all families reported incomes falling below the poverty level).

The overall distribution of the County's adjusted family incomes (not adjusted for inflation) from 2000 through 2016 is presented in the following Table (see Table 3.12).

Table 3.12
Adjusted Family Income

	2000	2006-2010	2012-2016
Total Families (#)	2,024	2,151	2,255
<$10,000 (%)	2.5	1.5	0.9
$10,000 - $14,999 (%)	4.2	5.7	1.8
$15,000 - $24,999 (%)	10	5.3	4.4
$25,000 - $34,999 (%)	11.5	6.8	8.5
$35,000 - $49,999 (%)	18.4	11.2	16.3
$50,000 - $74,999 (%)	23.5	18.6	19.3
$75,000 - $99,999 (%)	15.7	13	14.01
$100,000 - $149,999 (%)	8.6	17.8	15.9
$150,000 - $199,999 (%)	2.6	11.5	11
>$200,000 (%)	3	8.6	7.7
Median Family Income	$51,848	$75,975	$73,074

Source: U.S. Census Bureau, ACS 5-year estimates as shown

A comparison of the adjusted per capita income (not adjusted for inflation) for other jurisdictions in the Planning District is presented in Table 3.13. Rappahannock County citizens experienced the greatest percentage change in their per capita income between 2000 and 2010, after having the second greatest between 1990 and 2000; in addition, the 2010 value is above the State average of $31,606. The County per capita income figure grew substantially when compared to adjacent counties. Out of the three counties in the Rappahannock-Rapidan Regional Commission adjacent to Rappahannock County, Fauquier had the highest and Madison had the lowest per capita income in 2010, a trend that has remained constant since 1970.

Table 3.13
Virginia Adjusted Per Capita Gross Income Comparison

Locality	2000	2010	% Change
Rappahannock County	$23,863	$33,244	39
Fauquier County	$28,757	$38,317	33
Culpeper County	$20,162	$26,707	32
Madison County	$18,636	$25,489	36
Virginia	$23,975	$31,606	32

Source: Commonwealth of Virginia Department of Taxation, Annual Report

Population Projections

The Code of Virginia § 15.2-2224.A.2 requires the planning commission to survey and study “probable future economic and population growth of the territory and requirements therefor.” Although difficult to develop because of the numerous complex variables that influence them, population projections are based on past trends and predicted events, such projections assist in establishing a basic idea of the County's future population level and structure, the overall rate of growth and development, and the degree of change. Further, population projections are necessary to plan for future community programs and essential public services required by the general population.

The two primary population growth components are births vs. deaths and in-migration vs. out-migration. Many factors serve to affect these determinants in an area or locality. These factors include:

1. The general physical and natural environment and amenities of an area.
2. The health of the local population.
3. The age components of the local population.
4. The fertility rate of the locality's childbearing aged females.
5. The regional setting of the locality.
6. Employment opportunities and type of employment in the locality and its environs.
7. Income and wealth of the locality.
8. Public facilities and services available to the populace of the locality.
9. The cost and availability of housing in the locality.
10. The tax rate and tax structure of the locality.
11. Growth occurring in adjacent localities.

All of the above factors are important to projecting population for a place. Unfortunately, not all factors are easily projected, and the factors can change quickly over time. Under these constraints, a range of assumptions about what will influence a locality's population changes in the future should be determined and population projections based on the assumptions developed.

The population projections for Rappahannock County have been developed in a range from a lower to an upper limit. This range is based on assumptions of what could happen to the County's population and is intended to provide a projection of what would result under different growth scenarios. It is probable that the population growth will fall somewhere within the range shown. At any one time during the projection period it is possible that unforeseen occurrences could quickly change the projections.

Lower Limit-Lowest anticipated growth rate:

This projection is seen as the lowest likely population growth scenario for Rappahannock County. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees and former residents of the County.
2. A fairly consistent fertility rate and death rate with that of the 1980 to 2000 period.
3. A slowing of in-migration by individuals who commute to jobs outside of the County.
4. A continued dominance of agriculture and tourism in Rappahannock County's economic base.
5. A small growth in non-agricultural employment opportunities in the County.
6. A smaller growth in areas adjacent to Rappahannock County.

The result of these assumptions is a population growth characteristic in the County similar to that which occurred from 2010 to 2018 (7,497 to 7,252 respectively, or a 3.3% decline, which for this analysis is considered to be essentially flat). Thus, a decennial population growth rate of 0% has been adopted for the lower limit projection.

Median Projection-Moderate annual growth rate:

This projection is seen as close to the middle of the likely population growth range. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees and former residents of the County.
2. A fertility rate and death rate consistent with that of the 1980 to 2000 period.
3. A continued significant in-migration of individuals who commute to jobs outside the County.
4. A moderate growth in non-agricultural employment opportunities in the County.
5. A continued growth in areas adjacent to Rappahannock County.

The result of the assumptions is a population growth characteristic in the County similar to that which occurred in the county from 1990 to 2000 (6,622 to 6,983 respectively).

Thus, a decennial population growth rate of +5% has been adopted for the median projection.

Upper Limit-Highest anticipated annual growth rate:

This projection is seen as the highest likely growth scenario for Rappahannock County. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees, returning County natives, and commuters working outside the County. Thus, a continued heavy in-migration.
2. A continued large growth in areas adjacent to Rappahannock County.
3. A "spill-over" of growth into Rappahannock County from adjacent counties similar to the growth experienced in those counties from 1990 to 2000.
4. A large growth in non-agricultural employment opportunities in the County.
5. An increasing fertility rate and stable or slightly decreasing death rate.

The result of these assumptions is a larger population growth in Rappahannock County than occurred from 1990 to 2010 (6,622 to 7,497 respectively or 13.2% over 20 years or approximately 6.6% over 10 years). Thus, a larger 10% decennial increase in population was adopted.

The translation of these assumptions into numbers through the year 2038 is found in Table 3.14. As shown, the application of growth rates yields a relatively limited range between the upper and lower population growth limits. The moderate and upper limit growth rates significantly outpace the US Census projections presented in Table 3.2, which equate to an approximate 3% growth rate over a 20-year period ending in 2040, and as such are deemed to be conservative.

Table 3.14
Population Projection Range, Rappahannock County

	2018 (base)	2028	2038
Upper Limit-High Decennial Growth: 10%	7,252	7,998	8,797
Median Limit-Moderate Decennial Growth: 5%	7,252	7,615	7,996
Lower Limit-Low Decennial Growth: 0%	7,252	7,252	7,252

Base population of 7,252 from 2018 American Community Survey, five-year estimates

The impact of the projected upper-limit population increase of 1,545 more citizens by the year 2038 on the 2018 base is diminished when the 2010 census population of the county (7,497) is considered. When considering the 2010 base, the upper-limit population increase represents only 1,300 additional citizens. Assuming the family and living arrangement trends reported in Table 5.3 are a reasonable assumption for the year 2038, 1,300 additional citizens would imply 556 additional households (2.34 persons per household). Over a 20-year planning period this would lead to 28 additional households, on average, per year which is very manageable and would not significantly burden county infrastructure. Consideration of school capacity is another metric to confirm the upper-limit of predicted growth will not unduly burden the community. The 2017-18 September 30 public school enrollment was reported to be 820 students coming from approximately 3,141 households (Table 3.6 and Table 5.3). Based on these numbers, given the prevailing development patterns in the county, which are not recommended to change in this Plan, an average of approximately 0.26 students are currently generated per household. As such, an additional 556 households (over a 20-year period) may be predicted to add 145 students to the public schools boosting enrollment to 965 in the year 2038, which is less than the maximum enrollment experienced in the early 2000's (Table 3.6).

CHAPTER FOUR

ECONOMY

Occupations

While the economy of Rappahannock County has historically been based upon agriculture, it no longer employs as high a percentage of the workforce as once was the case. Indeed, the decade of 1990-2000 saw the most precipitous decline in Agricultural employment in our county's history. Although the percentage of persons employed in that sector of the economy increased slightly between 1980-1990, it is still far below the 1970 figure, which in turn was lower than figures for previous decades. There have been a number of major investments made in agriculture over the past four years, particularly in heretofore "niche" areas such as grapes and organic products that may reverse this trend. While agriculture is still the foundation of the County's economy, more residents depend on other sectors of the economy for their main employment needs (see Table 4.1).

More generally, between 1980 and 2000, the total number of employed persons increased from 2,517 in 1980, to 3,375 in 1990, to 3,591 in 2000 to 3,852 in 2010 and 3,643 in 2016. Reflecting the rural character of the County, production, crafts, operations, farming and general labor of all kinds were represented in Rappahannock County at a rate greater than that for the State. Statistical categories have changed over census periods and as such, data is available for different categories in different columns of Table 4.1. Similar categories are grouped into common shaded rows of the table.

The proportion of workers who are classified by the Bureau of the Census as self-employed remains substantially higher in Rappahannock than many other jurisdictions; 553 of total employment of 3,643 in 2016. This translates to 15.6% of workers as opposed to lesser percentages, generally in single digits, in adjacent counties. Reflecting the increasing commuting trend towards the governmental employment centers to the north and east, adjacent counties had an average of 18.4% of their worker populations employed in Federal, State or Local governments in 2016. Rappahannock, in an increase of over 7% since 1990, had 19% of its workforce employed by a governmental entity in 2016.

The County unemployment rate has historically lagged behind that of adjacent jurisdictions, the Commonwealth as a whole, and of the nation. This is not inconsistent with the experience of other rural communities, whose citizens' access to employment opportunities are constrained by transportation limitations. Recent trends, however, indicate relatively low unemployment rates in Rappahannock County that averaged just over 3% just before the financial turndown in 2009 after which the rate peaked at 6.4% in 2012. The unemployment rate has since dropped back towards the healthier historical average, with 2018 data indicating a rate of 3% (see Table 4.2).

Table 4.1
Occupation of Employed Persons
Rappahannock County, VA

	1990		2000		2010	
	#	%	#	%	#	%
Executive, Administrative & Managerial	313	9.3	1,287	35.8		
Management, business, science, and arts					1,584	42.7
Professional-Specialty	360	10.6				
Technicians & Related Support	91	2.7				
Sales	305	9.0	727	20.2		
Administrative Support/Clerical	451	13.3				
Private Household	34	1				
Protective Service	49	1.4				
Service Occupations (except protective/household)	208	6.1	552	15.4	528	14.2
Farming, Forestry, Fishing	394	11.6	74	2.1		
Sales and office					781	21.0
Precision Production, Craft, & Repair	651	19.3	607	16.9		
Natural resources, construction, and maintenance					576	15.5
Machine Operators, Assemblers, & Inspectors	217	6.4				
Transportation-Material Moving Handlers, Equipment Cleaner	158	4.7	344	9.6		
Production, transportation, and material moving					243	6.5
Laborers	144	4.3				
TOTAL	**3375**		**3,591**		**3,712**	

Source: U.S. Census Bureau

Table 4.2
Unemployment

Year	Rappahannock	VA	Year	Rappahannock	VA
2018	3.0%	3.5%	**2009**	7.8%	5.7%
2017	3.9%	4%	**2008**	3.5%	3.3%
2016	3.7%	4%	**2007**	2.5%	2.9%
2015	4.9%	4.8%	**2006**	2.3%	3.1%
2014	5.1%	5.4%	**2005**	2.6%	3.6%
2013	5.8%	5.8%	**2004**	2.6%	3.8%
2012	6.4%	6.2%	**2003**	3.0%	4.1%
2011	6.0%	6.6%	**2002**	2.3%	4.1%
2010	5.6%	7.2%	**2001**	1.6%	3.5%
			2000	1.3%	2.2%

Source: US Department of Labor, Bureau of Labor Statistics

The importance of women in the civilian labor force has grown dramatically in the decades since the World War II, with Rappahannock experiencing the same trend as the nation, albeit at a more modest pace. 2016 Census data indicates that approximately 1,475 women 16 years of age or older were not in the labor force, while approximately 1,661 were. Of this latter group, only 68, or approximately 4%, were unemployed.

This labor force participation rate (53.0%) is consistent with that of our neighboring counties with Fauquier, Culpeper, Madison, Warren and Page County's labor force participation rates being 58.7%, 58.7%, 52.2%, 53.4%, and 50%, respectively.

Employer Types

In contrast to the type of occupation a person holds, employer types describe the type of industry in which a person is employed. Historically, one of the most conspicuous aspects of this classification for Rappahannock County has been the continued decline of agricultural employment. As previously noted, this decline not only slowed over the previous decade, but in fact underwent a very modest resurgence.

In 1970, 20.3% of County residents were employed by the agricultural industry. This figure dropped to 11.8% in 1980 and increased slightly to 12.1% in 1990 before declining sharply through 2000 and 2010, to a low of 3.3% in 2017 as shown in Table 4.3. Health and Education services together with , professional, and related occupations have replaced construction as the most important industry sector in Rappahannock County with 32.1% of those employed registering this as their employer type in 2017.

Rappahannock County residents endure the fourteenth highest average travel time to work (37.9 minutes in 2017) of any jurisdiction in the Commonwealth. Rappahannock ranked as high as third longest in the past. Table 4.3 compares County employer types from 1990-2017.

Table 4.3
Civilian Industries By Which Employed 1990 – 2017

	1990		2000		2010		2017	
	#	%	#	%	#	%	#	%
Agriculture, Forestry, Fisheries & Mining (& Hunting in 2000)	409	12.1	289	8.0	259	7.0	117	3.3
Construction	649	19.2	555	15.5	564	15.2	398	11.1
Manufacturing	416	12.3	185	5.2	140	3.8	170	4.7
Transportation, Warehousing & Utilities	249	7.4	282	7.8	173	4.7	169	4.7
Wholesale Trade	102	3.0	51	1.4	112	3.0	34	0.9
Retail Trade	385	11.4	281	7.8	358	9.6	403	11.3
Finance, Insurance, Real Estate	122	3.6	145	4.0	116	3.1	209	5.8
Business, Repair Service	155	4.6	--	--				
Personal, Entertain-ment, Recreation Services	193	5.7	310	8.6	406	10.9	354	9.9
Health & Education Services	298	8.8	533	14.8	632	17.0	704	19.7
Professional, Scientific Administrative & Information Services	179	5.3	428	11.9	461	12.5	443	12.4
Public Administration	218	6.46	279	7.8	342	9.2	268	7.5
Other	-	-	253	7.0	149	4.0	254	7.1
TOTAL	3375		3591		3712		3580	

U.S. Census Bureau, ACS 5-year estimate for 2017

Major Employers

As reported by the Virginia Employment Commission, there were 267 establishments in Rappahannock County offering some form of employment in 2018. During the first quarter of 2018, these establishments employed 1,335 persons with average weekly wages per worker being $706.

The largest employer in the County is the Rappahannock County School Board.

Wholesale-Retail Trade

The U.S. Bureau of the Census lists five merchant wholesalers in Rappahannock County in 2012. As of 2012, 26 retail establishments were located within the County (down from 33 in 1997) with total sales of $29,306,000 an increase from 1997 which had retail sales of $23,351,283. This represents an increase of 25.5% in retail sales since 1997.

Current retail sales data show the relative strength of each commodity or sector in Rappahannock County as well as comparison of strength between year (see Table 4.4).

Table 4.4
Taxable Sales and Use by NAICS Group

Business Classification	Number of Dealers and Taxable Sales by Year							
	2006		2015		2016		2017	
	#	$	#	$	#	$	#	$
No NAICS Information	18	823,786	5	101,638	6	24,829	5	280,576
Crop Production			9	2,903,413	7	2,978,156	10	3,157,811
Animal Production			5	199,114			9	287,379
Beverage and Tobacco Product Manufacturing			9	924,064	6	1,298,079	6	1,306,001
Chemical Manufacturing					5	179,151		
Merchant Wholesalers, Durable Goods					5	268,379	9	66,372
Merchant Wholesalers, Nondurable Goods			8	2,254,788	9	2,098,667	10	2,277,635
Furniture and Home Furnishing Stores	10	2,369,543	6	1,960,652	5	1,515,854		
Food and Beverage Stores	9	3,475,196	14	1,104,729	10	880,357	8	795,512
Gasoline Stations	7	2,033,175	7	2,672,298	7	2,794,627	9	2,935,351
Clothing and Clothing Accessories Stores	7	803,580	5	269,823	8	293,720	10	173,455
Sporting Goods, Hobby, Book, and Music Stores	10	430,040	8	490,111	9	530,279	7	400,529
General Merchandise Stores			8	2,194,391	7	2,194,532	8	2,267,519

Business Classification	Number of Dealers and Taxable Sales by Year							
	2006		2015		2016		2017	
	#	$	#	$	#	$	#	$
Miscellaneous Store Retailers	46	2,154,672	36	3,193,132	33	3,224,453	31	2,485,179
Nonstore Retailers	23	727,038	17	631,296	32	630,872	35	340,535
Telecommunications							5	7,103
Rental and Leasing Services	26	765,388	9	164,596	12	162,269	9	136,210
Professional, Scientific, and Technical Services	5	377,069	10	203,261	13	194,569	14	259,820
Performing Arts, Spectator Sports, and Related Industries			7	26,289	6	150,783	6	128,311
Accommodation	11	606,100	14	13,859,946	15	14,289,606	17	14,794,925
Food Services and Drinking Places	13	13,389,983	11	3,843,729	10	3,893,864	17	3,833,926
Repair and Maintenance	5	1,167,862			5	1,198,327	5	1,168,794
Rappahannock Total:	**190**	**29,123,432**	**188**	**36,997,270**	**210**	**38,801,373**	**230**	**37,102,943**
Miscellaneous and Unidentifiable Total:	**56**	**6,471,461**	**49**	**2,864,578**	**53**	**1,543,534**	**51**	**3,141,710**
Total:	**246**	**35,594,893**	**237**	**39,861,848**	**263**	**40,344,907**	**281**	**40,244,653**

Source: Virginia Department of Taxation

Agriculture

Historically, Rappahannock County has been an agricultural community with most residents depending upon the production of agricultural products for their employment and income. Today, the rural nature of the County continues to reflect the importance of agriculture to County residents.

Of increasing importance are the production of grapes and the rise of organic farming. While dwarfed in economic terms by traditional agricultural and horticultural operations, both endeavors have been continuously reinforced by new investment over the past decade. This trend may reasonably be expected to continue in the coming five years.

Farms

Between 1949 and 1974, the total number of farms in Rappahannock County declined nearly 63% from 687 to 257. A slow reverse in that trend has followed with an increase

to 413 farms as shown in the 1997 Census of Agriculture which has remained relatively steady through the 2002, 2007, 2012, and 2017 with data shown in Table 4.5. The percentage of total County land area devoted to farm usage has decreased since 1974, but has remained fairly stable over the last 20 years dropping from 76,223 acres in 1997 (44.6%) to 70,182 acres in 2017 (41.1%), a rebound after dipping to 62,818 acres (36.8%) in 2012.

While the number of County farms has increased from low numbers in the 1970's and 1980's, the average farm size has been decreasing. In 1974, the average size was 298 acres, in 1982 279 acres and has leveled off at approximately 160 acres over the last ten years as shown in Table 4.5.

By 2007, the trend of there being fewer larger farms but an increasing number of the smallest farms leveled off. Although ownership records seem to indicate that some of the increase in number of the largest farms was actually the division of extremely large farms (5,000 or more acres) into smaller units under the same ownership, there are nevertheless a relatively consistent number of farms larger than 180 acres since 2007.

Table 4.5 presents the number of farms by acreage for the years 1987 through 2017 during years for which a national census of agriculture is available and Graph 4.4 shows the data in a graphical perspective which better conveys the trends over time.

Table 4.5
Farms by Size

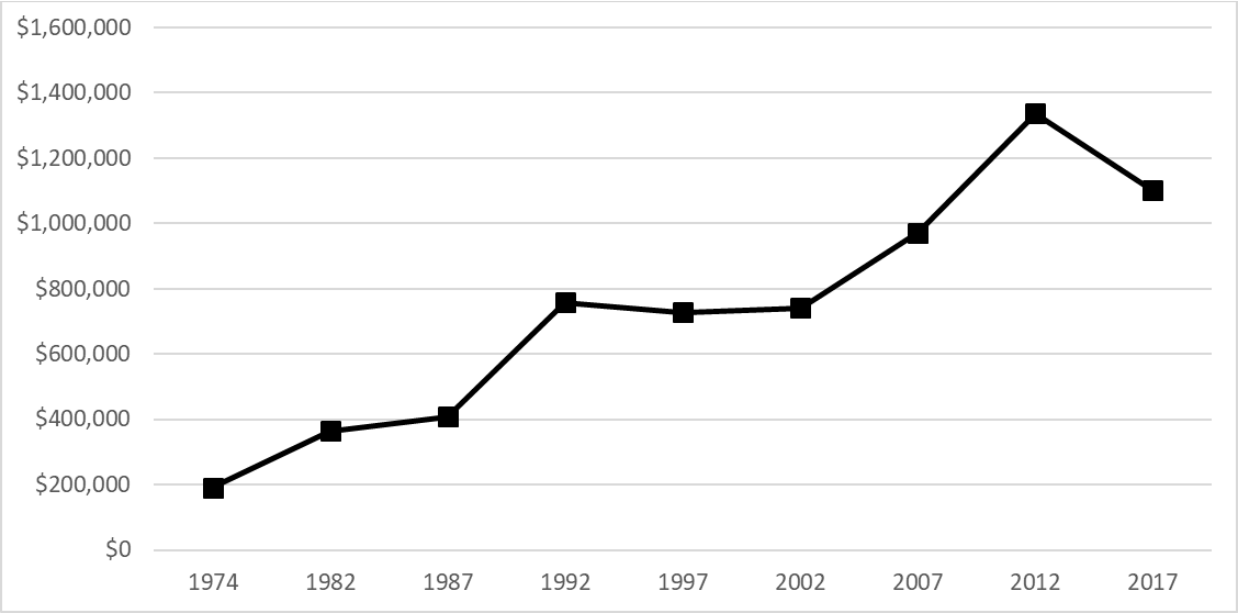
Farms by Size (Acres):	1987	1992	1997	2002	2007	2012	2017
1-9.9 Acres	13	14	9	17	19	19	39
10-49.9 Acres	71	79	146	161	175	166	177
50-179 Acres	95	119	167	159	142	133	137
180-499 Acres	68	56	53	76	56	50	53
500-999 Acres	28	32	28	17	13	19	22
1000-1,999 Acres	13	12	8	9	6	8	9
2000+ Acres	inc. w/ 1,000+	inc. w/ 1,000+	2	4	5	2	2
Total	**288**	**312**	**413**	**443**	**416**	**397**	**439**
Average Farm Size	**268**	**253**	**185**	**177**	**156**	**158**	**160**

Source: US Census of Agriculture

Value of Farmland

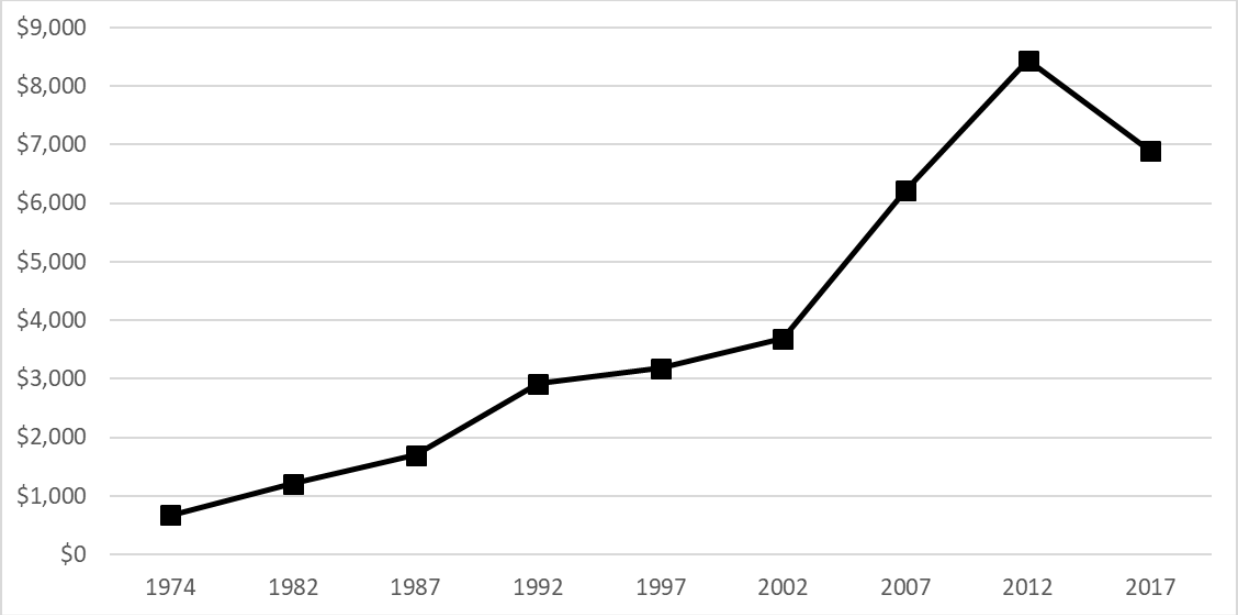
As with most land use categories, the total value of agricultural land has dramatically increased in recent years. Between 1974 and 1982 the average value per farm acre in Rappahannock County increased 79.6% from $672 to $1,207. During this same time, the average value per County farm increased 90% from $191,349 to $364,163. Graphs 4.1 and 4.2 show the trends for these variables since 1974 and show a retreat in 2017 from all time high values documented in the 2012 U.S. Census of Agriculture. The highs in 2012, and following retreat, may explain the dip in acres farmed reported in that census data and the rebound in number of acres shown in 2017.

Graph 4.1
Average Value Per Farm 1987-2017



Source: US Census of Agriculture

Graph 4.2
Average Value Per Acre 1987-2017



Source: US Census of Agriculture

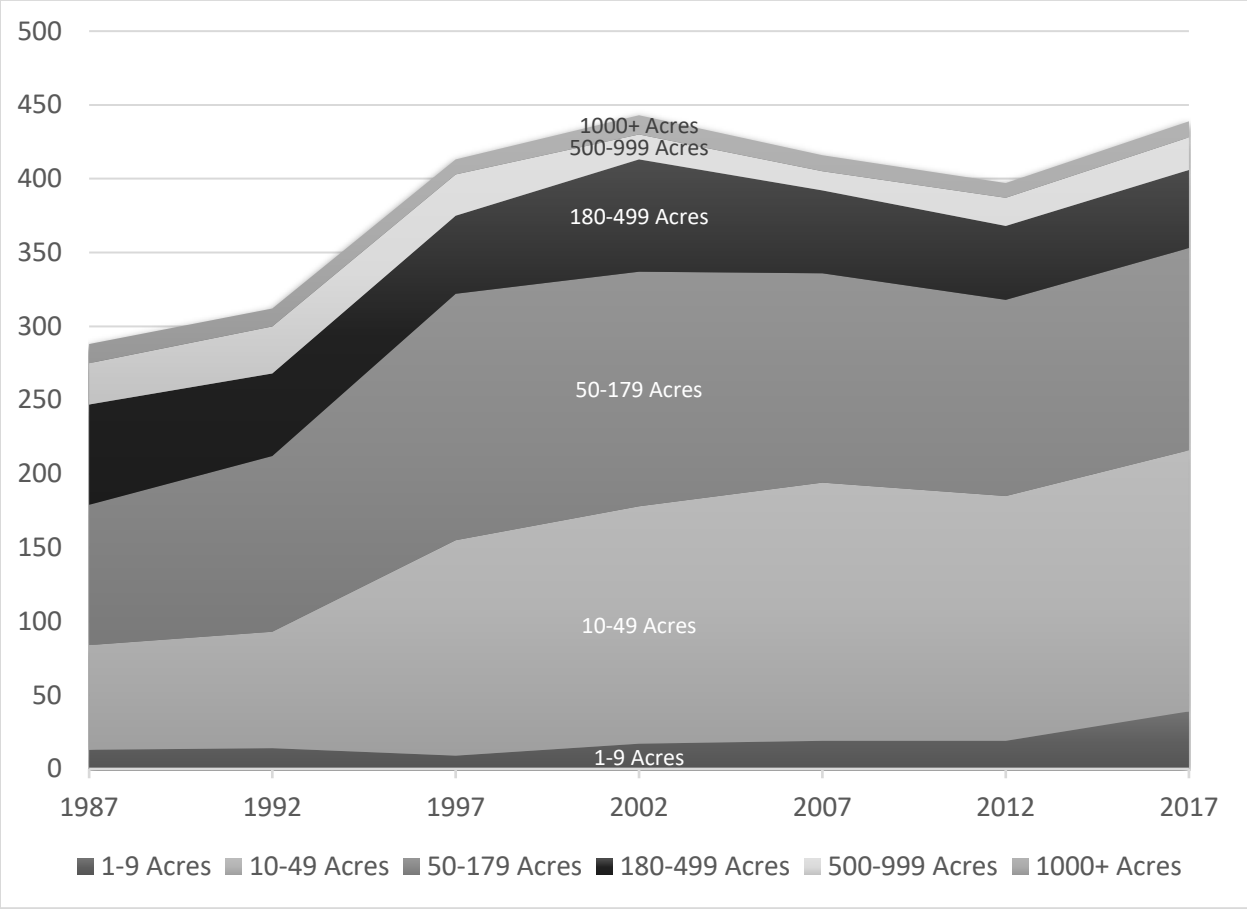
Types of Farmland

In 2017, 70,182 acres of the County land were in farmland which was a rebound from a recent low of 62,818 acres reported by the U.S. Census of Agriculture in 2012. In 2017, of the total acreage, 25,168 acres (or 35.9%) was in “cropland,” 21,999 acres (or 31.3%) was in “woodland”, and 24,008 acres (or 34.2%) was classified as “pasture land.” The 2017 values show an increase in cropland from the values reported in 2007 (20,817 acres) and 2012 (17,307 acres), which increase comprises most of the overall farmland acreage increase reported in 2017.

Compare 2017 data with 2002 values that indicated 78,483 acres in farmland, down 10% from 87,434 acres in 1982. Of the total farmland in 2002, 35,817 acres or 45% was classified as "cropland", 26,022 acres or 33% was classified as "woodland", and 16,644 acres or 22% was classified as "other farm land".

The breakdown of farm sizes shown numerically in Table 4.5 is shown graphically in Graph 4.3 for the period 1987-2017. The overall acreage increase trend reported for 2017 is mirrored by the number of farms shown in the graph 4.3 with an upturn to near the 2002 peak number of farms.

Graph 4.3
Number of Farms by Acreage Class 1987-2017



Source: US Census of Agriculture

Cattle

Beef cattle operations have grown in importance over the past several decades, both as a principal farming operation and as one aspect of an integrated farm management plan. From a land use perspective, these types of operation tend to utilize large amounts of land, and so disproportionately impact the landscape and indeed, the amounts of acreage that are calculated as engaged in farming operations. Since 1986, for example, the number of beef cattle and calves increased from 11,900 to 15,500 in 1992, 16,041 in 1997, and 17,548 in 2002, but declined precipitously by 2012, to 11,645. Recently released 2017 data indicates the number has rebounded to 12,997.

Harvested Cropland

Of the total 443 County farms in 2002, 303 or 68% harvested some cropland. This compares with 79.7% in 1969, 65% in 2007, 68% in 2012 (271 farms) and 63% in 2017 (276 farms).

In 2017, 83% of the farms that harvested cropland, harvested less than 100 acres of cropland while 14.9% harvested between 100 and 499 acres. Only 6 farms, or 2% of the

total, harvested 1,000 acres or more in 2017 but this last figure grew dramatically with no more than one such 1,000 acre harvest farm reported in the 1997, 2002, 2007, and 2012 Census of Agriculture.

Table 4.6 lists the number of farms by cropland harvested for the period 1982-2017.

Table 4.6
Number of Farms by Cropland Harvested 1982-2017

Farms by Size (Acres):	1982	1987	1992	1997	2002	2007	2012	2017
1-9 Acres	33	30	38	52	45	47	59	74
10-49 Acres	114	92	100	130	166	144	134	125
50-99 Acres	37	45	43	53	46	40	40	30
100-499 Acres	46	45	46	45	39	39	34	41
500-999 Acres	2	5	4	3	6	2	3	0
1000+ Acres	2	0	0	1	1	0	1	6
Total Farms with Cropland Harvested	234	217	231	284	303	272	271	276
All Farms	**313**	**288**	**312**	**413**	**443**	**416**	**397**	**439**

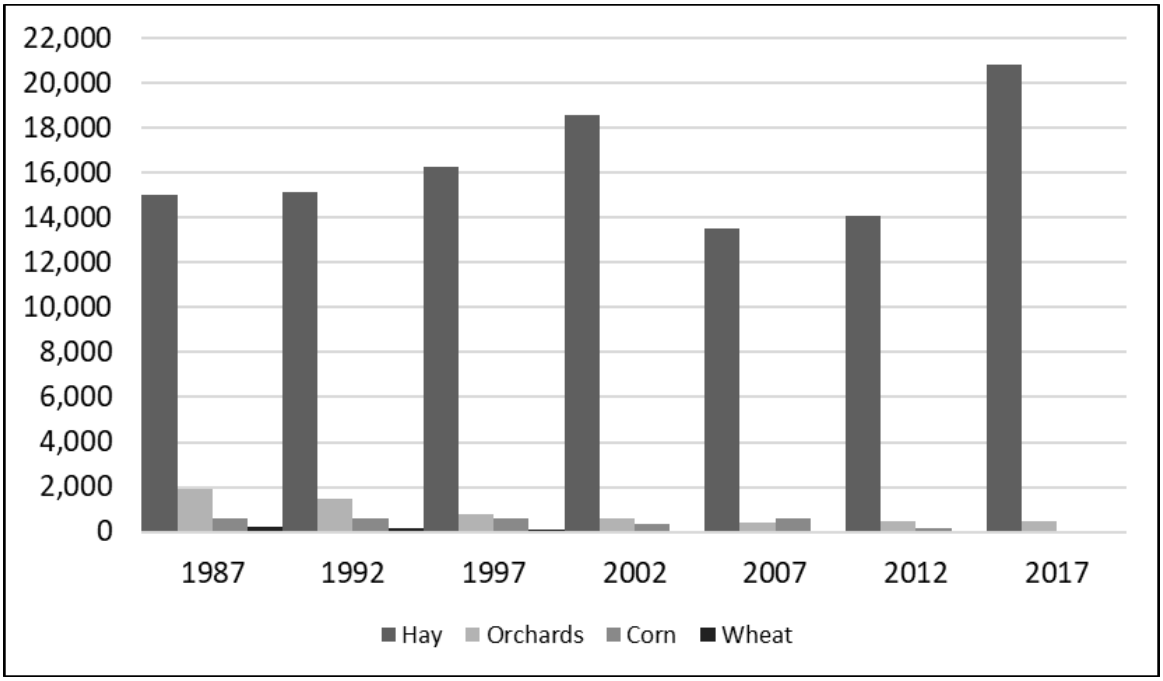
Source: US Census of Agriculture

Crop Types

During the 4-year period, 1978-1982 the total amount of cropland harvested in Rappahannock County increased 21% from 15,568 acres to 18,958 acres. Since that time, this figure declined to 17,768 in 1987, 17,397 by 1992, jumped to 18,434 in 1997, to 20,126 in 2002, before contracting to just over 15,000 in 2007 and 2012. The 2017 census data indicates the acreage harvested jumped to 25,168. In 2017, hay represented over 83% of the total cropland harvested.

Graph 4.4 portrays the breakdown of crops by total acres harvested for the 1992-2017 period. As evident from the graph, hay production is the primary crop. The harvested acreage for corn and wheat in recent census data is so low that data was withheld to avoid disclosing data for individual farms. While harvested acres of hay broke out from a pullback in 2007 and 2012 to establish a new recent high of 20,811 acres, the acreage of orchards has steadily declined from 1,924 acres in 1987 to 479 in 2017.

Graph 4.4
Harvested Acres By Crop Type 1987-2017



Source: U.S. Census of Agriculture

As a further measure of the overall importance of these crops, Table 4.7 presents the number of farms that were involved in their production between 1987 and 2017.

Table 4.7
Number of Farms Producing 1987-2017

Crop	1987	1992	1997	2002	2007	2012	2017
Corn	26	27	18	8	6	5	1
Wheat	12	9	4	3	1	1	2
Hay	195	199	220	253	232	228	222
Orchards	47	53	40	46	40	45	40

Source: U.S. Census of Agriculture

Historically, the orchard land in Rappahannock County consisted primarily of apple production with a smaller peach crop. In 1992, 43 County farms produced 14.31 million pounds of apples, while 21 farms produced 5.48 thousand pounds of peaches on 80 acres. The overall production of these orchard crops has sharply declined over the years to the point that only 20 farms still harvest apples while only 10 still harvest peaches. Table 4.8 presents the total number of apple and peach producing farms in the County from 1992-2017 and adds in farms that grow grapes which have quickly risen in number

of farms and acreage cultivated to the extent that they essentially rival the acreage of apple orchard in 2017.

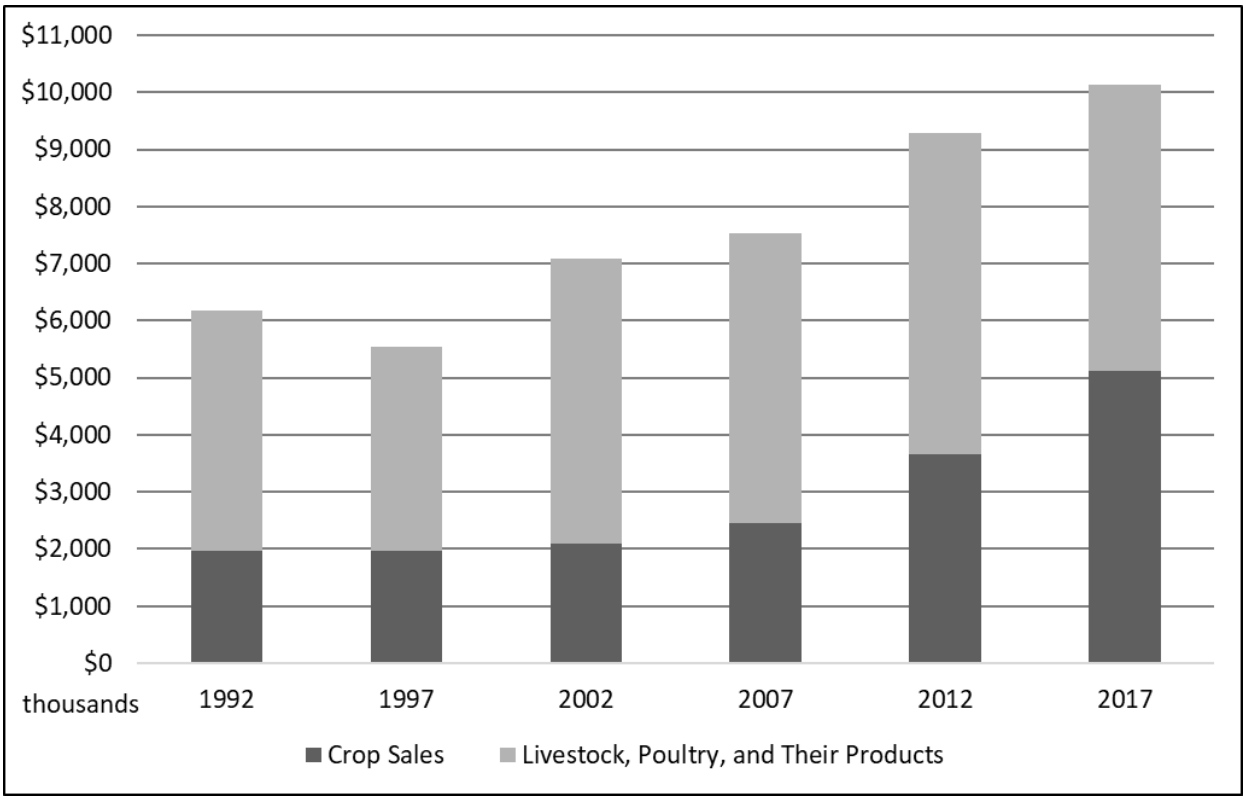
Table 4.8
Orchard Crops 1992-2017

	1992	1997	2002	2007	2012	2017
APPLES:						
Total # of Farms	43	31	32	30	28	20
Total Acres	1,378	644	380	245	308	211
Farms-Non Bearing Age	22	22	15	-	11	11
Farms-Bearing Age	40	30	28	15	25	18
Farms Harvested	35	23	NA	-	-	-
Pounds Harvested (millions)	14.31	9.005	NA	-	-	-
PEACHES:						
Total # of Farms	21	14	19	7	10	10
Total Acres	80	61	94	40	11	29
Farms-Non Bearing Age	12	7	7	2	2	6
Farms-Bearing Age	18	12	13	6	8	6
Farms Harvested	15	8	NA	-	-	-
Pounds Harvested (millions)	0.548	0.253	NA	-	-	-
GRAPES:						
Total # of Farms			16	15	19	19
Total Acres	32		93	108	132	202
Farms-Non Bearing Age			7	7	9	18
Farms-Bearing Age			11	15	19	15

Source: US Census of Agriculture

Value of Products Sold
Graph 4.5 shows that between 1992 and 2017 the total value of County agricultural products sold increased 164% from $6.17 million to $10.15 million. Sales growth has occurred in both sale of crops and sale of livestock, with the former seeing large gains in 2012 and 2017.

Graph 4.5
Value Of Products Sold 1992-2017



Source: US Census of Agriculture

Prime Farmland
Because of importance of agriculture to Rappahannock County, an attempt has been made to identify and record the location of suitable soils for farming activities. It is important to base any land use policies designed to preserve farmland on an accurate and complete inventory of the County's soil capabilities. Soil capabilities are used because soils are the greatest determinant of farmland productivity. **Map No. 8: Prime Agricultural Soils on Moderate Slopes** shows location of prime agricultural soils for Rappahannock County.

While areas of prime farmland exist throughout the County, major concentrations are found in F. T. Valley, the Rediviva area, north and southeast of Washington, the Amissville vicinity, Laurel Mills to Viewtown, east and north of Flint Hill and the Huntly area.

CHAPTER FIVE

EXISTING LAND USE CHARACTERISTICS and REGULATORY MEASURES

Rappahannock County is a scenic, rural County dominated by forestal land uses, which occupied over 50% of the County's land area in 2007 according to the Census of Agriculture. This is due in part to the 31,700 acres of the Shenandoah National Park located in the County. However, it may also be attributed to the rugged character of the area that makes much of the land unsuitable for plowing. Agriculture and pasture is the second most dominant land use in the County with almost 34% of the land in this category. Vacant land, which consisted of unusable land due to location, slope, or soil conditions accounts for 7.6% of the County's land. The remaining 1.92% may be considered developed (see Table 5.1).

Table 5.1
Existing Land Uses (Estimated)

	Acres	%
Residential	1,450	0.80
Commercial	75	0.04
Industrial	45	0.03
Public/Semi-Public	100	0.05
Highways, Roads, R-O-W	2,050	1.20
SUB-TOTAL (DEVELOPED)	3,720	2.00
Agriculture Crops & Pasture	57,337	33.55
Forests		
Farms	31,349	18.34
Commercial	36,774	21.52
Federal	31,700	18.55
Vacant	10,000	5.85
SUB-TOTAL (UNDEVELOPED)	167,160	98.00
GRAND TOTAL	**170,880**	**100.00**

*Note that as of 2018, there were approximately 22,128 acres in Agricultural and Forestal Districts and, as of 2020, 33,634.9 acres in Conservation Easement in Rappahannock County.

Map No. 10: Agricultural/Forestal Districts shows the approximate location of the current Agricultural and Forestal Districts in the County. **Map No. 11: Conservation Easements** shows the approximate location of properties in conservation easement.

Development Patterns

Throughout the Piedmont and Blue Ridge physiographic regions, most development is scattered along a County's road system for the obvious reason of ready access. The roads of the County generally follow the ridgelines, except in low-lying areas where they tend to follow water bodies, particularly up into the many hollows of the mountains. In Rappahannock, true to form, development has been confined to those ridges and adjacent plateaus, providing generally well-drained soils, nearly level building sites, and superior views. Routes 522 and 211 have the most "ribbon" development along them. Antique stores, craft shops and fruit stands are also located along the major roadways to serve the many tourists who visit the area. The few industrial uses in the County have located close to the population centers.

The pattern of development in the Piedmont area is markedly different. Here the wooded mountain slopes have confined roads and development to the stream valleys and often the actual floodplains. Development and agriculture share the narrow stream valleys, while orchards often occupy the intermediate slopes at the foot of the mountains.

The County's villages developed along transportation corridors that probably originated as animal migratory tracks, evolved into paths used by the Country's native peoples, and were further developed by the European colonization. Villages or settlements typically grew up at significant crossroads, river crossings, or other important landmarks. The villages in the County provide focal points for scattered patterns of development. Villages are usually 3-5 miles apart along the County's main roads and slightly farther apart along the secondary roads. The villages serve local commercial and service functions and are generally characterized by:

- Rural post office and general store, often with older homes nearby.
- One or more houses of worship.
- Service stations and other small commercial/service establishments.

Other residential development has occurred throughout the County but this has been of a low-density type that is largely dictated by concentrated land ownership.

Village Areas

Rappahannock's village settlements are among the most significant considerations affecting the direction of the County's future. These villages are traditionally communities that provide valuable social functions for the surrounding countryside. At these locations, key facilities allow County residents to meet, socialize, vote, shop, receive medical treatment, send and receive mail, and so forth. When considering that Rappahannock is an agriculturally oriented County and its population is largely dispersed, the importance of the village functions becomes apparent.

The primary villages in Rappahannock County are Amissville, Chester Gap, Flint Hill, Sperryville and Woodville. These five villages have no defined legal boundaries--they are not incorporated, and therefore the definition of what area is "included" in the village of

Amissville, for instance, is quite general. The Town of Washington is a separate incorporated municipality, which is also a designated Village within the context of local planning efforts. The Town has a wealth of historical significance and is in fact a designated historic district.

Amissville - with aerial photo & graphic inserts

The village of Amissville is located on Route 211 in the eastern part of Rappahannock County. Amissville is approximately eleven miles east of the Town of Washington and twelve miles west of Warrenton.

See insert for an aerial view of the Amissville area as of 2018.

Access

Amissville is accessible by arterial Route 211 and by secondary Routes 611 and 642. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
211	Hard Surface	80 feet
611	Hard Surface	14-20 feet
642	Hard Surface	50 feet

Existing Land Uses

Public/Semi- Public:

The village of Amissville contains four churches, three cemeteries, a post office and a fire station. In addition, Stuart Field, a facility providing recreational opportunities, is located there.

Commercial and Industrial:

Located in Amissville is one general store, one convenience store, a multiuse structure housing a carpet shop (and other retail ventures), a restaurant, a service station, and several other uses.

Housing:

Housing in Amissville consists basically of single-family units located along Route 211. There is a trailer park off of Route 211 that accommodates eleven trailers. There is also one three-unit apartment house in the village.

Chester Gap - with aerial photo & graphic inserts
The village of Chester Gap is located in the extreme northern portion of Rappahannock County along Route 660. Chester Gap is approximately 7 miles north of Flint Hill west of Route 522.

See insert for an aerial view of the Chester Gap area as of 2018.

Access
The village of Chester Gap is accessible by primary Route 522 and secondary Routes 660 and 610. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522	Hard Surface	50 feet
610	All Weather	Under 14 feet
660	Hard Surface	14-20 feet

Existing Land Uses
Public/Semi-Public:
The village of Chester Gap contains one church, two cemeteries, and a fire station.

Commercial and Industrial:
There are currently no commercial or industrial uses in the Chester Gap village area.

Housing:
Chester Gap is composed primarily of single family housing units. The majority of these housing units are located along Route 610, 660 and Route 522. Moreover, there is a three-unit apartment building in Chester Gap at the northern tip of the village along Route 660.

Flint Hill - with aerial photo & graphic inserts
The historic village of Flint Hill is located on Route 522 in the northern part of Rappahannock County. Flint Hill is approximately five miles north of the Town of Washington.

See insert for an aerial view of the Flint Hill area as of 2018.

Access
Flint Hill is accessible by primary Route 522 and secondary Routes 606, 647, and 729. The roads included in this area are classified by the Virginia

Department of Transportation as follows:

Route #	Surface Condition	Road Width
522	Hard Surface	30+ feet
606	Hard Surface	14-20 feet
647	Hard Surface	30-50 feet
729	Hard Surface	20-50 feet

Existing Land Uses
Public/Semi-Public:
The village of Flint Hill contains three churches, two cemeteries, a post office and a fire station and volunteer rescue squad.

Commercial and Industrial:
Located in Flint Hill are a gas station, a bank, a general store and three restaurants. There is also a small business center that includes the post office, two apartments, and space for several retail businesses and a substantial amount of commercial office space. Other businesses located along Route 522 are low-impact enterprises and include artist studios, professional practices (writer, massage therapist, architect, ferrier), and retail sales in equine and pet supplies. An abandoned stone quarry is located just east of Flint Hill along Route 647. Currently, a light-industrial facility, which houses a variety of businesses, including the Virginia Chutney Company, is located on Rt. 642 near the village. This facility is owned locally and is referred to by its original tenant, the Aileen Factory, which made children's and women's clothing. Adaptive reuse of this facility is a prime economic development goal.

Housing:
Flint Hill consists basically of single-family units. The greatest concentration on these homes is along Route 522 and Route 606. Furthermore, along 522 a number of these homes were built in the early nineteenth century and should be considered historically significant.

Sperryville - with aerial photo & graphic inserts
The village of Sperryville is located in the south central portion of Rappahannock County at the intersection of Routes 211 and 522. Sperryville is approximately 6 miles southwest of the Town of Washington along Route 522/211 and 5 miles northwest of Woodville along Route 522.

See insert for an aerial view of the Sperryville area as of 2018.

Access
The village of Sperryville is accessible by primary Route 522, 211, 522/211, and 231; and secondary Route 600. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522	Hard Surface	20+ feet
211	Hard Surface	30+ feet
522/211	Hard Surface	50+ feet
600	Light Surface	14-20 feet

Existing Land Uses
Public/Semi-Public:
The village of Sperryville contains four churches, two cemeteries, a post office, and a fire station and rescue squad. A sewer system has also been constructed in Sperryville.

Commercial and Industrial:
Located in Sperryville are antique malls, antique shops, three service stations, a general store, a storage company, several restaurants, the phone company office, and many tourist-oriented retail businesses. Along with the tourist-oriented businesses are bed and breakfast establishments, breweries, a distillery operation, art galleries, cabinetmakers, and many farmers and fruit markets. Most of these businesses are located around the area at which 522 and 211 join, and in the River District Arts, along Water Street.

Housing:
Housing in Sperryville consists solely of single family units, the greatest concentration of which are along the 522/211 intersection.

Washington - with aerial photo & graphic inserts
The Town of Washington, the County seat, is located on Business Route 522/211 in central Rappahannock County. Washington is approximately 17 miles west of Warrenton along Route 211, and 25 miles northwest of Culpeper along Route 522.

See insert for an aerial view of the Washington area as of 2018.

Access
Washington is accessible by primary Route 522/211 which has both business and bypass routes. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522/211	Hard Surface	100 feet
622	Hard Surface	14-20 feet
626	Hard Surface	14-20 feet
628	Hard Surface	14-20 feet

Existing Land Uses
Public/Semi-Public:
The Town of Washington contains three churches, one cemetery, a post office, a fire station (just outside Town limits), the County Jail and Sheriff's Office, Department of Social Services, County office buildings as well as the Courthouse, the Town Hall, and a medical clinic. The Commonwealth of Virginia maintains offices for the Cooperative Extension Service and the Health Department. The Virginia Department of Transportation maintains a maintenance headquarters located at Route 622 Rock Mills Road and Flatwood Road, near the County's Flatwood Refuse and Recycling Center. One recent development is the potential relocation of the U.S. Postal Service Center from the center of town to a location in the designated commercial development area along Routes 211/522.

Commercial and Industrial:
Located in the Town are three restaurants (including the Michelin Three-Star Inn at Little Washington), three bed and breakfast establishments, three art galleries, one apartment building, a diverse assortment of retail businesses, along with centralized services commercial office space, a phone company office, several attorney's offices, a number of real estate offices, and a newspaper office. Washington functions, in many ways, as the arts center of the County. Several theatrical and musical groups make their home in the Town and regularly present plays, lectures, and musical offerings and are discussed in detail below in Cultural Resources.

Housing:
Housing in the Town of Washington is somewhat unique in that most single-family homes are located in Washington's historic district and are therefore considered significant. The housing type in Washington is predominantly single family. There eight rental units located in the former Washington School House.

Woodville - with aerial photo & graphic inserts
The village of Woodville is located in the southern portion of Rappahannock County, in the Stonewall-Hawthorne District, on Route 522.

Woodville is approximately 11 miles south of the Town of Washington and 14 miles north of Culpeper along Route 522 (formerly Cherry Street). The following, as compiled by Ned and Elisabeth Johnson, is noteworthy of Woodville: The town was possibly named in 1798 for John Woodville, rector of St. Mark's Parish (1794) or because all streets were given tree names. In 1835, the population was 200, and included 4 mercantile stores, 2 taverns, 1 school, 30 dwellings, 1 tanyard, 3 blacksmiths, 1 saddler, 1 boot and shoemaker, 1 cabinetmaker, 1 carpenter-house joiner, 1 tailor, 1 attorney, and 2 physicians. In 1880, there was 1 hotel, 4 merchants, 3 saw mills, 3 doctors, 1 lawyer, 1 Episcopal and 1 Methodist church, and 2 corn and flourmills. In 1929, a major tornado came through Woodville.

See insert for an aerial view of the Woodville area as of Spring 2018

Access
The village of Woodville is accessible by primary Route 522 and secondary Routes 618 and 621. The roads included in this are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522	Hard Surface	20+ feet
618 (West)	Hard Surface	14-20 feet
618 (East)	Hard Surface	14-20 feet
621	All Weather Surface	14-20 feet

Existing Land Uses
Public/Semi-Public:
The village of Woodville contains two churches and three cemeteries.

Commercial and Industrial:
One antique shop is the sole commercial land use in the Woodville area.

Housing:
Woodville's housing stock is composed almost solely of single family and rental units. The majority of these homes are located along Route 522. Several structures have apartments.

Housing

The housing stock of Rappahannock County is one of its most important features. Thus, a description of its characteristics lends considerable insight to the overall social and economic structure of the community and assists in identifying specific problems concerning the need for shelter and a safe living environment. Further, housing characteristics reflect the overall trend and rate of physical and economic growth and development.

Since 1960 the number of housing units in Rappahannock County has steadily increased. In 1960, 1,865 units were reported in the County. This number increased to 3,839 in 2010, more than doubling in the 50-year period. The trend has continued over the most recent decade with housing units estimated at 3,945 in the 2013-2017 5-Year Estimate from the American Community Survey.

Of the 3,945 housing units within the County in 2017, 3,141 or 79.4% were occupied year-round. Details are provided in Table 5.2.

Table 5.2
Total Housing Units 1980-2017

	1980		1990		2000		2010		2017	
	#	%	#	%	#	%	#	%	#	%
Total Housing Units	2,704	100.0	2,964	100.0	3,303	100.0	3,839	100.0	3,945	100.0
Occupied Year 'Round	2,145	79.3	2,496	84	2,788	84.4	3,072	80.0	3,141	79.4
Vacant	466	17.2	468	16	515	15.6	767	20.0	814	20.6
Vacant Year 'Round*	255	9.4	260	8.7	79**	2.4	157**	4.1	115**	2.9
Seasonal Unit	211	7.8	275	9.2	309***	9.4	413***	10.8	531***	13.5
For Migrant Worker					6	0.2	1	0.1	0	0.0
Other					121	3.7	196	5.1	168	4.3

SOURCE: U.S. Census of Housing/ACS 5-Year Estimates for 2017

*****Available for sale or rent, awaiting occupancy, or being held for occasional use.

**Does not include occasional use

***Including occasional use

Since 1960, the percentage of owner-occupied housing units in Rappahannock County has consistently increased. In 1960, 63.4% of the County's occupied units were owned and 36.6% were rented. In 1970, 68% were owned and 32% were rented. By 1980, 70% of Rappahannock County's occupied housing was owned. This was considerably greater than the 1980 overall State of Virginia rate for owner occupied housing of 65.6%. This trend was continued in 1990, when 72% of units were reported as owner-occupied, again higher than the state average of 66%. By 2000, 75% of units were owner occupied, which remained steady at 75.3% in 2010.

In 2017, owner occupied units in Rappahannock County had more persons per unit (2.38) than did renter occupied units which had 2.24. While occupant density is lower in Rappahannock compared with the overall State of Virginia averages, it shares a similar relationship where owner housing, averaging 2.66 persons per unit was larger than renter housing with 2.52 persons per unit.

Displayed in Table 5.3 is the population per occupied unit for Rappahannock County compared with similar data from neighboring localities.

Table 5.3
Family & Living Arrangements

	Rappa-hannock	Orange	Madison	Fauquier	Culpeper
Households, 2017	3,131	13,470	5,107	23,981	16,837
Average Persons per household, 2017	2.34	2.58	2.52	2.84	2.87
Living in same house 1 year ago, percent of persons age 1 year+.	92.8%	87.6%	86.7%	90.1%	87.8%
Language other than English spoken at home, percent of persons age 5 years+.	5.9%	3.6%	3.6%	8.5%	9.9%

Source: U.S. Census Bureau, 2013 – 2017 American Community Survey 5-year Estimates

2017 American Community Survey data indicates that the housing stock of Rappahannock County is relatively old with 69.9% of all units constructed in before 1990.

Substandard housing is of concern in all jurisdictions, both as a measure of social stability and perhaps even more importantly as an indicator of poverty. As is typical of most rural areas, almost all year housing units in Rappahannock County are in a one-unit (single family) structure. Two standards are typically used as determinants of substandard housing: those units lacking some or all plumbing facilities and those units that are overcrowded (1.01 persons per room or more). While these characteristics do not describe the physical condition of housing structures, they are a nationally recognized social measure of an area's housing stock.

Between 1970 and 2017, the number of substandard housing units in Rappahannock County significantly declined, while the percentage of units that lacked all or partial plumbing facilities remained slightly ahead of the state average.

Table 5.4
Substandard Housing Characteristics 1970-2017

(# / %)	1970	1980	1990	2000	2010	2013-2017 5-Year ACS Estimates
Lacking some or all plumbing	780 /40.1	527 /20.2	243/ 8.2	148 /5.3	125 /3.3	20 /0.5
Over-Crowded	187 /12.1	113 /4.4	125/ 4.2	101/ 3.0	-	7/0.2

Source: U.S. Census of Housing, ACS where shown
Over-crowded indicates 1.01 or more occupants per room

Table 5.5
Household Structure - 2017

	Number	%
Family households	**2,154**	**68.8**
Married-couple family	1,785	57.0
Male householder, no wife present	143	4.6
Female householder, no husband present	226	7.2
Nonfamily households	**977**	**31.2**
householder living alone	874	27.9
householder not living alone	2,257	72.1
With related children of householder under 18	726	23.2
With no related children of householder under 18	2,405	76.8
Household size		
1-person household	875	26.6
2-person household	1,285	43.1
3-person household	456	9.6
4-or more-person household	515	20.7
Total households	**3,131**	100

Source: U.S. Census Bureau, 2013 – 2017 American Community Survey 5-year Estimates

Between January 2000 and 2017, 694 new residential building permits were authorized in Rappahannock County. This is substantially fewer permits than were issued in some neighboring counties. Table 5.6 illustrates the trend of residential building permits authorized for Rappahannock County by year from 2000-2018. Table 5.7 indicates the number of building permits issued in 2016 by neighboring localities, each of whom issued far more building permits than Rappahannock County.

Table 5.6
Residential Building Permits 2000 - 2018

Year	#	Year	#
2000	70	**2010**	21
2001	69	**2011**	15
2002	62	**2012**	23
2003	64	**2013**	32
2004	67	**2014**	20
2005	6	**2015**	33
2006	67	**2016**	18
2007	44	**2017**	28
2008	34	**2018**	21
2009	21		

Source: Weldon Cooper/Rappahannock County Building Inspection Department

Table 5.7
Permits Issued by County - 2016

	Rappahannock	Orange	Madison	Fauquier	Culpeper
Number of Permits	18	132	44	325	213

Source: Weldon Cooper

Housing affordability is an important aspect of local land use planning, and the Code of Virginia § 15.2-2223.D requires the plan to "include the designation of areas and implementation of measures for the construction, rehabilitation and maintenance of affordable housing, which is sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated." Taking into account the current and future needs of residents of Rappahannock County, Including the existing housing stock and the provisions of the current Zoning and Subdivision Ordinances relative to family apartments and exceptions for family subdivisions, as well as the current and future needs of PD-9, there are no additional specific areas or measures required for affordable housing.

Rappahannock County's Community Action Partner (CAP), People, Inc., published a Community Needs Assessment for the northern piedmont region (Culpeper, Fauquier, and Rappahannock) in 2018. Within that document, the affordability of housing is discussed based on American Community Survey data, state reports, and a survey performed by People Inc. The report links poverty and housing information in a cohesive context that identifies the significance of households that are housing cost burdened. The People Inc. report suggests that an important statistical threshold to consider a household to be "housing cost burdened" is when they spend 30% or more of their income on housing. The 2017 American Community Survey, five-year estimate (table DP04), indicates 59.9% of household renters in Rappahannock pay more than 30% of their household income on rent. In contrast, the estimates indicate only 32.2% homeowners

with a mortgage, are similarly burdened. Additional housing data is anticipated in the next two-years from a housing study being performed by the Rappahannock-Rapidan Regional Commission. As provided in Chapter 7, the Commission will review the affordable housing situation in the County when the RRRC report is issued.

Historic Sites

Rappahannock County has multiple properties on the Virginia Landmarks Register and the National Register of Historic Places. They include: 1) Mount Salem Baptist Meeting House, 2) Ben Venue, 3) Montpelier, 4) Caledonia Farm, and 5) Flint Hill Baptist Church. Several other structures are in the process of being considered for inclusion. The County does have a number of other historically and architecturally significant structures that contribute to the historical character of the County.

In 2002, the County, in partnership with the Virginia Department of Historic Resources and assisted with significant funding from local donors, conducted an Historic Architectural Properties Survey. Prepared by E.H.T. Traceries, Inc., of Washington, D.C., the report resulting from the survey, issued in May of 2003 documents 166 “reconnaissance-level” and 26 “intensive-level” surveys of historic properties.

The survey resulted in a finding that at least twenty other properties are potentially eligible for listing on these registers, and at least 26 additional properties should be surveyed at the intensive level. Also, it was recommended that 31 previously surveyed properties be resurveyed and assessed of eligibility.

Other recommendations include the creation of rural historic districts to include FT Valley Road, Fodderstack Road, Yancey Road and Wakefield. Traceries suggested that the villages of Peola Mills and Slate Mills be comprehensively surveyed, researched and documented to determine their potential as historic districts. Preliminary Information Forms (PIFs) were prepared by Traceries to determine the eligibility of Laurel Mills, Flint Hill and Woodville and these were reviewed by the Department of Historic resources, which determined that all three were eligible.

Finally, the report recommended placement of a highway marker at Millwood to document the life and career of local blues singer John Jackson.

Community Facilities

Community facilities consist of those services provided by the County government or other governmental agencies to enhance the public's quality of life and general welfare. Because the adequate provision and maintenance of such facilities is important to the continuance of a well-balanced, diverse, and healthy community, identifying their current availability and extent is necessary.

Community facilities can be viewed as including several distinct groups. Among these are educational services, libraries, recreation, protective services, medical services, and public utilities. A description of each follows.

Educational Facilities

Two public schools that are operated by the County serve the citizens of Rappahannock. The Rappahannock County Elementary School is located on a 26-acre site and serves grades kindergarten through seven. The Rappahannock County High School is located on a 19-acre site and serves grades eight through twelve. Both of these schools are located on U. S. Route 211 west of the Town of Washington.

Table 5.8
Rappahannock County Education & Resources

Rappahannock County Education	
Public Schools	
	Rappahannock County High School (capacity 700)
	Rappahannock County Elementary School (capacity 450)
Private Schools	
	Belle Meade Montessori School
	Child Care and Learning Center
	Hearthstone School
	Wakefield County Day School
Public General Education	
	Rappahannock County Library

Source: Local

Currently, enrollment is below capacity in both of the County's public schools. Enrollment has declined sharply since 1970, with small upsurges occurring at unpredictable intervals thereafter. Graph 3.7 shows recent trends and the most recent enrollment total of 845 students. In addition to these public schools, Rappahannock County is served by three private schools located in Rappahannock as shown in Table 5.8. The Wakefield Country Day School, located in Flint Hill, offers classes for pre-school through grade 12. It presently services approximately 150 students. The Child Care and Learning Center, 1-1/2 miles west of Washington, offers pre-school and day-care classes. Approximately 65 children attend this facility. In addition, Belle Meade Montessori School located southeast of Sperryville serves several dozen children through grade 12, while Hearthstone School in Sperryville serves 50 children.

In addition to local private schools, children from Rappahannock County attend private schools located in adjacent or nearby jurisdictions, such as Highland School in Warrenton, Wakefield School in The Plains, Middleburg Academy in Middleburg, St. Luke's School in Culpeper, as well as others farther afield.

The Rappahannock County School Administration reports that there are 58 children currently tracked in home schooling arrangements as of 2018.

One post-secondary education facility, Rapp Center for Education (RappCE), operates in the county in the old Sperryville schoolhouse. RappCE is registered with the State Council of Higher Education for Virginia (SCHEV) as a non-degree granting higher education entity.

Further, several colleges and universities are located within commuting distance of the County. Lord Fairfax Community College in Middletown (Frederick County; with a branch campus in Warrenton) and Germanna Community College in Orange are two-year colleges offering full programs leading to associate degrees. Lord Fairfax also offers a four-year program in conjunction with Old Dominion University. James Madison University, Eastern Mennonite College and Bridgewater College are all four-year colleges located approximately one hour from Rappahannock County near Harrisonburg. Mary Washington College is a four-year liberal arts college approximately one-hour east in Fredericksburg while the University of Virginia, located approximately 45 miles south of the County in Charlottesville, offers a full range of undergraduate and graduate programs. Shenandoah University, located in Winchester an hour from Rappahannock County, offers programs at the baccalaureate, masters, and doctoral levels. It provides courses in general education, a highly regarded music conservatory and theater programs, and extensive offerings in the health professions.

Library

Rappahannock County maintains one public library at a modern 5,000 square foot facility located on U.S. Rt. 211/522 approximately 1/2 mile east of the Town of Washington. As Table 5.9 indicates, it has a total annual circulation as of 2016 was 28,845 volumes, or 3.86 per capita, and serves 2,925 registered borrowers. Of the total book volumes, 75.5% are adult and 24.3% are juvenile.

Table 5.9
Public Library Facilities – Miscellaneous Data

	Population	Total Circulation	Circulation Per Capita
2016	7,470	28,845	3.86
2015	7,457	25,890	3.47
2014	7,410	31,497	4.25
2013	7,381	32,250	4.37
2012	7,066	31,968	4.52
2011	6,925	26,550	3.83

Source: Statistics of Virginia Public Libraries and Institutional Libraries, Virginia State Library

Table 5.10
Public Library Facilities 2011-2016 Expenditures

Fiscal Year	Population	Grand Total Operating Expenditures	Expenditures Per Capita
2016	7,470	$234,917	31.45
2015	7,457	$215,461	28.89
2014	7,410	$206,898	27.92
2013	7,381	$199,163	26.98
2012	7,066	$175,574	24.85
2011	6,925	$176,037	25.42

Source: Statistics of Virginia Public Libraries and Institutional Libraries, Virginia State Library

Recreation

With its abundance of open spaces, streams, rivers and natural areas, Rappahannock County offers numerous recreational opportunities. Primary among these are fishing, hunting, horseback riding, camping, hiking, and canoeing.

Much of the recreation in the County centers on the Shenandoah National Park (SNP). The SNP provides recreational opportunities for residents and tourists. It has about 120 miles of trails within Rappahannock County for hiking. Many trailheads are accessible from secondary roads in Rappahannock County. The entrance to the SNP and Skyline Drive at Thornton Gap off route 211 provides the Rappahannock entrance to the park. Businesses in Rappahannock County benefit from the tourism opportunities of the SNP.

While the County does enjoy these large outdoor recreation areas, it has few community type park areas. The County's primary recreation area of this type is the Rappahannock County Park, administered by the Rappahannock Recreational Facilities Authority, located on Route 211 east of the Town of Washington. This facility includes 2 tennis courts, a full basketball court, volleyball, shuffleboard, cornhole areas, nature trails, playground equipment, a three-hole frisbee golf course, and a shelter with picnic tables, barbecue grills and restrooms. The RCRFA also plans to provide Park access for the disabled and install an accessible walking loop on the Park property. Besides recreation, the Park hosts periodic interpretive events encouraging the public to appreciate the night skies and learn about environmental topics such as invasive species, water pollution, and soil erosion. The Park also sponsors educational outreach activities for the local public and private schools.

The undeveloped, open nature of the landscape in the County offers endless opportunity for outdoor recreation, including riding, hiking, swimming, and canoeing.

Other recreational facilities are available to County residents on a limited basis. These include several baseball and soccer fields (including Stuart Field in Amissville), a gymnasium with four basketball goals and “practice” running track at the Rappahannock

High School; and two baseball fields, two outside basketball goals, and gymnasium with two basketball goals at the elementary school.

Additionally, the local Fire & Rescue Department's Halls often serve as the hubs of a variety of recreational, entertainment, and civic functions. Athletic events, carnivals, dances, craft shows, charity dinners or other events occur with great regularity at each of these facilities.

Natural and Water Resources

Wilderness areas of the SNP compromise 3,670 acres within Rappahannock County. The Wilderness Act, signed into law in 1964, created the National Wilderness Preservation System and recognized wilderness as “an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain.” The Act further defined wilderness as "an area of undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions ..." Designated wilderness is the highest level of conservation protection for federal lands. Only Congress may designate wilderness or change the status of wilderness areas.

The Wilderness Act prohibits permanent roads and commercial enterprises, except commercial services that may provide for recreational or other purposes of the Wilderness Act. Wilderness areas generally do not allow motorized equipment, motor vehicles, mechanical transport, temporary roads, permanent structures or installations. Wilderness areas are to be primarily affected by the forces of nature, though the Wilderness Act does acknowledge the need to provide for human health and safety, protect private property, control insect infestations, and fight fires within the area. Wilderness areas are managed under the direction of the Wilderness Act and agency policy.

It is always useful in any assessment of natural resources to gauge the opinions of the owners and users of the resources, both to measure their awareness for and valuation of the assets. From homes on small lots in the villages, to 25 acre residential homesteads in agricultural zones, to commercial shops and service stations along the highways, to farms and forests on hundreds-of-acres parcels, each individual homeowner, landowner, and land user makes the daily decisions that affect landscaping, storm water management, stream buffer vegetation, animal and crop management, road maintenance, and the myriad other practices that in combination determine the quality and health of their watershed. These practices derive from individual and family history, values, aesthetics, economics, background knowledge, and know-how.

Indicators of water quality and quantity
To assess the quality and quantity of surface water in the 755 miles of streams and 540 acres of ponds in the County, there are a few sources of data, and these provide information regarding water quality in a sample of locations. The sources include the following:

- The Jordan River and the Rappahannock River have been designated “Scenic Rivers” by the Virginia Department of Conservation and Recreation. Seven rivers have been recommended for evaluation. The and x others have been evaluated as qualifying for this designation. See **Map No. 12: Impaired Streams and Scenic Rivers**.
- There are four stream segments that have been designated 303d “Impaired” for excess bacteria by the DEQ. See **Map No. 12: Impaired Streams and Scenic Rivers**.
- Countywide, there are about 12 DEQ ambient monitoring stations, although not all are currently active. See **Map No. 12 Impaired Streams and Scenic Rivers**.
- There are several locations where citizens monitor the macroinvertebrates.
- There are some streams classified by the Virginia Department of Game and Inland Fisheries as cold water or trout streams, and these are within sub watersheds designated by Trout Unlimited as Brook Trout Protection Area. See **Map No. 13: Cold Water Trout Streams**.
- Citizen volunteers have sampled chemical and biological water quality in selected locations as part of special studies at requests of landowners.
- To measure quantity of surface water, there is one USGS streamflow gage, located in Laurel Mills.
- There are no USGS groundwater monitoring stations in the county. The nearest one is in Orange County, near Gordonsville.

Scenic Rivers - Legislatively designated components: Rappahannock from headwaters near Chester Gap to Ferry Farm/Mayfield Bridge (1985), Jordan from Rte. 522 near Flint Hill to confluence with the Rappahannock River (2010), and Hughes from the Shenandoah National Park line to confluence with the Hazel River (2010).

Potential Components - Identified as being worthy of further study: Piney, Covington, Rush, North Branch of Thornton, and Hazel

Qualified Components - Evaluated and found worthy of designation: Thornton River

Notes:
The potential and desirable rivers came from the DCR "2013 Virginia Outdoors Plan" and associated “Virginia Outdoors Plan Mapper” http://www.dcr.virginia.gov/recreational-planning/vop.

Impaired stream segments: what they mean and do not mean.

Segments of the Thornton, Hughes, and Hazel and Rivers in Rappahannock County were designated “303d Impaired” for fecal coliform or ecoli bacteria by the Virginia Department of Environmental Quality for the year 2016.[ii] (See map x: Impaired Streams and Scenic Rivers). The goal of the Clean Water Act is that all streams should be suitable for recreational uses, including swimming and fishing. Fecal coliform and E. coli bacteria are used to indicate the presence of pathogens in streams supporting the recreational use goal. Bacteria in certain segments of the impaired streams exceed the fecal coliform criterion.[iii]

Pollution from both point and nonpoint sources can lead to fecal coliform bacteria contamination of water bodies. Fecal coliform bacteria are found in the intestinal tract of warm-blooded animals; consequently, fecal waste of warm-blooded animals contains fecal coliform. Even though most fecal coliform are not pathogenic, some forms can be harmful to human health and their presence in water indicates recent contamination by fecal material. Because fecal material may contain pathogenic organisms, water bodies with fecal coliform counts may also contain pathogenic organisms. For recreational activities involving contact with water, such as boating and swimming, health risks increase with increasing fecal coliform counts. If the fecal coliform concentration in a water body exceeds state water quality standards, the water body is listed for an exceedance of the state fecal coliform standard for contact recreational uses. Virginia has adopted an Escherichia coli (E. coli) standard for water quality. The concentration of E. coli (a subset of the fecal coliform group) in water is considered to be a better indicator of pathogenic exposure than the concentration of the entire fecal coliform group in the water body.

It is important to understand what these “impaired” designations tell us, and what they do not tell us, about water quality in Rappahannock County’s streams. First, one might infer that streams other than the designated “impaired” streams are NOT impaired, but that is not correct. Volunteers sampled stream waters within the sub watersheds of two “impaired” stream segments and in sub watersheds that are upstream of the impaired stream sub watersheds. They found very high levels of fecal coliform or ecoli bacteria in some of the streams.[iv] Those streams were NOT designated as “impaired” by the state. Therefore, the citizen should not infer that because their stream has not been designated as “impaired” that it is therefore safe to swim or wade or go tubing in the stream.

Secondly, one might infer that since the impaired designation is based only on bacteria levels, that there are not other excessive pollutants in those impaired streams, such as excessive nutrients or suspended solids from erosion and sedimentation. This is also incorrect. There do not exist state standards by which to evaluate nutrients or turbidity in the streams, so therefore we do not have “impaired” designations for those. Similarly, a stream might lack the level of dissolved oxygen needed to support certain fish species, but not be designated as “impaired” under this system.

DEQ Ambient Monitoring Stations Data[v]

DEQ staff in each of the regional offices collects water samples on a routine schedule at more than 1,000 locations across the Commonwealth. These water samples are shipped to a state laboratory for chemical and bacterial tests. The samples are tested for levels of

nutrients, solids, bacteria associated with human and animal wastes, toxic metals, some pesticides and harmful organic compounds.

DEQ's scientists also perform on-the-spot field tests for dissolved oxygen, pH, temperature, salinity, and additional indications of water quality. Samples from the mud at the bottom of lakes and rivers also are tested for the presence of pesticides and other harmful compounds. The DEQ ambient monitoring stations in the County are shown on **Map No. 12: Impaired Streams and Scenic Rivers**.

Citizen Macroinvertebrate Monitoring Stations[vi]
Volunteers trained and certified in the Virginia Save Our Streams (VA SOS) method, monitor macroinvertebrates (tiny critters) in streams. Volunteers in Rappahannock County participate in the Upper Rappahannock Watershed Stream Monitoring Program, led by the Culpeper Soil and Water Conservation District and the John Marshall SWCD (Fauquier County). The result is summarized by an index, in which a score of 0 – 6 is considered “unacceptable” and a score of 7 – 12 is “acceptable” water condition. The higher the score, the healthier the stream. The locations monitored by citizen monitoring are shown on **Map No. 12: Impaired Streams and Scenic Rivers**.

Stream-bottom macroinvertebrates differ in their sensitivity to water pollution. Some stream-bottom macroinvertebrates cannot survive in polluted water. Others can survive or even thrive in polluted water. In a healthy stream, the stream-bottom community will include a variety of pollution-sensitive macroinvertebrates. In an unhealthy stream, there may be only a few types of nonsensitve macroinvertebrates present. Stream-bottom macroinvertebrates provide information about the quality of a stream over long periods of time. It may be difficult to identify stream pollution with water analysis, which can only provide information for the time of sampling. Even the presence of fish may not provide information about a pollution problem because fish can move away to avoid polluted water and then return when conditions improve. However, most stream-bottom macroinvertebrates cannot move to avoid pollution. A macroinvertebrate sample may thus provide information about pollution that is not present at the time of sample collection.

Coldwater Streams and Brook Trout Protection Area

Certain subwatersheds in Rappahannock County are included in the Trout Unlimited Brook Trout Protection area. **Map No. 13: Cold Water Trout Streams**. Brook trout require high water quality in cold water streams surrounded by forest land cover, and to survive a population requires high ability to travel from one small stream to another, unimpeded by obstacles such as culverts. According to Trout Unlimited, “a recent assessment by the Eastern Brook Trout Joint Venture examined conditions from Ohio to Maine to Georgia and determined that brook trout populations in streams and rivers remain undisturbed in less than 5% of their historic sub watersheds. Brook trout are extirpated from 21% of sub watersheds. …Like other salmonids in the char genus, brook trout are intolerant of water pollution and non-native fish, and are classic indicators of water quality and ecosystem integrity … Virginia contains a concentration of protection priorities at existing population strongholds, particularly in portions of the headwaters of the Potomac, Rappahannock and James Rivers.[vii] “.

Special water quality studies
Volunteers have been trained to conduct water quality samples using state-approved procedures and equipment, and RappFLOW has received small grants from state and private agencies for equipment to test chemical and biological indicators of water quality. Special studies were undertaken in the spring of 2005 in the Beaverdam Creek sub watershed and in the summer of 2006 in the Rush River sub watersheds.

Precipitation and Surface Water Flow Measurements
There is one USGS stream flow gage in the County, on Battle Run near Laurel Mills.[viii] One can obtain historical data for this site for analysis of trends over time at the link: http://va.water.usgs.gov/duration_plots/daily/dp01662800.htm

Youth and Elderly

Historically, activities for youth and the elderly have been provided through the County's extensive network of schools, churches, local volunteer Fire Halls and other venues. In addition, the County supports the Rappahannock Athletic Association and Rappahannock Soccer League that provide organized baseball and soccer league play for youngsters. Amenities for youth are also available at the Rappahannock County Park, which is used regularly for educational outdoor experiences and learning events by various community organizations such as Rappahannock Public Schools, private schools, Scouts, 4-H, Child Care Learning Center, Rapp at Home, and the Rappahannock Senior Center. The Pavilion can be reserved up to a year in advance for activities such as church events, family reunions, company picnics, birthday parties and other group events.

The Rappahannock-Rapidan Community Services Board provides services to the County's elderly population through meals-on-wheels and an onsite meal program currently offered at Trinity Episcopal Church in Washington. The recently-restored Scrabble School, located in the southeastern portion of the County. The Scrabble School was a historically African-American "Rosenwald" School, constructed through the financial support of Julius Rosenwald, whose resources as one of the founders of Sears, Roebuck were used to finance the construction of such schools throughout the segregated southern states in the early 20th century. Long closed, the Scrabble school was restored through generous private and public contributions in 2005-2007, and serves both as an African American Heritage Center, documenting the experience of segregation in Rappahannock, and as the Senior Center for Rappahannock County. In addition, the facility serves as event and meeting space.

Additional services are available to seniors through various nonprofits including the Rappahannock Benevolent Fund, Rapp at Home, the Food Pantry, the Amissville Community Foundation, and others.

Fire and Rescue

The County Fire and Rescue Services are provided by seven all volunteer fire and rescue companies. The companies include, Chester Gap, Flint Hill, Amissville, Washington, Castleton, and Sperryville with separate fire and rescue companies. There are 214 volunteers with 155 responders providing emergency fire and rescue services. The increasing demands on volunteers for training, continued certification and, more

demanding administrative requirements are a burden to volunteers. Younger new members are scarce as a result of County demographics and the lack of local employment. These factors may push the system to be supplemented with paid Emergency Medical providers in the coming years.

The Fire and Rescue Association Strategic Plan addresses the Fire and Rescue challenges for the near future to ensure shortcomings will be identified early so responsive emergency services for Rappahannock County Residents can continue. The ability of the fire and rescue companies to meet the needs of citizens and visitors is also impacted by communication challenges that inhibit requests for help in emergencies and coordination of responders. This additional level of difficulty is encountered when considering the terrain of the County, current technology, and other goals of the Comprehensive Plan with respect to protection of viewshed and natural beauty of the County.

Police Protection

The County's police protection is furnished by the Rappahannock County Sheriff's Department. As Table 5.11 indicates, Rappahannock County's crime rate was substantially lower than that for the State in 1990 and 2002. The crime rate per 100,000 has been decreasing, possibly as a result of an increase in police staffing.

Table 5.11
Crime Statistics 1990 - 2012

Crime Statistics	1990	2002	2012
Motor Vehicle Theft	5	0	4
Larceny	54	28	50
Burglary	25	9	11
Aggravated Assault	5	1	3
Robbery	1	1	0
Forcible Rape	2	1	3
Murder & Non-Negligent Manslaughter	0	0	0
Total Crime Index	92	70	-
Crime Rate per 100,000	1,389	1,014	-
Virginia Crime Rate per 100,000	4,441	3,143	2,371

Source: Rappahannock County Sheriff's Office

The County has purchased access to one juvenile detention bed in a regional detention facility in Loudoun County near Leesburg to house juvenile offenders from Rappahannock.

The Rappahannock County jail stopped housing inmates in July 2014 when the newly constructed Rappahannock, Shenandoah, Warren Regional Jail opened. The newly constructed jail can house up to 375 inmates (single occupancy). It is located on Winchester Road, Route 340/522 approximately 3 miles north of Front Royal. The jail contains cells, dormitories to house inmates. It also has support space which includes food service, laundry, intake and release, medical services, recreation and education, central storage, visitation, magistrate, administration, and staff services. It has approximately 149 employees in the building each day covering shifts for the 24-hour facility. Rappahannock currently houses approximately twenty inmates at the facility.

The Sheriff's Office had office space and an updated E911 dispatch area added to the former jail facility in 2012 and this space is expected to meet their needs for the foreseeable future.

Courts & Criminal Justice

The County is part of the 20th Circuit & Judicial Districts of Virginia, partnered with Loudoun and Fauquier Counties in the provision of criminal justice services.

The General District, the Juvenile & Domestic Relations, and Circuit Courts currently utilize the same courtroom, located in the upstairs of the Rappahannock County Courthouse. The General District Court Clerk maintains offices on the first floor of the Courthouse, along with Court Services personnel for the Juvenile & Domestic Relations Court. Maintenance upgrades to the historical courthouse are needed to extend its useful life.

The Clerk of the Rappahannock Circuit Court and other Circuit Court personnel are housed in a separate building located immediately adjacent to the Courthouse, which also serves as the repository for Circuit Court records and all other court records, instruments, etc. Physical improvements to the Circuit Court Clerk's Office relating to waterproofing and preventing mold damage were completed in 2012.

Medical Services

Rappahannock is a part of the Rappahannock-Rapidan Health District that serves Fauquier, Culpeper, Madison, and Orange Counties as well as Rappahannock. The District provides preventative health and diagnostic services, immunization, communicable disease control and environmental health services including issuance of well and septic system permits.

The Health District is also a partner in providing space and support for the Rappahannock Free Clinic to improve health services in the community.

While no hospitals are located within Rappahannock County, three are nearby and serve the citizens of the County. In Front Royal, Warren Memorial Hospital, a part of the Valley Health System of Winchester, has 180 beds. The Fauquier Health System in Warrenton has 97 beds while Culpeper Regional Hospital has 70 beds and Winchester Medical Center has 455 beds. Although none of these community hospitals operates at or near

full capacity, each has upgraded the physical facility and added consumer-oriented services such as women's health care units and ambulatory care services. In hospitals throughout the Commonwealth, there is centralization of services and practices; this trend has resulted in recent affiliations of community hospitals with larger regional medical centers; this has occurred with Warren Memorial Hospital. Similarly, Culpeper Hospital is now involved in a joint venture with the University of Virginia Health System, based in Charlottesville, while Fauquier Health System is now a part of a joint venture with LifePoint, HCA, a national for-profit Hospital system

Located in the Town of Washington is the Rappahannock County Health Department. The services of the health department include treatment and advice on communicable diseases and family planning. In 2002, a satellite clinic of the Fauquier Free Clinic opened for eligible citizens of Rappahannock. The services are offered on the first, third, and fifth Wednesday evenings and include limited acute care and long-term management of chronic disorders.

The County is served by private physician practices including Mountainside Medicine and Valley Health Family Medicine, located on Route 211 between Washington and Sperryville. Citizens also seek medical care from physicians who have privileges with the hospitals noted above. The Fauquier Health System acquired property in the County's General Commercial Overlay District but has not developed facilities heretofore. There are no pharmacies in Rappahannock County, requiring citizens to obtain medical prescriptions from a pharmacy in one of the adjacent localities.

The County has several certified therapists who provide healing arts therapies that are complementary to or alternatives to traditional medicine.

Public Utilities

Public utilities are generally provided by local governments or a public or private corporation under a type of franchise. Such utilities are regulated by government and provide basic essential services or products to the general public.

These utilities are greatly responsible for the present developed form of the County and the form that it might assume in the future. To a large degree, the availability of these services will dictate the extent to which Rappahannock can develop and in which directions growth can occur.

A description of the County's public utilities is presented below in the following areas: public water, public wastewater, electric and gas, and solid waste disposal. **Map No. 14: Public Facilities** shows the approximate locations of these utilities.

Currently, there are no public water systems in Rappahannock County, excepting that which serves the Town of Washington. Water in the villages of Sperryville, Amissville, Flint Hill, Woodville and Chester Gap is supplied by individual wells. Rappahannock Lakes Subdivision, Wakefield Country Day School, and the Rappahannock Elementary and High Schools have "public" water systems that supply the individual sites. These

water systems are generally wells that, due to the institutional nature of the users, are classified as public within Health Department regulations.

The village of Sperryville and the Town of Washington have the County's only public wastewater treatment facilities. The Sperryville system includes 136 on-lot septic tanks with effluent wet well pumps and approximately 28,200 linear feet of low-pressure sewer pipeline. The wastewater treatment plant, which is located on and discharges to the Thornton River, includes two packaged plant treatment units with a 55,000-gallon/day capacity. The Town of Washington's system, currently only serving properties in the Town, consists of both a force main and gravity fed system, has a capacity of 75,000 gallons per day, and serves 92 customers in addition to this public system, a small treatment plant is located at the former Aileen factory in Flint Hill. This facility, when in operation, has an average daily flow of 1,500 gallons per day.

The Rappahannock Electric Cooperative provides electrical service to the residents and commercial establishments within Rappahannock County primarily from substations located near Sperryville, Flint Hill, and Estes, Virginia. First Energy provides 138kV transmission service directly to Rappahannock Electric Cooperative's substation near Sperryville, and Rappahannock Electric Cooperative operates 34.5kV sub-transmission lines to deliver power to its area substations. Rappahannock Electric Cooperative's distribution lines are operated at 12.5kV or 7.2kV and are transformed near individual service points to provide standard service voltages for the County's residential and commercial consumers.

Dominion Energy owns and operates high voltage transmission lines in the northeastern portion of the county. The 250-foot wide right of way traverses approximately thirteen miles and includes two 500kV circuits each of which is supported by a series of 80-tower structures.

Telephone service is provided by both Verizon of Virginia through the Culpeper office and by CenturyLink from their Charlottesville offices. The quality of landline telephone service has been a concerning issue for citizens requiring constant pressure on the utilities to maintain their aging assets.

Piped natural gas is not available in the County. However, liquid propane gas is available from multiple commercial providers in surrounding localities.

Solid Waste Disposal

Rappahannock County purchased an approximately one hundred (100) acre property in 1987 to serve its long-term trash disposal needs. It subsequently constructed and commenced operating a new landfill facility on this site northeast of the village of Amissville on State Rt. 639 in October of 1988, with an initial disposal cell of two and one-half acres. Since that time, an additional cell of one acre was built (1991-92) and a third cell of just over four acres was completed in 1995. A public convenience site for the disposal of household trash is currently located on Rt. 622, Rock Mills Rd., called the Flatwoods Refuse and Recycling Center. At this facility, as well as at the landfill facility itself, residents may take their household trash and recyclables for disposal. The landfill

closed for operations in 2010, and all waste is direct hauled form the convenience site and the former landfill facility to Battle Creek Landfill owned by Page County, Virginia with whom the Rappahannock County has a long term agreement.

Planned Public Capital Improvements

With the closure of the Rappahannock County Jail in July 2014 (due to the opening of the Rappahannock-Shenandoah-Warren Regional Jail) the existing jail has been re-purposed for additional storage and office space for the Sheriff's office. The County Administration office moved in early 2018 to the Visitors Center Located off Route 211 on Library Road. The Board of Supervisors created a Building Committee to review and consider capital needs related to county building infrastructure. That group is working to hire a consulting engineering team to assist with a facilities assessment and space use planning study. The output of this work will inform next steps. Of likely importance is the review of currently leased space for county offices to determine whether it would be beneficial for those office to move into county owned structures. Currently the former County Administrator's building is empty and requires repair before another long-term use is assigned.

The Sherriff's office is currently working with a grant to implement a new 911 dispatch GIS system. A new records management system in the Sheriff's office will further improve efficiency of that office. In addition, the regional public safety radio system that serves Rappahannock, Culpeper, and Fauquier is also in the process of being upgraded.

Lastly, the fleet inventory is being maintained with new vehicles cycling in to replace deteriorating vehicles.

Cultural Resources

It is difficult to overstate the importance of the fine and performing arts in the community. As some of the descriptions of the Villages heretofore recorded will attest, the County has numerous galleries, performance spaces, theatres and related venues. The Rappahannock Association for Arts in the Community (RAAC) and the Theatre at Little Washington anchor the performing arts community in the County seat of Washington, maintaining a year-round performance schedule in spaces they maintain.

The Theatre at Washington, Virginia presents a wide variety of professional concerts and theatrical performances on numerous weekends throughout the year. The Smithsonian at Little Washington classical concert series at the Theatre has included three or four chamber music concerts annually for more than twenty years. The Theatre's range of musical offerings also includes jazz, piano and guitar recitals, country, folk and Gilbert and Sullivan. For the last several years, the Cambridge American Stage Tour, a touring group of students from Cambridge University in England, has performed one of Shakespeare's plays at the Theatre. The Theatre's current schedule is shown on its web site www.TheatreWashingtonVA.com. In addition to its local Rappahannock following, the Theatre attracts to the County many patrons from the surrounding counties, the metropolitan Washington DC area, and beyond. The Theatre also serves as a venue for local civic meetings and events such as the annual Martin Luther King Jr. observance, a Lions Club music contest for school children, and for local candidate debates.

Fine arts have homes in the many galleries, workshops, and retail spaces that exist throughout the community. Certainly, focuses for such activities are Sperryville and Washington, where the arts community has multiple venues existing in concert with retail and even a craft distillery operation.

Transportation

The transportation network of an area has a very definite influence on the physical environment, the arrangement and relationship of land uses, and the value of property. Therefore, as growth decisions are made, it is important that the transportation network be carefully considered.

Primary Highways

Three primary highways that provide good access to major points traverse Rappahannock County. East-west U. S. Route 211 or Lee Highway is a four-lane facility to the Village of Sperryville and connects with Interstate 81 at New Market twenty-four miles to the west and to Washington, DC, sixty-five miles to the northeast. This highway also provides direct access to U. S. Route 29 at Warrenton and Interstate 66 at Gainesville (via Rt. 29).

U. S. Route 522, the Zachary Taylor Highway, crosses the County in a north-south direction. Seven miles to the north it connects with Interstate 66 at Front Royal, and nineteen miles from the County line it connects with Interstate 81 at Middletown, near Winchester. Ten miles to the southeast at Culpeper, this highway connects with both U. S. Routes 15 and 29.

State primary Route 231, the F.T. Valley Road runs from U. S. 522 near Sperryville south to U. S. Route 29 at Madison, Virginia, and then continues onward to Interstate 64 near Charlottesville.

Overall, there is a total of 57 miles of primary roadway within Rappahannock County. This accounts for approximately 21% of the total public road mileage in the County.

Secondary Roadways

The majority of the roadways in Rappahannock County are secondary and provide a link between the County's major roadway network and the rural residential and farm areas. The responsibility for maintaining and servicing these roads falls to the Virginia Department of Transportation.

As of 2016, there were 219 miles of secondary roads in Rappahannock County. Of this total mileage, 179 miles or 82% had a hard or all-weather surface. Approximately 36 miles or 16% of the total mileage had a light surface while 3 miles or approximately 1% were unsurfaced (see Table 5.12). As based on the following criteria:

<u>Hard Surface</u> - generally graded, drained and paved or treated;

All Weather - generally untreated surfaced, but of sufficient stability to ensure all-weather performance;

Light Surface - generally an untreated surface that is of insufficient quality to ensure all-weather performance;

Unsurfaced - generally an unimproved roadway that has not been graded, drained, or surfaced.

Table 5.12
Secondary Roadway Surface Conditions

Year	Hard Surface Miles	All Weather Surface miles	Light Surface miles	Unsurfaced miles	Total Miles
2016	138.17	51.88	26.59	2.75	219.39
1996	111.6	67.76	36.24	2.75	218.35

Source: Virginia Department of Transportation

Traffic Volumes

In 2016 the highest volume of vehicular traffic in the County was on U.S. Route 211 from the Culpeper County line to Route 522 (Massie's Corner). The connecting section of Route 211 was the next busiest section from Massie's Corner to the south end of Business 211. Overall, Route 211 is the heaviest traveled road in the County. The route historically experienced traffic increases between 1981 and the early 1990's, but has since seen a decline with the prevalence of Interstate 66 carrying Shenandoah National Park visitors to the Front Royal entrance to the park rather historical usage of Route 211 to the Thornton Gap entrance. Table 5.13 provides a breakdown of the traffic volumes on the County's primary highways between 1996 and 2016. Overall, the primary routes in the county adequately serve the community and its visitors.

The secondary roadway traffic volumes in Rappahannock County can be described as light with over 50% of the secondary road mileage carrying less than 76 vehicles per day.

Table 5.13
Primary Roadway Traffic Volumes

Route	From	To	Vehicle Per day 1996	Vehicle Per day 2006	Vehicle Per day 2016	% Change since 1996
211	Culpeper County line	Rt. 522 (Massie's Corner)	5,100	6,400	6,000	17.60%
	Rt. 522 (Massie's Corner)	Rt. 211 Business (East of Washington)	5,600	5,800	5,400	-3.57%
	Rt. 211 Business (East of Washington)	Rt. 211 Business (South of Washington)	5,100	5,800	5,400	5.88%
	Rt. 211 Business (South of Washington)	Rt. 522 Sperryville	5,100	4,700	4,700	-7.84%
	US 522 Sperryville	Page County Line; Skyline Drive	2,600	2,400	2,200	-15.38%
231	Rt. 670 near Criglersville *Madison County line	Rt. 522 (South of Sperryville)	1,700	1,400	1,600	-5.88%
522	Rt. 641 Flint Hill	Rt. 211 (Massie's Corner)	2,900	3,400	3,300	13.79%
	Rt. 211 Sperryville	Rt. 231 (South of Sperryville)	3,500	3,700	4,000	14.29%
	Rt. 231 at Sperryville	Rt. 618 at Woodville	2,100	2,000	2,200	4.76%
	Rt.618 at Woodville	Rt. 707 at Boston **Culpeper County line (2002)	3,700	2,000	1,900	-48.60%

Source: Virginia Department of Transportation

Commuting Patterns

An insight of the degree to which the residents of a particular place are dependent on other areas for their employment can be developed from commuting statistics. Generally, increasing out-commuting from an area suggests a lack or imbalance of local employment opportunities.

Between 1970 and 1980, out-commuting from Rappahannock County increased 86.3% from 746 to 1,390 persons, while in-commuting increased 108% from 205 to 427. This results in a total out-commuting increase of 78% from 541 in 1970 to 963 in 1980. According to the 2012-2016 American Community Survey 5-year estimates, in 2016, 43.4% of citizens over the age of 16 years worked within Rappahannock County, while 51.5% worked outside of the county (but within Virginia) and 5.1% worked outside of the

state. The average travel time to work was reported as 38.1 minutes in 2016 compared with 35.1 minutes in 2010.

The most popular places citizens are commuting to are; Fauquier, Culpeper, Fairfax, Prince William, Warren, Loudoun, Henrico, Richmond, Frederick, and Chesterfield. There are however many people who commute to Rappahannock from; Culpeper, Warren, Fauquier, Madison, Page, Loudoun, Frederick, Fairfax, Prince William, and Rockingham.

Although there are no public airports in Rappahannock County, several are located nearby. Major airline service is available at both Dulles International Airport, located approximately 70 miles from the County and Reagan National Airport in Arlington. Several other small airports are located nearby. These include the Winchester Airport, Front Royal-Warren Airport, Luray Caverns Airport, Manassas Airport, and Culpeper Municipal Airport. A few private landing strips exist in the County providing local citizens with opportunities to use air transportation.

There are no railroad lines that serve Rappahannock County. Freight rail service is provided to Front Royal by the Southern Railroad and the Norfolk Southern Railroad Companies. Norfolk Southern also serves Luray. A main line of the Southern Railroad traverses Culpeper County. Freight service, as well as limited Amtrak Passenger service, is available in Washington, D.C. and Culpeper. Rappahannock County citizens can access regional commuter train service through the Virginia Railway Express (VRE). The train platform is located at Broad Run (near Manassas); there is a large commuter car lot available also.

While no long-distance bus lines serve Rappahannock County, commercial bus service is available in Culpeper and Warrenton.

Existing Regulatory Framework

Zoning and Subdivision Ordinances

Together, the zoning and subdivision ordinances (set forth as chapters within the Rappahannock County Code) guide the patterns of future development of the watersheds, in terms of where development takes place, the types and densities of uses that will be made of the land, and protections for the watershed including both soil and water. By zoning land so that commercial and residential areas are focused around existing villages and specifying the detailed types of uses of the land that can take place in those areas, these ordinances provide stronger protections for the watersheds of Rappahannock County than one might see in ordinances in many other Virginia counties. The Board of Supervisors adopted a down-zoning of approximately 90 percent of the County's land area in 1986 (down-zoning resulted in substantially less density allowed than had theretofore been the case), thereafter allowing a maximum development density of one dwelling unit per 25 acres in Agricultural zones, and even less dense development in Conservation zones which are characterized by steep slopes. The Comprehensive Planning justification for these changes was based on natural resource conservation imperatives.

Chapter 170: Zoning establishes two types of resource preservation zoning districts — conservation districts and agricultural districts.

> "The Conservation District contains those mountains which are environmentally sensitive, have physical limitations and contain much of the County's timber resources. The regulations are designed with emphasis on the conservation of those areas to minimize the potential adverse environmental impact while providing for compatible very low-density residential uses.
>
> "The Agriculture District generally contains those areas where agriculture and forestry are the predominant uses or where significant agricultural lands or larger lot farmette type residential developments exist. The regulations are designed to assist in the protection and preservation of the agricultural and forestry uses and to mitigate land use conflicts between agricultural uses and appropriately limited residential development."

Chapter 170 establishes the uses and the maximum densities (dwelling units/acres) that are permitted in Conservation and Agricultural districts. On average, a new dwelling in either district requires 25 acres (§170-37 and §147-37).

From the watershed perspective, one disadvantage of the provision for 25-acre parcel size subdivision provision is the extended network of private roads that results when many individual landowners construct new private roads, especially on sloping land. Potentially offsetting this pattern is the exception allowed for Clustering. "Lot size requirements may be conditionally reduced by the Zoning Administrator in cases where subdivision clustering is required to meet open space requirements and/or can be proven to significantly reduce overall imperviousness of the subdivision by reducing street, private road and/or driveway lengths." [ix]

Article V: Overlay District Regulations provides for Floodplain Districts at §170-45 and Stream Protection Overlay districts at §170-45.2.

Chapter 147: Subdivision of Land establishes subdivision standards and procedures that support the intent of Chapter 170: Zoning. For example, §147-17 prohibits residential occupancy in new subdivision developments in floodplains. Chapter 147 also establishes requirements for public and private water and sewer.

Stream Buffer Protection Overlay (SPO) District of the Zoning Ordinance

Chapter 170-45.2 of the Zoning Ordinance describes the Stream Protection Overlay District. The purpose of the Stream Protection Overlay District is to apply special regulations to the riparian buffer area no less than 100 feet wide on each side of perennial streams and wetlands adjacent to those streams. The purpose of the buffer is to retard runoff, prevent erosion, filter nonpoint source pollution from runoff, moderate stream temperature, and provide for the ecological integrity of stream corridors and networks. The SPO provides protection for streams in future development in areas zoned residential or commercial.

Erosion & Sediment Control Ordinance
The Erosion & Sediment Control Ordinance, Chapter 98, requires a land-disturbing permit and associated plans and practices for the clearing, filling, excavating, grading, transporting of land or for any combination thereof for land disturbance over 10,000 square feet, with certain exceptions. The purpose of this ordinance is to prevent degradation of properties, stream channels, waters, and other natural resources of Rappahannock County by establishing requirements for the control of soil erosion, sediment deposition and nonagricultural runoff and by establishing procedures whereby these requirements shall be administered and enforced. This article is authorized by the Code of Virginia, Title 62.1, Chapter 3.1, Article 2.4, known as the "Virginia Erosion and Sediment Control Law."

Biosolids Ordinance
The Biosolids Ordinance, Chapter 68, was adopted by the Board of Supervisors on July 2, 2007. Biosolids (“sludge”) are the solids that are extracted from wastewater treatment systems, such as municipal wastewater treatment plants. Depending upon the source of the biosolids and the level of pre-treatment of them, they can contain varying levels of undesirable materials, such as heavy metals. Because these biosolids contain high levels of nutrients such as nitrogen and phosphorous, they are used as fertilizer.

The Commonwealth does not allow localities to ban the application of biosolids. The Ordinance recognizes the importance of our waters being part of the Chesapeake Bay watershed, and uses the State authority provided in the Chesapeake Bay Act and the Virginia Water Quality Improvement Act as partial legal justification for protective measures. Some of the major protective measures incorporated into the Ordinance include:

- A 100-foot vegetative buffer must be established and maintained along any stream on land where biosolids are applied. A Nutrient Management Plan (NMP) must be developed to ensure that the biosolids application does not exceed the ability of the land and crops to properly utilize the nutrients from the biosolids. No biosolids can be applied on land that drains to a DEQ 303(d) designated impaired water. No land application can be applied upstream of a Fish Consumption Advisory that is in the County or in a County that is immediately downstream.
- No application can occur immediately before or during extreme weather events such as storms, snowfalls, or high winds, nor can they be applied on saturated or snow-covered ground. No application is allowed within 400 yards of a water supply source, such as a potable water supply well.
- All biosolids applications must be registered with the County Administrator, where they will become part of the permanent record in the County Land Records. This can protect future purchasers of the land.
- There are provisions for testing the content of the biosolids before application by a qualified Sludge Monitor to ensure that the content does

not include excessive amounts of bacteria and that all stipulations of the Ordinance are being met.

Enforcement of the Ordinance requires the services of a qualified Sludge Monitor; this position has not as yet been filled, nor has there as yet been an application to land-apply sludge.

Stormwater Management Ordinance

The Stormwater Management Ordinance (SWM) was adopted by the Board of Supervisors on January 7, 2008 and then repealed on May 5, 2014 after the Code of Virginia changed allowing localities to "opt-out" of local delivery of storm water regulation. The Department of Environmental Quality reviews applications for and issues permits for storm water management where disturbance exceeds one acre in area.

Land use taxation

Virginia Code (Title 58.1: Taxation; Chapter 32: Real Property Tax, Article 4: Special Assessment for Land Preservation) establishes four special classifications of real estate — agricultural use, horticultural use, forest use, and open-space use — and authorizes local governments to adopt ordinances that provide for use value assessment and taxation in accordance with Title 58.1.

"Use value taxation" means the land is taxed based on the way it is used, not on its market value. For example, land that is farmed is typically taxed at about one third of its fair market value. Landowners must demonstrate that they meet the requirements of land use taxation each year.

About 80 percent of privately held land in Rappahannock County is in land use taxation, although the County utilizes only the first three classifications of land discussed above in its program. The benefit to watersheds is to protect the land and water from subdivision of farmland and the resulting development, population increase, forest fragmentation, added roads and other impervious surfaces, and other potential threats.

Landowners who opt out of land use taxation pay five years in "roll-back" taxes — the difference between land use value and market value for the previous five years.

Agricultural and Forestal Districts

In 2018 there was 22,128 acres of land in the County within Agricultural/Forestal Districts. An Agricultural and Forestal District is a State-approved method by which Rappahannock landowners can set aside land for ten-year periods in return for tax benefits and protections against government interventions. The county currently includes ten Districts. The program was initiated in 1980 and has remained relatively stable in acres protected since 1990.

Land owners who participate in the program cite as its strongest features 1) greatly reduced local tax rates, 2) a guarantee against changes in the land-use taxation program, and 3) the opportunity to contribute to the scenic and rural character of the county. The

weakest feature from the landowner standpoint is the requirement to tie up land for ten-year periods (i.e. no construction, subdivision, sale of the property).

The public purposes of an Agricultural and Forestal District are to:

- "conserve and protect, and to encourage the development of, the Commonwealth's agricultural and forestal lands for the production of food and other agricultural and forestal products..." and
- "to conserve and protect agricultural and forestal lands as valued natural and ecological resources which provide essential open space for clean air sheds, watershed protection, wildlife habitat, as well as for aesthetic purposes" (Section 15.2-4301 Code of Virginia)

Farmland Preservation Program

The Farmland Preservation Program is a County purchase-of-development-rights (PDR) program that pays working farmers not to develop or subdivide their land. The County places the development rights under a conservation easement. The farmer retains all other rights, including the right to continue farming and sell the land, but not to develop the land through subdivision.

The program provides the same protections for watersheds as conservation easements but provides added incentives to the farm landowner to put the land in easement.

Funding for the program was provided by the dedication of "rollback" taxes through June of 2016 at which time the Board of Supervisors untethered that source of funding from the program. Now funding is provided by the General Fund as directed by the Board of Supervisors as well as private contributions, almost entirely from the Rappahannock County Conservation Alliance, which holds an annual fundraiser for that purpose. County funds are matched by the state to a maximum that varies from year to year.

Septic System Cost Sharing Program

Through a grant from the VA Water Quality Improvement Fund, the Culpeper Soil and Water Conservation District (CWSCD) provides cost sharing for septic system improvements. This includes inspection, cleanout, repair, and replacement of system components. All systems located within the five-county CWSCD service area that includes Rappahannock County are eligible.

References and Resources:

i The survey instrument and report on the results is available on the RappFLOW web site; www.rappflow.org/PDF/highlights_upperthornton_survey_july2006.pdf

ii See: http://www.rrregion.org/pdf/publications/environment/tmdl/development/TMDL%20Development%20-%20Rappahannock%20River%20Basin%202008.pdf

iii For a non-shellfish water body to be in compliance with Virginia's revised bacteria standards (as published in the Virginia Register Volume 18, Issue 20) the following criteria shall apply to protect primary contact recreational uses (VADEQ, 2000): • **Interim Fecal Coliform Standard**: Fecal coliform bacteria shall not exceed a geometric mean of 200 fecal coliform bacteria per 100 mL of water for two or more samples over a calendar month nor shall more than 10% of the total samples taken during any calendar month exceed 400 fecal coliform bacteria per 100 mL of water. • **Escherichia coli Standard**: E. coli bacteria concentrations for freshwater shall not exceed a geometric mean of 126 counts per 100 mL for two or more samples taken during any calendar month and shall not exceed an instantaneous single sample maximum of 235 cfu/100mL. During an assessment period, conventional parameters such as bacteria require at least two exceedances of the standard, and an exceedance of greater than 10.5% of the total samples before a water is listed as impaired (VADEQ Assessment Guidance, 2006). If these conditions are met, the stream segment associated with that station is classified as impaired and a TMDL must be developed and implemented to bring the segment into compliance with the water quality standard. The original impairment designation to Hughes River (VAN-E03R-01), Hazel River (VAN-E04R-01), Rush River (VAN-E05R-01), Hazel River (60076), Rappahannock River (VAN-E01R-03), Rappahannock River (VAN-E08R-04), Rappahannock River (60081), Craig Run (VAN-E08R-03), Browns Run (VAN-E08R-03), and Marsh Run (VAN-E08R-01) was based on exceedances of an earlier fecal coliform standard that included a numeric single sample maximum.

iv. See: http://www.rappflow.org/upper-thornton-watershed/index.html for the Pilot Study of Beaverdam Creek sub watershed. See: http://www.rappflow.org/PDF/LowerRush_subwatershed_analysis_sept06.pdf for the Lower Rush study.

v. Historical data from these stations can be accessed at: https://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityMonitoring.aspx

vi Virginia DEQ Citizen Monitoring Statewide Activities webpage. See: https://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityMonitoring/CitizenMonitoring/StatewideActivities.aspx

vii See: http://rappflow.org/trout-streams for discussion of the study, evaluation criteria for assessing brook trout habitat, and other scientific studies of trout.

viii Data available at http://waterdata.usgs.gov/nwis/uv?01662800

CHAPTER SIX

COMPREHENSIVE LAND USE PLAN GOALS, PRINCIPLES, AND POLICIES

This Comprehensive Plan ("the Plan"), as an exercise of the authority granted by the State to regulate land use development under section 15.2-2223 of the Code of Virginia, establishes guidance for the future physical development of the County by the adoption of goals, principles, and policies.

Central to Rappahannock County's definition of itself are the Blue Ridge Mountains and foothills, among the oldest on earth, and its largely pristine and intact ecosystem. For over a billion years, the Blue Ridge and rolling Piedmont regions have been weathered by the forces of nature, resulting today in a uniquely beautiful and ecologically valuable landscape. Rappahannock County houses the headwaters of numerous streams that drain into the Rappahannock River and ultimately the Chesapeake Bay. As a relatively preserved rural setting in a region increasingly impacted by human development, the forests and agricultural vistas of Rappahannock County provide irreplaceable quality of life values for Rappahannock residents, as well as space for food production and buffers against air and water pollution that benefit both Rappahannock's citizens and adjacent urbanized areas.

Rappahannock County is also an important partner and neighbor to the Shenandoah National Park. As a gateway community to this national resource, the bucolic landscapes and charming villages of Rappahannock County greatly enhance the experience of visitors to the Shenandoah National Park. Likewise, the proximity to miles of Federally-protected forests, waterfalls, awe-inspiring views, and trails lend to Rappahannock County unusually exceptional tourist opportunities that can help to support the natural scenic and historic attributes of our County.

Rappahannock's agricultural, forestry and tourism industries are critically dependent upon the careful nurturing of these natural resources, the scenic landscapes, agricultural lands, crests and ridges (hereinafter defined per Code of Virginia § 15.2-2295.1), and surface and ground waters.

To acknowledge this unique status, we the people of Rappahannock declare it to be a "scenic county" and all goals, principles, and policies will reflect and devolve from this fundamental recognition.

These are the cornerstones upon which all of Rappahannock County's land use planning shall stand.

A scenic county shall mean:

- One in which preservation and enhancement of the natural and historic beauty and cultural value of the countryside shall be respected as being of foremost importance; and,

- One in which conditions for a sustainable agricultural and tourism economy not be dependent upon traditionally defined growth patterns as have developed in jurisdictions nearby as a consequence of the growth of the Washington, D.C. metropolitan area.

Goals

1. Preserve the overall viewshed of the county in its unspoiled, natural setting, which gives it special character and identity.
2. Preserve and protect the mountains and scenic ridgetops with special concern for crests and ridges.
3. Preserve and protect ground and surface waters.
4. Preserve and enhance rural, agricultural, and open spaces.
5. Preserve air quality and limit noise and light pollution.
6. Protect the natural, scenic, and historic resources, thus ensuring a high quality of life for our citizens.
7. Encourage and maintain a viable rural agricultural and tourism-based economy compatible with the county's size and character.
8. Provide for the economical delivery of necessary public services consistent with these goals.
9. Acknowledge and maintain our sense of community and encourage the spirit of volunteerism whenever possible.
10. Discourage the conversion of land from agricultural uses to other uses that challenges our ability to stabilize and balance our local tax base.
11. Define the future boundaries of growth in village and commercial areas necessary to preserve our community character and to maintain the balance that exists today, while considering the needs of senior citizens and the disabled and the need for affordable housing options.
12. Provide for the strongest possible employment base for the residents of Rappahannock, with a diversified economy compatible with the County's current base of agriculture and tourism.
13. Support the creation of public and private venues and services that serve the youth and families of Rappahannock.

Principles

Principle 1

Encourage agricultural operations and ensure the preservation of the productivity, availability, and use of agricultural lands for continued production of agricultural products.

Policies

1. Promote and protect agriculture as the primary use of land in rural areas and inform the public of the benefits of this policy.

2. Encourage renewal and diversification of horticultural, viticultural, aquacultural, and forestal activities including Agri-Tourism efforts such as wineries, while mitigating negative noise, visual, traffic, and other impacts on adjacent agricultural and residential activities.

3. Support the development of markets for Rappahannock County agricultural products, and cooperate with individual agricultural interests within the county, and establish partnerships or other working relationships with counties in the area that have similar development programs.

4. Encourage traditional and innovative soil and water conservation practices among the county's farmers in order to preserve productive soils, to control erosion and siltation, to protect water resources, and to control non-native invasive plant and animal species.

5. Make land use decisions and plans that approve conversion of important farmland to non-farm use only if overriding public need exists to change that land use, existing development areas cannot accommodate a proposed new use, or extenuating circumstances can be shown to exist.

6. To the maximum extent possible, separate or buffer incompatible land uses from agricultural lands and operations.

7. Discourage expansion of public utilities and other growth-inducing public facilities into agricultural areas to minimize development pressures on those areas except as indicated Principle 7 Policy 9.

8. Encourage all government agencies (at local, state and federal levels) to consider the impacts that their programs and projects may have on maintaining the availability and use of agricultural land to eliminate or minimize adverse impacts.

9. Approve the creation of voluntary agricultural and forestal districts that meet the provisions and procedures of the Code of Virginia, 1950, (as amended), approve the renewal of agricultural and forestal districts created, and establish a means for the continuing addition of lands to

them. Continue the Agricultural and Forestal Districts Advisory Committee for this purpose.

10. Encourage and facilitate the donations of open-space easements on land that is identified as having important scenic, historic, open-space, conservation, agricultural, woodland and wildlife-habitat qualities.

11. Upon requests for rezoning land for more intensive use, encourage the placement of open-space easements on important scenic, recreational, historic, open-space, conservation, wooded, water resource, agricultural, and wildlife-habitat lands as a reciprocal benefit.

12. Support use-value taxation and other fiscal programs that help to alleviate economic burdens on owners of agricultural, horticultural, and forested land and continue land use planning to protect agricultural land from escalating assessments.

Principle 2

Preserve the natural, historic, recreational, and scenic values, along with the healthy economy of the forested land and resource preservation districts so as to ensure that development in those areas remains in conformance with their natural beauty and environmental limitations.

Policies

1. Promote multiple uses of forested land and land not in productive agricultural use, including outdoor recreation, wildlife habitats, educational uses, watershed protection, and timber harvesting.

2. Ensure that development on forestland and in resource preservation districts are compatible with the environmental features of that land and does not diminish natural and scenic values and discourage ridgetop construction and deforestation of county ridges and crests.

3. Ensure that timber harvesting and road construction is conducted such that sedimentation of streams and other environment impacts, including invasion by exotic and non-native plant species, are minimized.

4. Promote the placement of conservation easements on land adjoining or visible from Shenandoah National Park and the Rappahannock River and other designated scenic rivers and roads and seek to protect the scenic value of those lands when land use decisions and plans are made.

5. Encourage natural and non-motorized activities such as hiking and biking trails on public property.

6. Enable the quiet and peaceful enjoyment of nature and our natural landscape.

7. Ensure timely removal and/or cleanup of obsolete or unused facilities and infrastructure.

<u>Principle 3</u>

Protect natural resources, including soil, water, air, view-sheds, scenery, night skies, national park access, and fragile ecosystems.

Policies

1. Minimize the environmental impacts of activities directly or indirectly related to new construction, including removal of vegetation, cutting of trees, altering of water sources and courses for existing users, drainageways, grading, and filling, are minimized.

2. Prohibit land uses if they have significant adverse environmental impacts that cannot be eliminated or minimized.

3. Limit creation of new impervious surfaces, recognizing their negative impacts on stormwater runoff, flooding, water quality, and destruction of wildlife habitat.

4. Continue to implement the County's Erosion and Sedimentation Control Ordinance including Responsible Land Disturber (RLD) certification requirements. The County should consider allowing Low Impact Development (LID) or other alternate E & S measures, where appropriate.

5. Ensure the best management and prevention measures for potential groundwater pollution sources, including but not limited to septic tanks; wells; underground petroleum or other storage tanks; mining; drilling; waste disposal; and unregulated dumping of trash, debris, construction material, and contaminated soil.

6. Participate where appropriate and cooperate with federal and state groundwater protection programs.

7. In flood hazard areas without public sewage disposal systems, encourage low-density growth, to minimize loss of life and property damage.

8. Enforce floodplain management regulations so that property owners continue to be eligible for inexpensive flood insurance under the National Flood Insurance Program.

9. Support the conduct of an inventory to identify environmentally significant lands and viewsheds, and the establishment of a countywide groundwater-monitoring network including but not limited to availability and quality.

10. Recognize the County's rivers as one of the most significant environmental resources and provide for their protection by:

    a) Encouraging greenbelts along the rivers.

    b) Informing the public of the benefits and values of preserving the river corridor.

    c) Controlling development in areas adjacent to the rivers that may include development restrictions such as setbacks, buffers, or other means, or limitations on water withdrawals and/or effluent discharges.

    d) Managing stormwater flows to both protect the public health and safety but also to preserve existing stream channels and prevent erosion.

11. Consider carefully the impact of experimental agricultural practices that could negatively impact natural resources.

12. To the extent permitted by applicable Federal and State laws and regulations, restrict the potential adverse affects of telecommunications infrastructure including (i) broadband and wireless facilities; and (ii) wind, solar, and other renewable energy or public utilities facilities on prime agricultural land, sensitive or scenic landscapes, ridges and crests as defined in Code of Virginia § 15.2-2295.1, and viewsheds from designated scenic highways, designated historic sites, and other areas important to maintaining a rural county atmosphere.

13. Ensure the ridges, crests, and ridgetops in Rappahannock County remain scenic in nature as a valuable resource to be preserved.

Principle 4

Encourage residential development in designated growth areas and recognize the importance of affordable housing.

Policies

1. Encourage residential development within the designated village areas, infill development to be preferred; to allow for the broadest possible range of housing opportunities, styles, configurations, and affordability within the context of a rural, agricultural community.
2. Discourage residential strip development along public roadways that may create traffic hazards and detract from the overall scenic value of the County.
3. Encourage and foster the sense of community within designated village areas through support of community facilities and events.
4. Consider affordable housing needs, particularly for seniors and the disabled, and explore opportunities for Aging in Place.

Principle 5

Preserve and protect the historic character and features of the County.

Policies

1. Encourage and support the establishment of historic districts to protect recognized properties of historic value and to retain the integrity of historic neighborhoods.
2. Encourage and support the establishment of rural historic districts to protect recognized properties of historic value that are located outside village and town settings that include historic buildings and the extensive surrounding historic landscapes and estate grounds.
3. Ensure that proposed development is compatible with the architectural attributes of nearby or adjoining historic properties, neighborhoods, and districts.
4. Promote the placement of scenic easements particularly (but not limited to) on lands associated with historic buildings and sites and those on the

National Register of Historic Places, and seek to protect the scenic value of those lands when land use decisions and plans are made.

5. Promote the placement of scenic easements on lands adjoining (but not limited to) roads designated as Scenic Highways or Virginia Byways and seek to protect the scenic and recreational value of those lands when land use decisions and plans are made.

6. Provide design incentives and land use controls for new development along gateways to historic areas so that such new development will be compatible and harmonious with the historic area.

7. Support compatible signage and other recognition of important historical sites.

8. Encourage property owners to, whenever possible, protect and preserve the stone walls and rock fences of the County.

Principle 6

Ensure that the provision of capital improvements including schools, parks, roads, and sewer and water service enhances and is harmonious with the quality and character of rural and open-space environments.

Policies

1. Provide adequate educational and recreational facilities for the citizens of Rappahannock.

2. Prohibit the extension of capital improvements into agricultural areas when such improvements would lead to increased development pressures.

3. Maintain the existing character of the primary and secondary road system and upgrade it only for safety purposes or traffic increases planned by County authorities. “White line” lane delineation on secondary roads should be avoided where it would tend to increase travel speeds to the detriment of public safety.

4. Discourage package sewage treatment plants for residential uses except for existing dwelling units when septic systems fail and the Health Department establishes that repair of the existing system or installation of a conventional septic system is not possible.

5. As technologies evolve, the County should investigate alternatives to conventional sewage treatment systems, both to service existing

development and to serve such growth as may occur. Such alternate technologies should be “low-technology” in nature, and appropriate to a rural environment where monitoring, testing and operational costs are minimal.

6. Take into account the fiscal impacts of necessary capital improvements such as roads, schools, and water and sewer service when land use decisions and plans are made.

7. The Comprehensive Plan shall be considered by all County governmental agencies, commissions, boards, and authorities in their policy deliberations when related to physical development activities.

8. In consideration of all planned transportation projects, consideration should be given towards accommodation of agricultural use lanes and alternative means of transportation including bicycles and horses.

Principle 7

Promote only economic growth that assists in maintaining our existing balance and is compatible with the environmental quality and rural character and does not adversely affect active farm operations, forestry operations, residential neighborhoods, the tourist industry, and the County's fiscal stability.

Policies

1. Maintain an agricultural employment base necessary to ensure the continued role of agriculture as an important economic activity in the County.

2. Support a modest diversification of employment opportunities in Rappahannock County. Such opportunities should reflect employment base needs within the County.

3. Direct commercial and non-agricultural industry and business into existing commercial centers or designated growth areas.

4. Allow certain commercial development that by its nature must be located in sparsely populated areas, near agricultural operations, near existing neighborhoods, or on specific sites to be so located if:

   a) The development enhances the agricultural and tourist industries of the County.

   b) The development does not impede traffic flow on roads and at intersections.

c) The development is not and does not initiate strip development, which creates traffic hazards and inefficient land use, but can be clustered now or in the future with other development served by the controlled access and frontage roads.

d) The development does not overburden the County's water resources, and does not require the transfer of water resources from other jurisdictions to sustain the development.

e) The development does not overburden waste disposal.

f) The development is adequately served by and does not overburden emergency services.

g) The development does not create environmental degradations to soils, air, groundwater, or surface water.

5. Approve requests for redevelopment of existing commercial and industrial facilities only if it causes minimal detrimental effects to the area subject to the provisions of the County Zoning Ordinance.

6. Ensure that standards for site plans and planned development of business and industry include landscaping requirements and encourage conditional zoning proffers for such development to include landscaping plans that minimize outdoor light pollution.

7. Investigate and initiate ways of promoting tourism as a suitable and appropriate form of economic development and ensure that tourism-oriented development is compatible with the rural and agricultural character of the county.

   a) Preserve accesses and trailheads into the Shenandoah National Park.

   b) Maintain and expand Civil War trail, artisan trail, and Virginia bird and wildlife trail and preserve Native American, Civil War, and other historical sites.

   c) Recognize the value of specific tourism initiatives such as agritourism, astrotourism, and the arts.

   d) Encourage low-impact tourist housing.

8. Consider the planning goals, principles, and policies of the Town of Washington and, where feasible, undertake joint or coordinated action with the town government and independent county authorities.

9. Encourage development of broadband communication state-of-the-art technologies as essential components of the 21st century economy. The means to provide for their expansion to serve all the County’s residents,

businesses, schools, government, volunteer, and public safety organizations should be in concert with the principles articulated and policies enumerated herein including design/siting of facilities.

10. Recognize the value of business establishments in designated growth areas to support essential local needs consistent with the scenic and agricultural values of our rural County.

Principle 8

Protect the County's fiscal capabilities.

Policies

1. Evaluate all private proposals and public utility land use plans to ensure that associated public service costs are minimized.
2. Develop a means of consistent, objective, and accurate fiscal impact analysis for use in such evaluations.
3. Ensure that new development pay for the maximum amount allowed under state law of the public service costs created by that development.

Principle 9

Encourage citizen involvement in the planning process.

Policies

1. Require that all meetings involving preparing, revising, or amending the Comprehensive Plan be publicly advertised and open to the public.
2. Provide opportunity for citizens to participate in all phases of the planning process.
3. Ensure that information pertaining to the Plan and the planning process are available to citizens in an understandable form.
4. Encourage all interested citizens to review and comment on the Comprehensive Plan and implementing ordinances, such as Zoning and Subdivision regulations, and to attend zoning public hearings.

Principle 10

Promote the philosophy that land is a finite resource and not a commodity, that all citizens are stewards of the land, and that the use and quality of the land are of prime importance to each present and future citizen as well as to the Commonwealth, the Nation, and indeed, the world.

Policies

1. Promote government and private organization sponsored forums, seminars, and workshops to provide information and education about land, its uses and preservation.
2. Encourage public and private schools to include offerings on environmental subjects in the respective curriculum.
3. Encourage the use of services provided by government agencies and private organizations for proper land use and water resource preservation.
4. Recognize landowners' practices that protect and preserve the land.
5. Be mindful of adjacent jurisdictions' land use planning and designated growth area efforts and work to manage collaboratively common resources, such as river valleys, mountain ranges, migratory patterns, and other elements of the "Green Infrastructure."

CHAPTER SEVEN

FUTURE LAND USE PLAN

Rappahannock is a scenic, rural county dominated by agricultural and forest uses. The natural beauty and recreational opportunities provided by the Blue Ridge Mountains and Shenandoah National Park exert a strong influence on life in the County, as well as attracting tourists and visitors. A Comprehensive Plan is designed to guide the future actions of a community. It presents a vision for the future, with long-range goals and objectives for all activities that affect the local government.

The challenge for all communities is to plan for future growth in areas around existing towns, villages, and transportation nodes where the provision of services is most economical. By so planning, the County will provide for growth so that it will not come at the sacrifice of natural resources, or be the cause of significant change in the character of the County. The Comprehensive Plan is a tool that can be used by the County's elected officials, staff, and citizens to evaluate various land use options and development proposals for compatibility, suitability, as well as sustainability.

This Comprehensive Plan contains Future Land Use Maps, as well as a Commercial Area Plan in Appendix A. The Rappahannock Commercial Area Plan was prepared to encourage better design and enhance the visual experience within the designated commercial area. While the vast majority of the County is zoned to Resource Preservation Districts, Residential, Commercial and Industrial Zoning Districts are also present. The character of particular zoning districts is to be determined by regulatory means as amendments to district provisions.

The preceding chapters provide background information on the physical characteristics of the County and its demographics as well as land use goals, principles, and policies. This following information helps to explain the foundation upon which the goals and policies were formulated.

Natural Resources

Rappahannock County's primary natural resources include the Blue Ridge Mountains, extensive woodland and open space and abundant supplies of clean water and air. In order to protect and maintain areas of critical environmental importance, the County should create conservation areas designed to: 1) protect upland stream valleys, ridgetops, and mountain slopes especially above 25% grade, from excessive development; 2) protect watersheds in order to preserve water resources, water quality and prevent flooding and soil erosion through appropriate land use controls; 3) protect floodplain areas by maintaining 100-year flood boundaries on the Hazel, Hughes, Thornton, North Fork Thornton, Piney, Rush, Covington, Jordan and Rappahannock Rivers; 4) protect the fringe area and viewshed of the Shenandoah National Park from excessive development; and, 5) protect the headwaters of the Rappahannock River both for its own sake and due to its importance as a vital regional water supply.

Agriculture

The maintenance and protection of agricultural activities in Rappahannock County is critical from both an economic and land use standpoint. The continued economic viability of farming operations in the County is generally a private enterprise function since few opportunities exist for local government to support or contribute to actual farm operations. Consequently, the number of active farms, the amount of acreage, and the number of persons employed in agriculture are factors beyond the influence of the County. However, some policies are available, namely, land use value taxation and agricultural and forestal districts, both of which offer a financial savings to farm operators. Also, County awareness of the array of federal and state programs available to individual farms can be of some help, as can the County's support for the various scenic and conservation easement programs.

The County should actively engage with landowners to foster and support the use of Best Management Practices in agricultural and forest activities.

Local government influence over local land use decisions is somewhat more extensive. The location of prime and important farmlands in the County and their general protection is of importance to the horticultural and agricultural base of the County. An attempt should be made to preserve those large tracts of agriculturally productive lands by encouraging residential, commercial, or public facilities to be located in the County's major villages or settlements.

Economic Development

The future location of commercial, industrial, or related activities in Rappahannock County should be encouraged since they will be of great importance to the overall future pattern of development of the County. Since economic activities are largely influenced by transportation access, adequate utilities and available sites, the location of these activities in and around village areas is important. Commercial strip development along the major highways and between the villages should be restricted. Only one area in the County, Lee Highwa*y* between the old Toll House and the intersection of Route 622 (Rock Mills Road), is experiencing a mixture of commercial, public facility and residential development. This area has been specifically designated for development in the Commercial Area Plan (Appendix A) as well as through designation of a Commercial Area Overlay District (GCO) in the Rappahannock County Zoning Ordinance (170-45.1). The area should be used as a focal point for future economic and public facility activities provided that adequate road access is maintained.

Residential Development

The rate of population growth, the trend towards smaller households and the desire for replacement and vacation or weekend housing will mean an increasing demand for housing construction or rehabilitation in the future. Where this housing growth occurs will be, in part, a result of incentives and regulations set forth by the County and Town of Washington.

A review of the existing land use patterns indicates that residential development is either of low or medium density as permitted by the current zoning ordinance with low density

development (one dwelling unit per 25 acres) in agricultural and conservation districts; and medium density development (one dwelling unit per 1 to 5 acres) proximal to village areas in Residential Village, Residential, and Rural Residential zoning districts. When considering areas of future building suitability as well as public utilities and transportation, low-density residential development continues to be appropriate in the conservation and agricultural areas, while medium density development should continue to be focused in or around the County's villages.

In view of the County's increasing demographic shift towards the elderly, and the likelihood that this trend will continue and intensify in the years ahead, consideration should be given towards allowing a broader array of housing opportunities. While holding to the principle that residential development at higher densities should be kept in the village areas, some opportunities for higher density, perhaps age-restricted housing seems appropriate for these areas.

As noted in Chapter 5, Rappahannock County is home to five primary villages: Amissville, Chester Gap, Flint Hill, Sperryville and Woodville. These villages are not incorporated and have no formal boundaries, but represent development patterns that have taken place over the history of the county. Current zoning in and around villages generally reflects current and historical uses of the land. As noted in the preceding chapters, this Plan envisions and encourages that future residential and commercial development be focused in or around the major villages.

To give greater clarity to this objective in light of the lack of administrative village boundaries, the Future Land Use Maps reflect the current zoning in village areas. **Map Nos. 15a – 15e** show the contiguous areas of each village that are zoned residential village [RV], commercial village [CV], and commercial highway [HC] (and in the Village of Sperryville, the areas zoned residential [R-2] and residential rural [RR-5] that are contiguous to and/or actually or potentially served by the existing sewer treatment lines). The designated areas in these zoning categories provide for anticipated development and envisioned growth during the next five to ten years without rezoning any additional areas outside the existing villages or the expansion of existing residential and commercial zones in the existing villages.

Historic Preservation

The unique cultural and historical nature of Rappahannock County is an asset that should be maintained and encouraged. Presently, the County and Town have multiple properties and two areas recorded as significant on the Virginia Landmarks Register and National Register of Historic Places. A cooperative research program between the County and Town, the Virginia Department of Historic Resources and local groups has resulted in a historic properties survey. Additional effort should be expended to explore the creation of rural historic districts, and in pursuit of the findings contained in that survey report.

Community Facilities

The location of future community facility or utility expansion is of utmost importance to the future development of the County because community facilities and utilities are essentially generators of other activities. With the exception of the County's two schools and the

Castleton Volunteer Fire and Rescue Department, community facilities are located in the County's villages, with most of these facilities in the Town of Washington.

A review of future community facility requirements is listed below:

1. **School Board**: School enrollment has declined over the last decade and school capacity is no longer a concern. Significant investments in facility maintenance such as replacement roofing, HVAC upgrades, and other retrofitting measures will be required by both schools over the coming five years.

2. **Water and Sewer Authority**: The Sperryville Sewage Treatment Plant System was completed in January 1987. No significant capital projects are anticipated over the coming five years.

3. **Library Board**: The library facility is aging and in need of maintenance. The community has generously supported the library and its capital needs through dedicated contributions. The Library Board will be reviewing capital needs and potential expansion over the next five years.

4. **Solid Waste Disposal**: Solid waste is disposed of in the Battle Creek Landfill in Page County. The public currently may dispose of household trash either at the Amissville refuse and recycling center (located at the site of the old landfill), or at the Flatwoods refuse and recycling center, located just off Rock Mills Rd. approximately 1/2 mile south of its intersection with Lee Highway. Both facilities offer convenient drop-off of household trash and recyclables. Major investment in new equipment to support a long term agreement with Page County for solid waste and recyclable disposal/collection occurred in 2020 and additional significant investment is not anticipated in the next ten years.

5. **Fire and Rescue Services**: Fire and rescue services are currently provided on an all-volunteer basis by seven separate locally based private non-profit organizations. Five provide fire and rescue services, one just fire service, and one only rescue service. The full-service companies are Washington Volunteer Fire and Rescue, Flint Hill Volunteer Fire and Rescue, Castleton Volunteer Fire and Rescue, Amissville Volunteer Fire and Rescue, and Chester Gap Volunteer Fire and Rescue. The latter two companies have a substantial amount of their service areas in the neighboring counties of Culpeper and Warren, respectively. Sperryville Fire Company and Sperryville Rescue are separate and distinct organizations. While not, strictly speaking, public facilities, the volunteer fire and rescue companies provide essential local public safety services and are publicly supported by a real- and personal property-based Fire Levy paid by taxpayers in the County. Declining levels of volunteer support make the prospect of paid responders,

particularly for emergency rescue services, a very real prospect in the coming years. As such, the Rappahannock County Volunteer Fire and Rescue Association recently formed a committee to review the potential need to transition at some time to paid EMS providers. The committee recommended a phased transition using both volunteers and paid EMS providers, only when volunteers are unable to meet the needs of the community. This government function will likely be an area requiring investment over the next five years.

6. **General Government Office Space**: Currently, County government is housed in a mix of owned and leased space. The County purchased property to the rear of its existing holdings. The county will be engaging design professionals to assist with a review of existing facility conditions and necessary improvements as well as to review office space usage efficiency. The output of this review will drive future alternatives (lease vs. purchase).

Transportation Plan

Roadway improvements planned in the future by the Virginia Department of Transportation are found in the statewide six-year improvement plan (SYIP) approved by the Commonwealth Transportation Board (CTB) including improvements for the secondary roadway system within the secondary six-year plan (SSYP) approved by the Board of Supervisors. The capacity and condition of the primary road system in the county is adequate to handle the population guided by this comprehensive plan, and as such, **there are no primary road construction projects identified in the County for the coming five years. Generally, minor secondary road projects are proposed. The completion of many of these smaller road projects is of great importance to the County.**

The rural character of many of the County's secondary roads is important to the County. Roads that lack hard surfaces, or which are narrow, or which meander over the landscape, or all three, are integral parts of the fabric of the County; they are valued by both residents and the tourism element of the local economy. Secondary road improvements in the County should be evaluated with regard to this sensibility, always recognizing, however, the needs of public safety and convenience. In many instances, citizens prefer gravel roads as a means of traffic calming and congruence with nature.

Some villages, expressing concern about through traffic, may be appropriate locations to consider various means of "traffic calming" that may include rumble strips, roundabouts, pavement elevation changes, differently colored crosswalks, through truck restrictions, etc.

Broadband Communications Plan

The Board of Supervisors appointed a Broadband Committee in 2016 which comprehensively assessed County broadband needs and is developing short- and

medium-term strategies for future broadband services. The desired end state for Rappahannock County broadband county is:

> To achieve 95% affordable digital subscriber line (DSL), fiber optic (fiber) or equivalent broadband transmission service of 2019 Federal Communications Commission minimum standards of no less than 25 Mbps consistent download speed and 3 Mbps consistent upload speed, with low latency, for Rappahannock County residents, businesses, schools, government, and volunteer organizations. The strategies will incorporate system architecture adequate to expand broadband delivery service to 100 Mbps download speed by year 2030 to ensure future growth needs for business development, education, tele-working, healthcare, public safety, and home entertainment, personal data, and voice communication.

The broadband strategies should be implemented consistent with the policies and principles expressed elsewhere in this Comprehensive Plan.

Wireless/Telecommunications Plan

Telecommunications play an important role in the quality of life for residents of the County. In the rural areas in particular there has been a shift in recent years toward greater demand from residents for access to wireless communication and also to ensure reliable law enforcement, fire and rescue department communications throughout the County. However, wireless transmission structures have potential negative impacts – primarily visual.

The value of expanding wireless facilities in the County should be balanced with protection of Rappahannock County's landscape, vistas, scenic viewsheds and its historic heritage that contribute in a significant way to the quality of life and are cited by residents and visitors alike in noting their attraction to Rappahannock County. As valuable as telecommunications may be, so too is the protection of our County's natural scenic and historic resources (including but not limited to sites designated in the Virginia Landmarks Register and the National Register of Historic Places). Our proximity to the Shenandoah National Park is an additional unique and valuable characteristic of Rappahannock County, and as a gateway community to this National resource, we recognize the importance of preserving the viewsheds that attract tourists and related businesses to both the Park and to Rappahannock County.

The purpose of this Plan is to establish a policy approach that accommodates access to competitive telecommunications services for law enforcement, fire and rescue services, businesses, residents and visitors while protecting Rappahannock County's unique resources. This policy approach must be consistent with the permissible regulatory framework established by the federal laws and regulations that have increasingly eroded the County's ability to regulate telecommunication facilities.

The Federal Telecommunications Act of 1996 ("FTA") preserves the zoning authority of Rappahannock County to regulate the placement, construction and modification of personal wireless service facilities. Under the FTA, authority to regulate siting and construction of telecommunications towers are subject to certain limitations, *see* 47

U.S.C. § 332(c)(7)(B). These limitations include prohibitions against discriminating among wireless service providers and against banning personal wireless services altogether; requirements that local governments act on permit applications within a reasonable period of time and to deny applications only in writing and only when supported by substantial evidence contained in a written record. Federal Law also prohibits local governments from taking into consideration the environmental effects of radio frequency emissions. Moratoriums on approval of wireless service facilities are also prohibited.

In addition to Federal law and regulations, the Code of Virginia also limits the extent to which localities can regulate wireless facilities through their zoning ordinances. Current State law limits when a locality may disapprove a proposed location or installation for "small cell facilities" and restricts the regulatory options for certain other wireless facilities and wireless support structures.

Federal and state regulations that restrict the locality's ability to regulate commercial wireless telecommunications structures and facilities are ever-changing. It is critical that the County stay abreast of the federal regulations and update our local regulations to maintain compliance as needed and to update this Comprehensive Plan in a timely fashion to reflect changes in the applicable regulatory scheme.

The following principles are intended to guide the County, the public and wireless service providers in addressing reasonable and feasible siting and design options to otherwise highly visible personal wireless facilities. No wireless communication facilities (other than "small cell" facilities as defined by State law) should be permitted in Rappahannock County except by Special Exception permit issued by the Board of Supervisors after consideration and recommendations from the Planning Commission. When reviewing such applications, the Commission and Board of Supervisors should apply the following goals and policies to each application consistent with applicable federal and state law and regulations:

- All applications should include a section detailing what consideration the applicant gave to other alternatives, including alternative sites and why and how the specific site proposed in the application was selected. If appropriate, the County should employ outside consulting and review services with expertise in telecommunications to assist in evaluating whether more desirable alternatives are viable in specific situations and to ensure that all facilities are properly designed and constructed for safety.
- Co-locate wireless communications facilities whenever feasible, provided that it has no or negligible adverse visual impact by placing new antennas on existing telecommunications towers. Utilizing existing towers reduces the need for additional new towers, minimizing new visual, aesthetic and public safety impacts and effects upon the natural environment created by the construction of new towers. Local Regulations need to assure that new collocations do not diminish the

concealed nature of concealed towers, or make non-concealed towers more obtrusive than they already are.

- The County has seen few, if any, proposals to locate antennas on buildings. The low heights of most buildings in the County diminish opportunities for this approach. However, in cases where an opportunity may exist — in a church steeple, as part of an existing barn or silo, or even on taller buildings — due consideration should be given to placement of antennas in such locations.

- Concealed facilities are those designed to blend unobtrusively with the surrounding landscape and are mandated in locations adjacent to or visible from Scenic Byways designated as such by VDOT (**See Map No. 16**), on or near ridges or crests, and on or visible from historic resources currently designated (or which may hereafter be designated) as such by the Virginia Department of Historic Resources (**See Map No. 17**). The key to a concealed facility strategy is to ensure that the specific design of each facility is appropriate for its immediate surroundings consistent with the following principles:

  a. Obscure or blend the views of proposed wireless communications facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible so that the facility is more or less invisible or disguised as something other than a wireless tower.

  b. Design, site, and/or landscape to eliminate impacts on the character of the area to the maximum extent possible. Proposed wireless communications facilities should be located near or within areas of mature vegetation and trees that effectively screen or provide an appropriate setting and backdrop for the proposed structure so that when viewed in context, perspective views, relative topography, and other factors, eliminate or mitigate the visual presence and prominence of the facilities.

  c. Disguise and camouflage so as to be of a bulk, mass, and height typical of and similar to the feature selected. Taking into consideration the mass, scale, location and detailed design treatment of proposed facilities to assure the design blends harmoniously with its surroundings.

  d. Use other new and existing structures and vegetation of comparable form and style to establish a grouping that complements camouflaged facilities and supports their design, location, and appearance. In the County's significant wooded areas, an appropriate design might be a tree pole. Silo towers would be appropriate for many rural landscapes provided they

are designed with a scale, mass and detail consistent with working silos found in the County.

- Non-concealed wireless facilities should be allowed only as a last-resort in those areas that are not adjacent to or visible from Scenic Byways or within proximity to VDHR designated historic resources, and only after a showing by the applicant that more desirable "concealed facility" approaches are not technically feasible or impossible. Unless such a showing is made, proposed wireless telecommunication facilities should be designed so as to disguise or camouflage their appearance by simulating man-made structures and natural features (such as flagpoles, silos, and trees) that are typically found in the surrounding areas and blend with the setting.
- Applicants should be required to demonstrate that any proposed site for new wireless communications facilities will ensure the protection of, and provides the least visual impact on, adjacent residential areas, the Shenandoah National Park, roads designated by VDOT as Scenic Byways, historically or sensitive scenic viewsheds and other cultural resources. The views of and vistas from these locations should not be impaired or diminished by the placement of wireless communications facilities, and the feasibility of alternate less intrusive sites should be considered. In determining whether or not to approve or deny an application, the Commission and Governing Body should analyze the potential impacts from other vantage points in the area to determining whether or not the proposed site provides the best opportunity to minimize its visual impact on the area near the proposed site.
- Applicants should be required to demonstrate that the overall height of new wireless communications facilities is no greater than necessary to allow for future co-location on the facility based on its service area requirements, while ensuring that visibility principles in this section are followed. When new wireless support structures, co-locations and/or technologies are necessary to meet the service area requirements, ensure that the height and mass of any appropriate co-location on the wireless communications facility is compatible with the surrounding area and mitigates the visual impact of the facility on the surrounding area to the greatest extent practicable.
- Design, site, and/or landscape of ground facilities around proposed wireless communications facilities to minimize impacts on the character of the neighborhood and surrounding properties. Applicants should be required to demonstrate the appropriateness of the design through facility schematics and plans which detail the type, location, height, and material of the proposed structures and their relationship to other structures on the property and surrounding areas. To ensure protection

of vegetative screening, applications should include tree conservation plans by a certified arborist, and/or obtain tree-preservation easements from surrounding properties.

- Proposed wireless communications facilities should avoid areas of environmental sensitivity, such as steep slopes, floodplains, wetlands, and resource protection overlay areas.
- All applications should include a decommissioning plan to remove the facilities if and when they reach the end of their useful life, are discontinued in use for a period of one year or more, or otherwise become obsolete. The decommissioning of the facilities should be guaranteed by certified funds, cash escrow, bond, letter of credit, or parent guarantee, in an amount based upon an estimate of a professional engineer licensed in the Commonwealth. Since the useful life of these facilities could be 25 to 35 years, the County should condition approval on agreement of the Applicant that the amount of such guarantee shall be recomputed every five (5) years to ensure that it is sufficient. The required guarantee should contain an inflation clause.

Table 7.1
Scenic Byways in Rappahannock County

Route No.	Location	Description	CTB Designation Date
231	Madison, Orange, and Rappahannock Counties	From Route 33 at Gordonsville in Orange County to Route 687 north of Pratts in Madison County and from Route 687 at the South Corporate Limits of Madison to Route 522 south of Sperryville in Rappahannock County	Aug 18, 1988
522	Rappahannock and Culpeper Counties	From the intersection with Route 15 (Main Street) to the intersection with Route 635	April 4, 2000
606	Rappahannock County	From Route 628 southwest of Flint Hill to Route 641 southwest of Flint Hill	May 17, 1990
628	Rappahannock County	From the North Corporate Limits of Washington to Route 606 southwest of Flint Hill	May 17, 1990
641	Rappahannock County	From Route 606 southwest of Flint Hill to Route 522 south of Flint Hill	May 17, 1990
647	Rappahannock County	From Route 522 south of Flint Hill to Route 637 near the Fauquier County Line	May 17, 1990
729	Rappahannock County	From Route 211 to Route 618	Feb 19, 2014
729	Rappahannock County	Richmond Road from the intersection with Route 522 to the intersection with Route 211	July 16, 2009
Designated by VDOT Commonwealth Transportation Board as of Feb. 3, 2020			

Renewable Energy Operations

Virginia Code § 67-103 [Role of local governments in achieving objectives of the Commonwealth Energy Policy] requires that any local ordinance addressing the siting of renewable energy facilities that generate electricity from wind or solar resources should be (i) consistent with the provisions of the Commonwealth Energy Policy, (ii) provide reasonable criteria to be addressed in the siting of any renewable energy facility that generates electricity from wind and solar resources; (iii) provide for the protection of the locality in a manner consistent with the goals of the Commonwealth to promote the generation of energy from wind and solar resources; and (iv) include provisions establishing reasonable requirements upon the siting of any such renewable energy facility, including provisions limiting noise, requiring buffer areas and setbacks, and addressing generation facility decommissioning.

While solar panels as a supplemental source of power have long been in use for residential and farm operations, recent developments in the industry have seen the expansion of photovoltaic energy generation facilities appearing in rural areas. While the wind energy industry has grown rapidly across the United States, there are not yet any constructed commercial wind farms in Virginia. The current design of utility-scale wind energy infrastructure tends to locate significant structures along ridges or crests which has a significant impact on the rural viewsheds, especially if they are located on or along ridges or crests as they often tend to be. This impact is not considered compatible with the County's goals of preserving its rural character and protecting scenic vistas.

Typically, "utility scale" generation facilities are 5MW. As large-scale renewable energy "farms" become more common, the County should amend the Zoning Ordinance to ensure that any renewable energy projects (other than those designed primarily for production of energy consumed on the tract or parcel where located) do not detract from the rural character or damage scenic vistas of the county consistent with the Goals set forth elsewhere in this Plan specifically including, without limitation, Principle 2, Policy 2 and Principle 3, Policy 13.

As the renewable energy industry expands, the County should continue its policy of ensuring that these uses do not detract from the basic agricultural character and tourist economy of its rural lands, especially where such facilities would impact the County's natural scenic beauty or would be visible from designated Scenic Byways (**Map No. 16**) and/or historic resources (including but not limited to sites designated in the Virginia Landmarks Register and the National Register of Historic Places) (**Map No. 17**), and taking into account the County's proximity to the Shenandoah National Park.

To the maximum extent permitted by applicable Federal or State law, all renewable energy generating facilities should be permitted only in accordance with policies set forth herein. Rappahannock County's Zoning Ordinance – enacted before renewable energy technologies were available – including its definitions of "generation facilities" should be updated on a priority basis to reflect the following principles and standards:

1. Roof-mounted solar facilities or those designed primarily for production of energy consumed on the tract or parcel where located or otherwise

exempted from local regulation by § Code 15.2-2288.7 or other applicable provisions of law should be permitted by right in all districts.

2. Regulated renewable energy generating facilities (those not designed primarily for production of energy consumed on the tract or parcel) should be allowed only by Special Use permit or depending on size, by Special Exception permit, with appropriate limitations to protect properties adjoining or within sight distance of such facilities.

3. The Zoning Ordinance should take into account maximum height, size and location of all regulated renewable energy generating facilities in relation to existing electric transmission lines, and should include measures designed to mitigate the impact of visibility of proposed facilities from designated Scenic Byways, the Shenandoah National Park and and/or historic resources, and to protect wetlands, floodplain, steep slopes and areas of prime agricultural soils.

4. Ordinance amendments should include appropriate provisions for decommissioning of the renewable energy facilities once a project has reached the end of its useful life becomes obsolete or is abandoned for a period of more than one year to the maximum extent provided by Virginia Code § 15.2-2241.2.

Affordable Housing Designations and Measures

The Code of Virginia § 15.2-2223.D requires that the Plan “include the designation of areas and implementation of measures for the construction, rehabilitation and maintenance of affordable housing, which is sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated.” The Planning Commission intends to revisit this requirement after the Rappahannock-Rapidan Regional Commission completes a regional housing study within the next two years.

CHAPTER EIGHT

IMPLEMENTATION

For the principles, policies and concepts presented in this Rappahannock County Comprehensive Plan ("Plan") to be realized, they must be implemented through a strong and effective set of County ordinances and programs. The Rappahannock County Board of Supervisors, Planning Commission, and Board of Zoning Appeals provide the leadership necessary for development, implementation, and enforcement of such programs, including through decisions on proposed zoning amendments, rezoning applications, applications for Special Exception and Special Use Permits, and related land use matters. Public participation should be encouraged and appropriate steps taken to ensure that the Plan is clearly understood by the County's public and private sector.

Zoning

Zoning is the legal method authorized by the Code of Virginia Section 15.2-2200 that divides an area into various districts and regulates the use, size, shape, and bulk of development on the land. Zoning is an important tool because it is used to control land uses within areas by allowing certain activities and building while phasing out non-conforming uses. Zoning is the most important tool for determining land uses in the County, and the future land use pattern that this Plan establishes must therefore be reflected in the Zoning Ordinance.

The Board of Supervisors adopted the current Rappahannock County Zoning Ordinance in December 1986. This Ordinance shall be revised to reflect current development trends in the County while maintaining a well-coordinated relationship to the current amendments to the goals, principles, and policies articulated in Chapter 6 and the Future Land Use Plan in Chapter 7 of this Plan.

For example, evolving trends in selected land uses (e.g., short-term tourist rentals, utility scale solar and wind energy generation, posting of signs and public art, event venues) will necessitate updates to the Ordinance. All applications for zoning changes, special exceptions, and special permits involving individual parcels should also be carefully considered to ensure that the goals, principles, and policies of this Plan are not undermined or altered in a piecemeal fashion.

Subdivision

The Subdivision Ordinance regulates the division of land into buildable lots. Such regulations assure that new developments are properly designed and constructed with regard to streets, lots, utilities, and drainage systems. It provides quality control of subdivided land, with the objective of protecting the public from inferior development by ensuring that accessibility, arrangement, public use, construction, and physical characteristics of any new subdivisions are not contrary to the principles of the Plan and the Zoning Ordinance.

Because the Subdivision Ordinance provides for orderly growth and development, it is an essential complement to the Comprehensive Plan and the Zoning Ordinance. A comprehensive review of the County's Subdivision Ordinance was completed in 1987. Review and updating of the County Subdivision Ordinance should be a priority item for the County to ensure that it reflects current trends, and remains effective in directing and managing land uses in accordance with the goals, principles and policies and Future Land Use Plan articulated in Chapters 6 and 7 of this Plan.

Land Use Assessment

Title 58.1, Section 3230, et. seq., of the Code of Virginia authorized localities to adopt a taxing system on agricultural, forestry, horticultural, and open space and recreation land based upon their use value rather than full market value. This law also includes a rollback tax payment when land is changed to other purposes. Such a system of taxation is used by the County to protect the agricultural sector from rising taxes created from development pressures.

Agricultural and Forestal Districts

The creation of agricultural and forestal districts is authorized by the Code of Virginia Title 15.2, Section 4400, et. seq. Such districts are established to protect agricultural and forestal lands from the encroachment of development. An Agricultural and Forestal District is initiated by eligible landowners and must include a minimum of 200 acres. Such a proposed district is first reviewed by an Advisory Committee appointed by the Board of Supervisors and must ultimately be approved by the County Board of Supervisors. The general affect that designation as an Agricultural and Forestal District has on the land includes:

- use-value taxation is available to qualifying land lying within such a district;
- powers of local government over the area are restrained;
- Government and public service corporation acquisition of land and interests in land becomes subject to limitation;
- expenditures of public funds for non-farm related purposes are subject to restraints;
- special assessment and tax levies are restricted.

Creation of agricultural and forestal districts in accordance with the Plan can enhance the County's agricultural base and serve to guide development to preferred locations, and should be encouraged.

Open Space Easements

Open space easements are mechanisms for protecting the vital natural resources of the County without the necessity of obtaining fee simple interest in real property. By deeding an open space easement, a property owner limits the use of the property in perpetuity. An approved public body takes possession of that easement, and assumes responsibility

for protecting it in perpetuity. Under the provisions of the Open Space Land Act, Section 10.1-1700 et. seq., Code of Virginia, public bodies are authorized to acquire or designate property for use as open space land.

The Virginia Outdoors Foundation is the primary public body that accepts open space easements, and currently holds easements on 31,885 acres of land in Rappahannock County. In total there are 255 properties comprising 33,634.94 acres in conservation easement in Rappahannock County, which is 19.67% of county land area.

Open space easements help to preserve valuable agricultural, horticultural, and scenic land in the County and should be actively encouraged. The acceptance of open space easements is also an integral part of ensuring the perpetual maintenance of open space, which should be encouraged under the County's Zoning and Subdivision Ordinances.

Continuing Planning

The Plan presents the County with a reference for making various land use decisions. The Plan should not be considered as a rigid framework for planning but rather should be amended and changed as circumstances in the County dictate. Thus, the Plan should be continuously reviewed with amendments made, when necessary, to maintain conformity with the stated goals and objectives and related public facility planning.

More specifically, consideration of additional changes to the plan may be called for as:

1. New information on land use and demographic changes/trends becomes available;
2. Amendments to the Zoning or other ordinances highlight the need for changes to the Plan;
3. Changes to State law suggest a need for new land use planning considerations;
4. Technology improvements raise substantial land use issues not previously considered by the Plan; or
5. Changes in development trends, the local economy or other unforeseen factors make amending the goals, policies or principles of the Plan desirable.

Code of Virginia 15.2-2230 requires local Planning Commissions to review their comprehensive plan at least once every 5 years to determine whether it is advisable to amend the plan. Where any of the above factors arise, Rappahannock County may find a more frequent review to be appropriate. As resources allow, the County should consider an annual review of the Plan, particularly the goals and recommendations in Chapter 6 and Future Land Use Plan in Chapter 7, to ensure that both short and long-term recommendations are appropriate and achievable.

APPENDIX A

COMMERCIAL AREA PLAN

Introduction

Background

To achieve the goals, policies, and standards outlined by the Rappahannock County Comprehensive Plan of 1989, the Rappahannock County Board of Supervisors authorized a study to examine the establishment within the County of a designated commercial area overlay zoning district at a site comprised of parcels with full or partial commercial zoning. The physical character of this overlay zoning district was to be determined in part by regulatory means as amendments to the present commercial district provisions of the Rappahannock County Zoning Ordinance, and partially through the application of design guidelines for reviewing site development and new construction proposals within the designated area. Rappahannock County retained Land and Community Associates (LCA) in March 1990 to complete this project, the Rappahannock Commercial Area Plan.

The following goals, principles, and policies outlined in Chapter 6 of the Rappahannock County Comprehensive Plan, 1989, were considered in the preparation of the Rappahannock Commercial Area Plan:

Goals

- To preserve and enhance the rural and open space character of unincorporated areas;
- To protect both the natural and the developed environment and thus ensure the quality of life of our citizens;
- To encourage and maintain a viable rural and agricultural economy compatible with the County's size and character; and
- To provide for the economical delivery of necessary public services consistent with these goals.

Principles

- Protection of natural resources, including soil, water, air, scenery, and fragile ecosystems;
- Preserve and protect the historic character and features of the County;
- Allowance for economic growth that is compatible with the environmental quality and rural character and does not adversely affect active farm operations, forestry operations, residential neighborhoods, the tourist industry, and the County's fiscal stability;
- Protect the County's fiscal capabilities;

- Encourage citizen involvement in the planning process; and
- Promote the philosophy that land is a finite resource and not a commodity; that all citizens are stewards of the land; and that the use, quality, and area of the land are of prime importance to each present and future citizen.

Purpose

The Rappahannock Commercial Area Plan was prepared to encourage better design and enhance the visual experience within the designated commercial area, and to protect the County's valuable cultural and natural resources. Increasing awareness among the development community, citizens, and County officials of such characteristics as site organization, building height, massing and scale, construction materials, and the pedestrian environment, can result in the enhancement of the architecture and site development of the County's commercial areas.

The intent of the Rappahannock Commercial Area Plan is not to restrict innovation, imagination, or variety, but rather to promote design principles that provide a better sense of transition from and balance with the intrinsic characteristics of non-commercial areas. The purpose of this document is to provide a framework for Commercial Area Overlay Zoning District and to make developers and property owners within the designated Rappahannock Commercial Area familiar with the planning and design issues that affect the resources, quality of life and appearance of the designated Rappahannock Commercial Area and environs.

Study Area and Scope

The designated Rappahannock Commercial Area is a site consisting of mostly open and gently sloping land located 1.5 miles west of Washington, and 2.5 miles east of Sperryville. The site includes areas north and south of U.S. Route 211/522. The old Toll House and Ginger Hill border the site to the east, Little Jenkins Mountain to the north, and State Route 622 (Shade Road) and Rappahannock County High School to the west. The specific limits of the study area were established by the County and follow current tax map parcel property lines and public rights-of-way.

Map No. 18: Commercial Area Plan shows the designated Rappahannock Commercial Area Plan.

Other Relevant Documents

Additional information relating to development within the defined commercial area can be found in other documents adopted by Rappahannock County. These documents are available from the County Administrator's office:

- Rappahannock County Code, Chapter 170 “Zoning,” Article V “Overlay District Regulations,” Section 170-45.1 “General Commercial Overlay District (GCO).”
- Real Estate Atlas of Rappahannock County, Virginia

There may be additional documents and regulations that apply to individual sites or buildings. The County Administrator's office can assist in the identification of these items.

Inventory And Analysis

Land Use and Existing Conditions

Prior to the development of recommended zoning amendments and design guidelines since incorporated into the Zoning Chapter of the Rappahannock County Code, Land & Community Associates (LCA) prepared an inventory and analysis for every parcel within the study area; rather, it identified and documented key existing conditions of both the natural and built environments.

Using available materials provided by Rappahannock County and state agencies, LCA amended the Existing Conditions Map to include the planned road improvements by the Virginia Department of Transportation for the construction of two additional lanes of U. S. Route 211/522 since completed. The U.S.G.S. 7-1/2 Minute Series Map, Washington, Virginia, was used to verify site conditions including stream locations, topography, and wooded areas. The presence or absence of 100-year floodplain conditions were verified using FEMA Flood Insurance Mapping.

There have been two significant rezonings in the General Commercial Overlay District created, that of the Rappahannock National Bank. Approved in 2002, the development of the Bank's new facility on approximately 1.5 acres is the first of up to five discreet development sites on a total of approximately 20 acres. Proffers approved by the County included full compliance with the design standards of the General Commercial Overlay zone. Mountainside Medicine was also rezoned in 2007 from Agriculture to General Commercial.

Opportunities and Constraints

LCA investigated existing and potential opportunities and constraints that may influence planning and design. LCA used U. S. Department of Agriculture Soil Conservation Service mapping to analyze and document areas where soil characteristics presented potential limitations to construction and/or septic suitability. Steep slopes, identified in the Zoning Ordinance as greater than 25%, were mapped. Significant stream corridors, woodlands, and other natural features and systems were identified. In addition to a physical analysis, LCA considered important views and vistas to and from the site, cultural and historic resources including structures and landscapes, existing and planned facilities and roads, and character-defining features and elements of the site and the region. The maps produced during this phase included the Soil Characteristics/Depth to Bedrock Map, and the Slopes Map. The opportunities and constraints analysis provided the structure and framework to apply alternative commercial development patterns.

The County Comprehensive Plan and Existing Zoning

The study area represents land presently experiencing a mixture of commercial, public facility, and residential development. The County's comprehensive plan has identified the study area as a focal point for future economic and public facility development for over

twenty years. Rappahannock County, in anticipation of future short-term and long-term commercial development pressures, sought viable planning tools and design guidance to manage and reduce potential visual and environmental impacts to the County's rural and scenic character. Traditionally, Rappahannock County has relied upon agriculture and tourism for its livelihood. The County is committed to preserving both its scenic resources and quality of life, but also wishes to accommodate sensible and responsible growth within appropriate locations. The focus of the study was the balancing of these goals.

Presently, only a narrow linear band of parcels or portions of parcels fronting Route 211/522 are zoned General Commercial. Consequently, existing zoning patterns may, in fact, prescribe exactly the type of development that the County seeks to avoid. LCA prepared an existing zoning map showing the zoning classification for all parcels within the study area and the parcel number and acreage as indicated in the Real Estate Atlas of Rappahannock County, Virginia.

Commercial Development Patterns

In an effort to apply the appropriate commercial development pattern to the site, LCA evaluated typical commercial development patterns found within the region as well as other parts of the country. A variety of development patterns was considered and tested against the goals and principles of the Comprehensive Plan and the opportunities and constraints of the site.

Zoning

LCA, in consultation with the Commercial Area Steering Committee and the County Administrator, determined that the physical development goals of the Comprehensive Plan could be achieved best in the study area by the establishment of a Commercial Area Overlay District zoning provision. The regulations of the Overlay District would become applicable only with the approved rezoning of existing non-commercial parcels or at the time of commercial site plan amendments. The Overlay District regulations supplement or supersede the specific underlying commercial zoning regulations.

LCA produced a Proposed Zoning map to illustrate the location and dimensions of setbacks and associated landscape development of buffer zones; resource protection areas, including steep slopes and stream corridors; and proposed road and pedestrian systems. The setbacks and landscape development/buffer zones are located primarily along the Commercial Area edges and existing and planned roadways are areas that require vegetative screening and street tree planting. The resource protection areas include setback and preservation areas along two tributary streams that flow into the Rush River and are mapped on the U.S.G.S. quad map and south facing wooded steep slopes on Little Jenkins Mountain. The planned pedestrian and road systems are intended to provide safe and convenient access to as many existing parcels as possible as well as a minimum of disruption to the environment and burden upon individual parcels. In addition, LCA prepared Proposed Typical Sections illustrating existing and proposed setbacks, screening, plantings, signage, and building heights to augment the Proposed Zoning map.

Conceptual Development Plan and Design Guidelines

Using the previously prepared site inventory and analysis and Proposed Zoning map, LCA, in consultation with the County Administrator and the Commercial Area Steering

Committee, prepared Conceptual Development Plan and associated Design Guidelines. The Conceptual Development Plan is an indication of potential development scenarios combined with the application of the recommended Overlay District regulations and proposed design guidelines. The Conceptual Development Plan is only a guide for future development but is not a rezoning or regulatory document.

Existing commercial developments, existing zoning, and land ownership patterns were considered in making recommendations for the future assemblage of some parcels. Proposed conceptual roads and pedestrian systems and parcel entrances allow for convenient access and reduce unsafe and visually disruptive roadway conditions. Development zones are indicated as Land Bays and include undevelopable or buildable areas. Steep slopes and stream corridors are to be set aside as conservation areas. The term "Land Bays" is not a term of art, but a convenient description of one or more parcels of land that comprise a discretely developable assemblage of land. The intensity or amount of building and paved areas associated with future commercial development within land bays would be tied directly to sewage treatment alternatives.

On-site potable water systems and storm water management systems may require additional available buildable area within land bays. In addition, proposed street and vegetative screening patterns are indicated. Recommendations for proposed road and access improvements at the Rappahannock Elementary School have been made to accommodate the proposed realignment of Schoolhouse Road (Rt. 636).

The Conceptual Development Plan and Design Guidelines were incorporated into the Rappahannock County Zoning Chapter 170-45.1 General Commercial Overlay District (GCO) [added 3-7-1994].

Low-Impact Development

Summary

The primary goal of Low Impact Development (LID) methods is to mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff. Use of these techniques helps to reduce off-site runoff and ensure adequate groundwater recharge.

There is a wide array of impact reduction and site design techniques that allow the site planner/engineer to create storm water control mechanisms that function in a manner similar to that of natural control mechanisms. If LID techniques can be used for a particular site, the net result will be to more closely mimic the watershed’s natural hydrologic functions or the water balance between runoff, infiltration, storage, groundwater recharge, and evapotranspiration. With the LID approach, receiving waters may experience fewer negative impacts in the volume, frequency, and quality of runoff, so as to maintain base flows and more closely approximate predevelopment runoff conditions.

Main Goals And Principles of LID

- Provide an improved technology for environmental protection of receiving waters.
- Develop the full potential of environmentally sensitive site planning and design.
- Reduce construction and maintenance costs of the storm water infrastructure.
- Introduce new concepts, technologies, and objectives for storm water management such as micromanagement and multifunctional landscape features (bioretention areas, “rain gardens”, swales, and conservation areas).
- Mimic or replicate hydrologic function.
- Maintain the ecological/biological integrity of receiving streams.
- Encourage flexibility in regulations that allows innovative engineering and site development

LID is a comprehensive technology-based approach to managing storm water. Storm water is managed in small, cost-effective landscape features located on each lot rather than being conveyed and managed in large, costly pond facilities located at the bottom of drainage areas. The source control concept is quite different from conventional treatment (pipe and pond storm water management site design). Hydrologic functions such as infiltration, frequency and volume of discharges, and groundwater recharge can be maintained with the use of reduced impervious surfaces, functional grading, open channel sections, disconnection of hydrologic flow paths, and the use of bioretention/filtration landscape areas. LID also incorporates multifunctional site design elements into the storm water management plan. Such alternative storm water management practices as on-lot micro storage, functional landscaping, open drainage swales, reduced imperviousness, flatter grades, increased runoff travel time, and depression storage can be integrated into a multifunctional site design.