

MOVING CHARLES CITY FORWARD

A STUDY OF ROUTE 106



Findings and Recommendations Endorsed by the Charles City County Board of
Supervisors

October 23, 2018

The Richmond Regional Planning District Commission provided technical
assistance to Charles City County as an extension of the Richmond Region's
Comprehensive Economic Development Strategy

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EXECUTIVE SUMMARY

Charles City County has designated the Roxbury Road (Route 106) corridor as the industrial heart of the county. Accordingly, the county has worked to develop an industrial park and to bring in larger industrial users, particularly in the Roxbury area. This plan has been developed to examine this industrial corridor and promote non-residential growth in the county moving forward.

This study examines a range of future population and employment projections for the year 2040. Under the fastest growth scenario, the county is expected to add 2,710 new residents and 441 new jobs by the projection year. Based on current land use patterns, countywide demand is projected to be 1,450 acres for residential development and 430 acres for commercial and industrial development by 2040. All the industrial development will be accommodated in Roxbury where there is already sufficient undeveloped land with appropriate zoning to accommodate projected demand; a third of future residential development (approximately 480 acres) is expected to occur within two miles of Route 106. Commercial demand can be accommodated in the Courthouse Area or Roxbury as the designated development centers for the county. With broader provision of public sewer and water infrastructure, the residential component may use as little as 220 acres for development.

Table 1: Projected Land Use Demand for 2040

	<u>2016</u>	<u>2040</u>	<u>Change</u>	<u>Acreage Needed</u>	<u>Acreage near 106</u>	<u>Market Adjustment</u>	<u>Total 106 Demand</u>
Population	7,086	9,796	2,710	--	--	--	--
Dwellings	3,303	4,399	1,096	1,096 ac.	366 ac.	30%	480 acres
Occupied	2,854	3,950	1,096	1,096 ac.	366 ac.	30%	480 acres
Vacant	449	449	0	--	--	--	--
Jobs	1,516	1,957	441	330 ac.	330 ac.	30%	430 acres

Given the projections, the county must decide on how to best accommodate the projected demand. As part of the development of this plan, staff held a series of public meetings to gather input on the Route 106 corridor's strengths and weaknesses. Meetings were held with elected and appointed officials, the business community, and residents of the corridor. The input gathered from these

meetings are included in the appendices to this study. From this series of meetings, a clear divide became evident. Residents of the corridor live in the county because they like the rural, quiet character of the area. They primarily want to see new commercial services and retail opportunities provided while preserving this rural character. The business community and county officials, by contrast, want to see more industrial and commercial growth with less concern for the rural character of the area.

Finally, this study examines the regional and statewide economic development efforts to develop county development strategies which will piggyback on these existing efforts. This portion of the plan, developed in partnership with Richmond Regional Planning District Commission, recommends a focus on mechatronics, machining, and subcontracting for power plants development in the short term. In the longer term, this section of the plan recommends development of mix of housing types and job training to allow for a wider scope of commercial and industrial development.

In developing overall recommendations, this study follows the Comprehensive Plan in recommending a policy of growth management. Channeling the projected residential, commercial, and industrial demand to the Roxbury Development Center will serve the competing ideals of new services, industrial growth, and a rural character. Many localities have successfully implemented growth management policies while continuing to expand their tax base and grow their population.

To achieve this goal, this study recommends a proactive approach to shaping future development included comprehensive provision of sewer and water service in the Roxbury Development Center, ordinance changes to channel growth to Roxbury, and policies to facilitate development and rezoning in Roxbury. With respect to economic development and job growth, this plan makes a wide range of recommendations from steps to retain existing businesses to steps to prepare undeveloped sites for industrial use. By taking proactive measures, the county can shape the character of future development to be compatible with the desires of residents while minimizing capital costs and generating increased tax revenues.

INTRODUCTION

Charles City County is a small, rural county located on the eastern edge of the Richmond metropolitan statistical area. Despite being one of the original eight shires of Virginia, Charles City has been slow to grow, with a current population only 26% larger than the population in 1790. To encourage new development, the county's comprehensive plan has designated two development centers for future growth, Roxbury and the Courthouse area. Roxbury, the westernmost of the two development centers, is located on Roxbury Road (Rt. 106), the main industrial corridor of the county. Roxbury and the Route 106 industrial corridor are the primary focus of this plan.

Roxbury Road is a minor arterial that serves as the main north-south corridor through the county. While designated for future industrial growth, the corridor contains pockets of residential development along intersection roads, most particularly Old Union Road (Rt. 603), Warriner Road (Rt. 604), Monguy Road (Rt. 617), Cattail Road (Rt. 650), and Wayside Road (Rt. 607). This corridor has been designated as a focal point for future county growth since the 1970s. County planning efforts in the 1980s led to the development of a small industrial and office park at the northern end of the corridor. Since that time, industrial growth has been more gradual. This plan examines the corridor from both land use and economic development perspectives to determine the recommended strategies for growth over the next two decades.

The plan begins with an analysis of the existing conditions on site, focusing primarily on environmental and built conditions, regulatory environmental, and demographic and economic trends countywide. This analysis provided the background for subsequent recommendations.

A series of meetings with county officials, residents of the corridor, and business leaders were conducted to analyze the strengths, weaknesses, opportunities, and threats to development of Route 106 as an industrial corridor. With residents, a vision exercise was also conducted to determine the character of new development that is desired in the area. The results from these meetings are summarized in the following section of the plan.

Third, a market overview was developed by the Richmond Regional Planning District Commission. This analysis put the local economy into context by examining regional growth and economic development strategies. This section of the plan identifies potential businesses and development strategies that would be appropriate given the county's resources and constraints.

Finally, this plan provides recommendations for implementing the vision developed through this process. These recommendations include both general policies and specific actions that can be undertaken to ensure development of the corridor promotes the goals of a diversified tax base and a rural character identified in this plan.

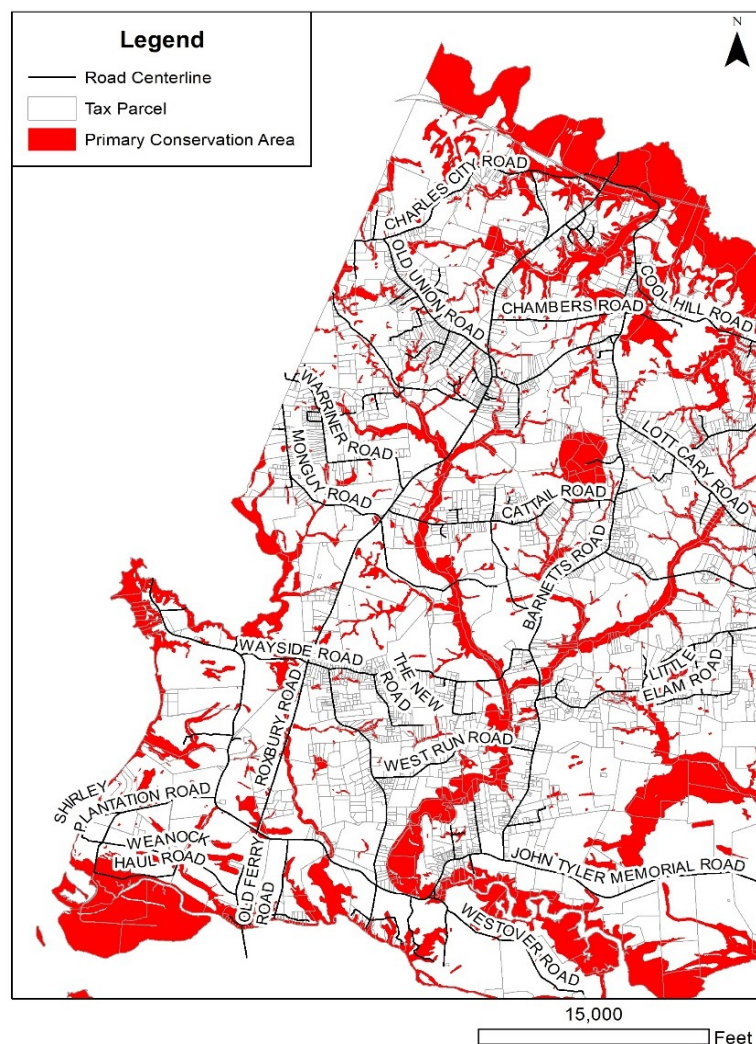
EXISTING CONDITIONS

Before undertaking any planning effort, it is vital to gain an understanding of the present conditions and trends. This allows us to develop realistic goals and a strategy for moving forward. This plan examines the natural environment, the built environment, and the legal environment to better understand the conditions along the Route 106 corridor. In addition, demographic and employment trends are analyzed to help determine future land-use demand in the County.

ENVIRONMENTAL CONDITIONS

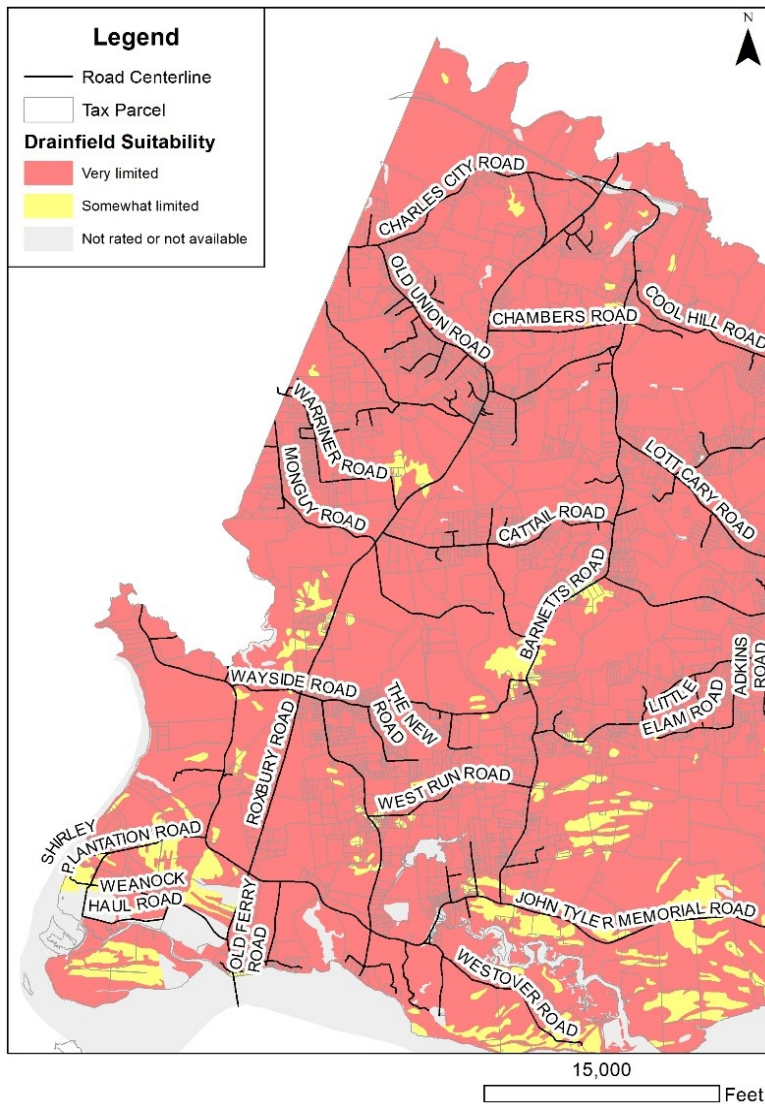
The environmental constraints to development were the first area of analysis. These constraints, by large, prohibit building construction and must be considered when creating a plan for large-scale industrial development. Section 5-3 of the Subdivision Ordinance identifies four (4) areas that should be left undeveloped: wetlands and other Chesapeake Bay Preservation Act Resource Protection Areas, the 100-year floodplain, steep slopes greater than 15%, and habitats of endangered plants or animal species (Charles City County, 2015). Using this set of criteria, primary conservation areas were mapped for the entire County. Figure 1 shows these constraints along the Route 106 corridor. The northernmost end of the corridor, north of the railroad, is largely unsuitable for development apart from a few parcels currently inaccessible via road. The same is true along the southwest corner of the corridor largely consisting of

Figure 1: Primary Environmental Constraints



land on Eppes Island and Shirley Plantation. Between the James and Chickahominy, the primary constraints are largely attributable to the presence of smaller streams and their tributaries. From north to south, the major streams include: Possum Run, West Run, and Kimages Creek.

Figure 2: Suitability for Conventional Septic Drain fields (Source: USDA Soil Survey)



In addition to the primary environmental constraints reflected in the subdivision ordinance, soil characteristics largely determine suitability for development. Given the lack of public sewer infrastructure, septic suitability is a principal concern for any development. As seen in Figure 2 below, the soils in the County make siting a conventional septic system and drainfield difficult. This map is based on soil classifications created by the United States Department of Agriculture (USDA). On-site survey of soils may produce slightly different boundaries. Regardless of the exact extent of the soil types, larger industrial and commercial

uses will require a more comprehensive public sewer system that the County has in place today.

Several other aspects of the natural environment—including prime agricultural soils, forest cover, and the Chesapeake Bay Preservation Act Resource Management Areas—were also examined as part of this process. While important considerations, these constraints are less likely to impact overall development of the corridor. These constraints will need to be assessed on a site by site basis prior to development.

BUILT CONDITIONS

The built environment will shape the potential for future development along Route 106 even more significantly than the environmental conditions. As the conditions of the build environment are constantly changing, developing a complete picture of the area needs to reflect both the present state as well as general trends. The first area examined was the rate of new development around Route 106.

To understand trends in new development, all new addresses created since January of 2013 were mapped for the entire County. This dataset consists of 61 new addresses that have been added countywide. Of these 61, a significant portion have located in the western-most edge of

the County. Ten new addresses, or 16.4%, are located within one (1) mile of Roxbury Road. Twenty of the new addresses, or 32.8%, are located within two (2) miles of Roxbury Road. Twenty-seven, or 44.3% are located within three (3) miles.

This analysis shows that the area around Route 106 is a focal point for new development of all kinds. As seen in Figure 3, most development has located in existing residential neighborhoods such as Cattail Road or Old Union Road, suggesting that most new buildings have been new houses. Little of the new development has taken place on Route 106 proper.

Figure 3: New Addresses since 2013

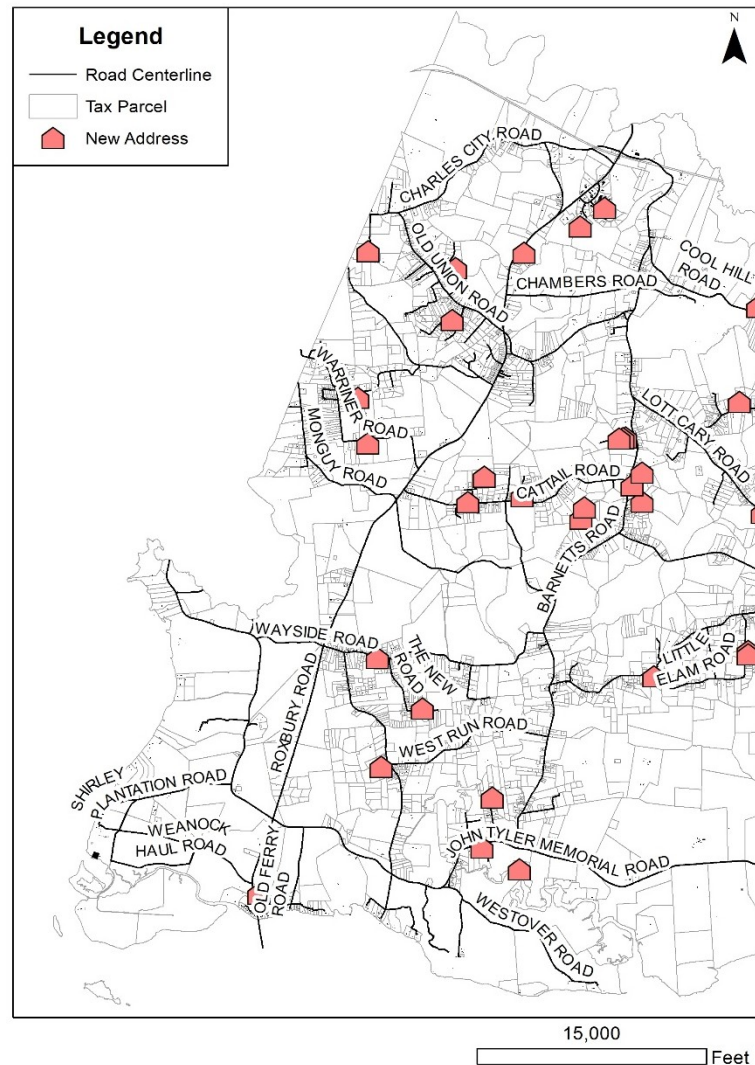
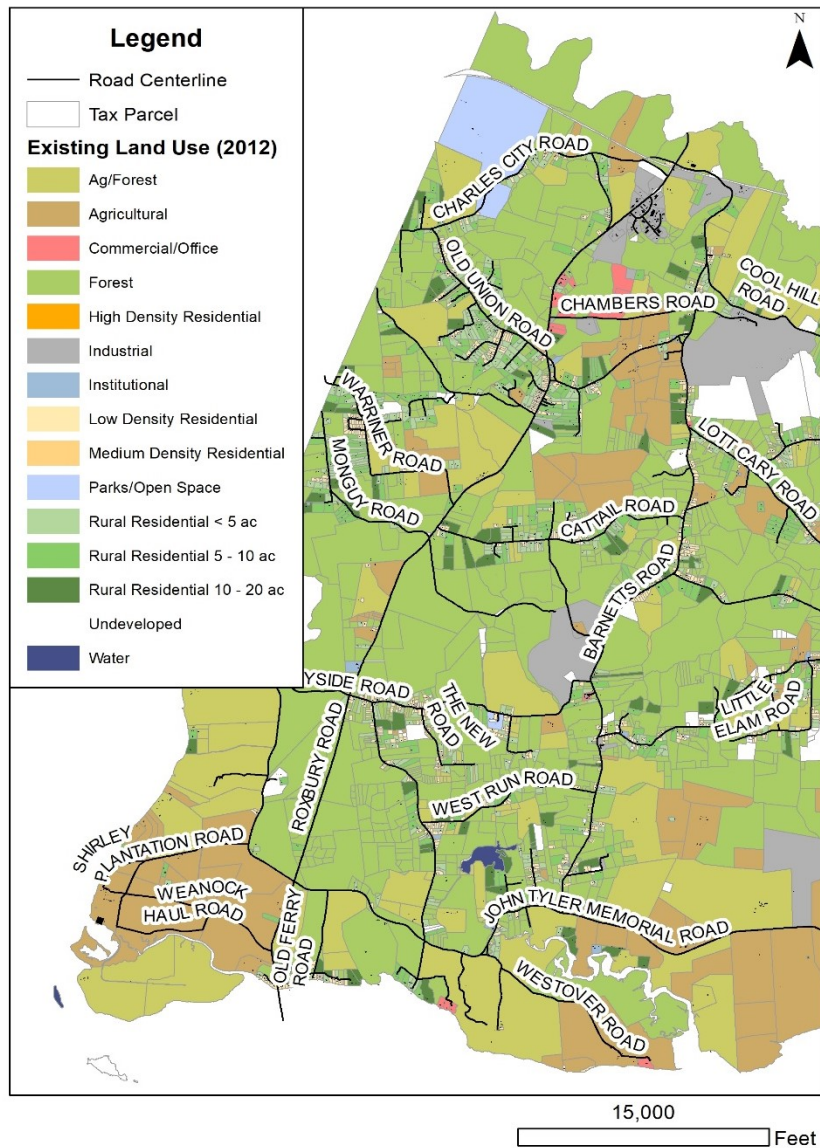


Figure 4: Existing Land Use (Richmond Regional Planning District Commission, 2012)



A second aspect of the built environment that was analyzed for this report is the existing land use pattern in the area. The use of each property shows the pattern of development and helps guide future land use decisions. The most recent survey of existing land use was undertaken in 2012 by the Richmond Regional Planning District Commission. Given the limited number of new addresses created since that time, this dataset (Figure 4) is still largely accurate.

The existing land use pattern shows that industrial development is largely concentrated around the Roxbury Industrial Park. The two other industrial sites in the

area are the landfill at Chambers and Barnett's Roads, and the Aggregate Industries sand and gravel pit on Barnett's Road.

To the south of the Roxbury Industrial Center along Route 106 and Chambers Road are located several commercial uses. Some of these, such as Tire Recyclers, contain both industrial and commercial elements to their business.

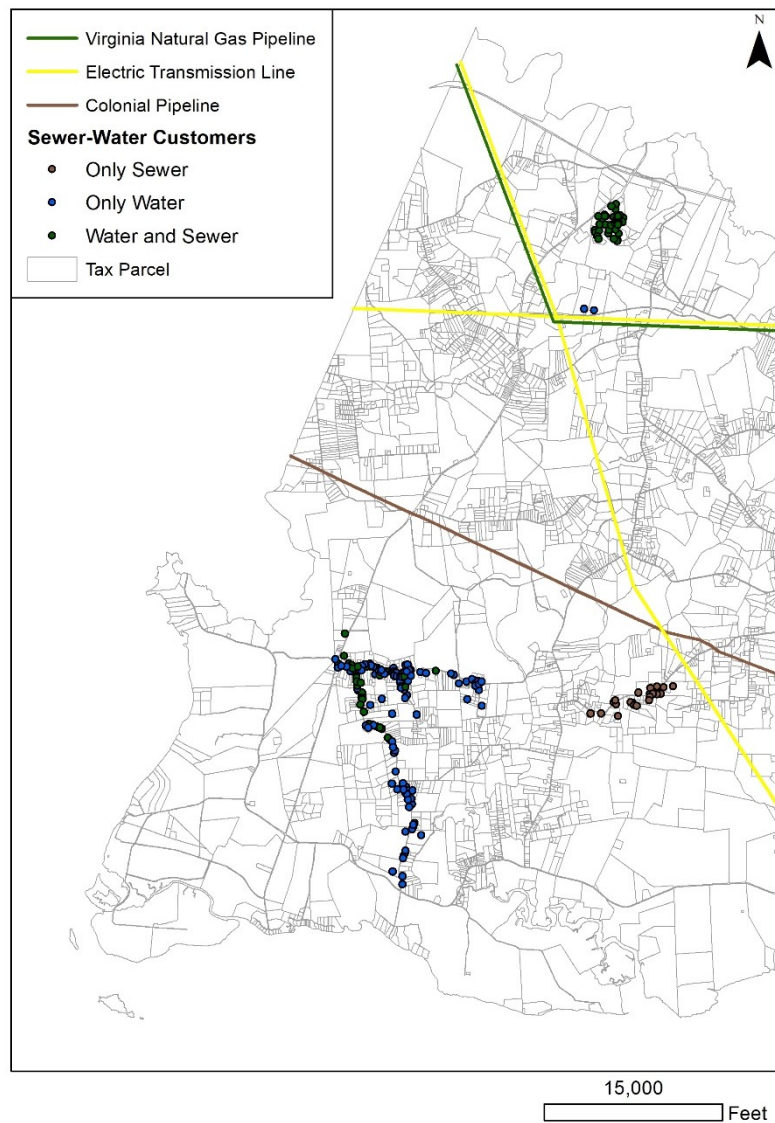
Finally, along Old Union, Cattail, and Wayside Roads existing development consists of residential uses. Outside of these limited areas, the land is generally used for agriculture and forestry. In general, the area south of Chambers Road is more rural in character.

Another important consideration for future development is the availability of public utilities and infrastructure to support growth. For industrial development, the most important utilities are electrical power, public sewer, and public water. The Virginia Economic Development Partnership (VEDP) uses a general estimate of 250,000 gallons of sewer and water a day and a 10 MW power connection for a 100-acre industrial site.

As seen in Figure 5 to the right, the Route 106 corridor benefits from the location of the Chickahominy substation on Chambers Road (the site where the two transmission lines cross). A natural gas pipeline also spans the County following the powerline rights-of-way. This key infrastructure has attracted two gas fired power plants to the corridor. These plants are currently undergoing state regulatory review and approval and are expected to begin operations early next decade.

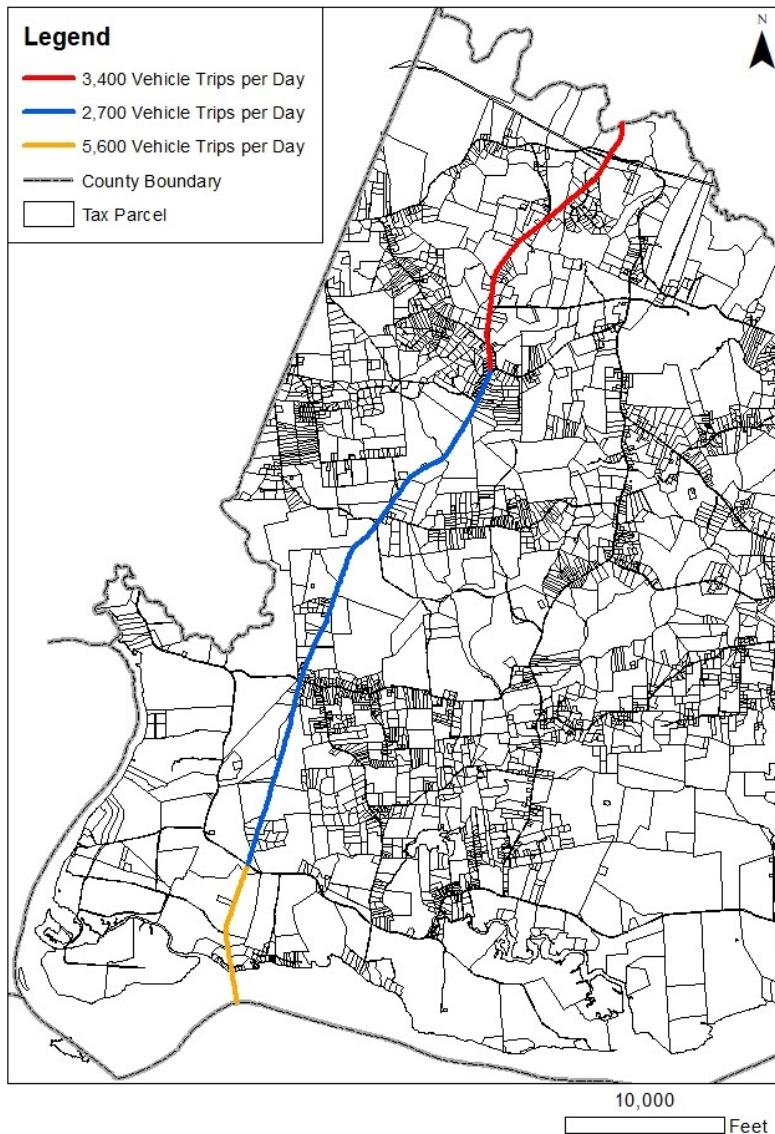
The public sewer and water infrastructure is more lacking. As seen in the map right, only the Roxbury Industrial Park and a small area around Wayside have public sewer and/or water

Figure 5: Existing Utility Infrastructure



available. These limited systems are not capable of handling the volume required for major industrial, or even residential, development. Improving the public sewer and water access in the area will be necessary to facilitate industrial growth and to more efficiently use the available land. The County may need to develop a service area plan to identify and delineate boundaries for future public utility service.

Figure 6: Average Daily Traffic (Virginia Department of Transportation, Traffic Engineering Division, 2017)



The final element of infrastructure examined is the road network, focusing specifically on vehicle counts and heavy truck traffic along Route 106 (Figure 6). Given the lack of rail access for most of the corridor, future industrial development will depend heavily on truck traffic to move supplies and products. Understanding the current level of traffic will help to shape plans for future development.

Starting at the northern end of the corridor, between the Chickahominy Bridge and Bradley Road in Old Union, the most recent VDOT traffic counts from 2017 estimate approximately 3,400 vehicles pass through this area every day.

Of these, approximately 816, or 24% are trucks. An additional 34 vehicles, or 1% of total traffic, are estimated to be buses.

In the center of the corridor from Old Union to Route 5, overall traffic is significantly less with approximately 2,700 vehicle trips per day. Approximately 675, or 25%, are estimated to be trucks. An additional 27 vehicles, or 1% of total traffic, are estimated to be buses.

Finally, on the southern end of the corridor between Route 5 and the Benjamin Harrison Bridge, VDOT counts estimate 5,600 vehicles per day. Of these, approximate 560, or 10%, are trucks. Bus traffic does not play an important part in this segment of the corridor.

The volume of truck traffic along the corridor reflects Roxbury's importance as the industrial core of Charles City County. Based on the available traffic count data, truck traffic is approximately 31% less at the southern end of the corridor. This decrease suggests that a third of trucks are heading to Richmond or Hampton Roads via I-64 or US-60 while the rest are traveling to destinations south of the James River. The *Highway Capacity Manual* (HCM 2010) notes that heavy vehicle share exceeding 14% is considered to impact the free flow of traffic on a two-lane rural highway, suggesting that passenger vehicles likely experience some delays on the corridor.

The HCM 2010 gives a passenger car equivalent (PCE) value of 1.5 for trucks and buses over relatively level terrain (HCM 2010: Highway Capacity Manual, 2010). Using this value, the measurements for traffic along Route 106 increase to some extent. In the northern section of the corridor, the estimated daily traffic in PCE is 3,825. In the central section, 3,050 PCE per day. And in the busy southern segment, 5,880 PCE per day. While imperfect, these simplified estimates give a sense of traffic volume as experienced by drivers on the road without a full traffic study.

A variety of traffic engineering studies have calculated the capacity of rural two-lane highways such as Route 106. Estimates generally range from 2,000 to 3,500 vehicles per hour, or between 1,000 and 1,750 vehicles per lane. Based on the peak hour rates provided in the VDOT traffic count data, estimates for peak hour traffic is 330 PCE in the north, 255 PCE in the center, and 535 PCE in the south. Based on the directional flow rates, we get an estimate of 182 PCE in the busiest lane in the north, 149 PCE in the center, and 283 PCE in the south. These figures suggest that Route 106 has sufficient capacity to accommodate growth into the foreseeable future without requiring significant improvements to increase capacity. Policies to limit direct access to Route 106 will help to decrease delays from turning maneuvers and preserve this capacity moving forward.

REGULATORY ENVIRONMENT

In planning for future development along the Route 106 corridor, the legal environment surrounding land use in the County cannot be ignored. The most important legal consideration is the Zoning Ordinance which dictates the types and character of uses permitted in each area of the County.

As seen in Figure 7 to the right, Charles City County, including most of the Route 106 corridor, is largely zoned for Agriculture (A-1). Agricultural and forestry uses are intended to be the primary uses in this area. Residential and commercial development is permitted, so long as it is compatible with the primary agricultural and forestry uses.

Along Route 106, almost uniquely in the County, there exists significant areas of industrial and commercial zoning. While there are several different industrial zoning districts, all allow for some types of production and material processing. Industrial zoning is largely concentrated around the Roxbury Industrial Park and runs from Chambers Road north to the County line. In total, approximately 2,400 acres in this area are zoned for industry and another 100+ acres are zoned for commercial uses.

As rezoning applications in Charles City are generally initiated by the property owner, this concentration of industrial uses is a good indication of the market preferred location for industrial sites. Based on the current zoning and trends in rezoning applications, future industrial development is expected to locate primarily in the Roxbury area.

Figure 7: Current Zoning (2018)

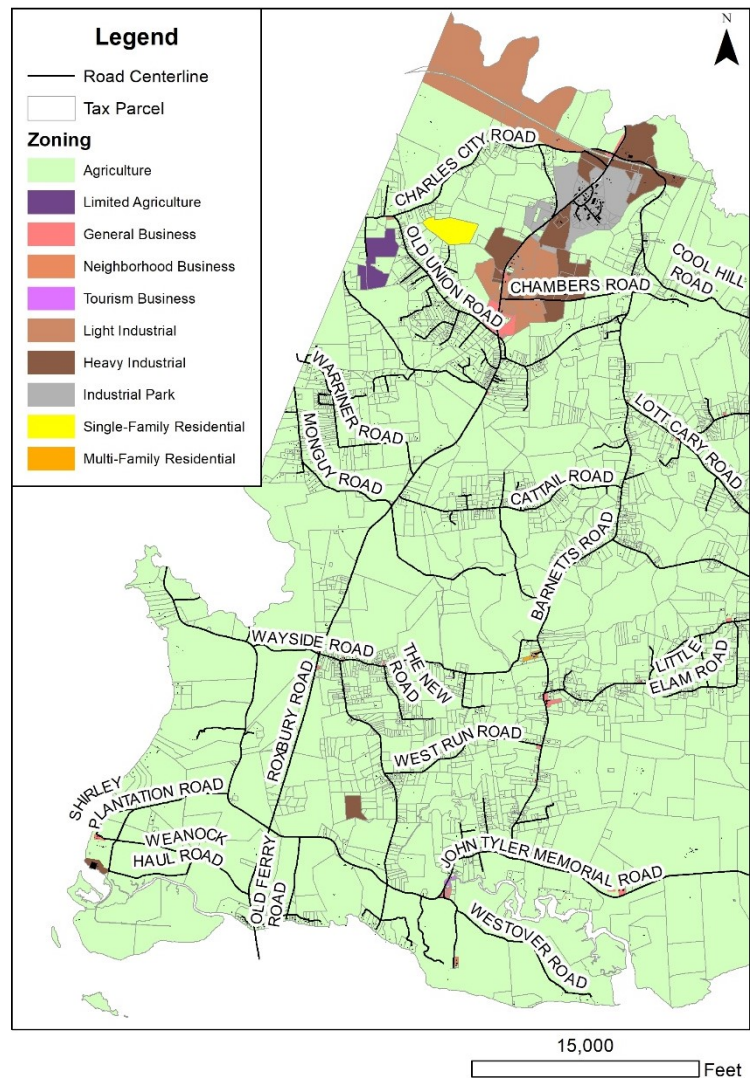
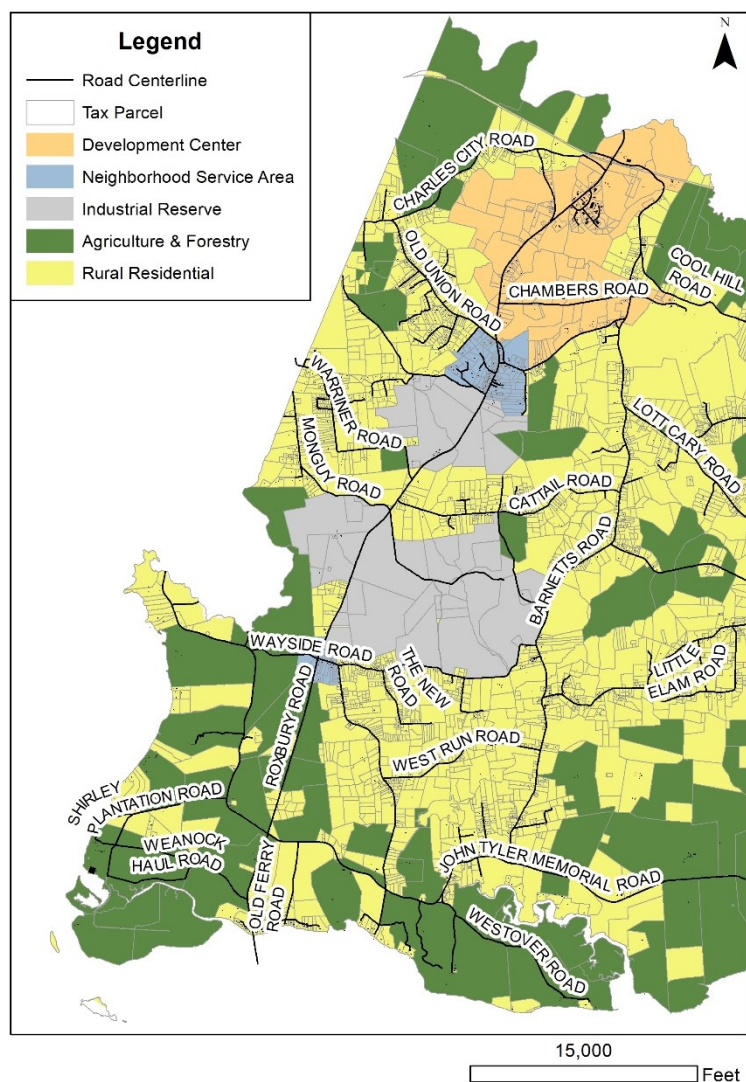


Figure 8: Future Land Use Plan (Charles City County, 2014)



commercial, and industrial uses.

The two pockets of blue in Old Union and Wayside are designated as Neighborhood Service Areas. These areas are existing residential communities and are intended to remain residential into the future. Limited commercial development is envisioned to provide services for the residents.

Finally, the grey areas on the map are designated the industrial reserve. The industrial reserve is set aside for heavy industrial development which would not be compatible in the mixed-use environment in Roxbury. As seen in the zoning map above (Figure 7), to date no industrial rezoning has occurred in the industrial reserve areas. The remaining portions of the corridor, colored in yellow and green, are designated for rural land uses. These rural areas are not slated for significant development in the Comprehensive Plan.

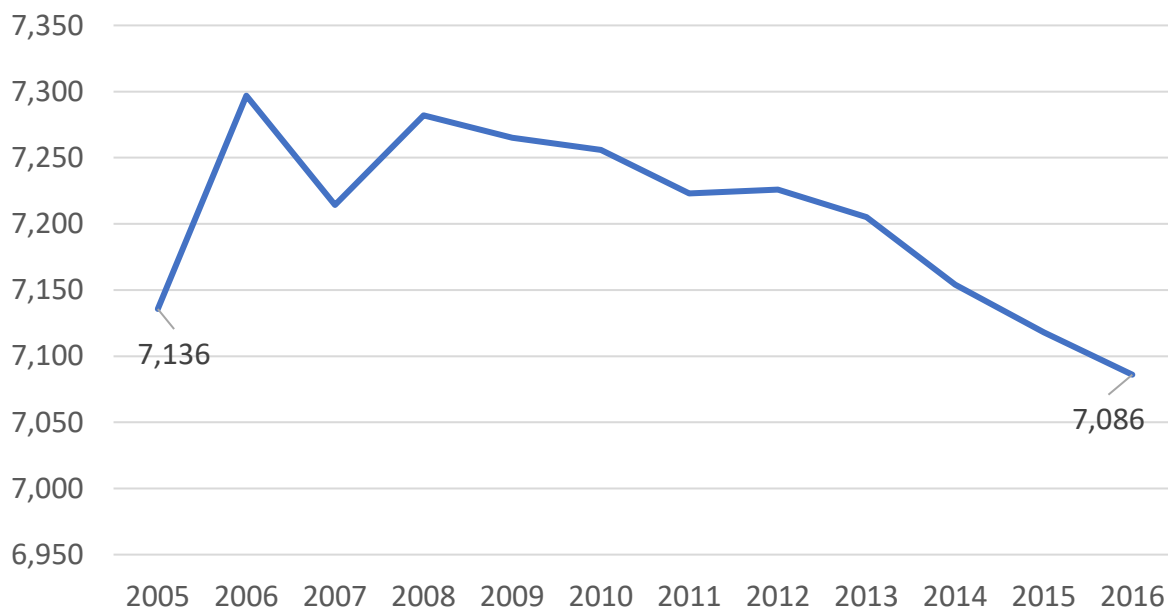
The second aspect of the legal environment that will shape future development is the Comprehensive Plan. While not a binding, regulatory document, the Comprehensive Plan informs and guides zoning decisions. All rezoning and special use permit applications must generally be consistent with the Comprehensive Plan to receive approval.

The Comprehensive Plan designates several future land use categories along Route 106, as seen in Figure 8 to the left. The northernmost portion of the corridor is designated a Development Center (indicated in orange on the map). The Roxbury Development Center is intended to be a mixed-use district accommodating residential,

DEMOGRAPHIC TRENDS

Charles City County has an estimated population of 7,086 people as of 2016. Over the past decade, the County has experienced a decline in population. In 2006, the County had a record high estimated population of 7,297. By 2016, the population was estimated to have declined to 7,086. This decline can largely be attributed to the impacts of the Great Recession and an increased demand nationwide for walkable, urban lifestyles. The trend over the past decade is seen in Figure 9 below.

Figure 9: County Population (United States Census Bureau, 2006)



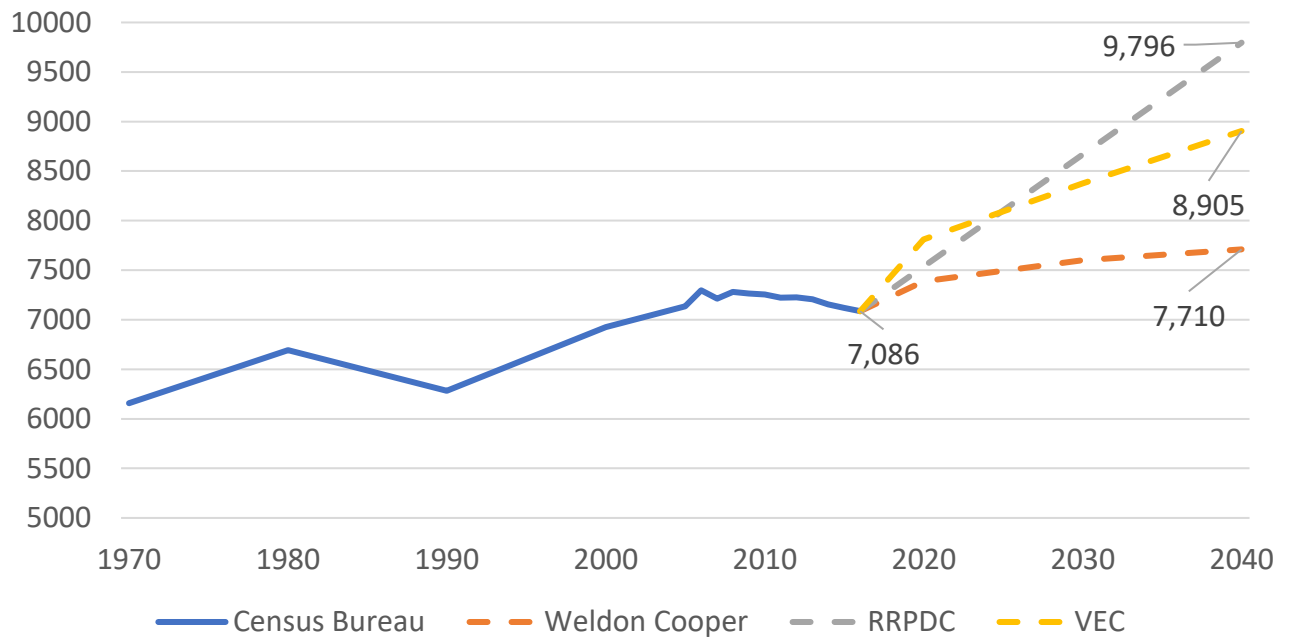
While the County has experienced a decrease in population over the past decade, the long-term trend is toward slow, gradual growth. In the nearly 50 years between 1970 and 2016, the County grew by 928 people, or approximately 15%. As seen in Figure 10 below, this growth has not been constant but has come in waves. Given the overall trend toward growth, the projections for 2040 indicate an increase in population. The most optimistic growth rate comes from the 2040 Socioeconomic Forecast developed by the Richmond Regional Planning District Commission with input from the County. This study expects an increase of 2,710 residents by 2040, a 38% increase (Richmond Regional Transportation Planning Organization, 2015). As the County is currently only 26.8% larger than it was in 1790, this level of growth would represent a significant break from historic growth trends.

The most conservative projection was developed by the Weldon Cooper Center for Public Policy. As the official statewide population projection, the Weldon Cooper projections are in general use throughout the state. The Weldon Cooper Center estimates that Charles City County will have a population increase of 624 by 2040, or an 8.8% increase (Weldon Cooper Center for Public Service, Demographic Research Group, 2017). This trend more closely matches the historic growth pattern of the County.

The current average household size in Charles City County is 2.48 as of 2016 according to the American Community Survey five-year estimate (United States Census Bureau, 2017). Assuming the average household size remains constant (an uncertainty given the aging of the County's population), the County will need to provide between 250 and 1,100 new homes over the coming decades. If built without public sewer and water, each new home will require an acre of land, resulting in a forecasted demand of 250 to 1,100 acres countywide. If central sewer and water are provided, new residential development can be built more efficiently on 20,000 square foot lots under Single Family (R-1) zoning. At this size, new residential development will require between 115 and 505 acres of land countywide by 2040.

As noted in the built environment analysis, approximately one-third of all new addresses built over the past five years were constructed within two miles of Route 106. Assuming new development continues to cluster on the western end of the County, somewhere between 40 and 370 acres will be needed near Route 106 for residential development over the next twenty-two years. To allow market flexibility and prevent drastic price increases, the County should set aside approximately 130% of forecasted acreage demand for residential development. To be conservative, 480 acres should be designated for residential uses along the Route 106 corridor under the assumption that sewer and water will not be provided. With broader provision of public water and sewer, as little as 220 acres would suffice to meet housing demand in the western part of the County.

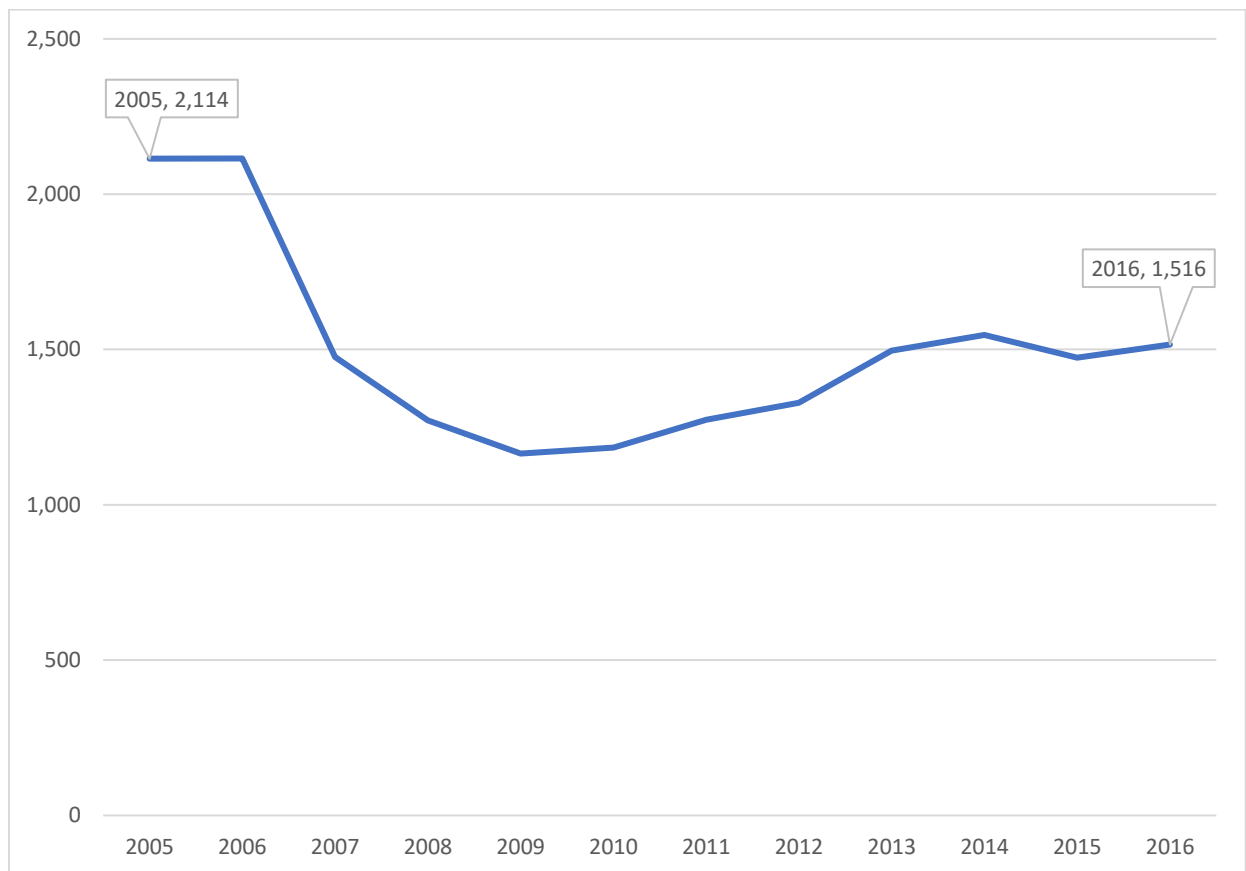
Figure 10: Population Projections for 2040



ECONOMIC TRENDS

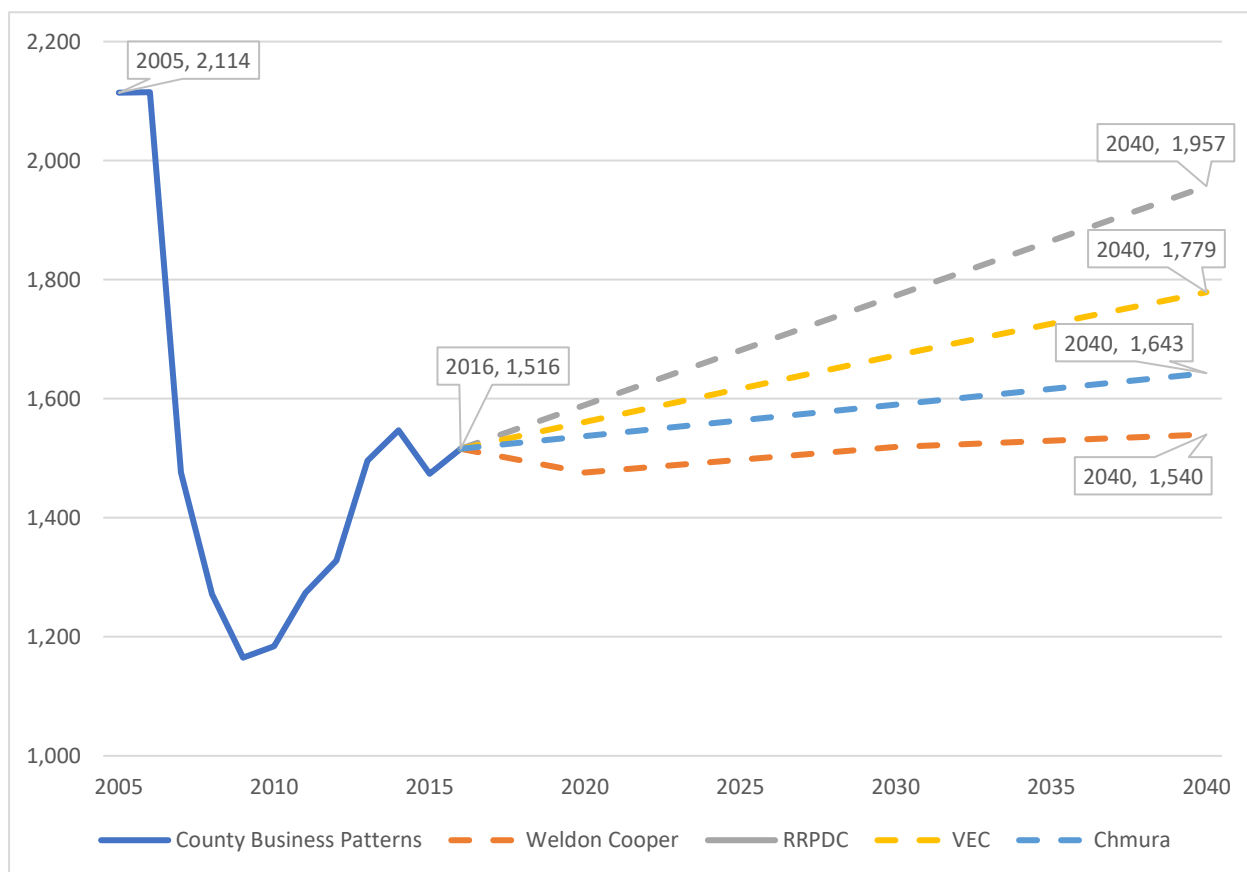
The U.S. Census Bureau maintains estimates of total employment for all counties in the country. The County Business Patterns data shows that Charles City had an estimated 2,114 jobs in 2005, experienced a 45% decline in employment by 2009, and stabilized in recent years at approximately 1,500 jobs. This significant decrease in employment can largely be attributed to the Great Recession which took place during this period. The employment trend over the past decade can be seen in Figure 11 below.

Figure 11: Total County Employment 2005-2016 (United States Census Bureau)



To develop projections moving forward, four different analyses were considered. Three were developed based on the population projections discussed earlier in the report. A ten-year average of the ratio of jobs to population was calculated for the period between 2005 and 2015. This ratio (1:5) was applied to the 2040 projection population number to give an estimated number of jobs in 2040. The fourth projection was developed by Chmura Economics and Analytics as part of the Richmond Regional Planning District Commission's *2040 Socioeconomic Forecast* report. Due to the differences in population projections and approaches, the forecasted number of new jobs by 2040 ranges from 24 to 441. The forecasted employment trends are shown in Figure 12.

Figure 12: Employment Projections 2040



As of 2018, approximately 4,340 acres of land in the County are zoned for commercial and industrial uses. Of this total, only 1,120 acres are developed as determined by the presence of an address point in the commercial or industrially zoned area. Of the developed acreage, approximately 150 acres are zoned for commercial uses and the remaining 970 acres are zoned for industrial uses. Based on the most recent estimate of 1,516 jobs in the County, each job requires approximately three-quarters of an acre of commercial or industrially zoned land. With the

assumption that this pattern of acreage used per job will remain constant, the acreage demand for commercial and industrial land is estimated to be between 20 and 330 acres, depending on the forecast used. With a market adjustment of 30% to ensure price stability, under the most aggressive growth estimate the County will need to provide 430 acres for commercial and industrial development countywide over the coming decades.

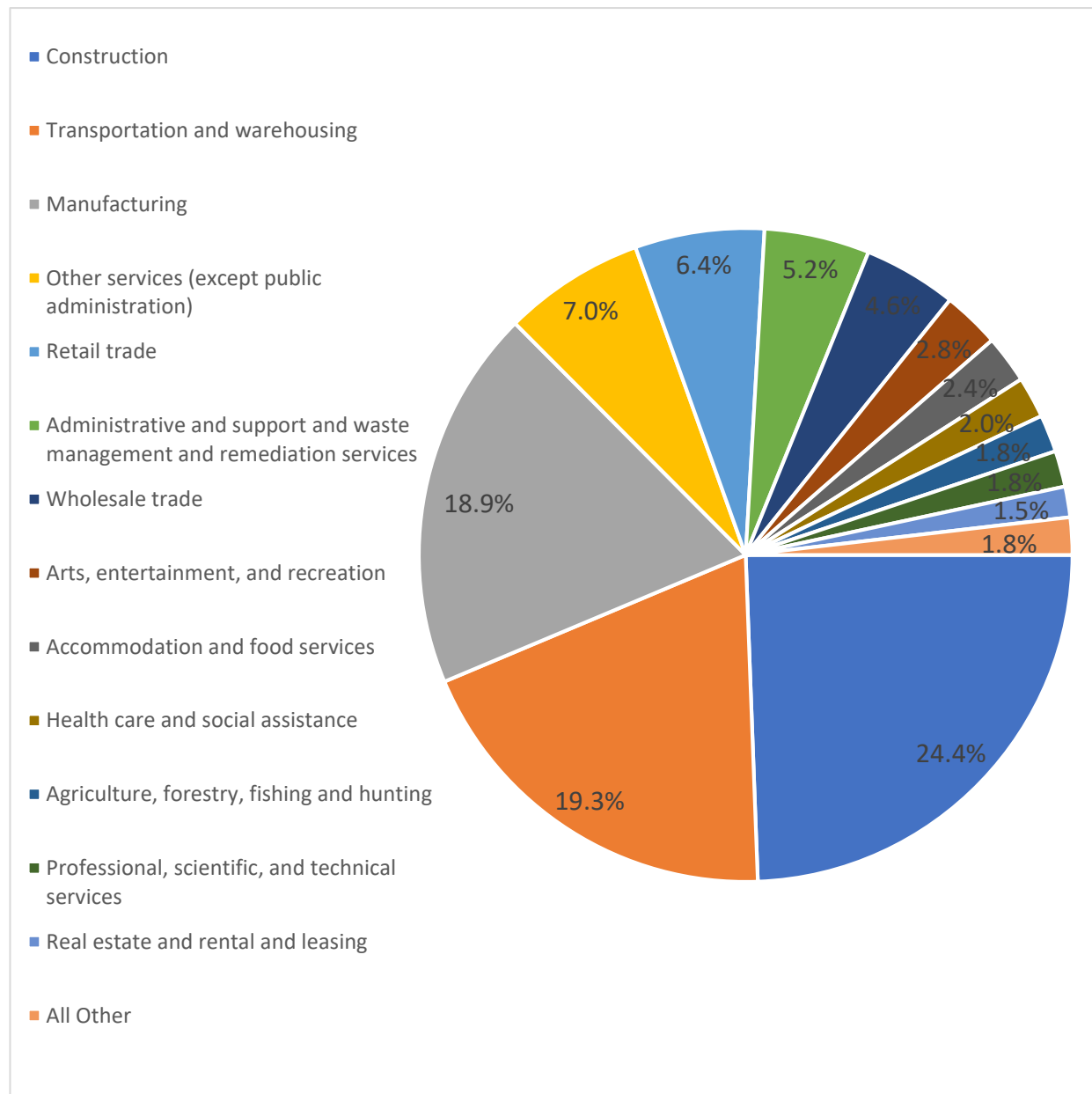
It should be noted that this methodology likely overestimates the acreage demand as it does not factor in the amount of land that has been developed for use on a site. For example, on a parcel with significant wetlands, the entire parcel is counted rather than just the portion that is buildable. Likewise, this approach does not account for vacant commercial and industrial buildings which have an address but do not have any employees. Given the limitations of the data available, however, this approach provides a reasonable estimate of the amount of land used per job created.

The County currently has approximately 3,100 acres of undeveloped land with commercial or industrial zoning. Of the undeveloped industrial and commercial land, over 1,700 acres are located near Roxbury, four times the forecasted demand for the entire County. When accounting for the environmental constraints discussed earlier in the plan, the Roxbury area has approximately 65 acres of developable commercial land and 770 acres of developable industrial land. To put these figures into context, the newest Amazon distribution center in Virginia was built on 101 acres of land and is expected to employ 1,000 people, or two-thirds of the County's total employment today.

The existing supply of industrially zoned land is sufficient to meet the forecasted demand over the next two decades; the commercial acreage available is relatively small, and additional rezoning may be needed over the next two decades. The demand for commercial acreage, it should be noted, can also be accommodated in the Courthouse Development Center.

To better understand the types of businesses locating in the County, employment by industry figures in the County Business Patterns data were also reviewed. According to the 2016 data, over 60% of total employment in the County is in three industries: construction, transportation and warehousing, and manufacturing. Except for some forms of heavier manufacturing, these industries do not require significant sewer or water capacity and have been a good fit for the County's current infrastructural capacity. The breakdown of employment by industry sector is seen in Figure 13 below.

Figure 13: County Employment by Industry 2015 (United States Census Bureau, 2016)



Beyond employment by industry, a simple economic base analysis was also conducted. Economic base analysis is a model which divides local industries into two spheres: non-basic and basic. Non-basic industries are understood to meet purely local demand whereas basic industries have broader reach and bring money from outside into the local economy. Where an industry falls in this classification depends on the percentage of jobs in that industry in the local economy compared to the percentage of jobs in the industry nationally. For example, in Charles City County we know that 370 jobs, or 24% of all jobs, are in the construction industry. Nationally, that figure is approximately 5%. This difference means that the construction industry is significantly more heavily concentrated in Charles City County than in the nation, indicating that the industry is providing services outside of the County and forms part of the County's economic base.

Under this analysis, the County has six (6) basic industries: agriculture and forestry, construction, manufacturing, transportation and warehousing, arts and recreation, and other services. Each of these industries employs more people locally than the national economy would suggest are needed to meet local needs. It is important to note that the largest employers by industry are all part of the County's economic base. Continued focus on construction, transportation and warehousing, and manufacturing will be positive for the local economy. In addition, expanded focus on developing the agricultural and forestry industry and support industries will help to strengthen the local economy. This analysis aligns with the adopted *Economic Development Strategic Plan's* initiatives and provides further support for those goals (Moran, Stahl & Boyer, 2015).

While this simple analysis provides better understanding of the local economy, it should also be noted that base analysis does have some limitations. Base analysis, as all economic theories, rests on several assumptions which may not be accurate. For example, the analysis assumes that increased employment in an industry is indicative of production levels that serve a broader market. While this may be true, it may also be the case that the industry simply operates less efficiently and requires more employees for the same level of output as the industry at the national level. Despite these potential shortcomings, economic base analysis remains one of the best tools for understanding the local economy.

SWOT AND VISIONING ANALYSIS

Understanding the existing conditions and trends is only one part of understanding the Route 106 corridor. Another part involves working with the residents and business leaders to understand how they perceive their community and their community's needs. Toward that end, a strengths, weaknesses, opportunities, and threats (SWOT) analysis and visioning exercise were completed with residents, the business community, and County officials. The findings from these meetings are discussed in this section of the report. The summarized feedback from each of these meetings is included in Appendix A.

STRENGTHS

Strengths are those aspects of the Route 106 area that are intrinsic to the area or controlled by the County and are viewed as beneficial. For this evaluation, residents were asked to identify what they like about where they live. The government and business stakeholders were asked to identify what strengths will help to foster desired economic development. In approaching the same question from different perspectives, a more complete picture of the desires of the community can be painted.

Given the different starting points, the residents living in the area and the business and government leaders had different views on the strengths of the Route 106 area. The aspects that residents like the most about living in the area is that it is rural, peaceful, and quiet. These strengths reflect residents' preferences for a rural lifestyle, away from intensive development. Maintaining the rural character of the corridor will be key for a successful plan.

The business and government leaders were more focused on economic development and the potential for Route 106 as an economic engine for the County. The three biggest strengths identified by these groups are land, access (to roads and surrounding localities), and the I-64 highway. For any future industrial and commercial growth, access to transportation and land for development will be critical.

Balancing the strengths of the corridor for residents and economic development will require a shift in the County's land use planning practices. Maintaining separation between the rural residences and the industrial uses while still allowing for growth will require a more disciplined approach to rezoning with a goal of concentrating industrial and commercial growth in the intended development centers. The future land use designations should be updated to reflect forecasted

growth and land use demand. This will likely need to include shrinking or removing the industrial reserve areas. A future land use plan for the Roxbury Development Center will also need to be developed to provide guidance for growth within the mixed-use district.

WEAKNESSES

Weaknesses are the opposite of strengths. While still intrinsic or internal to the County, these aspects are harmful. Residents were asked to identify what they dislike about where they live. The business and government stakeholders were asked to name weaknesses that would impede desired commercial and industrial growth.

The participants at the residential community meetings identified traffic, trucks, and speed on the road as the three biggest weaknesses of the Route 106 area. Understanding the residents' preferences for a rural lifestyle and character, these concerns are understandable. Truck traffic generates significantly more noise than personal automobiles and does more damage to roadways that are not intended for heavy vehicle traffic.

The business and governmental stakeholders identified weaknesses for industrial growth. The most repeated word was "lack." The corridor lacks water and sewer, emergency services, and high-speed internet. Provision of these services is generally more cost-effective when concentrated in a defined, smaller area. This weakness suggests the need for a change in the plan for future development to more effectively concentrate growth in areas where services can be provided.

The other top weaknesses identified by these stakeholder groups were the road and traffic. These concerns, while more focused on the ability to move vehicles to and from industrial sites, are similar to those raised by residents. The Planning Commission has previously work on a design overlay district to address some of the road concerns along Route 106. A review and update of these proposed standards may offer a solution to some of the traffic related problems.

OPPORTUNITIES

Opportunities are like strengths in that they are helpful. Unlike strengths, opportunities are based on change and can be outside of the County's control. The residents were asked to identify changes in their community and the Route 106 area that had been positive. The business and government stakeholders were asked to identify outside forces and trends which will aid industrial development along Route 106.

The most positive changes residents have seen include improved roads, development of the industrial park, and more jobs in the County. This list provides guidance into what sorts of changes residents are willing to embrace along the corridor. Most importantly, residents like the industrial park in Roxbury and the jobs it provides. This suggests that the community is open to future industrial development if it is well-sited and protects the rural character and tranquility of existing residential areas.

The economic development stakeholders identified highway improvements on I-64, growth in neighboring counties, and the focus on residential rather than industrial growth in neighboring localities. Improvements to the interstate and growth in the surrounding communities have made Charles City County more accessible to live, work, and visit. Some of the adjoining localities have shown more interest in residential and commercial growth which provides the opportunity for Charles City to attract the industrial uses.

Both sets of analyses suggest improvements and growth are moving closer to the Roxbury area. As noted in the strengths section, refining the County's future land use plan to allow for industrial and commercial growth while preserving a rural character in most of the area will be vital to embracing the changes and leveraging them in a manner beneficial to all in the County.

THREATS

Threats are the opposite of opportunities. Threats are shaped by change and dictated by outside forces and trends. Threats are harmful and do not promote the desired character and development in the area. The residents of the community were asked to identify what changes have taken place in the area that have been negative. The economic development focused groups were asked to identify outside forces and trends that could impede industrial growth.

The main negative changes identified by residents were that businesses have left, traffic volume, particularly truck traffic, has increased, and trees have been cut down. Like the findings from the earlier questions, these answers suggest that residents want to maintain the rural character while still having employment and shopping opportunities in the County. Striking this balance in land use will require planning policies to channel growth and development to parts of the County to foster economic growth and retail development.

The business and government stakeholders viewed development in surrounding localities as the biggest threat. As New Kent continues to grow and build new homes and schools, potential residents are drawn away from Charles City. As Henrico continues to expand along Technology Boulevard, industrial growth is drawn away from Charles City. The County will need to find a way to attract growth and compete with the surrounding localities. Expansion of infrastructure and services will be a key first step in this process.

VISION

The County adopted an *Economic Development Strategic Plan* in 2015 which outlines the vision for industrial development. Suggested development includes several types of manufacturing, power generation, and support industries for agriculture and forestry. While this document provides a vision of future industrial development, no comparable guidance for commercial and residential growth has been undertaken for the Route 106 corridor. Toward this end, a visioning exercise was also completed with residents at the community meetings. The results can be seen in the word cloud in Figure 14 below.

The biggest priorities for residents are more retail and basic service options. This list includes a grocery store, a gas station (as opposed to existing country stores), a laundromat, a pharmacy, and fast-food options. Residents want to see more business and residential growth in the area. Broadband access for residential development also ranked high on the vision for the Route 106 area in twenty years.

Perhaps not surprising given the preference for a rural aesthetic, the residents in the community meetings were equally divided between those who want to see new industry and those who do not want to see more industrial development. A third group wants to see industry with adequate buffers to protect residential communities. With the preference for a rural lifestyle, very few residents expressed interest in provision of public water or sewer. The guidance provided in this exercise helps to shape the recommended future land use plans at the end of this report.

Figure 14: Residential Stakeholders Visioning Results



MARKET SUMMARY

LOCAL MARKET

Charles City County remains a largely rural community based on a modest rural economy which has historically not been growing. The median age of the resident population is 47 years old, almost 10 years older than the regional median age. The poverty rate is 13.2 percent compared to the regional rate of 11.9 percent, and educational attainment rates are lower overall. A labor force participation rate of 59 percent (region at 68 percent) is reflected in these statistics.

However, total employment has increased slowly over the past five (5) years. In contrast, the rate of unemployment is higher in Charles City than in the region and wages are considerably lower even with a much lower cost of living. Manufacturing and educational services are the predominant industries with a relatively high location quotient of 4.5 in Farming, Fishing and Forestry occupations. A location quotient (LQ) is an analytical statistic that measures a locality or regional industrial specialization relative to a larger geographic unit such as the nation. This statistic reflects the agrarian nature of the County.

Completion in 2015 of the Virginia Capital Trail (VCT), a 52-mile off-road multi-use trail traversing the County along Route 5 from Richmond to Williamsburg, offers tremendous potential to open the County to increased tourism. Twenty-seven (27) miles of the total 52-mile trail are located within the County. Ancillary support facilities and businesses have been emerging as a direct result of this increased exposure.

Charles City County's economic development challenge in the near-term is to determine how best to position the County to derive benefits from the VCT, fully activate throughout the County the broadband infrastructure recently employed for the Roxbury Industrial Park and respond to potential development opportunities along the Route 106 corridor in the western portion of the County. The County's *2015 Economic Development Strategy* provides a solid understanding of the local economy in the context of the region recognizing very specific strengths/asset, weaknesses, opportunities, and threats. Building on the opportunities, the County should focus on:

- Diversifying tourism opportunities/assets
- Leveraging the VCT

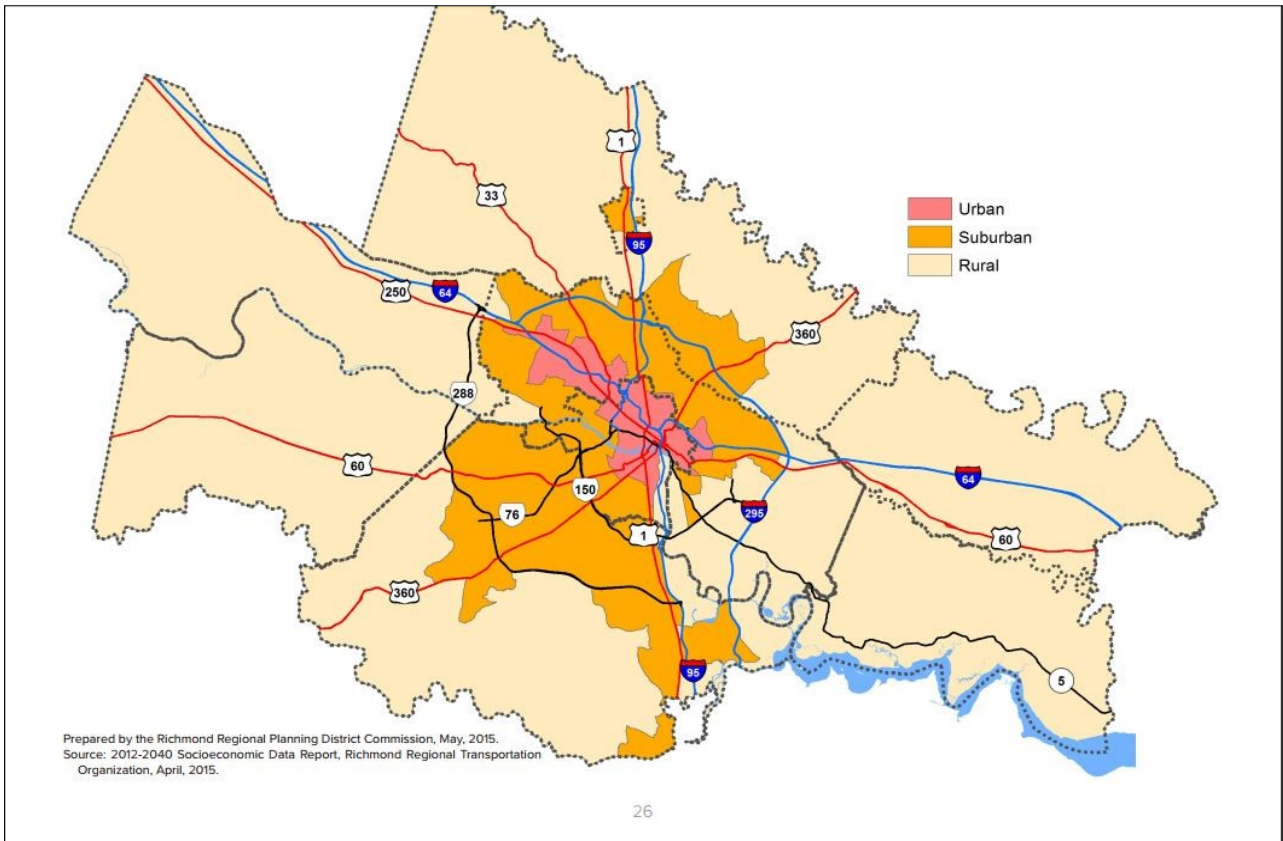
- Developing more retail in targeted areas
- Expanding small manufacturing
- Building a residential base in selected locations

The strategy identifies Route 106 as the key industrial corridor and the Charles City Courthouse area as the commercial/residential hub.

REGIONAL MARKET

When analyzing the market for possible economic growth opportunities it is important to study the Route 106 corridor in the context of the overall County, the Richmond region, and the Commonwealth of Virginia. The pattern of development in Charles City County is characterized by agricultural and forest uses, open space, and large-lot and roadside single-family housing with few multi-family or rental housing options. Commercial, industrial, and public/semi-public uses are clustered along the major road corridors, which link the residential population to services, and exist primarily in the western portion of the County. The *2014 Charles City County Comprehensive Plan* suggests a planned departure from the historic roadside residential pattern in favor of neighborhood residential or development centers of mixed uses clustered within utility service areas. Route 106 serving the western edge of the County and connecting from points south of the James River north to New Kent County, is intended to be the focus of industrial growth with more mixed use and commercial centers to the south toward Route 5.

Figure 15: Urban, Suburban, and Rural Areas in the Richmond Region



The major limiting factor for growth in the eastern portion of the Richmond region is declining groundwater resources. Both Charles City and New Kent Counties (and eastern portions of Henrico and Chesterfield) are in the Eastern Virginia Ground Water Management Area where the available groundwater supply has either been overdrawn or is in an area at risk of pollution. Until surface water withdrawal from area rivers can be feasibly justified, limited, available and affordable water supply have caused both jurisdictions to focus on planning more on a concentrated service area basis which is very different than the historic development pattern. Charles City County also does not have a cash proffer policy which would enable the County to derive revenue support resulting from residential growth to construct public infrastructure. The County planning staff works through conditional zoning to set standards for specific land uses and site parameters which can guide individual development projects.

Rural Area Demographics

The following summary analysis is taken from the *2040 Socioeconomic Data Analysis* using 2012 demographic data and projections to the year 2040 prepared by the RRPDC in concert with the region's Socioeconomic Data Group as background for the *plan2040* adopted by the RRTPO in October 2016.

The rural area of the Richmond region totals 1,803 square miles, or 82 percent of the region's total land area. Most of the rural area consists of the entire jurisdictions of Powhatan, Goochland, New Kent, and Charles City, and less developed portions of the larger jurisdictions.

Table 2: Rural Area Demographics (Richmond Regional Transportation Planning Organization, 2015)

	<u>2012 Base Year</u>	<u>2040 Forecast Year</u>
Population	183,895	438,487
Households	67,413	164,864
Residential Density	102/sq. mi.	243/sq. mi.
	0.06 DU/AC	0.15 DU/AC
Employment	81,973	193,027
Autos	165,347	402,373

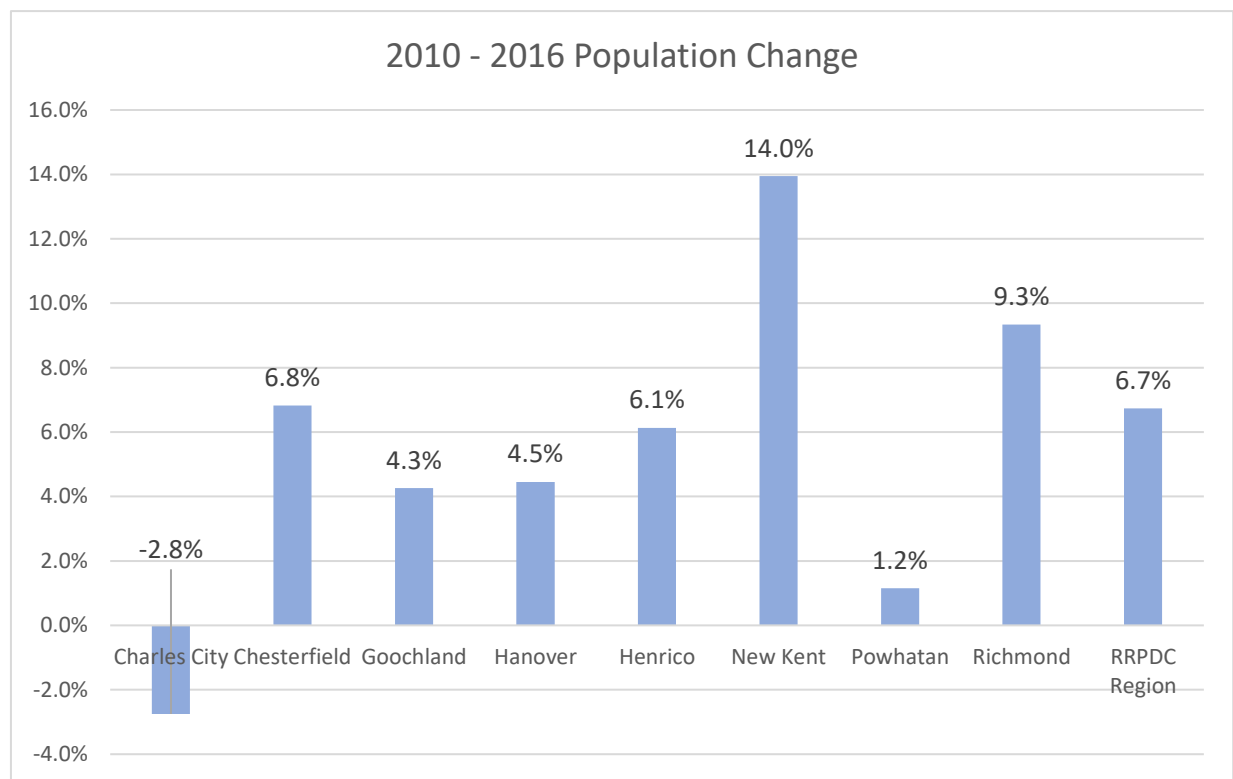
The statistics above illustrate how the rural portion of the region is expected to grow in population and employment over the next nearly 30-year horizon. The four smaller jurisdictions are expected

to add population and employment at a slower rate (44 percent) than the entirety of the rural area, representing an increase in population of 33,847 people. A similar population growth occurred in the rural counties during the previous 30-year period (1980-2010) according to the U.S. Census, but the rate of growth was relatively higher at 87 percent.

Regional Comprehensive Economic Development Strategies

The 2017 Comprehensive Economic Development Strategy (CEDS) for both the Richmond and Crater region—of which Charles City County is a part—provide a basis for analyzing the regional marketplace, challenges and opportunities facing the County within the larger region. The 2017 Richmond CEDS points out the loss of population in both absolute and percentage terms in Charles City County.

Figure 16: Population Change 2010-2016 (United States Census Bureau, 2017)



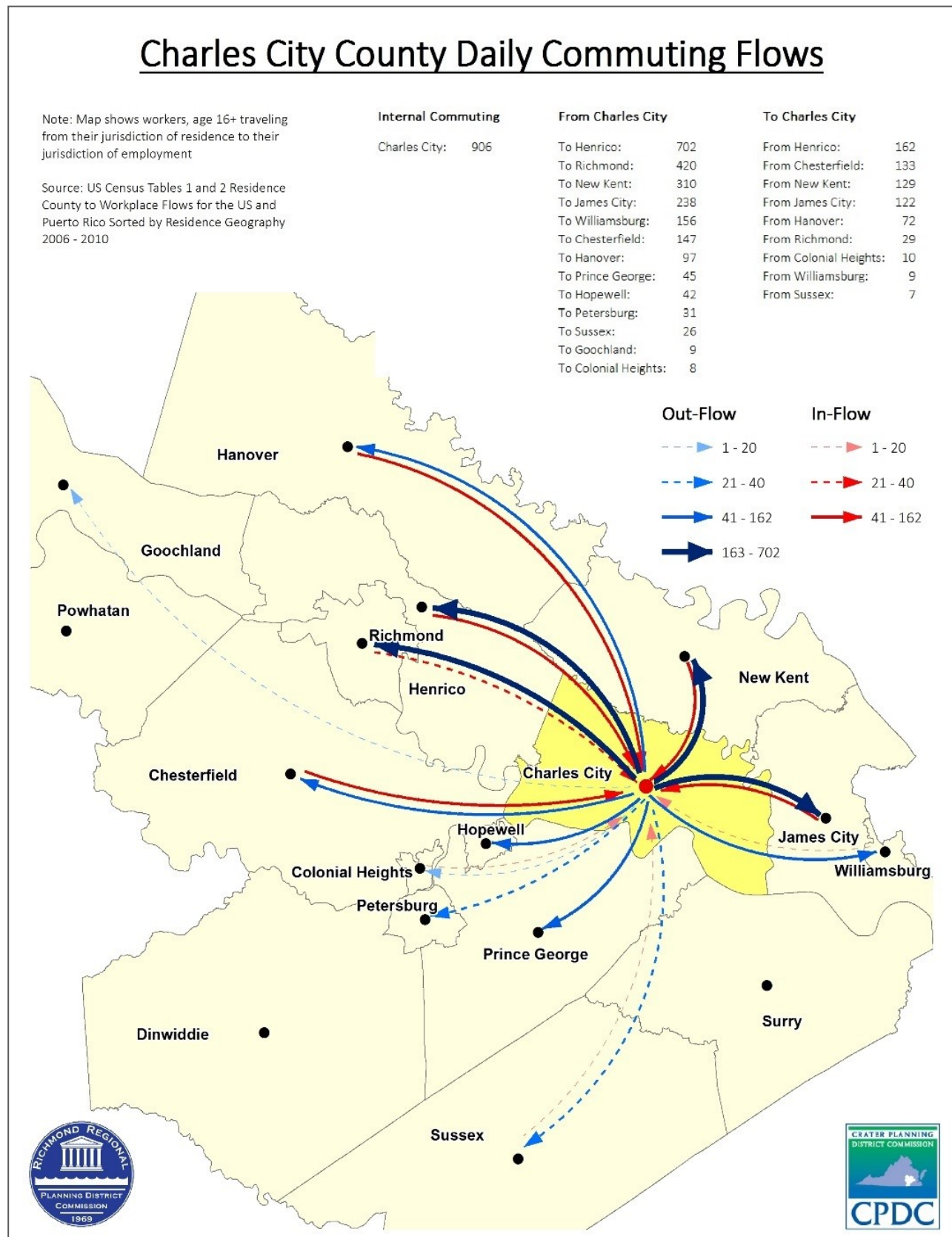
Most notably, however, Charles City County has been showing an increase in local employment with an increase of 137 jobs (or 7.4 percent) from 2012 to 2017. The largest sector in the County is manufacturing followed by educational services and construction. The sectors with the largest concentrations of employment relative to the national average (or the location quotient) are

agriculture/forestry, transportation, quarrying and oil/gas extraction (Chmura Economics & Analytics, 2017).

As depicted below, an estimated 24 percent of the workforce both live and work in Charles City; 58 percent commute to work elsewhere in the larger Richmond-Crater region (Richmond Metropolitan Statistical Area), and 18 percent of the regional workforce commute to Charles City County for work. The 2017 Crater CEDS update identifies progress and priority needs within their region immediately to the south. Within the energy sector, Dominion Virginia Power is proposing to construct a state-of-the-art natural gas-fired power station in Greensville County at a cost of \$1.3 billion. The power plant, which will bring major positive economic impacts to the region, is expected to come on line in 2019.

Similar natural gas-fired plants proposed for Charles City County are anticipated to generate up to 2,500 jobs in construction over a 3-year period and up to 60 permanent jobs. Plans call for the first plant to be operational by 2022 which will have a large economic impact on the County from a revenue standpoint, yielding an estimated annual tax revenue of \$1 million. The CEDS for the Crater PDC identifies a priority need for a raw water intake and water line to the Roxbury Area largely in response to the infrastructure needs of these plants. The biggest challenge for Charles City County will be to take full advantage of this private investment and job creation. Are there strategies to put in place so that more of the workforce can both live and work in Charles City County? We look to opportunities provided by the Region and Commonwealth to help provide some answers.

Figure 17: Regional Commuting Patterns (United States Census Bureau, 2014)



STATEWIDE MARKET

Commonwealth of Virginia - *Blueprint Virginia 2025*

Key recommendations from this annual update by the Virginia Chamber of Commerce and partners to guide the Commonwealth toward a more vibrant, prosperous state through a “plan of action [that] strengthens and secures its position as a leader in the global economy and is the best state in the nation for business” with relevance for Charles City County, include:

Workforce and Education - The business community is especially interested in the availability of a well-trained, qualified workforce because it affects their bottom line; businesses need appropriate housing in the communities where they operate to attract and retain talent. This is especially true in Charles City County where three (3) times the number of residents commute out of the County than those who commute into the County for work.

The *Blueprint* calls for continued investments in the 2016 New Virginia Economy Workforce Credential Grant Program which currently provides funding for eligible noncredit workforce training that lead to a certification in a high - demand field. In 2017, 20 different credential programs are identified for enrollees at John Tyler and Reynolds Community College including those in the fields of business/customer service, health care, education, logistics/transportation, and welding/manufacturing.

Business Climate - Agribusiness and tourism are both called out separately as industries targeted for focused attention in the *Blueprint*. According to the *Charles City County Economic Strategic Plan*, the County has the smallest number of farms (2012 USDA Census of Agriculture) within the region, but the highest average sales per farm and is the second highest to Surry County in total farm sales. Acreage committed to farms and sales of product both increased dramatically from 2002 to 2012. An estimated 75 percent of the farms produced grain and soybeans, raised beef cattle, or produced a mix of crops or animals. With the completion of the Virginia Capital Trail in 2015, the full extent of tourism amenities generating income for Charles City County has not begun to be explored. Agritourism is a growing part of the Virginia economy that leverages natural resources as well.

Essential to the Commonwealth through the *Blueprint* is the acknowledgement that all regions, especially the rural areas, need State support and active stewardship with connectivity through broadband and public utilities. Charles City is no exception when it comes to addressing the

absence of water and sewer utilities essential for economic development. A majority of the County is served by individual wells and septic systems. Selected areas in the County have substantial clay deposits and/or high - water table which limits percolation. Groundwater for permitting and renewed well permits is severely limited environmentally. Therefore, the County is not equipped to handle a high water/sewer user without major investments in infrastructure (Charles City County *Economic Development Strategic Plan*, April 2015)

Energy - The *Blueprint* supports infrastructure development to increase access to affordable, reliable natural gas for manufacturing, power generation, and home heating.

Innovation, Technology and Entrepreneurship - The *Blueprint* calls for increased investment in expanding broadband coverage to unserved areas through additional public - private partnerships that explore new technologies and strategies. It also recognized the need for greater exposure for K - 12 career planning in information technology important across all industries.

Manufacturing - The *Blueprint* references the need to support development of manufacturing supply chains through targeted investments in industry clusters. It calls for supporting efforts to build a strategic portfolio of project - ready sites by connecting them to important infrastructure such as broadband, energy, water, rail and highways, encouraging ways for multiple localities and regions to pool resources to meet match requirements for available grant programs.

Virginia Initiative for Growth & Opportunity (GO Virginia)

A joint initiative by the business community and the Commonwealth, GO Virginia received \$28 million in the last two-year budget of the Commonwealth to establish a grant funding program focused on regional collaboration to undertake projects in areas such as workforce development, business incubators and accelerators, joint site development and scale-up programs for small and large businesses. Funds awarded through GO Virginia are intended to leverage private and other public dollar investments.

The *Economic Growth and Diversification Plan for Region 4* (Richmond and Crater regions together) prepared through the GOVirginia program and approved in August 2017 provides guidance for the larger region. The *Plan* provides an overview of the major industry clusters relative to employment, wages and opportunities and the identified skill gaps between available and forecasted jobs and the current supply in the workforce. The following findings are

summarized which are instructive for Charles City County and the Route 106 industrial/commercial corridor in particular:

- Overall **labor force participation** in Region 4 is high, and employment growth is supported by a diverse mix of industries. However, the region has a larger share of the population with only a high-school degree, and high rates of poverty in both urban and rural areas. The growth in sole proprietors and share of new jobs created by young firms—drivers of innovation and productivity growth—have been increasing in the region in the past five years, although still lagging state and national averages.
- Significant intraregional differences exist. **Population has declined** in each of the five localities with the smallest populations (Emporia, Surry, Sussex, Greensville, and Charles City), and the decline is projected to continue through at least 2030. Labor force participation is lower than the regional average in the Crater district and declined more rapidly in these localities between 2006 and 2016 than in the state or nation. The per capita income for Charles City County residents, \$29,000, is on the lower side of the income scale for the region.
- The overall regional economy has rebounded relatively well from the recession, but **wages have been slow to recover** (especially in the Crater district), growing below average rates in the state and nation.
- The creative services, financial services, defense and security, and bioscience/ life sciences clusters pay **above-average wages** and performed well locally compared to growth in those industries nationally over the last 10 years. The logistics, warehousing and distribution cluster and arts and entertainment cluster grew competitively within the region over this period but have below-average wages. **Clusters with the largest contributions to GDP in Region 4 include professional services, energy, financial services, manufacturing, and defense and security.**
- Eight of the identified clusters are **forecasted to grow** at least as quickly as the regional average, led by bioscience/ life sciences, creative services, and information technology and communications. Manufacturing categories- advanced materials, glass and ceramics,

chemicals, and food and beverage- are significant historical drivers but are forecasted to grow below the regional average annual rate (0.7%) or decline.

- The **industry mix** of localities within the region vary substantially, and clusters that may not be dominant at the regional level are no less important locally. Instances where localities share a high specialization in a cluster that pays above-average wages suggest opportunities for interregional collaboration to reverse potential negative growth forecasts.
- Online job postings data suggest **current needs for occupations requiring less than a college degree**: retail salespersons; first-line supervisors of retail sales workers; and sales representatives. Jobs with many online postings and requiring higher levels of training include registered nurses; computer user specialists; and software developers.
- Over the next ten years, **the most rapid growth forecasts are for occupations that require a postgraduate degree, or a two-year degree or certificate**. This is consistent with previous studies that have shown a need for advanced new economy skills and identified a large “**middle skills**” gap in jobs that require more than high school and less than a four-year degree.
- The report details 32 occupations that typically require an associate degree or less that have a potential annual training gap and 35 occupations that require a bachelor’s degree that have an annual shortfall. Approximately two-thirds of these occupations are substantially related to strong regional clusters. These estimated gaps could potentially inhibit growth within clusters in Region 4.

The following table provides an illustration of the relatively **healthy occupational demand** within reach for those with associate degrees and certificates in the Richmond region, although these top eight (8) only represent 5 percent of the total current employment:

Table 3: Projected 10-Year Employment in Select Fields

Occupation Title	Current Employment	10-Year Demand (2017-2027)	Average Annual Growth
53-3032 Truck Drivers	7,401	8,615	0.7%
31-1014 Nursing Assistants	5,678	7,582	1.4%
29-2061 Vocational Nurses	3,411	3,077	1.4%
49-3023 Auto Mechanics	3,066	3,115	0.7%
39-5012 Hairdressers	2,614	3,557	1.2%
31-9092 Medical Assistants	2,296	3,393	2.6%
49-9021 HVAC Mechanics	1,737	2,037	1.5%
23-2011 Paralegals and Legal Asst.	1,706	2,032	1.3%

- Region 4 stakeholders in surveys and focus groups identify **workforce development** and talent attraction/retention as the key driver of growth in higher paying jobs. This perspective is evident across the entire geographic region and transcends the intraregional differences that are evident on other issues.
- There is an impressive range of creative effort and investment underway to address workforce development issues throughout the region and in the Commonwealth. Stakeholders believe that the most successful efforts will involve **partnerships in which business involvement** is proactive and sustained. They also believe that substantial cultural and institutional changes are necessary for a long-term solution to the middle skills gap.
- Stakeholders identify **information technology as the “cluster of clusters.”** Not only is information technology an important cluster, but it is driving higher paying jobs in other clusters and is the essential foundation for the region’s entrepreneurial creativity and innovation ecosystem.
- **Logistics** is an important industry cluster due to the region’s natural locational advantages. Potential collaborations on port issues with Hampton Roads on developing an inland port around the Richmond Marine Terminal are perceived to be genuine opportunities. If the

cluster is to support higher paying jobs, however, it will be important to **link logistics to other clusters such as manufacturing** and/or to enhance the research-based applications of advanced logistics to contemporary business processes.

- Although employment in manufacturing has declined over time, **advanced manufacturing** is seen to be critically important to driving higher paying jobs by stakeholders involved in the industry and by leaders throughout in the rural parts of Region 4. The state and the region have already made significant investments in revitalizing advanced manufacturing that have paid notable dividends. Addressing workforce development concerns and infrastructure issues that inhibit site development are necessary prerequisites.
- Stakeholders, especially in the Richmond area, believe that the region can develop a reputation for economic innovation that matches the extraordinary accolades that it has received in recent years for its restaurants, arts scene, outdoor recreation, downtown housing, and overall quality of life. RVA has established the basics of a successful **“innovation ecosystem”** with increased access to capital, effective linkages with Virginia Commonwealth University researchers, and the creation of a vibrant entrepreneurial network. Stakeholders suggest that linking traditional strengths such as financial services and medical research with new economy companies and developing more effective ways of branding Richmond as an innovation center will enable the region to capitalize on its emerging potential.
- The Plan recommends that the Region 4 Council consider how **workforce development resources and investments can be leveraged** to ensure that initiatives address important skill gaps and demonstrate how business can be a more effective partner in achieving measurable outcomes. It also recommends long-term changes that enable young people to make informed choices about careers and the pathways to achieving their goals.
- The Plan recommends that the Region 4 Council consider more effective ways to attract and retain

graduates from the **I-64 educational corridor** extending from Staunton to Virginia Beach and that includes more than half of the public university college students, the state’s major

historically black colleges and universities (HBCUs), significant private universities, and most medical students.

- The industry clusters of **health, life sciences, and bioscience** are perceived by stakeholders to have the region's highest potential for growth.
- **Advanced manufacturing** initiatives can make significant progress in addressing the challenges of workforce preparation and infrastructure for site development. Average wages in the region's logistics cluster could be enhanced by linking initiatives to clusters such as manufacturing that pay higher wages.
- The Plan recommends that the Region 4 Council consider supporting an initiative for increasing the supply of modernized shell buildings. The Council should also consider how the **Collaborative Jobs Act** can provide an incentive for multiple localities to participate in joint site development.

OPPORTUNITIES

As noted in the Existing Conditions analysis earlier in the report, an estimated 1,300 acres are capable of being developed within the defined corridor study area in the western portion of Charles City County along Route 106. This land area could be considered as separate large land bays easily lending themselves to industrial type uses to the north in the Roxbury area and mixed use residential and commercial in the center and southern portions.

The growth opportunity in the energy sector is most evident for Charles City County. The proposed energy plants not only will provide construction jobs to the region over the next few years, but create 60 well-paid, permanent jobs in Charles City County. These developments are dependent on state permit approvals. With respect to phasing, the industrial prospects developed first would ideally support commercial and residential rooftops that could follow.

The anticipated annual tax revenue could serve as an excellent source for financing longer term revenue bonds which would make necessary infrastructure possible to ensure the desired future development for the County and Route 106. With the employment come opportunities to house and provide services for the workforce. The update of the Comprehensive Plan in 2019 should consider better delineating neighborhood service boundaries within the County, and particularly in the Rt. 106 corridor with corresponding utility service areas and/or established Sanitary Service Areas which can serve to implement the improvements. The zoning district categorization should also reflect desired residential densities based on level of service.

The April 2015 *Economic Development Strategic Plan* for Charles City County identifies specific manufacturing and energy production opportunities resulting from projects such as the energy plants:

- Machining operations
- Machinery and equipment manufacturing
- Plastic and composite parts manufacturing
- Light assembly of subassemblies or small equipment/machinery
- Furniture and fixture manufacturing (particularly wood products)
- Utility-scale solar, gas-generated electric power and biomass to electric power

The Chmura Economics & Analytics JobsEQ program has a feature called a *What If? Scenario* which estimates the potential for indirect jobs and sales/output resulting from an industry proposal. For example, if we assume a permanent employment of approximately 35 people at one power plant, an estimated 11 jobs are indirectly expected to result from the companies in the region which will be supplying goods and services for the new industry. An additional 18 jobs could be predicted to be “induced” or created in supporting businesses because of the direct and indirect employment created by the energy company. A total annual payroll resulting from new permanent employment is expected to be approximately \$2.1 million. The types of jobs expected would range from plant operators, engineers, equipment operators, pipefitters, mechanics, accountants and administrative support personnel. Those at the operator level with experience will be the most challenging to fill given the experience level of the existing workforce in the region.

CONCLUSIONS AND RECOMMENDATIONS

The County will have to proactively work to capitalize on emerging business networks within the region and to fully realize the potential from the immediate development planned for Roxbury and the Route 106 corridor. The Route 106 Master Plan presents an excellent opportunity to build community quality of life guided by the local, regional, and state plans. Drawing from these plans and the background analysis of constraints and opportunities within the Route 106 study area, the following recommendations are offered:

- **Work with real estate and developers to create/incentivize and make land available for construction of possible uses that are most likely to spin-off to support the energy sector.** This would include smaller buildings of 20,000-30,000 SF, sub-dividable into 2,500-3,500 SF for multi-tenant office/service uses for contractors who are involved in construction and maintenance of the energy facilities.
- **Recognize opportunities in the Richmond economy especially in the White Oak Technology Park** and Richmond International Airport area of eastern Henrico County, and put together a strategy with VEDP for attracting light manufacturing uses that do not require large amounts of water or sewer capacity but may benefit from less costly leased space. Machining and mechatronic-capable shops are in demand within the region.
- **Provide links between training programs offered through the Community College Workforce Alliance (CCWA) to those in the local labor force** who may not have the necessary skills now could be skilled-up through training or apprentice programs with local industry for these more technical jobs. Immediate to the Route 106 corridor, developments (both under construction and operational) offer tremendous opportunity for electrical and mechanical contractors, IT, administrative and office support.
- **Plan for Route 106 and Route 5 to serve as a vitally important gateway to the County,** particularly for ecotourism related to the Virginia Capital Trail. The intersection needs to be planned sensitively and proactively with a distinct vision in mind. Small scale commercial uses framed by appropriate landscaping and signage and providing bike/pedestrian access across the two highways and to the VCT along with traffic-calming improvements is recommended for this intersection. A SMART SCALE funding application was submitted in June to replace the flashing lights at this intersection with a

single-lane roundabout suitable to handle truck traffic, passenger vehicles, pedestrians and bicycles traffic at Route 5/106.

- **Make access management standards such as those provided by VDOT a top priority** as part of the Route 106 plan to protect the road frontage and provide for fewer curb cuts, better organization, and safer traffic movements.
- **Consider ways to diversify the housing stock, partner with housing non-profits and the development community so that more of the local workforce can live and work in the County.** The impacts on the local and regional economy of the two energy proposals if they occur simultaneously could be tremendous, not only from an employment standpoint, but with resulting traffic, and supporting needs for services and housing.

The County will derive greater economic benefit if such services and housing can be provided within the locality. Transitional housing which may potentially serve as permanent housing could also to be explored if there is an influx of construction jobs with the two energy projects happening simultaneously.

- **Use the Route 106 Master Plan as the first step in updating the County's Comprehensive Plan, and draft requisite zoning and subdivision standards to implement the plan.**

GOALS AND IMPLEMENTATION

The findings from the existing conditions, SWOT analysis, and market analysis suggest two overarching goals for the future development of the Route 106 corridor: (1) A Rural Character and (2) A Diversified Tax Base. The most common strength mentioned by the residents who participated in the public outreach meetings was the area's rural character. People come to Charles City County to live in a quiet, peaceful area. While the rural lifestyle attracts people to the County, the lack of jobs and services is a significant weakness mentioned by both residents and County officials. From a public finance perspective, the limited commercial and industrial development in the County requires residents to shoulder a larger share of the tax burden which would otherwise be offset by the non-residential uses. To foster commercial and industrial growth, the County needs more investment in infrastructure and more rooftops to provide a larger customer base.

These two goals are in apparent contrast, but many other localities have found success in meeting both goals through policies of growth management. The general premise of growth management is already embodied in the Comprehensive Plan. As noted in the existing conditions section of this report, Roxbury and the Courthouse Area have been designated as "Development Centers" in the future land use plan. These areas are intended to hold a mix of land uses and are envisioned to accommodate most of the future development in the County, relieving development pressure on the rural areas of the County. Unfortunately, while the general vision of directing growth to limited areas is reflected in the long-range plan, the ordinances and policies in the County have not been updated to foster the desired outcomes. For example, during the past two years, not a single subdivision has been approved within the designated development centers while over a dozen family and minor subdivisions have been approved elsewhere in the County. The following policies and action items are intended to enhance the overall rural character of the County while improving the opportunities for commercial and industrial development in the designated development centers. For the land use section of the goals, specific timelines and benchmarks are identified to ensure the development of Route 106 remains a priority moving forward; as much of the economic development portion of the plan is contingent on land use planning and development, no benchmarks or timelines are recommended for these policies and action items.

GOAL 1: A RURAL CHARACTER

BENCHMARK 1: Sewer and water facilities capable of serving all users throughout the Roxbury Development Center by 2023.

BENCHMARK 2: More than 50% of new development within two (2) miles of Route 106 located in the designated Roxbury development center within ten (10) years.

Explanation: By encouraging new development to locate within the existing development center boundaries, the areas outside the development center will be better protected, preserving the overall rural character of the County. A key to this development is provision of public sewer and water throughout the Roxbury Development Center. Focusing new growth in the development centers also supports good planning practice and reduces the overall cost of providing utility service.

POLICY 1: Make public sewer and water available within the entire Roxbury Development Center.

Explanation: To facilitate more intensive residential, commercial, and industrial uses within Roxbury, provision of public sewer and water will be necessary. The subdivision ordinance requires water and sewer systems for all major residential as well as commercial subdivisions with lots smaller than five (5) acres. The costs of these systems are generally prohibitive for most projects. In developing a public system and requiring connections within the development center, the County can support more residential and commercial growth and provide the quantities of water needed by larger industrial users.

ACTION 1: Adopt a resolution to designate 10% of new revenue from the C4GT and Chickahominy power plant projects for economic development in Roxbury within two (2) years.

Explanation: Each power plant project is expected to bring in at least one million dollars in revenue to the County every year. Setting aside 10% of the revenue from these two projects will provide a minimum of \$200,000 for sewer and water infrastructure investments and other site readiness initiatives per year. These investments will help to facilitate future development projects, creating a virtuous cycle of growth and reinvestment in Roxbury.

ACTION 2: Incorporate sewer/water service areas under the Community Facilities and Utilities chapter of the Comprehensive Plan during the five-year review in 2019.

Explanation: The provision of public sewer and water systems has been shown to increase subsequent development in the served area in localities across the country. To preserve the rural character of the areas outside of the intended development center, sewer and water service should *not* be provided to new development in the rural areas. Sewer/water service areas should also be designated for the neighborhood service areas with existing County sewer or water service. Designating service areas into the Comprehensive Plan will help to create a policy framework for the Community Development and Public Works departments to determine which projects are eligible for sewer and water connections moving forward.

ACTION 3: Develop a cost comparison between construction and operation of County-owned public water and sewage treatment facilities for Roxbury and connection with a neighboring locality's existing systems; Incorporate the recommended alternative in the Community Facilities and Utilities chapter of the Comprehensive Plan and the Capital Improvements Program (CIP) in 2019.

Explanation: Before investing in a major County facility, the cost of interconnection with Henrico or New Kent should first be examined as an alternative. The Comprehensive Plan, as the guiding document for future development of the County, is the appropriate place to make the recommendation regarding the preferred alternative. The recommendation should then be included in the CIP beginning in 2019 to ensure funding is available for the project.

ACTION 4: Amend Chapter 45 of the County Code to require sewer and water connections only within the designated service areas and remove references to new subdivisions after the revised Comprehensive Plan is adopted.

Explanation: The County's adopted utility ordinances require that all structures that use water for human consumption or washing and are located within 500 feet

of an existing sewer or water line connect to the County system. Furthermore, this chapter of the code specifies that all subdivisions within 500 feet of a public sewer or water system need to connect to the County system. By incorporating the service areas into the ordinance, the County will ensure development remains focused in the intended areas and will reduce costs for expansion and extensions of the existing systems beyond the intended communities. Removing references to subdivisions will provide increased clarity as to the standards for new subdivisions. The current subdivision ordinance only requires connections for major subdivisions within 2,000 feet of an existing system. Keeping the requirements for subdivisions in one ordinance will reduce the potential for ambiguity and confusion.

ACTION 5: Decide whether to establish as sewer and water service authority or continue to operate utilities under the Department of Public Works within three (3) years.

Explanation: The County can continue to finance the plants through County bonds and operate the plants through the Department of Public Works as it has for the existing plants. Alternatively, the County can choose to adopt an ordinance creating a Sewer and Water Authority under Va. Code Ann. § 15.2-5100 et seq. This body would be a separate corporation with authority to issue bonds to finance the construction of the facilities. In some localities, the members of the Board of Supervisors also serve as the board for the sewer and water authority. As a separate body, a sewer and water authority can issue bonds and operate the systems separately from the County. This latter option offers the most flexibility with regards to the financing of the project but would require establishing a new body.

ACTION 6: Construct the preferred alternatives and begin operations in 2023.

Explanation: To encourage new development to be located in the development center within ten (10) years, the sewer and water systems will need to be in place earlier in the decade. A target date of 2023 for opening the new facilities allows for five (5) years to adopt needed ordinance changes and updates to the Comprehensive Plan. This will also allow five (5) years of operations to allow the development pipeline to catch up to the new infrastructure.

POLICY 2: Limit development in the rural area to agricultural and forestry uses.

ACTION 1: Adjust the boundaries of the neighborhood service areas and designate new neighborhood service areas in the Comprehensive Plan as needed to include the full extent of the built-up areas during the 2019 five-year review.

Explanation: The neighborhood service areas, as designated in the Comprehensive Plan, are general and highlight the key intersection in each community. Mapping the neighborhood service areas to include the entire area of contiguous small parcels under five (5) acres in size would more accurately reflect the areas that have already been developed. By capturing the full extent of development within the neighborhood service areas, efforts to maintain the rural character of the County can be more focused on areas that are still more rural. Furthermore, many of the neighborhood service areas, like Wayside, already have sewer or water service. Designating a hard edge to the community will also serve as a limit for sewer and water service extension.

ACTION 2: Amend the Zoning Ordinance to increase the minimum lot size in the Agricultural (A-1) zoning district to at least five (5) acres within two (2) years.

Explanation: The Zoning Ordinance makes little distinction between A-1 zoning and single-family residential (R-1). Both set a minimum parcel size of one (1) acre without sewer and water and both allow houses as a primary use on the property. As the A-1 district is intended to support agriculture and forestry, the minimum lot size should reflect this priority. For keeping livestock, a minimum of five (5) acres is recommended to ensure adequate pasturage. Increasing the minimum lot size for agricultural zoning would also discourage residential development in the rural area.

ACTION 3: Revise the Agricultural (A-1) and Limited Residential Agricultural (A-20) zoning district standards to clarify that residences are an accessory use to the primary agricultural or forestry uses in the district within two (2) years.

Explanation: Most of the properties currently zoned A-1 are not used for agricultural or forestry purposes. Most properties are used for residential development which, per the Statement of Intent in the Zoning Ordinance, is intended to be limited and secondary to the agricultural and forestry uses. The ordinance also allows many commercial uses in the agricultural districts including home-based businesses, home occupations, and business, personal, and professional service facilities. To preserve rural character moving forward and discourage the ribbon development that has taken place throughout the County, residential uses need to truly be secondary in the agricultural districts.

ACTION 4: Rezone the neighborhood service areas parcels from A-1 to Village (V) zoning within two (2) years.

Explanation: The Planning Commission has previously worked on a residential-mixed use (RMU) zoning district that was intended to apply to the neighborhood service areas and allow for limited commercial development in the existing residential areas. This zoning district was never adopted by the Board of Supervisors and incorporated into the ordinance. Distinguishing between the areas with extensive roadside development and the areas which are still more rural in character is still advisable. With some refinement, the RMU concept could be revived. Staff recommends a renaming to “village” or “village center” to convey the fact that many of these community are built around existing churches and community buildings and contain a mix of uses.

ACTION 5: Revise the Subdivision Ordinance to classify family divisions as subdivisions for the purposes of counting lots in minor subdivisions within one (1) year.

Explanation: The family division process is the most commonly used method of subdivision in the County. Despite this fact, the County has maintained very liberal standards with regards to family divisions. This is most apparent in the counting of lots developed from a parent tract. Under the definition of major subdivision in Section 7 of the ordinance, “[a] parcel that became separated parcels through ‘Family Subdivision’ will be treated as a single parcel.” This exemption allows for

significant re-subdivision which would otherwise be prohibited in the rural area. Under Va. Code Ann. § 15.2-2244(C), a County that adjoins a high growth locality is not required to allow family divisions and may impose reasonable restrictions on the process. Henrico, New Kent, and James City all qualify as high growth localities. The County should move to restrict family subdivisions that re-subdivide minor subdivision lots.

ACTION 6: Redefine “Parent Tract” in the Subdivision Ordinance to remove lots created by “family subdivision” within one (1) year.

Explanation: The current definition of a parent tract creates a loop which encourages continuous minor and family subdivisions. As noted above, minor subdivision lots can be re-subdivided through the family subdivision process without triggering the major subdivision requirements. The definition of parent tract then allows the family lot to be re-subdivided after five (5) years through minor subdivision. While representing a worst-case scenario, this process has played out in several parts of the County intended for rural land use. Closing this loophole will help to ensure the rural areas remain rural and that major development is limited to the intended development centers. This definition has been amended in the zoning ordinance, however, the subdivision ordinance definition was not changed, allowing the problem to persist.

ACTION 7: Amend the Subdivision Ordinance to prohibit direct access to existing roads and require internal streets for minor subdivisions within two (2) years.

Explanation: The subdivision ordinance states that direct access to existing roads is permitted for minor and large lot subdivisions but shall be limited to the extent possible. In practice, this provision has resulted in most minor subdivisions seeking direct access to existing roads for one or more of the lots. While staff discourages direct access, a full prohibition would do more to encourage better design from developers and provide a stronger position for staff in reviewing subdivision applications. This change would further discourage ribbon development along existing roads, preserving the desired character of the area.

ACTION 8: Remove the industrial reserve areas from the Future Land Use section of the Comprehensive Plan during the 2019 update.

Explanation: The industrial reserve is located outside of the Roxbury Development Center. Most residents at the community outreach meetings expressed a desire to see these areas maintained as rural areas in the future. According to the estimates developed in the existing conditions portion of this report, projected demand for commercial and industrial development over the next 22 years is only 430 acres; the Roxbury area alone has over 1,700 undeveloped acres zoned for industrial development. By strengthening the agricultural zoning district as noted above, the areas of the County designated as rural will effectively serve as areas of deferred growth, or industrial reserve, without a formal designation.

POLICY 3: Encourage new development to locate in the Roxbury Development Center.

Explanation: The first two policies will result in limits to new growth outside the Roxbury Development Center and new infrastructure to allow for development within Roxbury. Promoting development in the area will require concerted effort from the County to ensure developers and business owners are aware of the district. By making the development process predictable and simple for developers within the district, the Development Center will be the preferred place to build, thereby preserving the desired rural character outside of the Development Center.

ACTION 2: Develop a future land use plan for Roxbury as part of the 2019 Comprehensive Plan update.

Explanation: The current future land use plan designates Roxbury as a development center and notes that this area is intended for industrial and commercial uses. While this designation provides general guidance for the Development Center, a land use plan for the area is needed to guide future rezoning. This plan should designate areas for residential, light industrial, heavy industrial, and commercial development within the center. This land use plan should be

included in the Comprehensive Plan as the primary land use policy document for the County.

ACTION 2: Simplify the process for rezoning and development within the Roxbury Development Center within one (1) year of adopting the future land use plan.

Explanation: Rezoning applications are often a long, drawn out process full of uncertainty for potential developers. To encourage the desired types of growth in Roxbury, the County should reduce the uncertainty associated with rezoning that is consistent with the Comprehensive Plan. This could include efforts to provide a consistent timeline for review and action from the Planning Commission and Board of Supervisors or adopting a policy to waive fees for desired types of development. The County may also wish to explore proactively rezoning the properties in question rather than waiting for the individual owners to request their zoning be changed.

GOAL 2: A DIVERSIFIED TAX BASE

POLICY 1: Retain and Expand Existing Businesses

Explanation: Business retention and expansion is one of the three pillars of any economic development program (the other two being entrepreneurial development and business recruitment). To be successful, the County needs to not only recruit new firms but also work with the existing businesses to ensure they continue to locate and expand in Charles City. According to the 2018 Small Business Profile published by the Small Business Administration, small businesses with under 500 employees account for nearly half of all jobs in the country. Working with these businesses to continue to succeed and expand here will help to provide a steady economic base for the County moving forward.

ACTION 1: Develop a business call program and meet with top 5 employers annually to discuss business needs and concerns.

Explanation: To ensure the needs of the County's existing businesses are being met, County staff should develop a program of outreach to the business owners. Creating stronger lines of communication will help the County to understand the challenges facing employers and can help the County to be more responsive to the needs of businesses that are already here. The largest employers are especially important, not only because they employ the most people, but also because they form part of the County's economic base and help to bring in additional revenue from outside the area.

ACTION 2: Participate in Virginia's Gateway Region (VGR), the regional economic development entity for the Crater PDC, through annual allocations of approximately \$35,000 by the EDA.

Explanation: The Virginia Gateway Region provides marketing and networking for participating localities. VGR can provide connections and contacts for local businesses to continue to expand. Additionally, VGR can help to recruit businesses to the County in tandem with the County's efforts at industrial site development. Membership in this organization will be beneficial to the County's growth,

however, it is advisable to wait to join until the County has more development sites to offer to prospective new firms.

ACTION 3: Develop temporary office space and establish a business incubator to encourage home-based businesses to start thinking about growing to the next level.

Explanation: Everyone knows how Amazon, Apple, and Google got their starts in home garages. Charles City County has many home-based businesses and occupations, but few have expanded beyond their home-based start. The County can help to foster expansion and growth through a business incubator program. A business incubator typically provides office space, business skill training, and links to strategic partners that can aid in business expansion. Through an incubator program, the County could see existing home-based business expand into larger firms with increased employment and revenue while keeping them within the County.

POLICY 2: Develop Marketable Sites for Industrial Development

Explanation: When looking at potential business sites, firms are primarily concerned with the site and the workforce available. In all cases, businesses prefer to minimize risk. In terms of site selection, minimizing risk entails finding property that is already zoned, developed, and connected to public infrastructure. Sites can be evaluated on a scale ranging from full development (turn-key) to undeveloped land that is not yet zoned for industrial development but is designated for development in the Comprehensive Plan. The County can proactively develop sites to market, making Charles City more competitive for industrial development.

ACTION 1: Analyze existing available properties in the Roxbury Development Center according to the site readiness table.

Explanation: As noted above, businesses seek to minimize risk by finding sites that are more fully developed and ready for industrial use. The County can assess existing sites using the scale to create rankings and priorities for site marketing.

The following site readiness scale is borrowed from Goochland County's Economic Development Strategic Plan:

Level 1 – Building in Place (Good Condition)

Level 2 – Shell building in place

Level 3 – Virtual designed/permitted building associated with a Shovel/Pad ready site.

Level 4 – “Pad ready” site is a shovel ready site with:

- Shovel ready requirements are completed
- Lots are defined, cleared, and graded
- Access road in place and utilities stubbed to lot

Level 5 – “Shovel ready” (minimum requirements):

- Property owned by developer/other third party
- Title is cleared, and price defined per acre
- Proper zoning in place
- Studies completed (soils, wetlands/floodplain, environmental assessment, historic sites, etc.)
- Infrastructure within reasonable access
- Compatible adjacent land uses
- Conceptual site plan and general covenants established
- Permitting agencies poised for final approval

Level 6 – Land zoned office/industrial but in hands of original owner

Level 7 – Land zoned agricultural but identified as office/industrial in Comprehensive Plan

ACTION 2: Explore participation in the Virginia Business Ready Sites Program.

Explanation: The Virginia Economic Development Authority runs a program to certify sites of at least 100 developable acres. This certification program uses a five-tiered system to rank sites from raw land to shovel ready. Participation in this

program will help to bring attention to Charles City County and expand the County's marketing reach.

ACTION 3: Utilize the EDA to fund efforts to develop sites into marketable properties.

Explanation: Most industrial sites in the County are at level 6 or 7 currently. To compete for industrial development, the County will need to provide sites that are at least up to level 4, or pad ready sites. The EDA can finance the required investments to prepare sites for marketing and business recruitment including clearing, grading, and utility stubbing.

POLICY 3: Business Attraction and Marketing

Explanation: Beyond retaining and expanding existing firms, the County will need to attract new firms to locate in Charles City to continue expanding the tax base. Focusing on industries that are part of the economic base and firms which help to provide a brand and differentiation from surrounding area will be vital. As part of this process, the Economic Development Authority and Board of Supervisors will need to decide on the desirability of different viable industries and provide a direction for staff to follow in recruiting new business.

ACTION 1: Develop recommendations for industries to recruit to the 106 Corridor based on further analysis of assets and infrastructure to present to the EDA/Board of Supervisors.

Explanation: A basic understanding of the County's economic base can be gathered from the analysis in this report and the Economic Development Strategic Plan. This plan recommends and expansion of utility infrastructure to facilitate future growth and expansion of industrial firms. Recommendations regarding specific industries to target to expand the economic base and differentiate the County's industrial makeup from surrounding localities will be needed once the infrastructure improvements are in place.

ACTION 2: Market the County's available sites and partner with the Virginia Economic Development Partnership (VEDP) and VGR in recruitment efforts.

Explanation: With infrastructure and sites ready for development, the County will be poised for recruiting the targeted industries. The state economic development agency, VEDP, and the Gateway Region will be key partners in marketing the County to firms interested in locating in this part of Virginia. These organizations have a much wider reach and will help the County to recruit the firms which will support overall economic growth and a healthier tax base.

POLICY 4: Build a quality workforce

Explanation: One of the biggest concerns raised by employers in the County is the quality of the workforce available and the inability to find qualified applicants to fill jobs. This is reflected in the County's labor force participation rate which is below the regional average. Working with residents to provide a range of education and training opportunities tailored to the needs of local employers will help to bridge this gap.

ACTION 1: Build labor force skills/quantity by developing education and training opportunities through partnership with John Tyler Community College (JTCC) to offer specific courses relative to the County's employer needs.

Explanation: The community college system in Virginia serves a vital function in preparing people for the workforce through skills development and training courses. The County should partner with our local community colleges to provide training opportunities focused on the skillsets sought by employers in the County. This partnership will require cooperation between the county, the colleges, and employers but will help to prepare the residents of the County for the jobs open here.

ACTION 2: Utilize the new library for workforce development including training workshops, skills courses, and computer access for job searches.

Explanation: The library serves as a community space and a source of knowledge in every community. Leveraging the computer technology and the library space to provide job training and resume workshops will help to get residents into the jobs created here in the County and beyond. This program would be implemented with

cooperation from state and regional agencies. Programming can be tailored to new firms locating or expanding in the area.

POLICY 5: Expand Utility Infrastructure

Explanation: As noted under the rural character goal, expanded utility infrastructure is crucial to channeling development of all kinds into the Roxbury Development Center. For economic development, utility infrastructure will make this area more appealing for commercial and industrial development in the future and will help the County in marketing itself to potential firms.

ACTION 1: Expand water/sewer capabilities in the Roxbury Development Center.

Explanation: A general guideline for industrial site development used by VEDP suggests that a 100-acre industrial site requires 10 megawatts of power and 250,000 gallons of sewer and water capacity per day. The Roxbury water treatment plant has a design capacity of 19,600 gallons per day. This existing system will not be sufficient for any water-dependent industrial uses. Increasing sewer and water capacity will require significant investment to either connect with a neighboring locality's system or build a larger County system. Recommended steps for upgrading the sewer/water infrastructure are included in the land use action items above.

ACTION 2: Expand the existing fiber infrastructure in coordination with the revised future land use plan for Route 106.

Explanation: The internet has become vital to business operations. The Roxbury area has fiber which was installed a few years ago. Expanding fiber availability throughout the entire development area will be just as important to business retention and recruitment as expanding the sewer/water infrastructure. The County will need to continue extending fiber to new businesses and development sites to ensure competitiveness with surrounding localities.

POLICY 6: Expand consumer services

Explanation: The largest component of the residents' vision for the Route 106 corridor is the provision of extra services including a grocery store, pharmacy, and fast food options. These services generally require more people and a concentration of development in which to locate. Both Roxbury and the Courthouse area have been designated as development centers in the County's long-range planning. Additional study of potential services is needed to develop recommendations as to the feasibility of these firms in the Route 106 corridor.

ACTION 1: Explore the potential retail and personal services companies that could locate in Charles City County by analyzing trends and demographics

Explanation: Preliminary population threshold analysis of the businesses mentioned in the residents' visioning exercise suggests that the County's current population is not sufficient to support many additional retail and personal service businesses. Limited service restaurants, or fast food, is the only business sector examined which population thresholds suggest could locate in the County. The lack of these businesses at present is likely due to the lack of population concentration and the relatively small volume of traffic on County roadways. This appears to be the most likely opportunity for recruitment based on current trends in development. Further analysis of other services not mentioned by residents will be necessary to identify other companies that could locate in the County.

ACTION 2: Develop recommendations for which companies to recruit based on existing and planned growth

Explanation: Based upon the services identified in the analysis, the County will need to reach out to specific companies to determine the viability of locating in Charles City based upon their business models. These contacts will help to inform recommendations of which companies to pursue for commercial development in the County.

IMPLEMENTATION MATRIX

PC – Planning Commission

EDA – Economic Development Authority

BoS – Board of Supervisors

WSA – Water/Sewer Authority

<u>GOAL</u>	<u>POLICY</u>	<u>ACTION</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>AGENT</u>
Rural Character	Sewer & Water	1		•				Planning, BoS
Rural Character	Sewer & Water	2	•					Planning, PC, BoS
Rural Character	Sewer & Water	3	•					Planning, PC, BoS
Rural Character	Sewer & Water	4		•				Planning, BoS
Rural Character	Sewer & Water	5			•			Planning, BoS
Rural Character	Sewer & Water	6				•	•	Public Works/WSA
Rural Character	Preserve Ag & Forest	1	•					Planning, PC, BoS
Rural Character	Preserve Ag & Forest	2		•				Planning, PC, BoS
Rural Character	Preserve Ag & Forest	3		•				Planning, PC, BoS
Rural Character	Preserve Ag & Forest	4		•				Planning, PC, BoS
Rural Character	Preserve Ag & Forest	5	•					Planning, PC, BoS
Rural Character	Preserve Ag & Forest	6	•					Planning, PC, BoS
Rural Character	Preserve Ag & Forest	7		•				Planning, PC, BoS

Rural Character	Preserve Ag & Forest	8	•					Planning, PC, BoS
Rural Character	Channel Growth	1	•					Planning, PC, BoS
Rural Character	Channel Growth	2		•				Planning, BoS
Diverse Tax Base	Business Retention	1						Planning
Diverse Tax Base	Business Retention	2						EDA
Diverse Tax Base	Business Retention	3						Planning, EDA
Diverse Tax Base	Site Readiness	1						Planning
Diverse Tax Base	Site Readiness	2						Planning
Diverse Tax Base	Site Readiness	3						EDA
Diverse Tax Base	Business Attraction	1						Planning
Diverse Tax Base	Business Attraction	2						Planning
Diverse Tax Base	Quality Workforce	1						Planning, BoS
Diverse Tax Base	Quality Workforce	2						Planning, BoS
Diverse Tax Base	Infra-structure	1						Public Works/WSA
Diverse Tax Base	Infra-structure	2						Planning, BoS, EDA
Diverse Tax Base	Expanded Services	1						Planning
Diverse Tax Base	Expanded Services	2						Planning

REFERENCES

- Charles City County. (2014). *Comprehensive Land Use Plan*. Charles City, Virginia.
- Charles City County. (2015, April 28). Subdivision Ordinance . Charles City, Virginia.
- Chmura Economics & Analytics. (2017). *Economic Overview for Charles City County*.
- Decide Smart. (2017). *Economic Growth and Diversification Plan*. Richmond, Virginia: Grow Capital Jobs.
- (2010). *HCM 2010: Highway Capacity Manual*. Washington, DC: Transportation Research Board.
- Moran, Stahl & Boyer. (2015). *Economic Development Strategic Plan for Charles City County, VA*.
- Richmond Regional Planning District Commission. (2012, October 12). *Richmond Regional Existing Land Use Inventory and Analysis*. Richmond, Virginia.
- Richmond Regional Transportation Planning Organization. (2015). *Richmond Regional Socioeconomic Data Analysis 2012-2040*. Richmond, Virginia.
- United States Census Bureau. (2006). *American Community Survey 2001-2005*. Washington, DC. Retrieved April 15, 2018
- United States Census Bureau. (2014). *US Census Tables 1 and 2 Residence County to Workplace Flows, 2006-2013*. Washington, DC.
- United States Census Bureau. (2016). *County Business Patterns*. Washington, DC.
- United States Census Bureau. (2017). *American Community Survey 2011-2016*. Washington, DC.
- United States Census Bureau. (n.d.). *County Business Patterns*. Washington, DC.
- Virginia Chamber of Commerce. (2017). *Blueprint Virginia 2025*. Retrieved from <https://www.vachamber.com/wp-content/uploads/2018/02/Blueprint-Virginia-2025.pdf>
- Virginia Department of Transportation, Traffic Engineering Division. (2017). *Average Daily Traffic Volumes with Vehicle Classification on Interstate, Arterial, and Primary Routes*. Richmond, Virginia: Virginia Department of Transportation.
- Weldon Cooper Center for Public Service, Demographic Research Group. (2017). *Virginia Population Projections*. Retrieved January 20, 2018, from Weldon Cooper Center for Public Service: <https://demographics.coopercenter.org/virginia-population-projections/#im-vapoppoj>

APPENDIX

SWOT - ECONOMIC DEVELOPMENT AUTHORITY

<u>Strengths</u> • Availability of land • Water and sewer service in the industrial park • Rail access • Fiber internet • Incentive policy (in the works)	<u>Weaknesses</u> • Need for turn lanes • Industrial sites not pad ready • Lack of large-scale infrastructure • Abundance of wetlands • Lack of fire & ems service • Tax collection not capturing all revenue sources • Real estate assessments too low
<u>Opportunities</u> • Redevelopment forcing industrial uses out of Richmond • Possibility of sewer connection to Henrico wastewater treatment plant • I-64 and US-60 improvements in New Kent • Bike trail increasing awareness of county	<u>Threats</u> • Development in surrounding localities • Availability of services in New Kent

SWOT - PLANNING COMMISSION

<u>Strengths</u>	<u>Weaknesses</u>
• Undeveloped land • Light traffic • County planning designated for industry • County commitment and resolve • Large parcels • Overlay standards developed (albeit not adopted) • Near to James and Chickahominy for water source	• Road too narrow • Lack of internet • Soils not supportive of development • Building will require a lot of site work • Existing residential limits industrial potential and impacts traffic flow • Limited major road access • Development review can be too detailed • Lack of skilled employees • Lack of retail/dining
<u>Opportunities</u>	<u>Threats</u>
• Development in other counties around us • Highway expansions (i-64 and 460) • Lower corporate tax rates • New Kent focused on residential, not industrial development • Cox internet at Chickahominy bridge • New Kent and Henrico growth provide larger workforce	• Henrico's Technology Blvd. offers more services and public infrastructure • New Kent has new schools which attract residents away from Charles City • Aquifer withdrawal limits • Chickahominy lake/ Newport News reservoir • Small influence on state/national policy • Lack of regional cooperation • Automation

SWOT - BOARD OF SUPERVISORS

<u>Strengths</u>	<u>Weaknesses</u>
• Proximity to highway • Blank slate for development • Only place in the county with a focus on economic development • Rezoning	• Current farms/homes designated for industrial development – competing interests • Pockets of existing residential • Lack of BPOL and other taxes • Lack of infrastructure • Poor soils
<u>Opportunities</u>	<u>Threats</u>
• More room to grow than the city • Good location to Richmond, airport, etc. • Connection to interstate highway system (I-64 to the north and I-85/I-95 to the south)	• Inaction • Opposition from residents

SWOT - UNION BAPTIST CHURCH

1. What do you like about where you live? If you don't live in this part of the county, what do you like about this area?
 - Rural setting
 - Quiet
 - Neighbors not too close
 - The area is quiet
 - Rural but not too rural
 - Able to hunt and shoot targets on land
 - Family feed & seed
 - Rural nature
 - Agricultural areas
 - Rural lifestyle
 - Easy access to surrounding localities
 - Rural character
 - Freedom to use property without restrictions
2. What don't you like about where you live? If you don't live in this part of the county, what don't you like about this area?
 - Too many trucks on old union
 - Poor secondary roads because of truck traffic
 - Nothing to dislike
 - 55 mph traffic on Rt. 106
 - Lots of trucks
 - Heavy traffic
 - Speed limit too high through residential areas (should be 45 mph or less)
 - Truck traffic
 - No passing lanes
 - Too many cyclists
 - No high-speed internet
- Trucks
 - Traffic
 - No internet
 - Truck traffic on old union
 - Too much truck traffic on secondary roads
 - Trash from trucks
 - Truck traffic
 - Failure to capture revenue from truck traffic
 - Noise levels
 - Pollution
 - No infrastructure to support growth (broadband, roads, water, sewer)
 - No 3-phase power
 - No enforcement of trucks on wayside
 - 106 has industrial character
 - Loss of traditions
 - Traffic concerns with trucks
 - Lack of a bike route on 106
3. What changes have you seen in the Rt. 106 area that you like?
 - Roads are not too bad
 - Roads in good condition
 - Industrial park is well screened
 - No positive changes
 - Industrial park provides more jobs
4. What has changed that you didn't like?
 - Fewer trees
 - More buildings
 - Trees have been taken down

- No operable vehicles parked near road
 - Traffic is heavier
 - Businesses closing
 - A lot of vacant buildings
 - Some businesses lack curb appeals
 - More trucks
 - Increased traffic
5. How do you imagine this area (Rt. 106) in 20 years?
- Large employer (more than 12 employees) with preference given to county residents
 - More industry
 - More businesses and jobs for residents of county
 - Underground utilities (phone, electric, etc.)
 - More food, gas, and shopping
 - High-end residential neighborhoods
 - Increased property values
 - New businesses with jobs for residents
 - Residential between industrial areas does not make sense – need more protection for residential areas
 - Industrial reserve between Warriner & Roxbury is a farm and should not be designated industrial
 - More permanent business with permanent jobs
 - ½ mile buffer between residential and industrial development
 - Make Rt. 106 a 4-lane highway
 - Grocery store
 - Gas station
 - Restaurant
 - Laundromat
 - Service station
 - Grocery store
 - Water line
 - Business signs in industrial park
 - Better roads
 - Highway reflectors
 - Dollar general/dollar tree
 - Drug store
 - Clean up businesses in place
 - Daycare center
 - Park
 - Require turn lanes for all industrial development

SWOT - ST. JOHN BAPTIST CHURCH

1. What do you like about where you live? If you don't live in this part of the county, what do you like about this area?

- Peaceful
- Quiet
- Peaceful
- Peaceful
- Near a bank
- Near a grocery
- Country setting
- Elbow room
- Peace
- Quiet
- Dark night
- No light pollution
- No noise pollution
- Not closed in
- Plantations
- Winery
- Peaceful
- Quiet
- No noise
- Quiet community
- Peaceful
- Hunting
- Quiet
- Nice neighbors
- Privacy
- Close to civilization
- Quietness
- Fresh air
- Space
- Been there for 61 years
- Quiet
- Trees
- Not a lot of paving
- Peace
- Quiet
- Community

- Capital to Capital Bike Trail
- Restaurants
- No lights
- Minimal traffic signals
- Roads
- Good doctor's office
- Great neighbors
- Quiet
- See stars
- Not congested
- Accessible to other areas

2. What don't you like about where you live? If you don't live in this part of the county, what don't you like about this area?

- No groceries in the county
- No public sewer system
- Very noisy
- Lots of truck traffic
- Road noise starts at 3:00 A.M.
- Speed limit too high
- Hard to turn into driveway
- No internet
- No public sewer
- No public water
- Light pollution
- Taxes
- Speed of truck traffic
- Roads not maintained
- Speed limit not enforced
- Lack of law enforcement
- Truck traffic speed limit
- Lack of law enforcement
- Business does not benefit the county
- Condition of Old Union Road
- Far from medical care
- Far from shops

- Traffic
 - Speeding
 - Speed limits not followed
 - Truck Traffic
 - Truck noise
 - Trash on the side of the roads
 - Limited access to gas
 - Too many trucks
 - Speed limit too high in parts of 106
 - No sewer
 - No water
 - No natural gas
 - Litter
 - No park
 - No grocery
 - No restroom on trail
 - No parking on trail
 - No farmers market
 - No commercial kitchen
 - Gunfire at night
 - Loose dogs
 - Abandoned and derelict homes
 - No revenue producing industries
3. What changes have you seen in the Rt. 106 area that you like?
- Wider road
 - Trees cut back from road
 - Trash clean up on road
 - road maintained
 - No potholes
 - Industrial Park
 - More revenue
 - More jobs
 - Left turn on Chambers road
 - Plowing in snow
 - road well-maintained
 - Good speed limits
- Fixed at railroad tracks
 - New bridge at Chickahominy River
 - Potential for industry
 - Change to truck route travel
 - Width of highway
4. What has changed that you didn't like?
- Heavy traffic
 - The Landfill
 - Heavy traffic
 - Too much industry
 - Traffic
 - Truck traffic driving too fast
 - Heavy traffic
 - Lots of businesses
 - No businesses
 - Redirecting truck traffic
 - Zoning
 - Unable to add to septic systems
 - Still no internet
 - Lots of trucks
 - Still no business
5. How do you imagine this area (Rt. 106) in 20 years?
- Grocery
 - Laundromat
 - Residential Internet
 - Pharmacy
 - Service station
 - Full-service grocery
 - Internet
 - Medical Center
 - Full-service grocery
 - Bank
 - Retail stores
 - Internet access
 - Laundromat

- Pharmacy
- Fast-food
- Medical Center
- Public Water in the whole county
- Full-service grocery
- Pharmacy
- Retail
- Laundromat
- Medical center
- Bank
- Service Station
- Faster Internet
- Fast-food
- More traffic
- More congestion
- “No industry” near residences
- “No heavy industry”
- Fast-food restaurant
- Restaurant
- Shopping centers like Ladysmith and Caroline County
- Development like Bottoms Bridge
- Fast-food
- Heavy business
- Homes
- Business
- Lots of businesses
- Different types of businesses
- Well maintained
- Constantly working
- Grocery
- Convenience stores
- Laundromat
- Car wash
- Fast-food
- Lower speed limits
- “No industrial” near residential neighborhoods
- Concern about heavy traffic
- Better phone and internet service
- Road improvements
- Possible shopping areas
- Grocery
- Gas stations
- Shift industrial development toward the river
- Grocery
- Retail
- Pharmacy
- Laundromat
- Bank
- Service Station
- Fast-food
- Internet
- Medical Center
- Recreation center
- Better roads
- More residential
- Solid traffic light at Route 5
- Move industrial reserve north
- Keep Wayside residential
- More vocational training
- Grocery
- Gas station
- Restaurants
- 4-lane road with turn lanes
- All industrial reserves buffered with ag and forestry
- More small business
- Paid fire department
- Restaurants
- Shopping

SWOT - BUSINESS NETWORKING

1. What are the strengths of the Route 106 area that will attract business and industrial growth?
 - Historic tourism
 - Agricultural tourism
 - Natural tourism
 - Artisan trail
 - Bike traffic
 - Automotive traffic
 - Vacant land
 - Large areas of land
 - Access to highway
 - Access to other places
 - Affordable land
 - Large parcels
 - Access to highway
 - Access to multiple cities
 - Access to highway
 - Water
 - Septic
 - Location
 - Tax rate
 - Lack of anchor business
 - Small population
 - Small patrons
 - Water
 - Sewer
 - Traffic
 - Road entrances
 - Infrastructure
 - Roads
 - Local government services
 - Schools
 - Truck traffic
2. What are the weaknesses of this corridor that will discourage business and industrial growth?
 - Road only two lanes
 - No amenities
 - No internet
 - Reliable high-speed internet
 - Water
 - Sewer
 - Limited residential
 - Limited workforce
 - Road congestion
 - Lack of amenities
 - Traffic
 - Lack of sewer
 - Lack of water
 - Lack of internet
3. What outside forces and trends will help to foster growth along Rt. 106?
 - Increased regional engagement
 - Active investment in recruiting new families
 - Work force housing
 - Growth in surrounding localities
 - Up economy
 - New business growth
 - Improved highway capacity
 - Rural
 - Development from agriculture to business
 - Rezoning efforts
 - Power plants
 - Solar farm
4. What outside forces and trends will discourage industrial and commercial growth?
 - History of not allowing residential subdivisions
 - No vision for residential growth

- Need planning standards for quality development
- Willingness of other areas to provide infrastructure
- Perception
- Housing availability
- Rural
- Far from highways
- Small trained workforce
- Limited commercial space

- High-speed internet
- Clean industry
- High tech
- Industrial business
- College/university
- Busy
- Growth
- Tax revenue
- Established industrial development that supports county infrastructure

5. How do you envision this area (Rt. 106) in 20 years?