



MIDDLE PENINSULA  
PLANNING DISTRICT COMMISSION

# Comprehensive Economic Development Strategy

December 2013

*This version was updated on December 20, 2013*

### **Acknowledgements**

A document of this nature is not created without the contributions of many individuals. This Comprehensive Economic Development Strategy is based on the thoughtful assistance and insights of many people. The Strategy Committee has been a valuable asset in the development of this document. Many others have provided help to assure the completion of this strategy. Thank you one, and all, for your help in drafting this critically important document.



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## Executive Summary

The Middle Peninsula Comprehensive Economic Development Strategy (CEDS) is designed to bring together the public and private sectors in the creation of an economic roadmap to diversify and strengthen the region's economic fabric.

Integrating, coordinating, supporting and collaborating on local and regional economic development planning provides the flexibility to adapt to global economic conditions and fully utilize the region's unique advantages to maximize economic opportunity for its residents by attracting and expanding private investment that supports existing and, more importantly, creates new employment opportunities across the region.

The Middle Peninsula CEDS is a continuing economic development planning process developed with broad-based and diverse public and private sector participation which has set forth important goals and objectives necessary to solve the economic development problems of the region and clearly define the metrics of success. The Middle Peninsula CEDS is organized into four parts:

Part 1, *Economic Fabric of the Middle Peninsula of Virginia*, paints a realistic picture of the current economic situation in the region. This section analyzes available workforce data to show that: 1. the Middle Peninsula has a 71% out-commuting rate of workers, making the Middle Peninsula a quasi bedroom community providing intellectual capital and labor for other regions between the hours of 8 A.M. and 5 P.M; 2. The remaining workforce, a mere 20,604 jobs, pay salaries that rank the Middle Peninsula **LAST** in the Commonwealth for average wage; 3. The region has significant pockets of isolated distressed communities with higher than average Supplemental Nutrition Assistance Program (SNAP) participation. Essex County is listed as exceeding the 18% SNAP participation rate, the highest ranking; King and Queen and Middlesex have the second highest 12%-18%. County health rankings, place King and Queen as 92nd out of 131 localities in the Commonwealth for poor health. Region-wide poverty statistics identify four of the six Middle Peninsula counties in the 10%-15% poverty rate with several approaching the 15% threshold.

The second part of this section is a "wordle analysis" of the comprehensive plans of the 6 individual counties in the Middle Peninsula. The resulting word cloud was compared to two word clouds that were found in EDA's "Know Your Region" project. The comparison of the Middle Peninsula word cloud to the EDA word clouds clearly illustrates that the Comp Plans and hence the stated local policies in the Middle Peninsula do not emphasize economic growth, manufacturing, or jobs.

Part 2, *Regional Overview*, gives a detailed background on the region. The details include information on the demographics of the individual counties, and information on the education, health care, environment, water supply, natural resources, and transportation and public utilities found in the Middle Peninsula. The Natural Resources of the Middle Peninsula of Virginia are the ingredients that form the traditional and historic foundation of the region's economy. Trees, fish, crops, crabs, sand, oysters, gravel, livestock, water, land, wildlife, wetlands, etc., are all components that are utilized every day to create and retain jobs, generate tax revenue, and maintain the quality of life found on the Middle Peninsula of Virginia. Challenges such as recurrent flooding events, more frequent hurricanes, subsidence and new and ongoing environmental regulations make proper planning a necessity.

*PART 3, The CEDS Strategy and Process*, describes in detail: the CEDS Strategy, including committee makeup; the CEDS Process, including committee and public meetings and outcomes; the future plan of action; and the future performance measures. The Strategy Committee was divided into two sections: the Employment Committee (further divided into 7 employment sectors representing the largest employment areas in the Middle Peninsula) and the Executive Committee. The process to insure equal and regional representation of Middle Peninsula citizens was to have each of the 9 jurisdictions appoint one local representative to each of the CEDS Employment Committees, have a representative from each committee on the Executive Committee, and invite regional leaders to serve on the Executive Committee. The 43 members of the Employment Committees met 26 times in the Spring of 2012 and the Executive Committee met 5 times in the Fall of 2012 and Winter of 2013. The Strategy Committee performed a SWOT analysis, a regional innovation cluster analysis, a goals and objectives analysis, and a project analysis. In the Fall of 2012 four public meetings were held to inform the public of the CEDS process and ask for their input. The strategic CEDS process described above identified 43 projects which were narrowed down by the Strategy Committee to 12 vital projects. Further, the plan of action to utilize the CEDS, and the performance measures to analyze the success of the CEDS were identified for inclusion in this CEDS document. In the Spring of 2013 a 30 day public review period was held for the Draft CEDS document. The document was made available for review in digital (web and cd) and printed formats. Four public meetings were held, one each in Essex, Gloucester, King and Queen, and Middlesex counties, during this period to allow the public a further avenue for discussion and comment.

Part 4, *The Appendices*, include pertinent documents and supporting materials referred to in the CEDS document.

## **Introduction**

The Middle Peninsula Comprehensive Economic Development Strategy (CEDS) brings together the public and private sectors in creating an economic roadmap to diversify and strengthen the regional economy, making the region eligible for economic development assistance investment from the U.S. Department of Commerce, Economic Development Administration (EDA). The Middle Peninsula Planning District Commission region is not currently an EDA designated Economic Development District (EDD). However, the CEDS is the first step in obtaining this designation. Once a region is designated as an EDD, economic development assistance investments from EDA, through a competitive grant process, can help fund local infrastructure projects, technology-led economic development projects, and strategies to respond to sudden and severe economic dislocations (e.g., major lay-offs, plant closures).

The Middle Peninsula CEDS is organized in 4 parts. Part 1 analyzes the regional economy and introduces the reader to the specific challenges for the region. Part 2 gives a detailed background on the region. The details include information on the demographics of the individual counties, and information on the education, health care, environment, water supply, natural resources, and the transportation and public utilities found in the Middle Peninsula. Part 3 discusses the extensive CEDS process undertaken in the Middle Peninsula. This section includes the process followed to insure equal and regional representation of Middle Peninsula citizens, and the outcomes of: the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis; the regional innovation clusters analysis; and the goals and objectives exercise. The last part of this section includes the complete list of projects identified, the vital projects identified from the complete list, the plan of action to utilize the CEDS, and the performance measures to analyze the success of the CEDS. Part 4 is the appendices section.

The Middle Peninsula CEDS is a regional plan not intended to replace existing or future county and municipal-level plans, but rather to document ways in which the localities may accomplish more by working together. Some of the goals outlined in the plan will be easier to accomplish and have greater impact when planned and implemented on a regional basis. Since the Middle Peninsula CEDS is more strategic, than comprehensive, in nature, the Strategy Committee focused on choosing key strategic projects that would have the greatest economic impact on the region, rather than the creation of an exhaustive list of issues and projects addressing all aspects of the region. As a performance-based strategic plan, the CEDS will serve a critical role in the region's efforts to grow its economic base in the face of economic dislocations, competition, and other challenges to regional economic vibrancy.

EDA Planning Investments provide support to planning organizations for the development, implementation, revision, or replacement of a CEDS. The Middle Peninsula Planning District Commission (MPPDC), the regional planning organization for the Middle Peninsula (comprised of 6 rural counties and three towns), developed the CEDS with EDA Planning Investment funding.



**CEDS Strategy Committee**

The CEDS Strategy Committee is responsible for developing, implementing, and revising the Comprehensive Economic Development Strategy with the assistance of MPPDC staff. The Strategy Committee is also responsible for outlining the methodology for integrating the CEDS with the Commonwealth of Virginia's economic priorities, incorporating relevant material from other government sponsored plans, and ensuring consistency with applicable state and local workforce investment strategies.

The MPPDC CEDS Strategy Committee represented the main economic interests of the region, and included private sector representatives, public officials, community leaders, representatives of institutions of higher education, minority and labor groups, and private individuals. Private sector (identified by "P") representatives composed a majority of the committee. Government representatives are identified by "G". Members who both run a private business and are elected officials are noted as "P/G".

<b><u>Name</u></b>	<b><u>County/Town/Organization</u></b>	<b><u>Committee/Representation</u></b>	<b><u>P/G</u></b>
Gary Hogenson	West Point	Government	P
Doug Meredith	Gloucester	Government	G
John Rennolds	Essex/Tappahannock	Government/Construction	P
John Bailey	Urbanna	Government	G
Ann Marie Voight	King and Queen	Government/Health Care	P
Darius Merritt	King William	Retail	P
Debbie Lockwood	Gloucester	Retail	P
Diane Rilee	West Point	Retail	P
Dr. Richard Lewis	Essex/Tappahannock	Retail/Health Care	P
Brian Clemmons	Mathews	Health Care	P
Joseph F. Hughes	Gloucester	Health Care	P
John Crowder	West Point	Health Care	P
Randy Jennings	King William	Manufacturing	P
Dean Ruble	Gloucester	Manufacturing	P
Brad Gilks	West Point	Manufacturing	P
Joe Reinhart	Essex/Tappahannock	Manufacturing	P
Kim Williams	King and Queen	Manufacturing	P
Dave Meseth	King William	Manufacturing	P
Dan Hockenburger	West Point	Natural Resources	P
Keith Ruse	Middlesex	Natural Resources	P
Joe Heyman	Urbanna/Gloucester	Natural Resources	P

<b><u>Name</u></b>	<b><u>County/Town/Organization</u></b>	<b><u>Committee/Representation</u></b>	<b><u>P/G</u></b>
Rufus Ruark	Middlesex	Natural Resources	P
Nate Parker	Essex/Tappahannock	Natural Resources	P
Donald Longest	King William	Construction	P
Charles Records	Gloucester	Construction	P
Blair Wilson	West Point	Construction	P
Jeb Byers	Middlesex	Construction	P
Eileen Gedicke	Gloucester	Accommodations and Food Services	P
Joe Sanders	West Point	Accommodations and Food Services	P
Greg Dusenberry	Mathews	Accommodations and Food Services	P
William Lowery	Essex/Tappahannock	Accommodations and Food Services	P
Shawn Hershberger	West Point	Government	G
Lewis Ball	King and Queen	Manufacturing	P
Robert Crowder	Essex/Tappahannock	(Resigned 4/2012)	P
Wayne Robertson	Essex/Tappahannock	(Resigned 3/2012)	P
Louise Theberge	Gloucester	Elected Official	P/G
Carlton Revere	Middlesex	Private Business	P/G
Dr. Mo Lynch	Gloucester	Higher Education	P
Sherrin Alsop	King and Queen	Elected Official	G
Bud Smith	Essex	Elected Official	P/G
Amy Hibbard	Virginia Employment Commission	Workforce Investment	G
Carolyn Schmalenberger	Middlesex	Natural Resources	P
Jason Perry	Rappahannock Community College	Higher Education	G
Mike Jenkins	Workforce Investment	Workforce Investment	G
Tom Murray	Virginia Institute of Marine Science	Higher Education	G
Neal Barber	Community Futures	Private Business	P
Otto Williams	King William	Elected Official	P/G

## **PART 1: Economic Fabric of the Middle Peninsula of Virginia**

### **A. Economic Analysis**

A major misconception for the Middle Peninsula region of Virginia (Figure 1) is that there are adequate local jobs that pay good salaries. For years this assumption has been made by state and federal agencies that use and compare a standard set of statistics for the purpose of helping those communities with the most need. Generally (and there are exceptions) funding agencies compare regional unemployment numbers to state and federal unemployment numbers. These standard comparisons are then used as a basis for aid, grants, loans, and infrastructure investments. Simply put, if a region has higher unemployment than the state or federal average, that region traditionally has been considered eligible to receive outside government aid. As a result of this process, the Middle Peninsula has not received a substantial financial investment by State or Federal agencies.

The Virginia Employment Commission's report on the Middle Peninsula Planning District Commission (Appendix F) details the demographics, employment and unemployment numbers, employers, and commuters in the Middle Peninsula region. The report shows an average economy that has a workforce with a regional unemployment rate of 5.6% percent, slightly weaker than the 5.4% Virginia average and stronger than the 7.6% National average (December, 2012) and a workforce with a 3<sup>rd</sup> quarter 2012 average weekly wage of \$592.00, well below Virginia's average weekly wage of \$960.00 and the National average of \$906.00 (US Bureau of Labor Statistics, 2012).



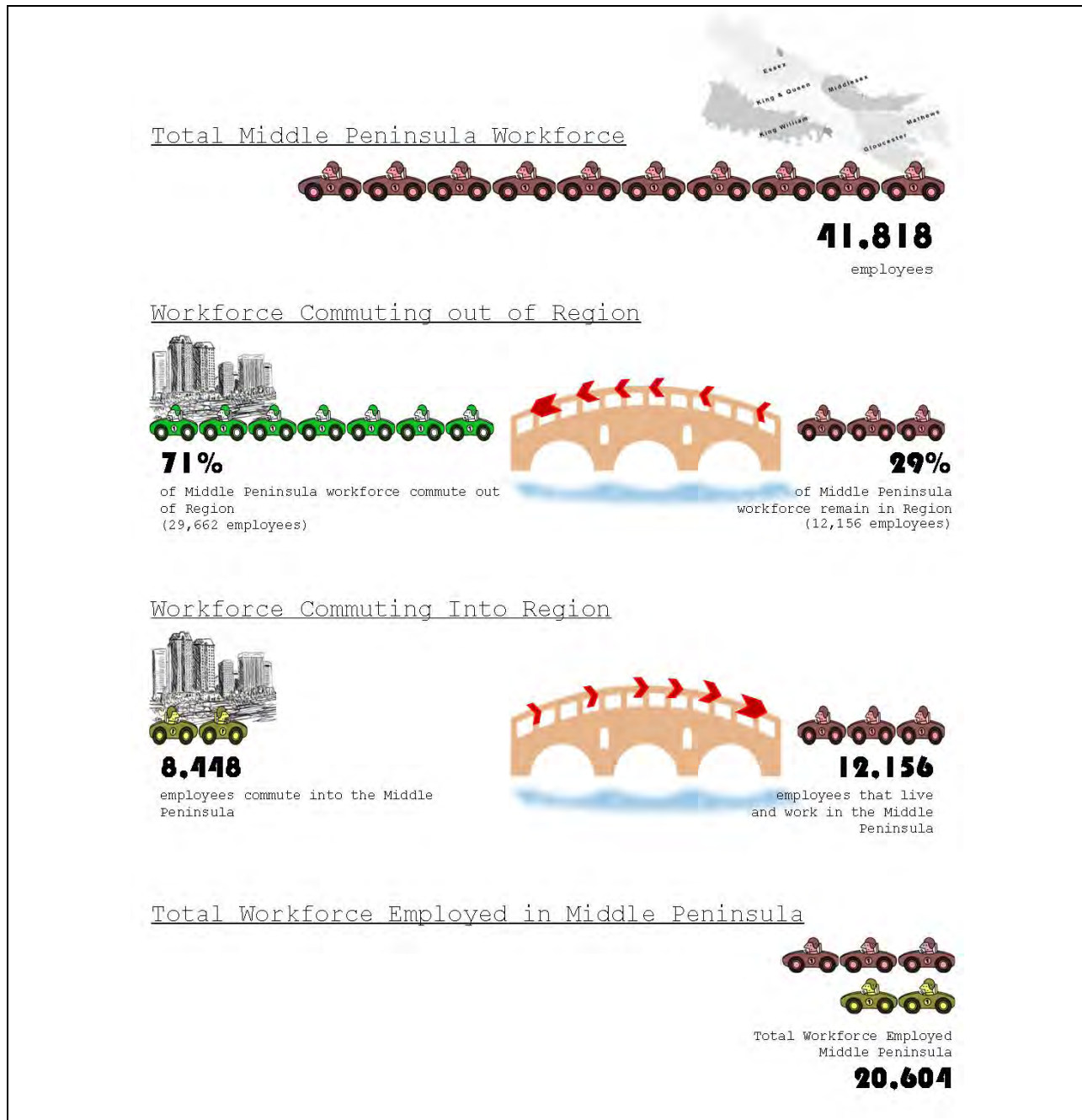
**Figure 1:** Locating the Middle Peninsula Region in Virginia.

To learn what was really happening with jobs and wages in the Middle Peninsula, the CEDS Strategy Committee analyzed statistics provided by the Virginia Employment Commission (2010) and the Virginia Work Force Connection- Labor Market Statistics (October, 2012). The results are clear.

The Middle Peninsula has two distinctly different economic models operating concurrently within the region.

1. The first model, known as the “Urban Crescent Model” and the primary economic driver for the region, shows the dependence upon jobs outside the region.
  - a. The 2010 Virginia Employment Commission report shows the Middle Peninsula Workforce at 41,818. Of that workforce, seventy one percent (71%) of these workers out-commute each day. In other words, more than seven out of every ten workers earn income external to the Middle Peninsula. To put that number in perspective, the Middle Peninsula Region has the highest out-commute rate in the Commonwealth of Virginia (Figure 2).
  - b. The majority of the out-commuters go to jobs that are located in the “Urban Crescent”, (Figure 3) an area extending in a crescent shape from Norfolk up the Interstate 64 corridor to the State Capital in Richmond and north along the Interstate 95 corridor to the Nation’s Capital.
  - c. The Middle Peninsula is a quasi bedroom community providing intellectual capital and labor for other regions between the hours of 8 A.M. and 5 P.M.
2. The second economic model highlights the less discussed and poorly understood daily economic happenings across the region.
  - a. The remaining workforce, the people that live and work in the Middle Peninsula, number 12,156 workers. The workers who live outside of the region and in-commute number 8,448 workers. Collectively, these 20,604 workers form the daily labor pool of the region. They are the backbone of the Middle Peninsula economy (Figure 2).
  - b. However, their wages tell a bleak story. The average Middle Peninsula wage is \$14.18 per hour, \$567.00 per week, or \$29,484.00 per year, ranking the Middle Peninsula **LAST** in the Commonwealth for average wage (Virginia Work Force Connection- Labor Market Statistics 10/12).

Figure 2: Commuting Patterns of the Middle Peninsula

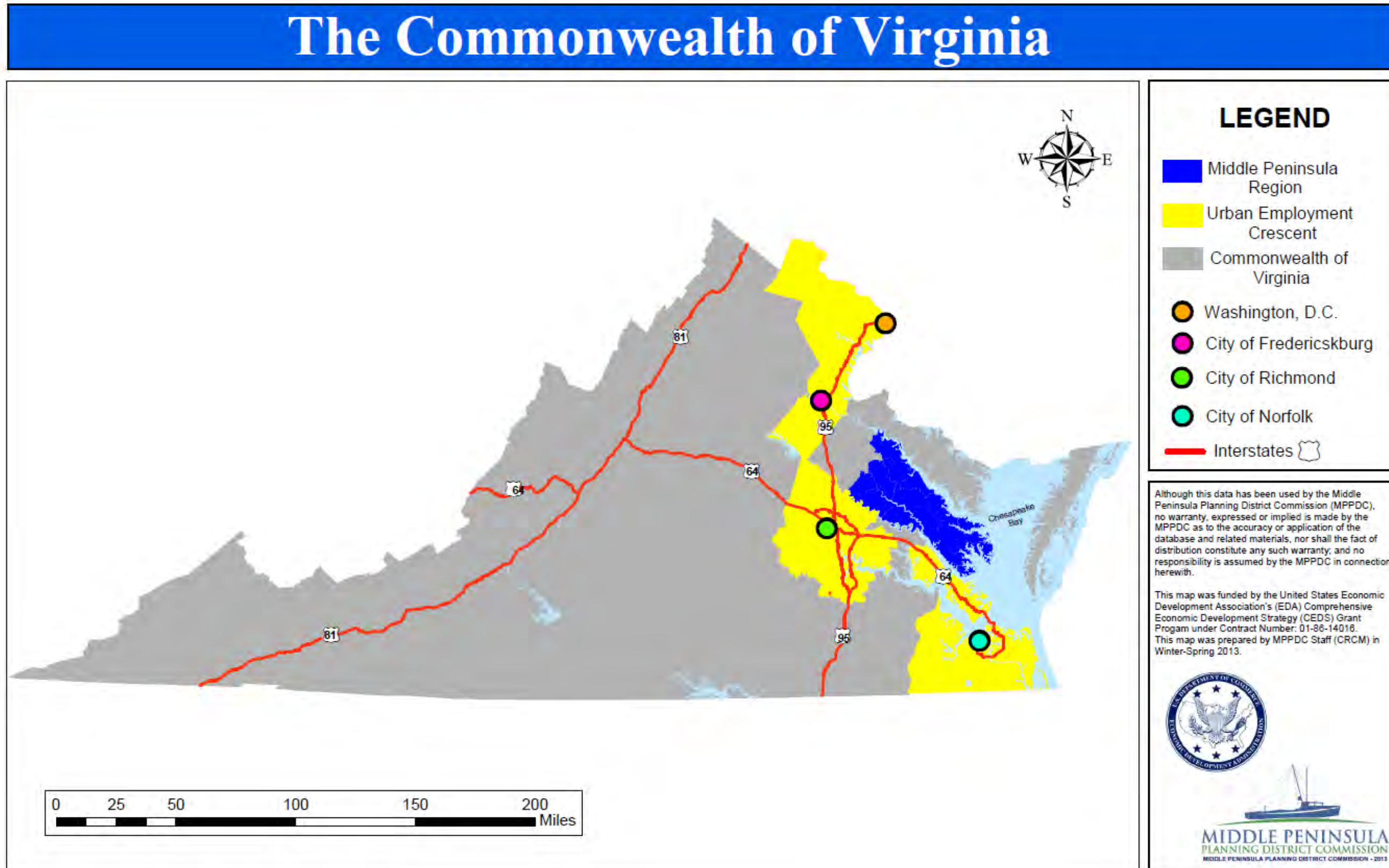


The conclusion is clear. The internal Middle Peninsula economy does not work as well as it could to support its citizens. The Middle Peninsula needs more jobs within its physical borders. Even more disturbing is the fact that this duality of economic models creates a major misconception for those outside of the Middle Peninsula who are in the position of determining the need for financial and technical assistance for community development. The perception is that adequate jobs which pay competitive salaries for residents of Middle Peninsula exist within the region.

This situation has caused the Middle Peninsula of Virginia to be mostly quietly ignored when state and federal aid has been available for job creation and community development in other regions of the state and country. To compound the problem, additional hidden socio-economic problems further suppress the Middle Peninsula economy. The region has significant pockets of isolated distressed communities with higher than average Supplemental Nutrition Assistance Program (SNAP) participation designations (<http://www.coopercenter.org/demographics/interactive-map/citycounty/3472>) (Weldon Cooper, 2010). Essex County is listed as exceeding the 18% SNAP participation rate, the highest ranking; King and Queen and Middlesex have the second highest 12%-18%. County health rankings, place King and Queen as 92nd out of 131 localities in the Commonwealth for poor health. Region wide poverty statistics identify four of the six Middle Peninsula counties in the 10%-15% poverty rate with several approaching the 15% threshold. Poverty statistics include the wealth generated from outside employment under the first economic model discussed above. If poverty statistics were collected based solely on the second economic model discussed above, poverty levels would increase significantly.



Figure 3: Map of Urban Employment Crescent



## B. Wordle Analysis

Since these statistics are so alarming, the CEDS Strategy Committee analyzed local policy to determine if communities were business friendly. The political message heard every day in the Middle Peninsula Region is that the counties are in the business of promoting jobs, being business friendly, and lessening regulatory hurdles. However, the CEDS analysis shows otherwise.

The analysis was done using the “Wordle” tool to take a close look at the Comprehensive Plans for the Middle Peninsula region.

Wordle (found at “wordle.net” and considered freeware) is a software program that gives prominence to words (i.e. larger) that appear more frequently in the source text – the larger the word, the more frequently it appears in the document and the hence the more importance attached to that particular word.

Comprehensive Plans are a reflection of locality values and realities, required by VA State Code § 15.2-2230, and designed to:


- a. Present a community’s vision for itself to best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants
- b. Guide future growth and development
- c. Show a transportation plan
- d. Include maps that show long-range recommendations for the general development (i.e. historical areas, water protection areas, zoning districts, etc.)

The Comprehensive Plans for all Middle Peninsula counties were combined and run through a Wordle analysis (Figure 4). The resulting “word cloud” for the Middle Peninsula Comprehensive Plans was compared to two word clouds (Figure 5) that were found in EDA’s “Know Your Region” project (from a presentation from National Association of Development Organizations (NADO) at the Association of Regional Councils (AARC) Annual Conference on October 23, 2012). The “economic” word clouds come from two separate talks, one by John Fernandez, Assistant Acting Secretary of Commerce for Economic Development, and one by Matt Erskine, Acting Secretary of Commerce for Economic Development, and represent what words should be found in a useful economic plan.









The comparison of the Middle Peninsula word cloud to the “economic” word clouds clearly illustrates that the Comp Plans and hence the stated local policies in the Middle Peninsula do not emphasize economic growth, manufacturing, or jobs. Rather, the Middle Peninsula “word cloud” focuses on land and residential - not industrial or economic - development (while the economic “word clouds” focus on manufacturing, economy, innovation, jobs, etc.), essentially stating that, if unchanged, future policy in the Middle Peninsula will continue to support the current policies that lead to few, poor paying jobs and out-commuting. The disconnection between local politics and local policy was uncovered in this CEDS process. It is imperative that the economic discussion, initiated with the current Middle Peninsula CEDS process, continue so that the politics and the policy of the region strategically align to promote better economic development for the region, its localities and its inhabitants.

## **PART 2: Regional Overview**

### **A. Description of Area**

The Middle Peninsula region, known as Virginia's River Country, encompasses approximately 1,388 square miles in the east central Tidewater area of Virginia. The region includes nine local governments - the Counties of Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex, and the Towns of Tappahannock, Urbanna and West Point (Figure 6). The region is bordered on the north by the Rappahannock River, on the east by the Chesapeake Bay, on the south by the York River, and on the west by Caroline County. The largely rural region is located in the Virginia coastal plain, and has a relatively flat topography along the Chesapeake Bay and gently rolling hills in the upper reaches of the Middle Peninsula. The southeastern portions of the region are in close proximity to sea level with elevations rising to almost 200 feet above sea level towards the northwest. There are thousands of acres of ecologically valuable tidal and non-tidal wetlands, forests, pastures, rivers, streams and embayments. The Middle Peninsula has mild winters and humid summers. The average temperature from June to August is 76 degrees F and from December through February is 44 degrees F. Average rainfall is 47 inches and average annual snowfall is less than 10 inches.

The economy of the region has traditionally been based on natural resources such as farming, forestry and fishing. The region has expanded the natural resource economic base into tourism and aquaculture, though the traditional economic drivers still remain strong. Another part of the economy consists of "growing houses – residential development", making this region into a bedroom community for Northern Virginia, Richmond, and the Hampton Roads Metropolitan Area, also known as the Urban Employment Crescent (Figure 3). While manufacturing exists in the few areas in the Middle Peninsula that have municipal water and sewer, government employment within the region is the largest employer by industry type with 5,206 of the 22,666 jobs in the region (VEC, 2012).

The region's traditional land use patterns can best be described as having:

- A predominantly rural character with large, scattered farms and forested tracts;
- A number of close-knit, small communities surrounded by working farms and forests;
- Small scale commercial fishing communities along the lower reaches of the watersheds;
- Three small towns which provide a focal point for commercial, industrial and residential development on a modest scale; and
- Government operation centers which provide another focal point of local activity in the region.

Over the last 20 to 30 years, the region has seen a slight shift to:

- Growing sectors in tourism, retiree housing and related retiree services;
- Large forested tracts starting to undergo conversion from woodlands to residential development;
- Waterfront communities transitioning from commercial fisheries to an increasing number of marinas and residential developments; and
- Commercial development being located along the Route 33 and Route 360 east-to-west transportation corridors.

A further breakdown (below) of the region by counties shows how each county's population, demographic, and geography compares to the others. Though their economies are permanently intertwined, the populations, geography, and location all vary, allowing individual counties to grow at different paces.

### **Essex County**

Essex County is predominantly a rural county located at the northern end of the Middle Peninsula. It is bounded on the north and east by the Rappahannock River, on the south by Middlesex County and on the west by Caroline and King and Queen Counties. The County comprises approximately 261 square miles (Essex County Comprehensive Plan, 2003). Residential developments exist as small rural communities along the Rappahannock River or along the primary and many secondary roads. With a history of slow/gradual growth and strong land use control regulations, the County has remained mostly rural.

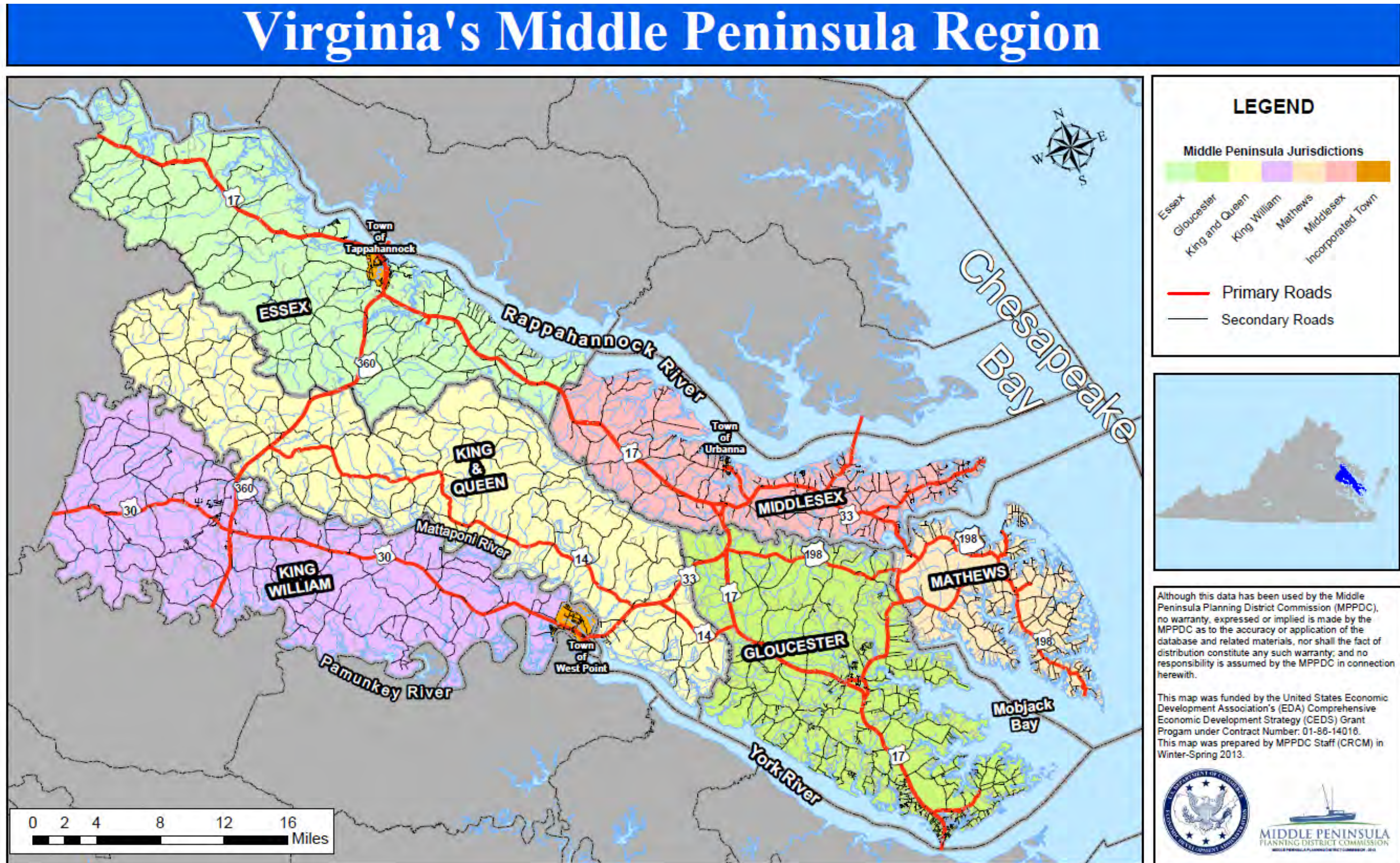
The 2010 Census figures showed the population to be 11,151 people, an increase of 1,162 (11.63 %) over the 2000 census. The population has 5,274 men and 5,877 women and is comprised of 6,370 whites, 4,247 African Americans, and 534 people of other races. The population aged somewhat during the period from 2000 to 2010 with a modest reduction in school age population. These trends suggest that County programs may require redirection to meeting the specific needs (i.e. health care, transportation) of an older population. A low to moderate trend in growth in the County's population is expected to continue into the future. The largest employer in Essex County is FDP Virginia, a manufacturer of brake parts for vehicles.

#### Essex County History Fact

Captain John Smith, one of the original tourists to the area, visited Essex during the winter of 1607-08, when he wrote of the "excellent, pleasant, fertile, and goodly navigable" Rappahannock Valley. On his first visit he did not linger. While he was trying to disembark near what is now the county seat of Tappahannock, the Native Americans drove him back to his ship.



Figure 6: Map of the Middle Peninsula region of Virginia





## Gloucester County

Gloucester County is located in the southeastern portion of Virginia's Middle Peninsula. The county is bounded on the south by the York River, on the north by the Piankatank River, and on the east by the Mobjack and Chesapeake Bays. Gloucester County's industries have traditionally been associated with the abundant natural resources found in the area. To quote a portion of the Gloucester 350 Strategic Plan (adopted in 1998), as the “northern most community in the Hampton Roads Metropolitan Statistical Area (MSA), Gloucester County has excellent access to East Coast markets; has excellent access to three international airports; and has excellent land resources.”

The 2010 Census showed the Gloucester County population to be 36,858 people, an increase of 2,078 (5.97%) from the 2000 Census. The population has 18,239 men and 18,619 women, comprised of 32,149 whites, 3,197 African Americans, and 1,512 people of other races. A moderate trend in growth is expected to continue in the future (Virginia Employment Commission, 2013).

The County's proximity to urban centers to the south, and the northwestward migration of suburban development from the greater Hampton Roads/Newport News area has transformed portions of the County into a suburban landscape. This is most pronounced at the southern reaches of the County. Residents from the Newport News and greater Hampton Roads area are lured to the County by the promise of lower taxes, lower housing costs, rural character, and relative freedom from the congestion evident in these metropolitan areas. This has created increased traffic volumes on highways not designed for such heavy use within the county. Gloucester County has established a “Growth Management Philosophy” outlined as a “contained growth” strategy in the County's Comprehensive Plan to manage the future form, pattern, quantities, and distribution of growth in the county (Gloucester County Comprehensive Plan Update, 2012).

### **Gloucester County History Fact**

1651 – Gloucester County is formed off of York County and established.

The county is named after Henry Stuart, Duke of Gloucester, third son of King Charles 1st of Great Britain.

Daffodils are planted around the county that later become significant to future history.

The largest employer in Gloucester County is the Gloucester County School system, a branch of the local government.

### **King and Queen County**

King and Queen County is located in the north-central portion of the Middle Peninsula and is bounded on the west by the York and Mattaponi Rivers which separate King and Queen from King William and New Kent Counties. The Dragon Swamp separates King and Queen County from Essex, Middlesex and Gloucester Counties on the east. Often called the "shoestring county", King and Queen County is about 65 miles long and less than 10 miles wide. Farming and logging continue to be the mainstays to the local economy.

King and Queen County is the least populous county of the Middle Peninsula and one of the most rural counties in Virginia today. In 1990, the population density was only 20 people per square mile. Nearly three-fourths of the County's 318.1 square miles of land area is timberland. Over the past four decades, King and Queen County has experienced slow, but steady population growth. In 2010 the population density was 22 people per square mile.

The 2010 Census showed the King and Queen County population to be 6,945 people, an increase of 315 (4.8%) over the 2000 census. The population has 3,454 men and 3,491 women and is comprised of 4,663 whites, 1,975 African Americans, and 307 people of other races. A moderate trend in population growth is expected to continue in the future and the overall population distribution appears to be experiencing a gradual shift to the upper and lower ends of the County where transportation routes to jobs and retail markets are most favorable.

The largest employer in King and Queen County is the King and Queen County Public School system, a branch of the local government.

#### **King and Queen County History Fact**

In 1700, the population of King and Queen County was approximately 4,306, making it the second most populous county in Virginia. It is also one of the wealthiest due to its tobacco production.



### **King William County**

Located approximately 20 miles northeast of the City of Richmond, King William County is rapidly growing into a bedroom community of the metro-Richmond area. Much of the county's 286 square miles are made up of gently rolling farmland and scenic timberland located between the Pamunkey and Mattaponi Rivers. Farming and logging continue to be the mainstays of the local economy. King William is home to the only Native American Indian Reservations in the Commonwealth and to the oldest courthouse in continuous use in the United States. The Mattaponi and Pamunkey Tribes operate fish hatcheries on the rivers. Residents and visitors enjoy the numerous recreational opportunities that the rivers provide.

#### King William County History Fact

English colonists formed King William County in 1702 out of King and Queen County. The county is named for William of Orange, King of England. The Courthouse, built in 1725, is the oldest courthouse in continuous use in the United States.

The 2010 Census showed the King William County population to be 15,935 people, an increase of 2,789 (21.2%) from the 2000 Census. The population has 7,759 men and 8,176 women and is comprised of 12,297 whites, 2,819 African Americans, and 819 people of other races. Projections indicate that King William County will continue to experience moderate to accelerated population growth. By the year 2020, it is estimated that the County's population will grow by 1,373 persons, or 8.62%. Growth management will become more important as competing uses vie for space and facilities.

The largest employer is in the Town of West Point, which in turn is in one of the districts of King William County, is Alliance Group Rock Tenn, a pulp-paper manufacturing plant.

### Mathews County

Mathews County is located at the eastern tip of the Middle Peninsula. The County is bordered mostly by water, with the Chesapeake Bay to the east, the Mobjack Bay to the south, the North River to the west, and the Piankatank River to the north. Except for approximately five miles that border Gloucester County, the County's perimeter is formed by its 217 mile shoreline. Mathews is predominantly a rural community that has attracted an increasing number of retirees and vacationers. More than half of the working residents earn their living outside the County. The mainstays of the local economy are agriculture, trade, seafood, and tourism.

#### Mathews County Historical Fact

Mathews County's population changed little between 1840 and 1900. The population peaked in 1910 with 8,922 residents, but gradually declined over the next five decades to a low point of 7,121 in 1960. This was in keeping with a national trend of population shifts from rural to urban areas because of the increased job opportunities in the cities. The population began to grow in the 1970's and it took until the mid 1990's before the population again reached the peak reported in 1910.

The 2010 Census showed the population to be 8,978 people, a decrease of 229 (-2.5%) from the 2000 census. The population has 4,363 men and 4,615 women and is comprised of 7,898 whites, 823 African Americans, and 257 people of other races. Projections indicate that Mathews County will continue to experience low population growth. By the year 2020, it is estimated that the County's population will grow by 9,284 persons, or 3.41%.

The largest employer in Mathews County is the Mathews County School Board, a branch of the local government.

### **Middlesex County**

Middlesex County, comprising 132 square miles with 135 linear miles of shoreline, is located at the eastern end of the Middle Peninsula. The County is bounded by the Rappahannock River to the northeast, the Piankatank River and Dragon Swamp to the southwest, the Chesapeake Bay to the east, and Essex County to the north. To the east, almost at Stingray Point, the village of Deltaville is located between the mouths of the Rappahannock and Piankatank Rivers. Once a major center for wooden boat building, the village remains a commercial and recreational center today. Middlesex has remained largely rural over the years with farming, forestry, fin and shell fishing providing the principal elements of its economic base. It's relatively remote geographical location and has retained its rural character.

#### Middlesex County History Fact

Settlement of the county began in 1640 with the county being officially formed in 1669 from a portion of Lancaster County. The County's only town, Urbanna, was established in 1680 and served as a port for shipping agricultural products. Urbanna served as the county seat of government until 1852, when the seat was moved to its present location in the village of Saluda.

The 2010 Census showed the population to be 10,959 people, an increase of 1,027 (10.3%) from the 2000 census. The population has 5,466 men and 5,493 women and is comprised of 8,680 whites, 1,978 African Americans, and 301 people of other races. Projections indicate that Middlesex County will continue to experience moderate population growth. By the year 2020, it is estimated that the County's population will grow by 11,684 persons, or 6.62%.

The largest employer in Middlesex County is the Middle Peninsula Northern Neck Mental Health Center, a community services board.

### **Town of Tappahannock**

Tappahannock is an incorporated town located along the shores of the Rappahannock River in the east-central portion of Essex County. The Town of Tappahannock is both the employment and population center of the County. Occupying less than three square miles of land, Tappahannock features an active waterfront, a historic downtown, residential subdivisions, schools and other public facilities, an old airport and industrial center, a business corridor, and extensive wetland areas. Tappahannock serves as the county seat for Essex County.

#### Town of Tappahannock History Fact

In 1682 a local man, Jacob Hobbs established a trading post in the vicinity of present day Tappahannock, which became known as Hobbs His Hole. The town was comprised of 50 acres divided into half acre squares. Tappahannock's first call to duty was as a port for river traffic

The 2010 Census showed the population to be 2,375 people, an increase of 307 (14.8%) from the 2000 Census. The population has 975 men and 1,400 women and is comprised of 1,076 whites, 1,128 African Americans, and 171 people of other races.

### **Town of Urbanna**

Urbanna is located in Middlesex County on the Rappahannock River on a finger of land bounded by Perkins Creek and Urbanna Creek. The town is one of America's original harbor towns and is located approximately five miles from Saluda, the current Middlesex County seat. Incorporated in 1902, the present town boundary comprises an area of about one-half square mile. The town operates an active boat harbor which is a major gateway for the fishing and recreational boating industries serving the area.

The 2010 Census showed the population to be 476 people, a decrease of 67 (-12.3%) from the 2000 Census. The population has 204 men and 272 women and is comprised of 431 whites, 35 African Americans, and 10 people of other races.

#### Town of Urbanna History Fact

The popular Urbanna Oyster Festival has been held in the town in November of each year since 1958.

This annual event features oyster specialties and other Chesapeake Bay seafood, a parade, a fine arts exhibit and visiting tall ships. Crowds for the two-day event now number close to 75,000 people.

Of note to the economic value of tourism is that the Town Manager of Urbanna estimates that there is a seasonal swelling of the population to well above 2,000 people within the town and at the nearby Bethpage Campground due to seasonal use of vacation homes and campsites. This influx of tourists brings in much needed revenue and helps support the service industry and the tax base for the county.

### **Town of West Point**

The Town of West Point lies at the extreme southern end of King William County where the Mattaponi and Pamunkey Rivers join to form the York River. The town is relatively flat, with large sections comprised of tidal marshes, particularly along the Mattaponi River. The highest elevations occur at the northern end of town at a height of 30+ feet above sea level. Most of the Pamunkey River waterfront is on a bluff averaging 20 feet in height.

The river areas surrounding the town are primarily used for recreation and barge access to the Rock Tenn Containerboard Mill where pulping operations convert wood chips, sawdust and recyclable paper products into pulp for use in producing various types of paperboard. The Old Dominion Grain Corporation also benefits from barge access.

The 2010 Census showed the population to be 3,306 people, an increase of 400 (15.4%) from the 2000 Census. The population has 1543 men and 1763 women and is comprised of 2618 whites, 509 African Americans, and 179 people of other races.

#### Town of West Point History Fact

Union forces destroyed the town and the railroad, completed in 1859, during the Civil War. Only four houses survived the torching and remain intact today.

West Point became an incorporated town in 1870. During the late 19th and early 20th centuries, West Point was a popular tourist destination. After the decline of tourism, a shipyard, built in 1917, and a pulp mill, built in 1918, revitalized the town.

## B. Education and Educational Attainment

Education is paramount for commanding high wage, stable jobs which, in turn, attract businesses to the Middle Peninsula Region. The region does a good job graduating the youth from high school, but falls short on keeping a population with college and graduate school educations (Virginia Employment Commission, 2012). This does not mean that the Middle Peninsula youth do not go on to higher education, it simple means that the more educated youth tend to migrate to areas that have high wage jobs. The less educated youth generally can find low wage jobs in the region and have less reason to move. The opportunity in the Middle Peninsula of Virginia is to attract businesses with high wage jobs, thus capturing the intellectual capital of the region by giving the more educated youth another reason to stay and work where they grew up. Another side of education is the local jobs it creates. Local government is the largest employer by industry in the Middle Peninsula, accounting for 5,206 of the 22,666 jobs (17%) in the region (Virginia Employment Commission, 2012). The jobs in the various school systems, which provide jobs for people who live and work in the Middle Peninsula, make up a large part of this number (Virginia Employment Commission, 2012).

The Middle Peninsula's population is above the state and national average for High School/GED achievement (Table 1), but below the state and national averages for College and Graduate degrees (U.S. Census Bureau American Community Survey, 2007-2011).

**Table 1: Comparison of educational achievement within the region, state and nation**

	<b>High School/GED Achievement</b>	<b>College Degree</b>	<b>Graduate Degree</b>
<b>Middle Peninsula</b>	37%	12%	6%
<b>State Average</b>	26%	19%	12%
<b>National Average</b>	29%	17%	9%

The seven public school systems in the Middle Peninsula region serve students in grades K-12. In addition to public schools, approximately sixteen private schools serve grades K-12 and special education needs in the Middle Peninsula area. Institutions of higher education include the Rappahannock Community College in Glens, VA, and the Virginia Institute of Marine Science in Gloucester Point, VA. Several colleges/universities are within commuting distance including the College of William and Mary, Virginia Commonwealth University, the University of Richmond, Christopher Newport University, and Hampton University. The School of Marine Science/Virginia Institute of Marine Science (SMS/VIMS), part of the College of William and Mary, has a tripartite mission of research, education, and advisory service in marine science. This mission established an institution that is uniquely prepared to educate the highly qualified researchers, resource managers, and educators needed for the future. VIMS is an important hub for jobs, marine research, education, and business development in the community.

Rappahannock Community College has a campus in Glens, providing associate degrees, certificates and career studies certificates. It also offers Teletechnet, televised correspondence courses, in association with Old Dominion University, to offer 4 year and higher degrees. Rappahannock Community College provides the important function of educating local students who earn degrees and certificates that give them the potential to enter the workforce in high wage jobs.

The Middle Peninsula has a solid educational system that offers opportunities for all.

## C. Health Care

Health care is an important factor for people and businesses' relocation decisions. People (aka the workforce) generally like to live where there is quality health care. Businesses need a healthy, vibrant workforce. Hospitals, nursing homes, doctor's offices, pharmacies, and associated health care businesses are a good source of high wage employment for a community.

The Middle Peninsula region has 2 hospitals (Tappahannock and Gloucester), rural health care clinics, free clinics, nursing home facilities, assisted living facilities, and hospices. It is generally agreed that the health care and medical delivery services for the region, while limited compared to urban centers, are above average. There are numerous top quality hospitals and health care facilities within a 100 mile radius of the region (Richmond, VA, Newport News, VA, and Norfolk, VA).

Health Care, especially hospitals, is a major employer in Gloucester and Essex Counties. Riverside Health System is the major owner of hospitals, nursing homes, doctors' practices, etc. in the region. Their major hospital, Riverside Regional Medical Center, is the single largest employer on the Middle Peninsula and the health care industry is the 3rd largest industry, employing 2,870 of the 22,666 workers across the Middle Peninsula (Virginia Employment Commission, 2012).



## D. Natural Resources

The natural resources of the Middle Peninsula are a major driving force behind the existing economy, providing approximately 20% of the jobs in the Middle Peninsula (VEC, Community Profile, 2013). Forestry and farming are major players, as are aquaculture, boating, mining, and tourism (Figure 7) all play strong roles in providing local employment and tax revenue (VEC, Community Profile, 2013).

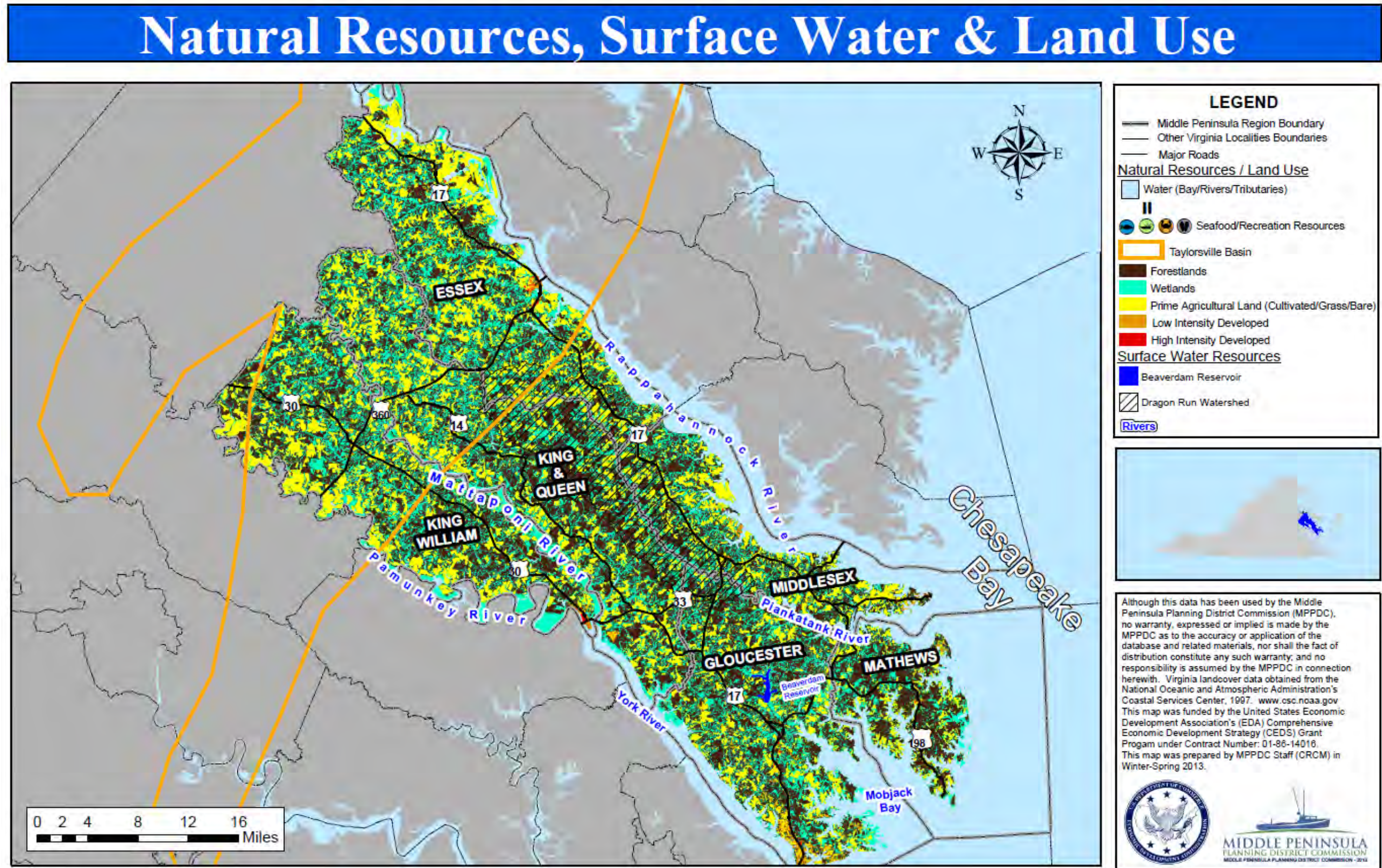
### Aquaculture and Fishing

Coastal communities within the Middle Peninsula historically have had a rich maritime tradition and culture. From harvesting wild shellfish to fin-fishing, the Chesapeake Bay and local rivers provided the region with a once thriving industry. However, in recent years a variety of factors have contributed to a shift away from traditional water based livelihoods. For instance, due to disease, predation and water quality degradation, populations of harvestable shellfish have declined, and increasing regulations have set limitations on blue crab harvests. Also, coastal communities are in transition, with a higher demand for waterfront properties. Increased coastal development has invited wealth and affluence to the region. Consequently, traditional working waterfronts have become threatened. Never-the-less, aquaculture presents a new opportunity to sustain seafood and working waterfronts industries in the region.

According to a 2005 report by the Virginia Institute of Marine Science (VIMS) the commercial and recreational fisheries of Virginia provide both monetary and non-monetary economic and recreational contributions. In 2005, sport-fishing and commercial harvesting activities generated a total of \$1.23 billion in output or sales, \$717.4 million in value added contributions or income, and 13,015 full and part-time jobs in Virginia. Of note is that approximately two thirds of these values were attributable to the recreational sector and one third to the commercial seafood sector. Further, NOAA's 2010 Coastal County Snapshots for Gloucester, Mathews and Middlesex show that there are 1,382 maritime jobs that generate \$19 Million dollars in local wages (Appendix G). In addition, it is important to recognize that the values attributed to the commercial seafood sector declined approximately 30% between 1994 and 2004 as a result of decreased species diversity, infrastructure damages from Hurricane Isabel in 2003, increased fuel costs, and imported products, among others. The largest sales for the seafood industry were from sea scallops, blue crabs, and menhaden and approximately 50% of the economic impacts were generated by seafood processing.



Figure 7: Map of natural resources, surface water and land use in the Middle Peninsula.





Virginia leads the nation in the culture of hard clams with 516 million clams planted in 2011 with estimated total revenue of sales at \$26.8 million in 2012. The oyster industry continues to evolve from the traditional extensive planting of “shell on bottom” to more intensive, contained, aquaculture utilizing cages, racks, floats, and the like. The number of oysters sold by Virginia growers increased 21% in 2012 to roughly 28 million oysters for a total revenue of \$9.5 million, an increase of almost \$3 million from 2011. The hatchery infrastructure has expanded recently, up 20.7% in eyed larvae (baby oysters) sales since 2010. These two industries employ almost 200 full time and 250 part time workers. (Virginia Shellfish Aquaculture Situation and Outlook Report, March 2013. Thomas J. Murray, VA Sea Grant Extension Program Director, and Karen Hudson, Shellfish Aquaculture Specialist).



**Figure 8:** Cultured oysters.

While the data above is for all of Virginia, the Middle Peninsula is a major player in the aquaculture, commercial fishing and crabbing, and recreation fishing industries. There are over 15 growers of shellfish (Daily Press, November 2011) and many small growers in the Middle Peninsula alone. One of the largest caged-oyster companies in the state, taking oysters from microscopic eggs to 3-inch cage-grown market beauties in the space of a year or two is located in Gloucester County. The business trades under the name of Mobjack Bay Seafood and Ward Oyster Company. In 2012 the Gloucester business harvested about 2.5 million oysters, a sizeable portion of the state's roughly 28 million aquaculture oysters (Daily Press, “Oyster farming down to a science”, April, 2013).

The room for growth in the aquaculture industry is exponential, and is only limited by the vision of the business person. The support structure for these industries includes marinas, boat and engine repair, transportation, etc. All these businesses create jobs and support the Middle Peninsula economy.

**Mineral Resources (VA Dept. of Mines)**

Mineral Resources in the Middle Peninsula have traditionally been considered clay and sand/gravel mines, though, on the western edge of the Middle Peninsula, there is an area called the Taylor Basin that has untapped oil and natural gas deposits. There are 26 reported direct jobs for mining, but the average wage is \$877 per week, the 4th highest wage for the Middle Peninsula (VEC, 2013). The average weekly wage is \$285 higher than the average weekly wage of \$592 for the region.

***The Taylorsville Mesozoic Basin (AKA “The Taylor Basin”)***

The Taylorsville Basin (MAP E), which lies almost entirely buried beneath the Atlantic Coastal Plain, has attracted considerable interest by industry during the past several years. The exposed part of the basin has been mapped and described in detail by Weems (1980, 1981, 1986) and Goodwin and others (1985). The deeper parts of the basin were explored by three oil and gas tests and by six diamond drill holes cored by Texaco, Inc. Texaco's first oil and gas test in 1989 was drilled to basement at a depth of 10,135 feet. Data from all but the last oil and gas test, as well as an interpretation of a regional vibroseis line across the basin, are presented by Milici and others (1991). Three of the core holes as well as the Texaco Wilkens et ux no. 1 oil and gas test exhibited shows of hydrocarbons, although not in commercial quantities. Palynomorphs from the exposed part of the basin have yielded TAI colors that indicate these strata are within the thermal zone of oil generation (see Milici and others, 1991 for a summary). Proprietary data from the Wilkins well indicates that there are about 200 feet of ray shale in the lower half of the well that are potentially suitable for source beds. (*Geology and Energy Resources of the Triassic Basins of Northern Virginia: Old mines and geology of the Richmond Basin*. A field excursion prepared for the 20th Annual Meeting of The Society for Organic Petrology September 24, 2003. Excursion Guides Robert C. Milici U.S. Geological Survey Reston, Virginia 20192 And Gerald P. Wilkes Virginia Division of Mineral Resources Charlottesville, Virginia 22903.)

As of the 2013, no mining is active in the Taylorsville Basin. There is a business actively buying up leases, but, until mining begins, there will be no energy based economic impacts from the oil and gas deposits in the Taylorsville Basin. To date the business has leased 80,000 acres (not all in The Middle Peninsula) for \$15 per acre. The potential economic benefit to the landowner is \$400,000.00 in royalties per well that is drilled. The benefits to the counties in tax revenues and jobs created are speculative and open for debate at this time. Please refer to Appendix A for an article from the *Daily Press* newspaper from January 20, 2013 for more details regarding recent interest in exploring the basin as well as associated potential economic benefits, environmental concerns and the potential pitfalls of exploration.

***Traditional Mining – Sand and Gravel***

While clay and sand/gravel mines may lack the glamour of oil and gas mining, these mines provide high wage jobs in the present. Further, while they only account for 26 jobs directly (VEC, 2012), the 160 jobs at the Nestle Purina at its Fontainebleau Industrial Park plant in King William County are classified under the “Manufacturing” designation in the jobs reports and are not reflected in the “Mining” classification. This way of classifying jobs points out two facts. One, natural resource jobs are hard to classify and often get lost in economic reporting and, two, natural resource jobs are a good fit for the Middle Peninsula region. This is especially true when it is noted that mining jobs pay \$877 per average wage work and manufacturing jobs pay \$955 per average wage week, much higher than the region average of \$592 (VEC, 2012). Growth in this industry would be an economic benefit to the Middle Peninsula. Below is a breakdown of the mines found in the Middle Peninsula region.

**Middlesex County:** Mineral production in Middlesex County is limited to sand, clay and gravel. These minerals are available in layers located sporadically throughout the County. Sand, more prevalent than gravel, is located along much of the County's shoreline. In 2007, the Virginia Department of Mines, Minerals and Energy were monitoring 13 permitted sand and/or gravel operations in the county. These operations totaled approximately 84 permitted acres.

**King William County:** 10 Sand and/or Gravel Mines and 1 Clay Mine were permitted in 2005. During 2000, almost 1,107,000 short tons of clay, sand, and gravel were produced in King William County. The clay type, Fullers Earth, is used for cat litter at the Nestle Purina plant which makes “Tidy Cat” cat litter.

**Gloucester County:** 13 sand and gravel mines were permitted in Gloucester County in 2007.

**Mathews County:** 4 active mine permits in Mathews County in 2007.

**King and Queen County:** 5 active mine permits for sand and/or gravel and 1 for clay in King and Queen in 2005.

**Essex County:** 4 active sand mine permits for Essex in 2005.

### Prime Agricultural Land

While still a major part of the economy of the Middle Peninsula, farm numbers and farm land have been consistently declining in the Middle Peninsula (USDA Census of Agriculture). The Middle Peninsula region supports 430 jobs in the agriculture, forestry, fishing and hunting category (VEC, 2013), though support jobs in retail, construction, transportation, and other categories account for many more jobs related to this sector. The average weekly wage is \$544, lower than the \$592 average for the region. As of the 2007 USDA Census data, the number of farms, generally row crops such as corn and soybean, are as follows (Table 2):

County	Farms	Acreage in Farms
King William	136	46,065
King and Queen	153	53,125
Essex	102	53,346
Middlesex	76	17,709
Gloucester	159	22,957
Mathews	50	4,412
Region	676	197,614

Governor Bob McDonnell announced in April of 2013 as part of his trade and marketing mission to Asia that Montague Farms, a family-owned producer and exporter of specialty soybeans based in Center Cross, Virginia, reached a new agreement to supply food-grade soybeans to a customer in Japan. The specialty soybeans will be imported by Tokyo-based Sun-Tommy International Company and distributed to food processors in Japan. The soybeans will be used to make natto, a fermented breakfast food that is considered a traditional delicacy in Japan. Governor McDonnell met with executives of Montague Farms, Sun-Tommy, and a food processing company in Tokyo on Wednesday to thank Sun-Tommy for reaching an agreement with Montague and to discuss future export business from Virginia

Export sales, which now are responsible for about 30 percent of total farm income, continue to grow in importance for our family farms. Beyond that, exports are creating opportunities and supporting jobs in non-agricultural sectors between our farms and ports, such as transportation, storage, and finance, as they generate approximately \$1.40 in-state for every \$1.00 exported.”

The specifications for the soybeans to be exported by Montage Farms to Sun-Tommy International are strict. The soybeans supplied by Montague must meet strict requirements for size, shape, color, moisture content, and several other physical properties. The soybeans also must be certified as not having been genetically modified (non-GMO). Montague Farms

contracts with a network of farmers in Virginia and surrounding states to grow and ship specialty soybeans.

“The support that the Commonwealth of Virginia and the McDonnell administration, in particular, has provided to Montague Farms and other agricultural exporters has been excellent” said Tom Taliaferro, Operations Manager for Montague Farms. “From the agricultural research that continues at Virginia Tech developing new and better crop varieties to the on-the-ground support we received during business meetings in Japan and Virginia from the Virginia Department of Agriculture and Consumer Services’ international marketing staff, we are able to achieve new successes because of the support Virginia provides to agricultural producers.”

Montague Farms, which has been shipping to other customers in Japan for more than two decades, has built a successful business based upon specialty soybean exports. The company contracts with other farmers for more than 15,000 acres of production of field crop each year. Growers in Montague’s farm network cultivate soybean, corn, wheat, and other grain crops. Montague Farms owns and operates two grain storage and conditioning facilities in Virginia, one in Center Cross and another in Windsor (Office of Governor of the Commonwealth of Virginia Press Release, April 23, 2013).

### **Forest Lands and Silviculture**

The Middle Peninsula Region is a part of the great forest that once covered most of the east coast of the North American continent. Pine, cedar, and other coniferous species combine with the abundant oak, hickory, holly, and numerous other deciduous species to form a beautiful habitat for both wildlife and man. The Virginia Department of Forestry, in 1999, valued the total economic output of the forests in the Middle Peninsula Region at \$845,647,552 culminating in 6,878 jobs for the region. The Virginia Department of Forestry estimates that 61 to 80 percent of the region is forested, with over 80 percent of the forest in private ownership (Rose, Anita, Virginia’s Forests, 2001). Additional opportunities for wood based products continue to be a focus of the Middle Peninsula region. An example of this is the CEDS committee’s recommendation for a pellet plant in the Middle Peninsula (refer to Vital Projects).

One example of the importance of the Silviculture industry as a sustainable industry is Ball Lumber, Located in King and Queen County (Figure 9).

In 1946, John H. Ball got into the lumber business in King and Queen County, VA. He bought a sawmill, 4 mules, 2 horses, and a truck for \$3,000. “*And it took me three years to pay off that \$3000*”, Mr. Ball says, remembering how in those days most of the lumber was sold for railroad cross-ties. He also recalls that lumber was cut mostly with manual saws and hauled out of the woods by mules and horses.





Today, Ball Lumber Company has over 60 full-time employees including three generations of the Ball family- sons Hardy, Gary, and John Page and grandson Lewis-to cut trees, run the sawmill, and transport lumber.

*Our company is vertically integrated, says John Page Ball. We grow and harvest trees and manufacture and ship lumber. We produce a quality product, John Page notes, and not just structurally sound but with a good appearance. All of Ball's lumber is graded and stamped with a seal of certification for quality.*



The Balls' mill, one of the most modern and efficient saw mills in eastern Virginia, occupies about 120 acres on Route 360 at Millers Tavern. When an almost new mill was sold at auction in the Puget Sound area of Washington State, Gary Ball bought its automatic sorting system, shipped it back to Virginia, and reassembled it. This system allows them to sort up to 53 different sizes and grades of lumber into separate bins. It replaced the old labor intensive *greenchain* method of sorting lumber.



*In the early days, a 20 mile radius was about the limit for hauling lumber. We had to wait until they made bigger trucks so we could expand outward and develop our customer base, explains Mr. Ball. Today our drivers make frequent trips to Buffalo, Rochester, and Philadelphia and we haul lumber as far west as Ohio and as far north as Maine.*

Much of the lumber from their mill currently goes to regular customers such as pallet manufacturers, building material suppliers, and

**Figure 9:** Ball lumber in King and Queen County, Virginia



treaters-companies who add preservatives to wood for use in commercial and residential applications.

The by-products of the mill operation are also utilized. Mr. Ball remembers when sawdust and chips were burned as waste. *Today, paper mills buy chips to make pulp, the shavings are used to make particle board and for horse stall bedding, and the bark is used for mulch. Also, the sawdust fuels the furnace that provides the heat for our massive kiln that dries lumber at 180 degrees for 48 hours.* It's all an example of how the Ball family uses innovative technology to increase efficiency, save money, and utilize waste.

*The lumber business is one of the most environmentally conscious businesses around; there are more forests and pines in Virginia than ever. Management practices are better too; when we cut a tree, we plant one in its place,* says Gary. Ball Lumber grows and cuts trees on company and private land. The trees they cut are from 30 to 40 years old. *So from the time a man is born, he might get just two cuttings,* Hardy says.

With the hard work, dedication, and perseverance of the Ball family, it's a safe bet that Ball Lumber will continue to grow and prosper for generations to come (Ball Lumber Company Website, [www.balllumber.com](http://www.balllumber.com), April, 2013).

## **Wetlands**

Wetlands are a large part of the Middle Peninsula landscape. They are important to economic well being of the region from their traditional uses: hunting (especially duck hunting leases) and fishing; to their practical uses: storm buffers protecting businesses, houses, and land; to their environmental uses: filtering upland stormwater runoff going into the rivers and Chesapeake Bay; and nursery areas for fish, birds, and crabs. Further, the wetlands provide a vast area of opportunity and draw for tourists in the form of canoeists and kayakers, power and sail boaters, birdwatchers, and other nature lovers.

Most of the wetlands that exist in the region are nontidal, occurring in the U.S. Coastal Zone in areas that are beyond the reach of the tides. These wetlands include shrub wetlands that are characterized by the brushy growth of woody plants that do not get above 20 feet in height; aquatic beds that get formed by free-floating plants; the shallow water of ponds, rivers, and lakes; forested swamps or wooded wetlands that are dominated by various species of trees; and emergent wetlands that are covered by herbaceous plants like flowering herbs, sedges, and grasses. Most nontidal wetlands are referred to as "Palustrine wetlands" according to the U.S. Fish and Wildlife Service's wetland classification system.

The bulk of the wetlands that can be found in the region are Palustrine Forested Wetlands and are found in every Middle Peninsula locality. Palustrine Shrub Wetlands are found all over the region, though in substantially lower amounts. Almost all of the small compact sections of Palustrine Emergent Wetlands that exist in the region are in the lower portions of King William and King and Queen Counties along river banks, just upstream from where the Mattaponi and Pamunkey Rivers converge to form the York River.

### **Aquifers**

The Middle Peninsula of Virginia has a plentiful water supply that can be found in aquifers and surface water (Figure 10). An abundant source of drinking water is essential to the future economic growth of a region. Manufacturing plants, homes, businesses, farms and towns all require a safe and predictable water source. While the supply in the Middle Peninsula may be abundant, the region is not without the following characteristics: Deep artesian aquifers, also known as groundwater, recharge slowly; surface water is susceptible to contamination; and there is a potential for salt water intrusion to groundwater. Further, tightening groundwater regulations (see “groundwater management area” below) have the potential to make the permitting process for access to groundwater costly and lengthy.

Table 3 summarizes the primary aquifers underlying the Middle Peninsula, shows their characteristics, and defines the economic uses, starting with the Potomac Aquifer, the lowest and oldest of the confined aquifers, and moving up-section to more shallow aquifers.

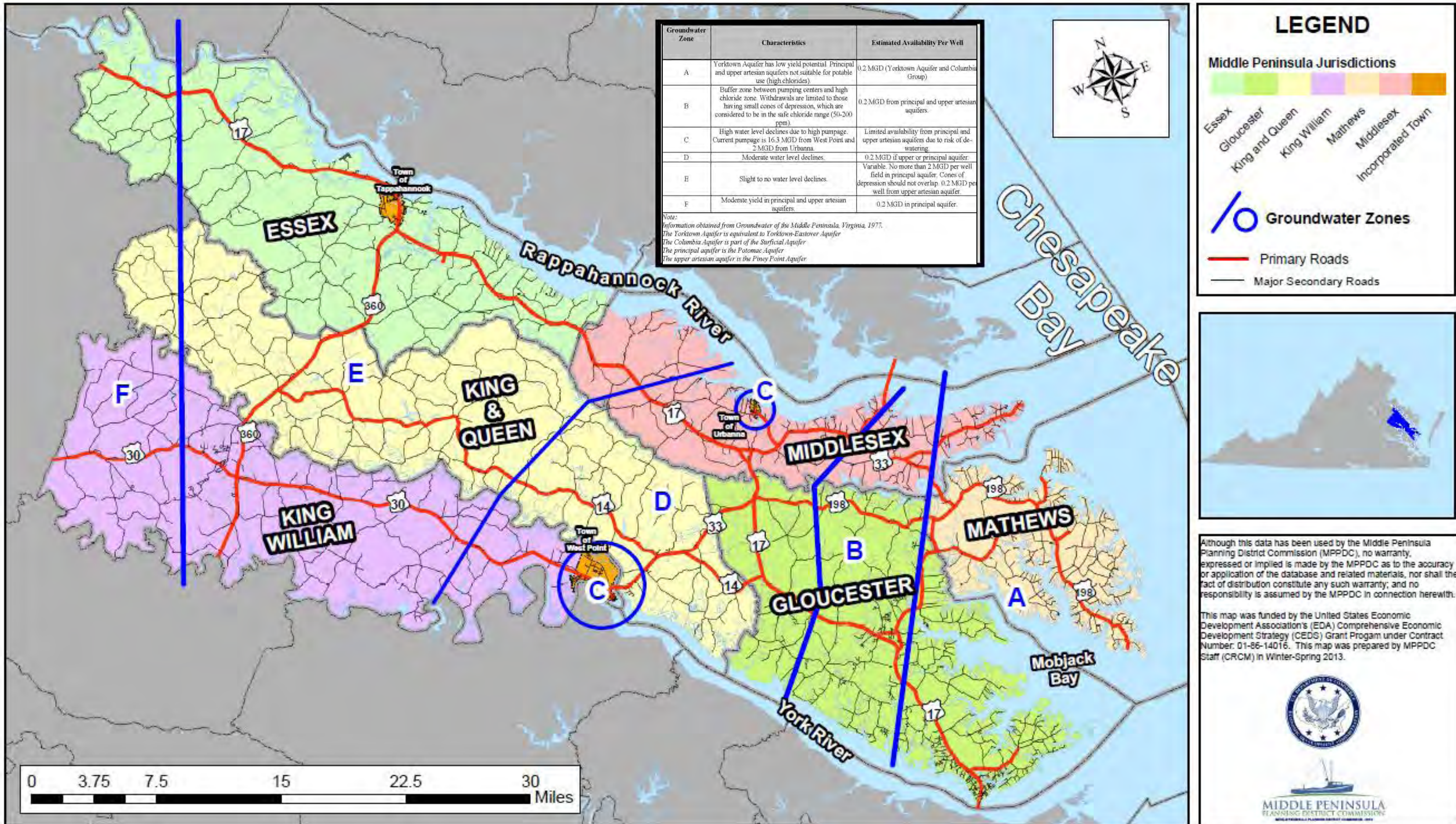
**Table 3: Aquifers of the Middle Peninsula region of Virginia**

Aquifer	Characteristics	Economic Applications
<b>Potomac</b>	<b>Artesian – Deep, slow recharge.</b> The Potomac Aquifer is the deepest, largest, and most heavily used aquifer in the entire Virginia Coastal Plain. The Potomac comprises the primary groundwater supply resource in the Coastal Plain of Virginia, with typical well yields of 100 to 500 gallons per minute (gpm), and some as large as 3,000 gpm (MCFARLAND, 2006).	Fluvial sand layers yield large volumes of soft water suitable for both household and industrial water (Fletcher, 2013).
<b>Aquia</b>	<b>Artesian – Deep, slow recharge.</b> The Aquia Aquifer is relatively sparsely used as a ground-water resource. Observation wells completed entirely within glauconitic sands yield 5 to 10 gpm (MCFARLAND 2006). However, water-supply wells completed in basal parts of the Aquia aquifer containing coarse-grained sands and gravels of the upper Potomac Formation can potentially yield 50 gpm (MCFARLAND, 2006).	Yields adequate and quality suitable for light industrial and municipal water supplies. (USGS, 1986).
<b>Piney Point</b>	<b>Artesian – Deep, slow recharge.</b> The Piney Point Aquifer is a moderately-used source of groundwater in the Virginia Coastal Plain, with typical well yield ranging from 10 to 50 gpm. (MCFARLAND, 2006).	Well yields adequate for most household and landscaping purposes. (Fletcher, 2009).
<b>Surficial (unconfined)</b>	<b>Superficial –shallow, faster recharge.</b> The superficial aquifer is widespread, shallow, and moderately used as a source of groundwater in the Virginia Coastal Plain. The water table aquifer is generally recharged directly by precipitation, and therefore is the most vulnerable of all the aquifers to leachable contamination and to depletion during droughts. Nonetheless, this aquifer is an important water supply in the eastern Coastal region where the deeper aquifers are brackish (too salty) for use as potable water. This unit yields minor water supplies (5 to 20 gpm) of moderately soft water. (MCFARLAND, 2006).	This shallow aquifer, often referred to as the water table aquifer, is tapped by many residents, farms, and small businesses using shallow dug wells, but is vulnerable to drought and contamination. (MCFARLAND, 2006).



Figure 10: Groundwater Zones within the Middle Peninsula

# Groundwater Resources in the Middle Peninsula Region





### ***Groundwater Management Areas***

In 1992, the Virginia General Assembly adopted a new Groundwater Management Act as a replacement for the 1973 Groundwater Act. The 1973 Act, as amended in 1986, allowed the State Water Control Board (SWCB) to regulate groundwater withdrawals in areas where there were conflicting uses and potential adverse impacts, but exempted agricultural users from permitting requirements. The 1992 Act established criteria for the creation of groundwater management areas and required persons who withdraw more than 300,000 gallons of water per month to obtain permits. The Act also required that previously exempted agricultural users acquire permits.

The Virginia Department of Environmental Quality adopted the regulations in 1993 and were amended in 1999 by adding new definitions. The Commonwealth designated King William County, including the Town of West Point, as a Groundwater Management Area (GMA) in 1999. King William County is included in the Eastern Virginia GMA, and is the only Planning Region locality included in a GMA. There are two Groundwater Management Areas in Virginia: the Eastern Virginia GMA and the Eastern Shore GMA. One is discussed here, the Eastern Virginia GMA, and the localities included are listed in Figure 11. The Eastern Shore GMA includes the counties of Accomack and Northampton and will not be discussed further in this Plan. Groundwater levels in the Eastern GMA, including King William County, have been affected by regional industrial pumping and drawdown, and have declined steadily since the 1930s.

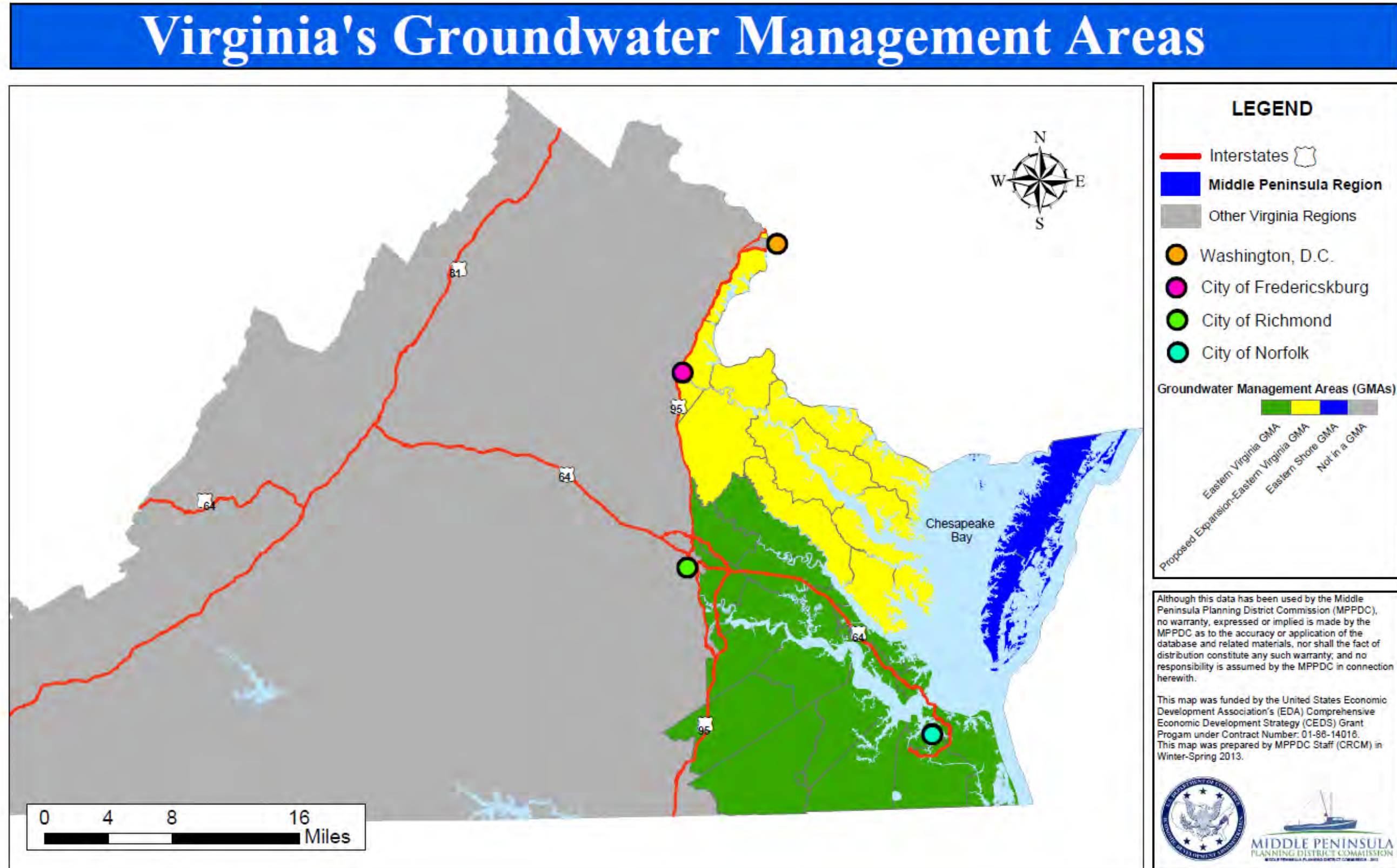
In July 2009, a Notice of Intended Regulatory Action (NOIRA) was issued to consider expanding the Eastern Virginia Groundwater Management Area to include the remaining portion of Virginia's coastal plain, which would include the counties of Essex, Gloucester, King George, King and Queen, Lancaster, Mathews, Middlesex, Northumberland, Richmond, and Westmoreland, and the areas of Arlington, Caroline, Fairfax, Prince William, Spotsylvania, and Stafford counties east of Interstate 95. The Virginia Department of Environmental Quality (DEQ) found that ground water levels in the undesignated portion of Virginia's coastal plain are continuing to decline. Impacts from groundwater withdrawals are propagating along the fall line into the undesignated portion of Virginia's coastal plain and have the potential to interfere with wells in those areas without assigned mitigation responsibilities. Given the groundwater declines found, DEQ believes that the entire coastal plain aquifer system is best managed as one management area since impacts are experienced throughout the entire coastal plain. The agency also believes that it is best to designate the area now rather than wait until later as part of managing the resource comprehensively.

At the June 21-22, 2010 meeting of the SWCB, the proposed regulation was presented by DEQ's Director of Surface and Groundwater Supply Planning, Mr. Scott



Kudlas, which would expand the Eastern Groundwater Management Area to the entire coastal plain, adding the Middle Peninsula, Northern Neck and portions of Northern Virginia as described above. As a result, the SWCB adopted the regulation as proposed and directed DEQ staff to proceed with the public comment period. The public comment period ended on August 19, 2010 and the SWCB is in the process of conducting stakeholder discussions on the proposed expansion. Groundwater Management Areas pose complications for economic development due to the time necessary to obtain a permit for groundwater by industrial users.

Figure 11: Map of Virginia's Groundwater Management Areas



### **Surface Water, River Corridors and River Basins**

Surface waters, river corridors, and river basins provide current and potential economic benefits to the region. Some of the uses are potential: future source of drinking water; and current: wildlife habitat; sources of drinking water for livestock; irrigation for farms; fishing and hunting areas; commercial “highways”; and recreational boating areas.

The Middle Peninsula has an abundance of surface water, including, but not limited to, the Pamunkey, Mattaponi, York and Rappahannock Rivers, the Dragon Run Swamp and Piankatank River, Mobjack Bay, and the Chesapeake Bay. However, surface water is vulnerable to contamination and derivation of drinking water from surface water sources is more costly than using groundwater wells due to treatment requirements. Consequently, the Middle Peninsula derives its drinking water almost exclusively from groundwater wells. Although the Middle Peninsula’s surface waters do not currently contribute greatly to drinking water supplies, these water bodies provide a potential resource for future use.

The Middle Peninsula contains three primary watersheds: the Rappahannock River, the York River, and the Mobjack Bay small coastal drainage (Figure 7). DEQ has defined the three watersheds according to the descriptions below:

- The Rappahannock River Basin is bordered by the Potomac/Shenandoah Basin to the north and the York River Basin and Coastal Basin to the south. The headwaters lie in Fauquier and Rappahannock Counties and flow in a southeasterly direction to its mouth, where it enters the Chesapeake Bay between Lancaster and Middlesex Counties. The Rappahannock River Basin is 184 miles in length and varies in width from 20 to 50 miles. Within the Planning Region, Essex County, Middlesex County, and portions of Mathews County are within the Lower Rappahannock Basin.
- The York River basin is bounded by the Rappahannock River Basin to the north and east and the James River Basin to the south and west. The headwaters of the York River include the Pamunkey River, which rises as the North and South Anna Rivers in Orange County, and the Mattaponi River, which rises in Spotsylvania County. From its headwaters, the waters of the York River system flow in a southeasterly direction for approximately 220 miles to its mouth at the Chesapeake Bay. The basin’s width varies from five miles at the mouth to 40 miles at its headwaters. Within the Planning Region, King William County and King and Queen County are in the York River Basin.

- The Great Wicomico/Piankatank/Mobjack Bay small coastal drainage is a series of small streams and creeks that discharge directly to the Chesapeake Bay or Mobjack Bay. The North and East Rivers rise in Mathews County and discharge to Mobjack Bay. The Dragon Run Swamp/Piankatank River system, which drains portions of Essex County, Mathews, Middlesex County, and King and Queen County discharges directly to the Chesapeake Bay.

### **Shoreline Protection and Beaches**

While the coastline is important to the economy of the tourism, boating and fishing industries, the threat of sea level rise requires proper planning, by local governments, private individuals, and business interests, in order to prepare and protect infrastructure, land, and structures. With over 1,000 miles of linear shoreline in the Middle Peninsula, there is a considerable amount of coastline. The Middle Peninsula is rich in gently sloping, low elevation uplands and wetlands immediately adjacent to or in close proximity to tidal waters. Lands exhibiting these characteristics are at risk to increased frequency of high-tide flooding and gradual inundation from rising sea levels. Within the Middle Peninsula, areas vulnerable to the above threats include but are not limited to New Point Comfort, Bohannon, Retz, Onemo, Diggs, Roane, Heart Quake Trail area, Deltaville, Locklies, West Point, Romancoke, Winona Park Road, Pamunkey Tribe Reservation, Ware Neck, Nexara, Guinea, Purtan Bay, Catlett Islands, Tappahannock, Gynnfield Subdivision, Lower Essex, Kendall Road, and Layton Peninsula (MPPDC, 2010).

Sea level rise is an issue in the region and predictions of its impacts in the Middle Peninsula include: increased storm damage; increased saltwater intrusion; and increased inundation and land convergence. These effects could have a profound impact on the local and regional economies through loss of land, damage to property and infrastructure, cost to rebuild and protect property and infrastructure, loss of tax base for local governments, ability to install and maintain public and private utilities, and other unforeseen effects. All these issues must be taken into account in future planning. Businesses, especially waterfront based businesses, also need to take into account the potential sea level rise to impact their future. (For more information see Appendix B)

Surface waters and the shoreline provide real and future economic benefits to the Middle Peninsula. Both allow for boating, hunting, fishing, and tourism while surface waters offer a “highway” for commercial vessels and a source of water for livestock and crops. The potential for surface waters to provide a source of drinking water should also be realized. Planning for the use and protection of these resources is important.



### **Boating and Water Access**

Virginia's Middle Peninsula is bordered by the Rappahannock River, York River and the Chesapeake Bay. Recreational boating opportunities range from paddling through the pristine Dragon Run Swamp; exploring the rich coastal marshes; sailing the open waters of the Rivers, the smaller bays or the Chesapeake Bay; fishing or sport; waterskiing the protected coves; to finding a quiet place to anchor out for the night. Commercial opportunities range from fishing for crabs, oysters, clams, or finfish to running tugs and barges.

Public access to the water continues to be a major issue that is addressed by agencies such as the Virginia Department of Game and Inland Fisheries, the Virginia Marine Resources Commission, the Virginia Sea Grant Program at the Virginia Institute of Marine Science, the Middle Peninsula Chesapeake Bay Public Access Authority, and others.

Boaters in the Middle Peninsula Region of Virginia, locals and tourists alike, support an industry that creates jobs and generates tax revenues for counties. In one county, Middlesex, the total economic impact of resident and non-resident boaters was \$53.9 million in 2007. The boating related business was responsible for generating 588 full time jobs in Middlesex County, generating \$14.8 million in labor income (Murray, Thomas. *Assessment of the Economic Impacts of Recreational Boating in Middlesex County, Virginia, 2011*). This area was identified as a Marine Trades cluster in the CEDS process. The opportunity to expand and build on this cluster has the potential to create more of the high wage, local jobs the Middle Peninsula region so desperately needs.

Water Access was identified in this CEDS process as a major benefit and need in the Middle Peninsula. Water access is provided by a combination of private docks, private marinas, public launch ramps, and public piers. Public access is a point of concern that is recognized by the local governments, and great strides have been taken to acquire, preserve, and improve public water access sites in the region. Without water access, the tourism, boating, and fishing related activities in the Middle Peninsula have the potential to shrink exponentially, causing a decline in revenue for marinas, boat shops, boat dealers, local governments, and other related businesses.

The Natural Resources of the Middle Peninsula of Virginia are the ingredients that make the local economy work. Trees, fish, crops, crabs, sand, oysters, gravel, livestock, water, land, wildlife, wetlands, etc., are all components that are utilized every day to create and retain jobs, generate tax revenue, and maintain the quality of life found on the Middle Peninsula of Virginia. The ability to access and utilize these resources now is as important as is the ability to protect and preserve these resources for future generations of entrepreneurs. Challenges for economic growth, such as sea level rise and environmental regulations, exist, making proper planning a necessity.

**Middle Peninsula Chesapeake Bay Public Access Authority**

One example of how the Middle peninsula has worked to protect and preserve water access is the formation of the Middle Peninsula Chesapeake Bay Public Access Authority (MPCBPAA) in 2003. The MPCBPAA was established by Virginia State Code 15.2-6600 through 15.2-6625. It is a political subdivision that acts to serve the public access needs of the encompassed communities. The six counties and three towns in the Middle Peninsula are members of the MPCBPAA. Its mission statement is:

“The Authority recognized that shorelines are high priority natural areas and that it is crucial to set aside access sites for all types of recreational activities important to our economy and to the citizens of the Commonwealth of Virginia.”

This organization has been and continues to be used to provide the public access to the water and to solve complex public policy issues concerning, among other, right of ways and ownership of public access to the waterways of the Middle Peninsula. To date the MPCBPAA has preserved almost 1,000 acres of land, providing public access to boaters, crew teams, fishers, bird watchers, hunters and more. More information may be found at: <http://www.virginiacoastalaccess.net/MPPAA.html>

## E. Transportation and Public Utilities

Transportation, the movement of goods and services into and out of the community by road, rail, water and air, is directly responsible for 250 jobs in the Middle Peninsula Region (VEC 2013). Transportation of people to and from jobs is another aspect of the economy. Both types of transportation require a transportation network that is functional, accessible, and affordable. The Middle Peninsula has good roads, abundant but underutilized (commercially) waterways, 3 regional airports, and limited rail service (Figure 12).

Public Utilities, provided by governments and including water, sewer, broadband, and natural gas, provide the necessary infrastructure needed for manufacturing which directly accounts for 1,794 jobs in the region. Manufacturing jobs, at the average weekly rate of \$955, are the highest average wage job in the Middle Peninsula. The Middle Peninsula region has limited areas with public water and sewer, a slow and expensive broadband system, and limited areas with natural gas. Expanded utilities, public or private, have the potential to attract businesses and increase manufacturing jobs in the Middle Peninsula (Figure 13).

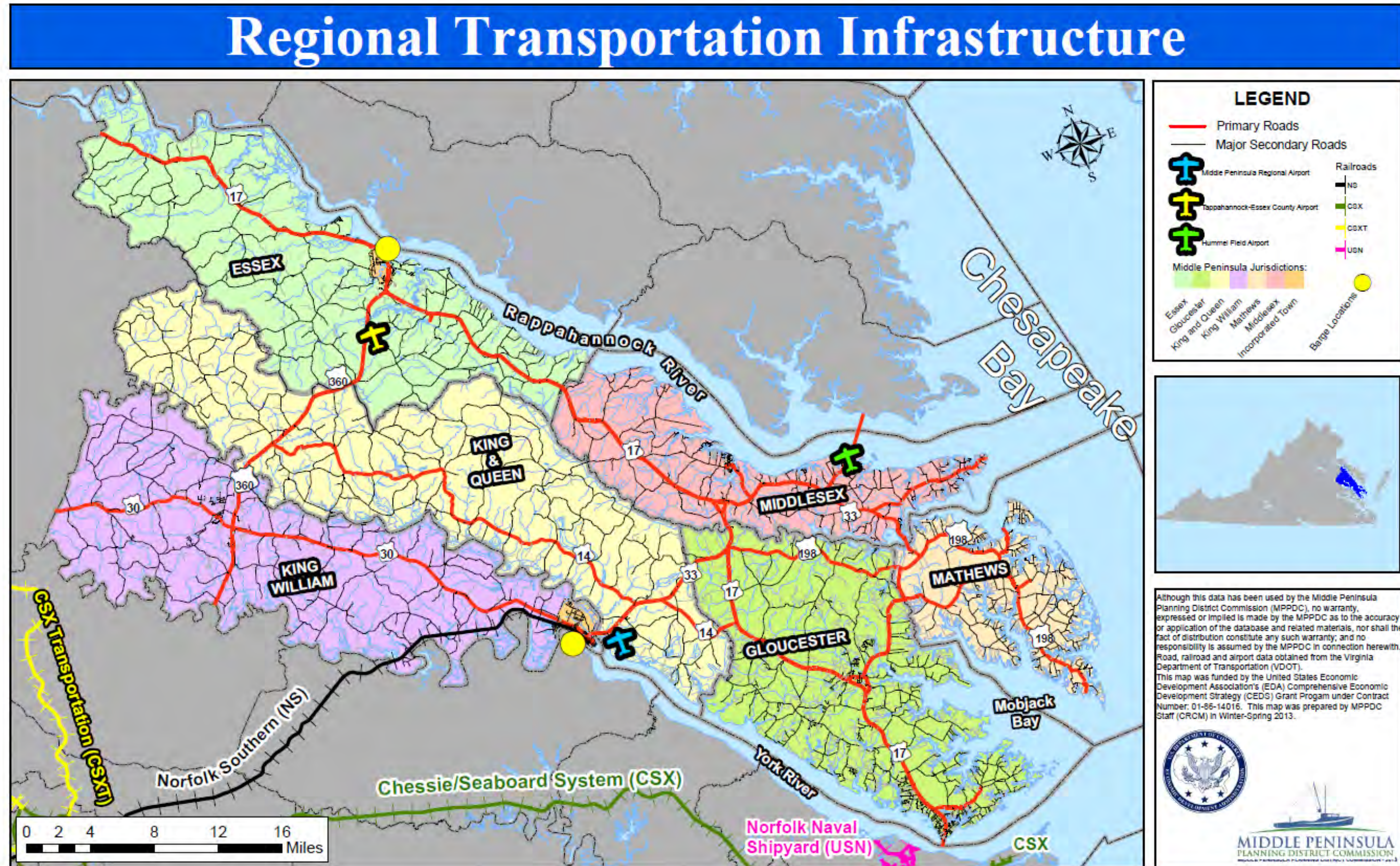
### *Transportation*

The Middle Peninsula transportation network is influenced by the waterways which generally travel northwest to southeast; therefore, many of the primary arterials also run in this direction. Primary corridors running generally east to west include US 360, VA 14, VA 30, and VA 33. The main north-south corridors are US 17 and VA 14. Fixed-route transit service is not available in the region. Limited demand-response transit is provided by Bay Transit. There are no commercial airports but three general aviation airports are located in the region. There is a spur of a Norfolk Southern owned freight rail line to West Point in King William County. Middle Peninsula Rideshare (a service of the MPPDC) coordinates travel demand management services in the region. There are ten official VDOT maintained park and ride lots within the region. (*Middle Peninsula Planning District Commission 2035 Regional Long Range Transportation Plan 2011 Draft*).

While there is plenty of opportunity for water transportation, in 2013 there were only two areas that had commercial barge operations (West Point and Tappahannock – moving grain and diesel), and no public water transportation (such as ferry systems) in the region (MPPDC 2035 RL RTP, 2011 Draft).



Figure 12: Map of regional transportation infrastructure.





***Public, Quasi-Public, and Private Utilities***

Public, quasi-public, and private utilities in the region include water, sewer, broadband, liquefied petroleum (LP) and limited natural gas. The limited municipal sewer systems are managed by the Hampton Roads Sanitation District (HRSD), while the water systems are privately owned or locally managed.

Liquefied petroleum is the most commonly used gas supporting economic development across the region. Several small and mid-sized local companies, such as Revere Gas, provide LP gas at the residential, commercial and industrial scale. LP gas provided by Revere has been available since 1942 with 700,000 gallons of propane storage at various facilities across the region. The natural gas is owned by Virginia Natural Gas and has extremely limited availability, but there is an expressed need by existing manufacturing business within the Middle Peninsula. Broadband is available by a multitude of carriers, but consistent and affordable access is the issue.

There are several discharge permits (Virginia Pollutant Discharge Elimination System –VPDES) issued for various industrial and municipal uses. Any person or business who discharges or proposes to discharge any pollutant into surface waters of the Commonwealth from a point source, including stormwater discharges from certain industrial facilities, must obtain a VPDES permit. The schedule of VPDES permits fees for discharge ranges from: Industrial Major, with a cost of \$24,000, to VPDES General / Domestic Sewage Discharges of  $\leq 1,000$  gallons per day (9 VAC 25-110), with a cost of \$0.

The majority of residential houses in the Middle Peninsula region have privately owned septic systems and permits are issued by the Virginia Department of Health. Expansion of the public sewer systems is desirable for economic development in the region and was identified as a Vital Project by the CEDS strategy committee. The Hampton Roads Sanitation District (HRSD) has plans in place to expand and repair the public sewer system to limited areas as outlined below.

The Hampton Roads Sanitation District (HRSD), a political subdivision of the Commonwealth of Virginia, was created by public referendum in 1940 to eliminate sewage pollution in the tidal waters of the Chesapeake Bay. The mission of HRSD is to protect the health and safety of the public by treating wastewater effectively. There are 3 small treatment plants: King William, Urbanna, and West Point (Figure 13), and one pressurized main sewer line that runs from Mathews Courthouse through Gloucester Courthouse and Gloucester Point, terminating at the York River treatment plant.

HRSD has improvement plans in 6 stages for the Middle Peninsula in their Capital Improvement Program (CIP) through fiscal year 2022 to:

1. Complete the closure of the Mathews Treatment Plant
2. Expand the capacity of the King William Treatment Plant
3. Construct a pump station at Davidson Corner in Mathews County
4. Replace 36 failing vacuum valve chambers and sumps
5. Replace and improve components of the SCADA system
6. Rehabilitate gravity sewer pipe parallel to Kirby Street in West Point

Historical Fact

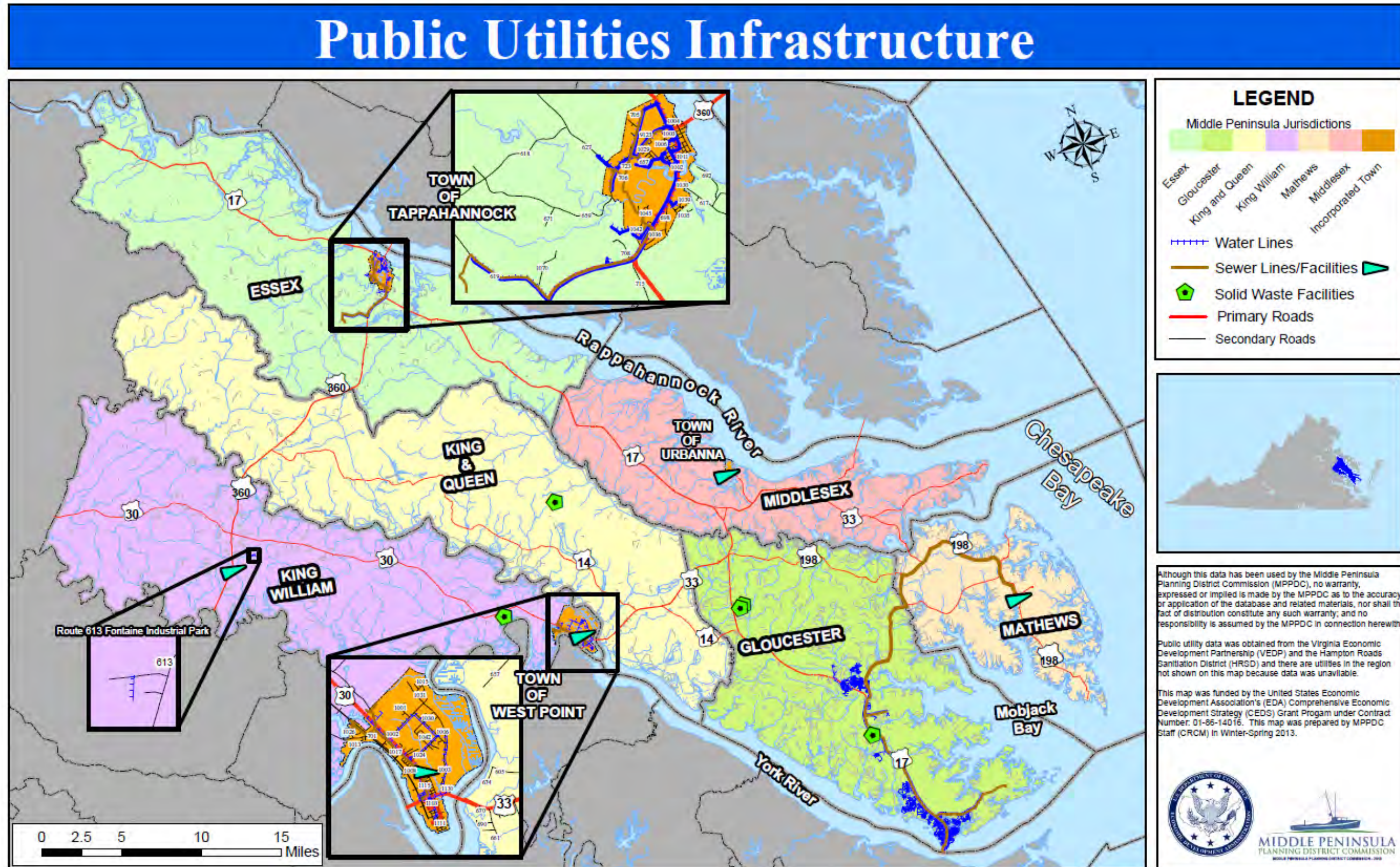
HRSD owes its creation to oysters, a robust seafood industry in the early 1900s. The Virginia Department of Health condemned a large oyster producing area in 1925, bringing the question of sewage pollution to light.

There is community water (public water) in the most urban areas of each county. There are a total of 48 community water systems, mostly wells, within the geographical boundaries of the Essex, King William, King and Queen, Middlesex, and Mathews Counties (Regional Water Supply Plan for the Middle Peninsula of Virginia, 2011). Gloucester County has one reservoir and 2 wells (County of Gloucester, 2013).

It is of note that the majority of the region's economic clusters are found in the areas with public utilities.



Figure 13: Map of public utilities infrastructure within the Middle Peninsula.





## **PART 3: The CEDS Strategy and Process**

It should now be apparent that the Middle Peninsula region of Virginia has some issues with economic development: few local jobs; poor paying local jobs; lack of infrastructure; and a disconnection between local politics and local policy. The Middle Peninsula also has some great attributes, such as a central location on the Eastern Seaboard that make the region a desirable and logical place for economic development, and opportunities, such as a trained workforce that potentially would be content to work locally instead of spending time and money commuting to jobs in the urban crescent. How to take advantage of the attributes and opportunities and how to overcome the obstacles is the Middle Peninsula's challenge that was undertaken by the CEDS Strategy Committee. The following section describes in detail the: the CEDS Strategy, including committee makeup; the CEDS Process, including committee and public meetings and outcomes; the future plan of action; and the future performance measures.

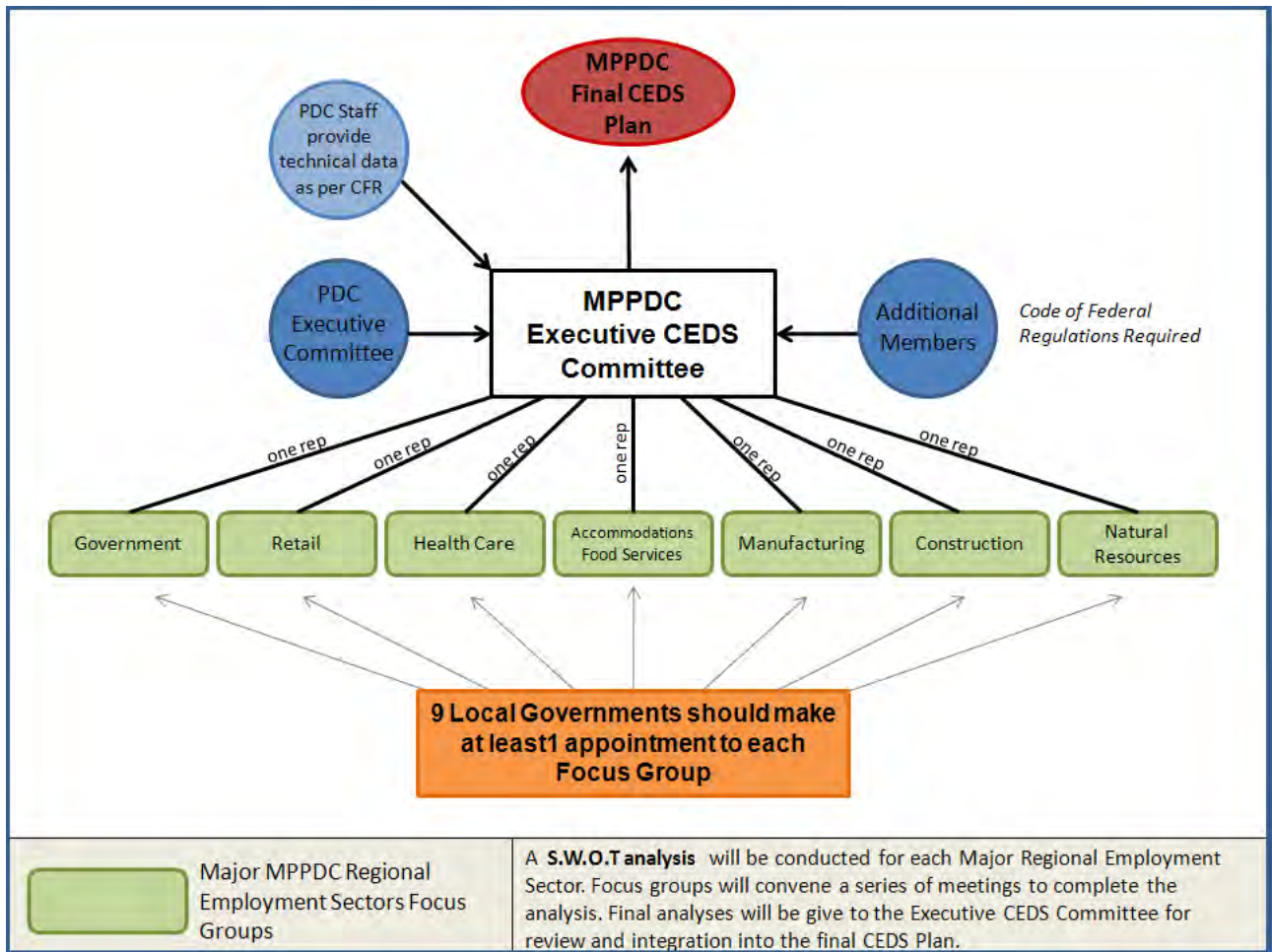
### **A. CEDS Strategy**

The Comprehensive Economic Development Strategy is a process prescribed by CFR part 303 that is designed to bring together the public and private sectors in the creation of an economic roadmap to diversify and strengthen regional economies. The Middle Peninsula Planning District Commission, the lead organization, developed the strategy outlined in Figure 14.

The figure illustrates the following: citizens were appointed by each locality to serve on an Employment Committee (green boxes); regional leaders, members of the Employment Committees, and additional members were invited to serve on the Executive Committee (white box in middle); and information from all the committees was used to finalize the CEDS plan (red oval on top). The whole of these committees represents the Strategy Committee. This strategy was designed to gain input from a diverse and equally representative group of citizens and business leaders in the Middle Peninsula.



**Figure 14: Middle Peninsula CEDS Strategy**



## B. CEDS Process

The following section details the components and the process of gathering information to inform the development of the Middle Peninsula of Virginia Comprehensive Economic Development Strategy Plan.

The CEDS process began with the creation of a CEDS Strategy Committee to provide the overall guidance of this plan. Due to the enormity and the complexity of the CEDS process, the Strategy Committee eased the process and provided local input to inform the CEDS. To provide a comprehensive approach to the development of this plan, the Strategy Committee was divided into two working committees, including the CEDS Employment Committees and the CEDS Executive Committee. While each committee had their responsibility, their work was merged to provide a uniform vision for the Middle Peninsula CEDS.

### **CEDS Employment Committees**

MPPDC staff requested CEDS appointments from the six counties and three towns in the Middle Peninsula Planning District and received 43 appointments. The appointees were divided into seven sub-committees (green boxes, figure 14) based on their knowledge and background. The sub-committees represent the top seven employment categories on the Middle Peninsula, based on number of jobs (VEC, 2011). The categories are: Government, Retail, Health Care, Accommodations and Food Services, Manufacturing, Constructions, and Natural Resources.

The seven CEDS Employment Committees met for a total of twenty-six times in the Spring of 2012. The committees met as a whole for the first meeting and then broke into Employment Committees for the final three meetings. At each meeting the committee members were given the following tasks (Worksheets - Appendix D):

- **MEETING 1:** Meet fellow committee members and learn about the CEDS process, expectations, and scheduling.
- **MEETING 2:** Discuss the Strengths, Weaknesses, Opportunities and Threats (SWOT) of your sector.
- **MEETING 3:** Analyze the Economic Clusters of the region and Develop Goals and Objectives.
- **MEETING 4:** Identify potential Economic Development Projects for the region.

The following are the results and outcomes of the CEDS Employment Committee Meetings:

*MEETING 1: Informational Meeting*

CEDS committee members met and were introduced to the CEDS process. The schedule of meetings, expectations, and outcomes were discussed.

*MEETING 2: The SWOT Analysis*

The opportunity to recruit new business or keep existing ones is affected by a number of factors, including the availability and price of competitive business sites, the readiness of infrastructure to accommodate business expansions and relocations, and future regional transportation and development patterns. Each time a business decides where to locate, a family decides to move, a vacationer decides where to visit, or a convention group decides to hold its next meeting, a region's relative advantages are weighed. It is therefore useful to systematically evaluate one's competitive advantages and disadvantages.

The SWOT analysis is conducted to identify the area's leading strengths, weaknesses, opportunities, and threats for economic development. The SWOT analysis provides a systematic scan of the current and anticipated future economic development. A well thought-out SWOT analysis leads directly to the following set of prioritized physical, marketing, and policy actions:

- Strengths the region can promote;
- Weaknesses the region acknowledges or fixes;
- Opportunities the region can prepare for;
- Threats the region mitigates if at all possible.

The information developed during the SWOT analysis helps:

- Evaluate the effectiveness of the existing economic develop program;
- Identify new policies or modify existing policies that affect job creation;
- Establish new and/or strengthen existing economic development programs and practices; and
- Prioritize action s that will most effectively use existing limited staff and financial recourses.

The Middle Peninsula Employment Committees met and developed the SWOT analysis. The following are the conclusions. Details of the voting can be found in Appendix E.

**Strengths:** The top 5 strengths of the region were identified as: a) access to water, natural resources, and beaches; b) the abundance of natural resources; c) the rural character of the region; d) good roads; and e) regional airports. Conclusion: the Middle Peninsula is a great place to live and raise a family which makes the region a desirable place to live and work.

**Weaknesses:** The top 5 main weaknesses of the region were identified as: a) limited infrastructure - such as water, sewer, and affordable, fast internet service; b) lack of a large population to support business, taxes and jobs; c) the lack of in-place zoning to attract business; d) poor government understanding of business practices; and e) limited local job opportunities. Conclusion: it is hard to attract good paying, manufacturing jobs without suitable infrastructure or a skilled labor force.

**Opportunities:** The top 5 main opportunities for the region were identified as: a) a huge potential for developing the tourism industry; b) improving infrastructure - water, sewer, natural gas and internet - to attract business; c) the potential to develop a port and rail system to attract manufacturing; d) Rappahannock Community College workforce development to train the local workforce; and e) development of industrial clusters. Conclusion: the Middle Peninsula has untapped potential for economic development.

**Threats:** The top 5 main threats identified were: a) environmental regulations - such as groundwater withdrawal permits - that make it difficult for businesses to move to and grow in the Middle Peninsula; b) a perceived public opposition to development and growth; c) a small tax base limiting the ability of local governments to afford infrastructure; d) land easements; and e) diminishing agriculture and timber industry employment. Conclusion: future economic growth will not be accomplished without proper planning and preparation.

The SWOT analysis revealed that, even though the Employment Committee members all came from different areas and backgrounds in the Middle Peninsula Region, there was a general consensus among that, for economic development: a) Natural Resources are the main strength; b) the limited infrastructure is the main weakness; c) tourism is the main opportunity for creating jobs; d) and environmental regulations are the main threat to business development.

### MEETING 3: Regional Innovation Clusters and Goals and Objectives

#### **Regional Innovation Clusters**

Regional Innovation Clusters (RICs) are defined as regional centers of related industries that foster innovation to enhance long-term economic growth. RICs are geographic concentrations of firms and industries that do business with each other and



have common needs for talent, technology, and infrastructure and can provide resources for next-generation enterprises. The synergies that develop from different elements coming together can make the whole greater than the sum of its parts.

RICs are central to growing the Middle Peninsula economy. Specific clusters were identified by the Employment Committees in different parts of the region as outlined below (Figure 15).

**West Point**

- Manufacturing Cluster
- Forestry/Agriculture Cluster

**Middlesex County**

- Maritime Industrial Jobs Clusters

**Gloucester County**

- Marine Technology Corridor
- Education/Research Cluster
- Retail Cluster
- Medical Cluster
- Seafood Cluster

**King and Queen County**

- Government Contracting Cluster (Airport)

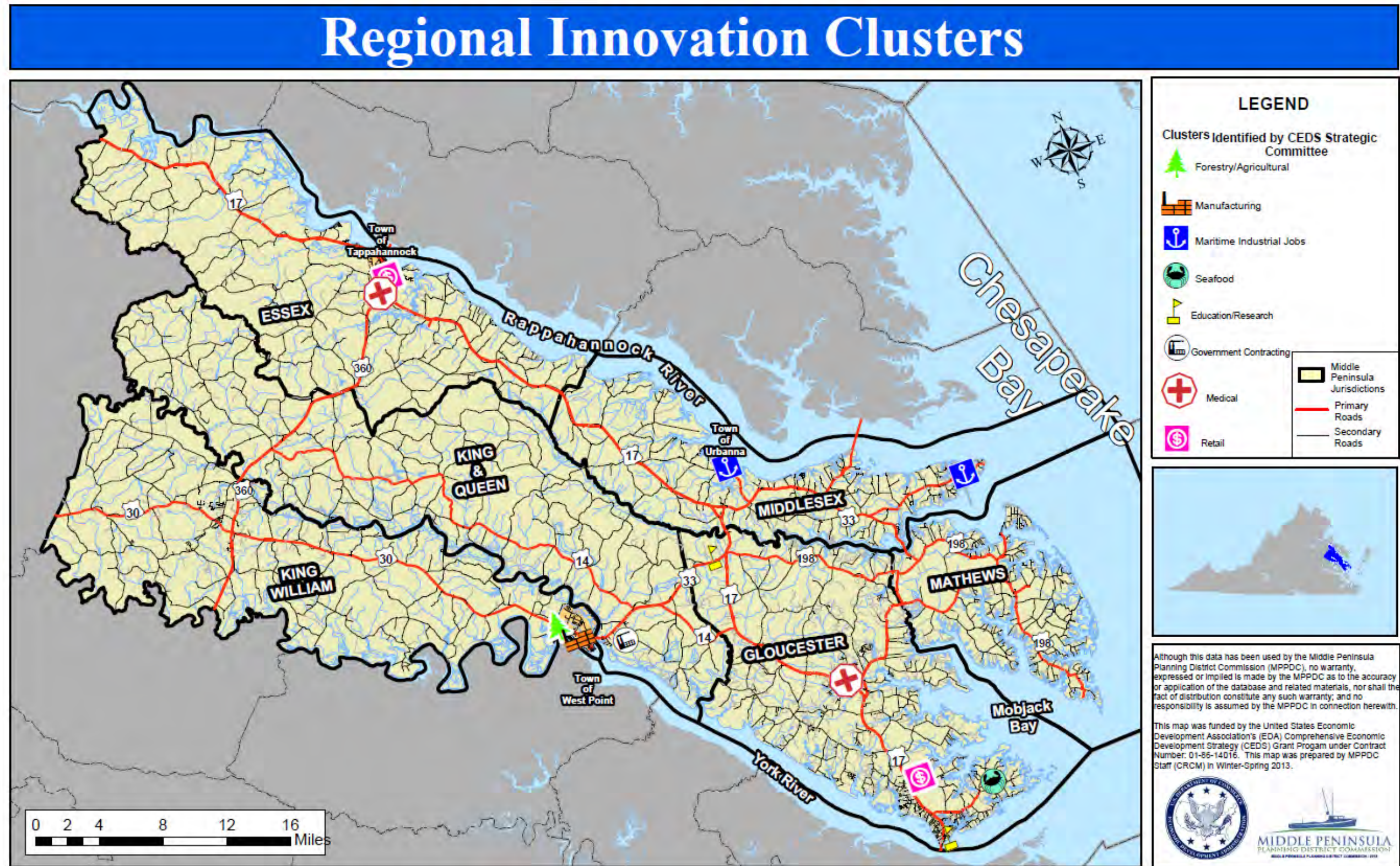
**Essex County/Tappahannock**

- Retail Cluster
- Medical Cluster

In conclusion, the Employment Committees identified 11 regional innovation clusters in 5 different areas. The clusters were all located in the areas that had the greatest concentrations of public utilities which primarily occur near or in the courthouse and town regions. Opportunities for economic development in the RICs in the Middle Peninsula abound. One logical step for capitalizing on these opportunities would be to have a concerted effort to build on these existing clusters by: attracting manufacturing and forestry/agriculture jobs to the Town of West Point; maritime industrial jobs to Middlesex County; marine technology, education and research, retail, seafood, and medical jobs to Gloucester County; government contracting jobs to King and Queen County; and retail and medical jobs to Essex County.



Figure 15: Map of regional innovation clusters.





## Goals and Objectives

Goals and objectives are critical to clearly defining a region's wants and needs in a broad sense while clarifying a clear and measurable path forward. The CEDS committees used the definitions below to come up with the goals and objectives outlined below, which will be implemented as part of the Plan of Action.

### Definitions of Goals and Objectives for the purpose of this CEDS

**Goal:** What one wants to achieve. Goals are broad spectrum, complex, and organizational indications of program intentions.

**Objective:** How one will achieve the goal. Measurable, defined, operational, simple steps, and specific. Objectives contribute to the fulfillment of specified goals. Complete with a beginning and an end.

Below are the goals and objectives outlined by the CEDS Employment Committee:

- 1** **Goal:** Further the goals, objectives, and projects in this CEDS document.  
**Objective:** Find funding for a full time Regional Economic Development Director at the MPPDC; assemble a District Organization; pursue Economic Development District designation; and implement this CEDS plan.

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- 2** **Goal:** Create a positive environment for the growth of industry clusters and natural resource based economy by providing the necessary public infrastructure in the Middle Peninsula.  
**Objective:** Encourage local governments to work with the MPPDC, HRSD, the Broadband Authority, and other interested parties to pursue funding to study, plan for, and develop the necessary infrastructure for existing and future commercial and industrial development, including water, sewer, and telecommunications infrastructure in the Middle Peninsula.

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- 3** **Goal:** Offer opportunities for technical training and skill development related to manufacturing, tourism, and natural resource based businesses to create a strong, technically trained workforce in the Middle Peninsula.  
**Objective:** Build a workforce training facility at the Rappahannock Community College that trains up to 10 local workers yearly for jobs at **local** manufacturing plants and marine businesses.

- 
- 4** **Goal:** Develop a regional identity for the Middle Peninsula that celebrates competitive advantages and connects the communities of the region.  
**Objective:** Develop a Middle Peninsula specific Tourism Marketing Plan.

- 
- 5** **Goal:** Attract or grow businesses that provide living-wage jobs, don't harm the environment, and maintain rural identity of the Middle Peninsula.  
**Objective:** Promote the development of the Virginia Sea Grant University initiative.

- 
- 6** **Goal:** Recognize the importance of the historic towns and gateways in the Middle Peninsula to the overall economic health of the region and develop strategies to stimulate their revitalization.  
**Objective:** Support the Deltaville Business Initiative ("Boating Capital of the Chesapeake Bay"), the Tappahannock Main Street Project, and other Main Street or Court House re-vitalization projects.

#### MEETING 4: Strategic Projects

The strategic projects were developed through a prescribed process over the course of 18 months and 30 meetings involving the Strategy Committee, both Employment and Executive Committees, and the general public. The strategic projects were then split into two categories: Suggested Projects and Vital Projects. The suggested projects are all of the projects that came out of the entire process. The vital projects are the projects that were deemed most likely to create economic development opportunities and high wage jobs in the Middle Peninsula. The vital projects were decided on by the Executive Committee in a democratic process involving detailed discussions, expert testimony, and ballots.

#### ***Strategic Projects***

These projects would all benefit the economic development of the region and were identified by the Strategy Committee as being worthy of further study.



**Table 4:** List of strategic projects identified by the Strategy Committee

<b>Project Description</b>	<b>Location/Lead Organization</b>	<b>Duties/responsibilities</b>	<b>Jobs Created/Updates</b>
Lower Bay Center for Rowing	Gloucester and Mathews Counties MPCBPAA	Location, planning, execution	Unknown/*MPCBPAA has contracted with a rowing club 2013* (Site Acquired)
Upscale Retirement Home	Region wide/TBD	Feasibility Study of Retired Population	TBD
Lighthouse at New Point	Mathews County	Continued expansion of park	TBD
Regional Tourism (like VA River Country)	Region wide/MPPDC	Create one full time position to work on Tourism	1 FTE + many related jobs/*The MPPDC has contracted with the VTC to develop a MP Regional Specific Tourism Plan 2013
Dredge Spoil Locations (designate, permit, etc.)	Region wide/MPPDC	Feasibility Study	1/2 FTE at MPPDC to complete feasibility study
Debris Removal from Mattaponi and Pamunkey above Rt. 360 to Promote Public Access and Tourism	King William and King and Queen Counties.	Construction	TBD
Marketing Plan for Economic Development	Region wide/MPPDC	Continue CEDS process into the implementation stage	1 FTE plus any jobs created from implementation phase
Middle Crossing of the York River (Bridge)	Region wide/MPPDC	Feasibility Study of Bridge	TBD
Regional Volunteer Fire and Rescue Squad Recruitment and Retention Program	Region wide/MPPDC	Consolidate training of local Fire and Rescue Squads. Develop a recruitment and retention program.	½ FTE to coordinate program
Compressed Natural Gas Filling Station	Region wide/MPPDC	Feasibility Study	¼ FTE to complete feasibility study
Technical Training Course (workforce development for manufacturing)	King and Queen County/Rappahannock Community College Region wide	Develop technical training courses specifically designed to train local labor to work at local manufacturing plants	1 FTE to develop courses

<b>Project Description</b>	<b>Location/Lead Organization</b>	<b>Duties/responsibilities</b>	<b>Jobs Created/Updates</b>
Aquaculture Equipment Manufacturing Firm	TBD	TBD	10 FTE to work at firm
Port Development in West Point for Middle Peninsula	Region wide/MPPDC	Feasibility study	1 FTE to complete feasibility study
Rail Service for Middle Peninsula	Region wide/MPPDC	Feasibility study	½ FTE to complete feasibility study
Sewer and Water Infrastructure	Region wide	TBD	TBD
Regional Truck Stop	Region wide/MPPDC	Feasibility study	½ FTE to complete feasibility study
Boutique Farming	Region wide	TBD	TBD
Regional Farmer's Market (cooperative style with commercial kitchen)	Region wide	Develop and run a Farmer's Market specializing in locally grown / produced produce, seafood, and crafts. Run a commercial kitchen for the local boutique businesses; feasibility study for canning and freezing facilities.	TBD
Explore Regional Power Generation Plant at the Landfills	King and Queen County, Gloucester County	Study	King and Queen have a contract with a company and are negotiating their contract 2013
Broadband	Region wide/MPPDC Broadband Authority	Create backbone for Broadband in the Middle Peninsula	TBD
Indoor Gun Range	King and Queen County	Feasibility Study	TBD
Regional Reservoir (to serve MP only) and/or Regional Water Treatment Plants	Region wide	TBD	TBD

<b>Project Description</b>	<b>Location/Lead Organization</b>	<b>Duties/responsibilities</b>	<b>Jobs Created/Updates</b>
Regional Volunteer Training Program	Region wide	Develop and run	1 FTE to run program
Marketing/Fundraising Position at Bay Transit (make sure workers can get to work)	Bay Transit	Increase funding for Bay Transit by out reaching businesses whose employees use the system	1 FTE to do fundraising
Regional MP Fair (tourism idea)	Region wide	Organize and run a regional fair to highlight the area and draw tourists	1 FTE to run program
Public Access (i.e. expand parking at Rt. 603 to 12 + parking spaces – tourism)	King and Queen County	Develop more parking for public access	None Directly
Woodville School in Gloucester	Gloucester	Renovate as an historic, cultural, tourism center	None Directly
Adult Day Care Facility	Region wide	Develop plan and facility to allow citizens who care for family to have time for a job	None Directly
Develop 3 Industrial Sites in Each County (build ready with broadband, water, sewer, etc., enterprise zones, technology zones)	Region wide	Feasibility Study	TBD
Downtown Tappahannock Re-development	Essex County, Town of Tappahannock	Build on success of West Point and Gloucester Court House improvement projects by working with funding sources to further this project	TBD (potentially many)
Deltaville Business Initiative (water gateway to the Middle Peninsula)	Middlesex	Work with local businesses and county and state governments to promote Deltaville (a Marine Trades Cluster) as the Boating Capital of the Chesapeake	TBD (many)
Build Hangers at Regional Airports	Middlesex County, Essex County, King and Queen County	Pursue funding to build hangers. Pursue businesses to rent hangers	TBD (potentially many)

<b>Project Description</b>	<b>Location/Lead Organization</b>	<b>Duties/responsibilities</b>	<b>Jobs Created/Updates</b>
Port Development on the Rappahannock	Essex County	Feasibility study	¼ FTE to complete feasibility study
Navigation Beacons on Rappahannock	Essex County, Town of Tappahannock	Pursue permits and funding for boating safety	None Directly
Pellet Plant (pellets are a fuel made from wood)	Region Wide	Contact Local Pellet Plant business in Essex County and discuss expansion	8 FTE to work at plant
Dedicated Regional Economic Development Director (stable funding)	Region wide/MPPDC	Region wide Economic Development Director at the MPPDC	1 FTE to run program
ATV Trails, School, Park (tourism)	Region wide	TBD	TBD
Center for the Advancement of Rural Coastal Economies	Gloucester County	Develop a “brain trust” at VA Sea Grant to provide research and support for/and attract local natural resource based research or businesses	TBD
Develop a Power Generation Plant (not methane)	Region wide	Feasibility study with Dominion Virginia Power	TBD
Regional Kayak Destination Map/Marketing Plan	Region wide	Develop a specific plan to support the Tourism industry	TBD
Add a Virginia Historical Marker on US 17 N for VMI New Market Cadet Luther C. Haynes	Essex County	Idea withdrawn by committee member	None Directly
Create Park on Waterfront in Tappahannock	Essex County, Town of Tappahannock	Proposed infrastructure improvement Extension of Main Street Project or separate	TBD
Mathews Courthouse Revitalization Project	Mathews County	Build on success of West Point and Gloucester Court House improvement projects by working with funding sources to further this project	TBD



The CEDS Employment Committee identified 43 Economic Development Projects for the region. These projects were forwarded to the CEDS Executive Committee for review, discussion, and ranking.

### **CEDS Executive Committee**

The Executive Committee (Figure 14) was formed to review the results of the Employment Committees, review the proposed projects, rank the projects, and develop a plan of action and performance measures. The Committee consists of a representative from each Employment Committee as well as Public Officials, Community Leaders, Workforce Investment Board members, Institute of Higher Education members, Minority Groups, Labor Groups, and Private Individuals. The committee easily exceeded the 51% private citizen EDA requirements.

MPPDC staff held one organizational meeting on May 30, 2012, and four Executive Committee meetings on November 5, 2012, November 19, 2012, December 10, 2012, and January 7, 2013. Following the guidance of 13 C.F.R. § 303.7 (b) (6) The Executive Committee discussed how to prioritize the CEDS project list that was developed in the Employment Committee and Public Meeting processes. The Executive Committee reviewed the 43 conceptual projects developed in the Employment Committees, researched and discussed their merits, and assigned ranking. On January 7, 2013 and, pursuant to 13 C.F.R. § 303.7 (8) and (9), the Executive Committee met to finalize the selection of the top projects, develop a CEDS Plan of Action, and develop the Performance Measures.

### ***Vital Projects***

The vital projects are the projects deemed most likely to provide an economic benefit to the Middle Peninsula Region. Some of the projects are large in scale and will require substantial time and resources to achieve. Some of the projects are smaller in scale and require less time and resources to achieve. Some projects, such as Tappahannock Main Street and the Deltaville Business Initiative, are in progress and only need financial resources to achieve. The thing that all the projects have in common is that the regional CEDS Strategy Committee agreed that each of these projects has the potential to enhance economic development on the Middle Peninsula, create local jobs, and improve the quality of life for the region.

**Table 5: List of vital projects identified by the Strategy Committee**

Projects	Source of Funding (federal = grants.gov)	Contact Info
<b>Water Supply and Sewer Infrastructure</b> (local and regional) – Improve water and sewer in the Middle Peninsula.	HRSD, EDA	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>
<b>EDA of Gloucester County/VIMS</b> – In conjunction with economic development opportunities at the Virginia Institute of Marine Science (VIMS), the EDA of Gloucester County completed a study which looked at the establishment of a Marine Science Corridor in the VIMS area of Gloucester Point. The EDA will work with VIMS and VIMS, Inc., a 501C3 organization, toward the development of off-campus lab and research space in support of this endeavor. The EDA did purchase a 1.22 acre site adjoining the VIMS campus to provide student housing and other amenities to serve VIMS and the Gloucester community. Project cost estimate: \$10MM.	EDA/State/Local (Gloucester EDA)/Private	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>
<b>Broadband Infrastructure</b> – Improve reliable, fast and affordable broadband in the Middle Peninsula region.	EDA/State/Local	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>
<b>Tappahannock Main Street</b> – Revitalize the Tappahannock Main Street, including the waterfront, to attract and retain business in the old downtown and courthouse area. An initial plan has been developed. Funding is needed to begin the actual project.	EDA/State/Local infrastructure HUD – housing	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>
<b>Port Facility</b> – Perform a feasibility study for a Port Facility in the Middle Peninsula region. West Point is the logical place for a port, but a study would reveal if a “short haul” Port (barge product from the Middle Peninsula to the Port of Virginia in Portsmouth, VA or other locations) makes economical sense, would take trucks off the road, and is politically viable.	EDA/State/Local	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>
<b>Technical Training School Facility</b> – Funding is needed to build a brick and mortar building at Rappahannock Community College. The building would be designed to provide state of the art technical training.	EDA/State/Local	<a href="http://www.eda.gov/ffo.htm">http://www.eda.gov/ffo.htm</a>

Projects	Source of Funding (federal = grants.gov)	Contact Info
<p><b>Center for the Advancement of Rural Coastal Economies (Va Sea Grant)</b> - The Middle Peninsula region proposes to establish a collaborative university “Coastal Anchor Partnership” or CAP. The Middle Peninsula CAP will use the Virginia Sea Grant University system as a network to link the entire 6 Virginia Sea Grant universities full set of resources – human, academic, cultural, economic – with the local community, forging a stronger democratic, mutually beneficial, and mutually respectful partnerships to transform the stagnating Middle Peninsula Economy into a robust and diversified economy.</p>	State/Local	<a href="http://www.dhcd.virginia.gov/">http://www.dhcd.virginia.gov/</a>
<p><b>Deltaville Business Initiative</b> -Water gateway to the Middle Peninsula. Work with local businesses and county and state governments to promote Deltaville (a Marine Trades Cluster) as “The Boating Capital of the Chesapeake”. Build infrastructure to ease access to businesses by providing trails, sidewalks, etc. for boaters.</p>	Public - Private	TBD (many)
<p><b>Regional Truck Stop</b> – The Middle Peninsula has a large number of trash, lumber, and agriculture trucks. These vehicles have limited locations to fuel, eat, and rest. A study is proposed to see if there is a business opportunity to create a regional truck stop.</p>	Public-Private-study	MPPDC
<p><b>Regional Tourism</b> – Develop a regional tourism plan. Include cultural, recreational, agriculture, aquaculture, etc. into the plan. Virginia Tourism Corporation has begun dialogue with the MPPDC to develop a plan in 2013-2014</p>	State/Local	Virginia Tourism Corporation <a href="http://www.vatc.org/home/">http://www.vatc.org/home/</a>
<p><b>Pellet Plant</b> – Silviculture in the Middle Peninsula is traditional economic driver to the community. Finding a private partner to open and operate a pellet plant would create jobs in the region.</p>	USDA/ Rural Development Energy Programs – Biomass and Bioenergy/Private	<a href="http://www.rurdev.usda.gov/Energy.html">http://www.rurdev.usda.gov/Energy.html</a>
<p><b>Regional Farmers Market</b> – Marketing locally produced products such as produce, seafood, jams, and jellies is a smart way to create local jobs and advertise the region. Building a regional farmers market with a commercial kitchen would accent the rural and traditional values of the Middle Peninsula.</p>	USDA/Rural Development Community and Economic Development	<a href="http://www.rurdev.usda.gov/Community_Development.html">http://www.rurdev.usda.gov/Community_Development.html</a> USDA programs like Rural Business Enterprise Grant, Rural Business Opportunity Grant, Value-Added Producer Grant, and the Business and Industry Guaranteed Loan Program.

**CEDS Public Meetings**

The CEDS Strategy Committee requested that MPPDC staff hold public meetings to give the public the opportunity to ask questions and provide project ideas for discussion in the CEDS process. In October 2012, the MPPDC staff held four public meetings, one in each of the following counties: Gloucester; Essex; Middlesex; and King and Queen. A total of forty-eight members of the public attended these meetings. The last facet of the Public Process to satisfy CFR part 303.6 (b) (2) was to make the draft CEDS plan available for review and comment. This was done from May 15 to June 16, 2013, and, during June 2013, the MPPDC staff held four public meetings to accept comments on the draft CEDS, one in each of the following counties: Gloucester; Essex; Middlesex; and King and Queen. A total of twelve members of the public attended these meetings.



### **C. MPPDC CEDS Plan of Action**

Upon receiving public comments, the CEDS Strategy Committee spent a considerable amount of time considering what the next steps should be to advance the CEDS plan of action forward. The consensus was a recommendation of the following multi-part, concurrent plan of action.

- 1) Assemble a District Organization that meets the requirements of CFR Part 304.2 and is charged with: a) the responsibility of implementing the goals and objectives of the Middle Peninsula CEDS report, and b) pursuing EDD designation.
- 2) Find funding (State, Federal and/or Local) for a full time Regional Economic Development Director at the MPPDC.
- 3) Implement this CEDS plan by encouraging the MPPDC, private industry, state and local governments to: a) promote economic development and opportunity; b) foster effective transportation access; c) enhance and protect the environment; d) maximize effective development and the use of the workforce consistent with any applicable State or local workforce investment strategy; e) promote the use of technology in economic development, including access to high-speed telecommunications; f) balance resources through sound management of physical development; and g) obtain and utilize adequate funds and other resources.
- 4) The District Organization will report annually on the success of implementing the CEDS plan.

## D. Performance Measures

*Not everything that counts can be counted, and not everything that can be counted counts."  
– William Bruce Cameron*

The CEDS Strategy Committee views performance evaluation as an essential part of the CEDS planning and development process. Such an evaluation provides an opportunity to determine the efficacy of the plan, identify mid-course adjustments, and otherwise refine and focus ongoing implementation efforts throughout the planning cycle. EDA has several performance measures which guide their investments in EDDs. The Middle Peninsula CEDS will strive to meet the desired outcomes of these measures as well as incorporate several additional holistic measurements to gauge the overall economic and social health of the region.

Required EDAs performance measures (13 C.F.R. § 303.7 (9)) are:

- Number of jobs created after implementation of CEDS
- Number and types of investments undertaken in the region
- Number of jobs retained in the region
- Amount of private sector investment in the region after implementation of the CEDS, and
- Changes in the economic environment in the region.

Updates to the Middle Peninsula CEDS will be based upon the following nineteen measures:

- 1. Number of Jobs Created After Implementation of the CEDS**
  - a. Total Employment in Initial Year
  - b. Total Employment in Subsequent Years
- 2. Number and Types of Public Sector Investments Undertaken in the Region**
  - a. EDA Sponsored Investments
  - b. Significant State and Local Investments
- 3. Number of Jobs Retained in the Region**
  - a. Number of Jobs Retained as a Result of Federal Investments
  - b. Number of Jobs Retained as a Result of Select State and Local Investments
- 4. Private Sector Investment in the Region after Implementation of the CEDS**
- 5. Changes in the Economic Environment of the Region (Changes to Taxes & Fees, New Incentive Programs, etc.)**

Other Performance Measures to be used as a gauge of economic progress

## 6. Employment Figures

### What is this?

Employment figures include the total number of fulltime workers in the local economy. Perhaps the most important economic indicator in a developed economy is employment. While the notion of full employment is difficult to achieve in economic terms, a specific goal of the 2013 Middle Peninsula CEDS Plan is to —strengthen and develop an equitable distribution of jobs, support services, and facilities consistent with the needs of the population.

### Why is this important?

Employment information is an excellent indicator of a community’s economic health and well-being. It is important to have a large employment base and wide array of jobs locally so individuals and families can meet the basic necessities of food, shelter, clothing and other essentials.

### How are we doing?

To Be Determined (TBD)

## 7. Commuting Patterns

### What is this?

Workforce commuting patterns describe where residents of the Middle Peninsula travel to find work.

### Why is this important?

For Middle Peninsula rural and small town residents, rural-to-urban commuting (inter Middle Peninsula) is the norm. Some rural-to-rural commuting (inter Middle Peninsula) exists, but is secondary. The Middle Peninsula region has a 71% out commute rate. The needed array of jobs locally is not available so individuals and families must commute to meet the basic necessities of food, shelter, clothing and other essentials. The Middle Peninsula is faced with a unique measurement opportunity of “re-employment” within the Middle Peninsula

### How are we doing?

TBD

## 8. Unemployment Figures

### What is this?

The unemployment rate is comprised of the total number of people actively seeking work in relation to the total civilian labor force. Two major economic goals of the Middle Peninsula CEDS Plan are: —to develop a diversified economy to maintain full employment; and —to develop an equitable distribution of jobs across the region that includes support services and facilities consistent with the needs of the population.

### Why is this important?

A high unemployment has a negative effect on the local economy and quality of life. Areas with high unemployment may also experience higher rates of poverty, crime and social dysfunction.

### How are we doing?

TBD

## 9. Per Capita Personal Income (PCPI)

### What is this?

Personal income as a function of wages earned from jobs is only one portion of total income, although on average it is a significant majority. Personal income is the sum of net earnings, rental income, personal dividend income, personal interest income, and personal current transfer (government) receipts.

### Why is this important?

Population is the denominator ("per capita", or per person). As one tends to view PCPI for its quantitative significance, there are underlying characteristics that can impact the level or change in PCPI and these characteristics are not always solely economic. For example, two counties with similar population levels, similar industry and occupational compositions and similar employment rates could show sizable differences in PCPI if one of the counties has a significantly higher percentage of young children. How is this possible? Children seldom report significant wages, but they are nevertheless part of the population component factored into PCPI. Another example is that a county's employers may pay lower than average wages yet the county could have a surprisingly high PCPI because a significant number of its residents commute to work in nearby, higher-paying counties. These are simplified examples that show how qualitative, demographic issues can affect this measure of economic health.

### How are we doing?

TBD



## 10. Building Permits for New Housing Units

### What is this?

Building permits are issued by local building code officials after developers receive all necessary approvals and financing.

### Why is this important?

The number of building permits is an indicator of the local economy and housing market. It also is related to the attractiveness of a community and is a sign of a healthy construction industry.

### How are we doing?

TBD

## 11. Residential Home Values and Assessment

### What is this?

Single family homes are assessed by local government to determine the taxable value of real-estate for the purpose of generating revenue to fund important government services.

### Why is this important?

The average residential sales price is an important indicator to demonstrate home value as a function of a community's desirability as well as whether local residents can afford to buy a house and raise a family in a neighborhood where they already live. As home values rise, so does the economic health of a community.

### How are we doing?

TBD

## 12. Equalized Valuation Data

### What is this?

Equalized valuations are estimates of the value of all real property across multiple jurisdictions within a district, county or state. While all municipalities adhere to standard appraisal principles, each community administers its tax roles independently of one another. Equalized valuations are used to apportion taxes (Composite Index) among communities for school districts, county government, or for other specially designated state aid programs.

### Why is this important?

In accordance with Section 207 of Title 58.1 of the Code of Virginia, the Virginia Department of Taxation conducts an annual real property assessment/sales ratio study covering every city and county in the Commonwealth. Equalized valuations demonstrate the value of real-estate among municipalities. As the ratable base grows, more property owners

contribute to local taxes which should positively impact the local tax rate. A growing ratable base may be the sign of increasing property values and a strong local economy. The best indicator of a locality's overall assessment/sales ratio is the median, or midpoint of the ratios when ordered by value. The median ratio captures the performance of the real estate market; a low median ratio indicates a strong market. However, a median ratio close to or in excess of 100 percent (where assessed values closely approximate sales prices) may indicate that a reassessment has been undertaken recently, or may indicate a weak market.

**How are we doing?**

TBD

**13. Foreclosure Data****What is this?**

A foreclosure is a legal process by which a mortgagee's right to redeem a mortgage is taken away. This usually occurs when an individual fails to make the specified mortgage payments.

**Why is this important?**

This is important because residents need to be able to afford housing within a community. If there are a high number of foreclosures, it may demonstrate that the residents' income is not high enough to support the price of housing in a community. Foreclosures may also be an indication of a weak local economy.

**How are we doing?**

TBD

**14. Bankruptcy Data****What is this?**

A bankruptcy is a legal process to assure equal opportunity amongst creditors of a company or individual declared in bankruptcy. Many times, unemployment, unexpected medical expenses, or divorce cause people to file for bankruptcy in an attempt to seek protection from their creditors.

Bankruptcies are divided into two categories: business and non-business. Under each of these categories, one could file for a Chapter 7, Chapter 11, Chapter 12, or Chapter 13 bankruptcy. A Chapter 7 bankruptcy provides for —liquidation, ' i.e., the sale of a debtor's nonexempt property and the distribution of the proceeds to creditors|| (*United States Bankruptcy Court*). Chapter 11 deals with reorganizing businesses. This category is designed to allow a business to continue operating while paying its debts over time. Individuals and those owning business can also seek protection through chapter 11. Chapter 12 is concerned with —adjustments of debt of a family farmer' || (*United States Bankruptcy Court*). Chapter 13 of the Bankruptcy Code provides for modifications of debts of an individual with normal

income and allows an individual to retain possession of property while paying the debts over a period of time.

**Why this important?**

Bankruptcy data and figures are important because it is an indication of the economic status of the residents and businesses in a community. A large number of bankruptcies in an area could be a sign of a faltering economy or economic downturn.

**How are we doing?**

TBD

**15. Birth & Death Rates****What is this?**

Birth and death records are often administered or maintained by local and county officials. A general theme of any CEDS Plan is to —improve the quality of life in the community by creating an atmosphere in which residents have hope and can build a better future.

**Why is this important?**

The number of births in a community is one indicator of a community's growth and well-being. A growing community is not necessarily in decline. The number of births may also demonstrate a family's confidence in the community and outlook on the future. Deaths are an integral part of the life cycle, however, in a growing and vibrant community, it is important that the number of births exceed the number of deaths.

**How are we doing?**

TBD

**16. High School Graduation and Dropout Rates****What is this?**

The graduation data and rate measures the total number of high schools students who are graduating from local public high schools in the Middle Peninsula region on an annual basis. Conversely, the drop-out rate reflects the number of local students in public high schools who stopped attending high school.

**Why is this important?**

These rates reflect the challenges and difficulties facing rural school systems as well as the socio-economic climate of the community. Students who receive their high school diploma are more likely to attend college or technical training, pursue a military career or find work. A high drop-out rate is likely to have a negative impact on the local economy and community

well-being because high school drop-outs are less likely to find work which pays a living wage.

**How are we doing?**

TBD

**17. Marriage and Divorce Records**

**What is this?**

Marriage and divorce records are vital records administered and managed by state, county and local officials on community by community basis.

**Why is this important?**

Vital statistics for marriage and divorce may be used to demonstrate whether a community is growing or declining. Marriage is most-often a pre-cursor to the creation of a new household or family unit.

**How are we doing?**

TBD

**18. Mortality Rates**

**What is this?**

Mortality rates indicate the leading causes of death among county residents or decedents. The mortality rate is an age-adjusted figure based upon the cause of death information and in relation to the overall population size of the county. A mortality rate allows comparisons to be made between jurisdictions of various size populations.

**Why is this important?**

Examining the leading causes of death in Middle Peninsula region over a decade or more can establish whether modern medicine, diet and exercise have contributed to life expectancy for county residents. In addition, by comparing Middle Peninsula's mortality rates with those of the Commonwealths, one can surmise whether there is a disparity between the state's rural areas state as a whole.

**How are we doing?**

TBD



## **19. Voter Registration & General Election Turnout**

### **What is this?**

Voter registration is the total number of registered voters within a community. Voter turnout is the total number of ballots cast in a general election.

### **Why is this important?**

Voting is the right of all citizens in a democracy. Voter turnout is one measurement of civic involvement and may be used to gauge local interest and participation in community events.

### **How are we doing?**

TBD

## E. Conclusions

As Middle Peninsula localities pride themselves on their rural character and their natural resource-based economy, the localities recognized a need to focus on developing strategies that maximize their resources and partnerships to improve their regional economy. Therefore with funding through the EDA Planning Investment Program, MPPDC staff assisted in the collaboration of public and private sectors to develop the 2013 Middle Peninsula of Virginia CEDS Plan.

During the process of developing this CEDS plan, economic development challenges facing the region were uncovered. It was found that the Middle Peninsula has (a) a 71% out-commute rate due to the region's close proximity to Norfolk as well as Richmond, (b) few local jobs and (c) the lowest wage rate in the Commonwealth. Additionally, due to current policies as seen in local comprehensive plans, a lack of infrastructure, and a lack of local funds, attracting new business is difficult.

With an understanding of the economic challenges, this plan was developed to serve as a roadmap to strengthen the regional economy. The plan identifies forty specific projects that could contribute economic growth in the region and of those forty projects twelve were identified as "vital" which were projects deemed most likely to provide an economic benefit.

Upon completion and acceptance of the CEDS plan, by the U.S. Department of Commerce, Economic Development Administration, the region will be eligible for economic development assistance investment. In conjunction with being eligible for new funds, the development of this plan is the first step in becoming designated as an Economic Development District. Thus, the CEDS plan and process will provide new opportunities for Middle Peninsula localities to implement project ideas and ultimately improve economic growth, development, and job creation within the region.

**Appendix A:**  
Taylor Basin news Article from the Daily Press (January 2013)

## Oil, gas drilling sparks hope, concern in Virginia's coastal plain

### Texas-based company eyes return to Virginia with plans to drill for oil, natural gas

By Matt Sabo, [msabo@dailypress.com](mailto:msabo@dailypress.com) | 757-247-7872

4:22 p.m. EST, January 20, 2013

Among the scattered communities of the lightly populated upper reaches of the Middle Peninsula and the coastal plain, there's been plenty of talk about oil and gas.

It's not necessarily talk about the price of gas at the pump, or what oil prices might do in the future, or OPEC, or anything like that.

The chatter has been who might strike it rich. And how rich.

Over the past year, Texas-based Shore Exploration & Production Corp. has secured leases from landowners scattered across a broad swath of the Virginia coastal plain from the upper reaches of the Northern Neck along the Potomac River to just north and east of [Richmond](#). Speculators say the land east of Interstate 95 and north of Richmond to the Maryland border is prime for drilling thousands of feet beneath the mosaic of woods, farm ground and pastures to tap oil and natural gas deposits in what's known as the Taylorsville Basin.

Shore Exploration & Production Corp. has opened a field office in Bowling Green, a community of 1,100 residents in [Caroline County](#) on Route 301 about 10 miles east of I-95. The company has also secured 80,000 acres of land in leases, said Stan Sherrill, president of the company.

Sherrill said his company is looking to reach lease agreements within the next year with the owners of another 20,000 to 70,000 acres before exploratory drilling begins in earnest.

No one who lives in the counties where Sherrill's company is considering drilling — King and Queen, King William, Essex, King George, Westmoreland and Caroline — is getting rich off the leases they've signed at \$15 an acre. But land where oil or natural gas wells are drilled and become productive prospects could yield \$400,000 a year in royalties to the owner, Sherrill said.

"Some of these landowners might have four or five wells on their property," Sherrill said.

#### **Previous exploration**

The speculating by Shore Exploration & Production Corp. is a replay of events in the mid-1980s, when the company secured hundreds of thousands of acres leases in the same area for drilling.

In the mid- to late-1980s, oil wells were drilled in the Taylorsville Basin by Texaco and Shore Exploration, said a spokesman from the Virginia Division of Gas and Oil as well as information



in a federal Bureau of Land Management report. Depths of the wells ranged from about a half-mile to 10,000 feet, with some of the wells showing signs of oil and gas, according to the state and federal agencies.

But oil prices were so low, dropping to about \$9 a barrel around 1990, and the technology so rudimentary that it wasn't feasible to drill, Sherrill said. Advances in technology and drilling practices coupled with the surge in oil prices, with Sherrill saying oil is trading at anywhere from \$70 a barrel to nearly \$120 a barrel, has made drilling in Virginia's coastal plain a possibility — and a profitable one at that.

To drill for oil and gas in Virginia, a company is required to fill out a company registration, acquire a bond and submit an application to the Virginia Division of Gas and Oil.

The first hydrocarbon well in Virginia struck natural gas near [Bristol](#) in 1931, according to a 2007 Virginia Department of Mines Minerals and Energy report. More than 7,500 wells have been drilled in Virginia since then, predominantly in the southwest region of the state.

The 2007 report states that the Taylorsville basin and the Atlantic outer continental shelf are the last major frontier areas for oil and gas exploration in and around Virginia.

### **Fracking controversy**

While landowners are signing up in droves to lease land to Shore Exploration, residents are also wary of the hydraulic fracturing process, called fracking, that will be used to coax the natural gas and oil out of the ground. Fracking entails drilling and injecting fluids deep underground at high pressures to fracture rocks to release the petroleum products.

Sherrin Alsop, chairwoman of the King and Queen Board of Supervisors, said the oil and natural gas exploration and drilling could prove to be an economic boon to the residents of the region. But there's also plenty of concerns about drinking water for thousands of residents in the area of the drilling.

The residents in Alsop's Newtown District in the upper end of the county are "kind of concerned and want to get a handle on it, but there aren't a lot of answers," she said.

Concerns primarily revolve around the fracking process and whether there's the potential for wells to be contaminated. Alsop sees the drilling as a venture worth exploring and possibly an economic benefit to the county and its residents.

"But I'm really worried about the environmental impact as far as well water," she said.

Residential wells in the area extend as deep as around 800 feet, Alsop said. While Shore Exploration's wells will be drilled thousands of feet beyond the limit of the residential wells — Sherrill said the wells will be drilled to depths of 8,000 to 14,000 feet — the pipes will still extend through the underground aquifers tapped for well water, she said.

"When you put a pipe down there it's a little scary," Alsop said. "What if it doesn't hold?"

Sherrill said contamination from the wells won't be an issue. Well pipes will be steel and cemented in place, he said.

"There's no chance of it affecting the well water," Sherrill said. "Zero chance."

Other issues revolve around zoning and Chesapeake Bay Act regulations and the permits that may be required to place and use well-drilling equipment on lands in the counties.

"We're just starting to look at it because we know it's going to come," Alsop said.

Peter Glubiak, an Aylett attorney who specializes in legal issues revolving around natural resources such as coal, oil and gas, said the Taylorsville Basin has the potential to be a bonanza.

"Clearly it's a convenient market," Glubiak said. "They're right smack dab in the middle of the Atlantic market."

In the present political climate in Virginia, there will be significant pressure to develop the field, Glubiak said. Yet Glubiak is a voice of caution, particularly considering the region's proximity to the Potomac River, Chesapeake Bay and other environmental jewels.

"If you screw up the Potomac, you're going to be pretty high visibility," Glubiak said.

The state monitors fracking through its Division of Gas and Oil, said Director Rick Cooper. The division ensures adequate casing and water protection casing is set and randomly inspects the cementing of the casing to ensure the process is complying with state regulations, Cooper said.

In addition, the operator conducts pre-drilling water surveys to analyze the quality of water prior to drilling and fracturing, Cooper said.

### **Environmental concerns**

Sherrill said areas deemed suitable for drilling would have no more than one oil well per 40 acres and a natural gas well every 60 acres. In many cases the infrastructure for the wells will be hardly noticeable, he said.

While drilling jobs often go to specialists, local residents could be hired for work such as land clearing and road building. Local economies could benefit with additional business for motels, restaurants and other merchants, Sherrill said.

Gary Wilson, director of the [Caroline County](#) Economic Development & Tourism Office, said any added revenue would be welcome to the county, which is dependent in large part on government-related jobs. But Wilson remains in the dark on Shore Exploration's plans and his attempts to get in contact with company officials have been unsuccessful.

"We would like to know more," Wilson said.

Shore Exploration would be required to obtain zoning and land permits in King & Queen County before drilling for oil or natural gas, said County Administrator Tom Swartzwelder. Potentially regulations in the Chesapeake Bay Preservation Act could also play a large role in the company's activities, he said.

But like lots of other residents and officials in the swath of land Shore Exploration is eyeing for drilling, Swartzwelder said he has no real information about the company's plans.

"Fracking is a very controversial subject nationwide and we really need to understand exactly what they will be proposing and what chemicals would be used as part of the fracking operation," Swartzwelder said. "We also need to study the subsidence issues that have been allegedly caused by fracking as well as understand the impact on groundwater resources. Additionally, the location of proposed (wells) might present traffic and public safety concerns."

Still, the environmental concerns are weighed against the allure of what the tapping of oil and natural gas deposits could mean for the economic vitality of the region.

"Numerous jobs would be created both in the mining and transport side," Swartzwelder said. "Local wealth might be created for those who own the fee interest in the land. I would anticipate if large-scale (drilling) began with the creation of enough jobs that housing and retail needs would be increased."

"Indeed," Caroline County's Wilson said, "it is fair to say additional revenue would be welcome here."

## **Counties can't cash in**

While landowners may strike it rich, counties where the oil and gas will be tapped won't be party to the shared millions of dollars in potential revenues. Although by state law counties can receive a 3 percent severance tax of the gross receipts of the gas sales, only a handful of the state's counties and towns and cities actually levy a severance tax.

Severance taxes are imposed exclusively in counties in Southwest Virginia, including Lee, Scott, Wise, Dickenson, Russell, Buchanan and Tazewell, Cooper said.

The amounts collected vary. In the 2011 budget year, Tazewell County collected \$3 million in severance taxes from coal mining operations, according to county records.

[Buchanan County](#), with large-scale coal-mining operations, expects to collect this year about \$21.7 million in severance taxes from coal mining operations, said a county spokeswoman.

About \$3 million of that money is dedicated to Virginia Coalfield Economic Development Authority, a regional organization created in 1988 to enhance and diversify the economic base.


Nearly \$10 million of the Buchanan severance taxes are dedicated to coal road repairs, improvements and construction. The remaining millions can be used in the general fund.

Sherrill said if the counties impose severance taxes the drilling could benefit school systems and other county operations.

"It is good news for the whole area," he said.



**Appendix B:**  
Sea Level Rise Fact Sheet for the Middle Peninsula



# ***Sea Level Rise: Local Fact Sheet for the Middle Peninsula, Virginia***

## **Statement of the Problem**

A look at the geologic record of Chesapeake Bay shows a long and dynamic history - from the bolide (asteroid or comet) impact about 35 million years ago which formed the Chesapeake Bay impact crater, to the melting of glaciers beginning about 18,000 years ago, resulting in a continued rise of sea level and drowning of the Susquehanna River valley. Given that the rise in sea level has been occurring for thousands of years and is fundamental to the present formation of the Chesapeake Bay and our local tidal waters, why is there a recent heightened level of concern regarding this phenomenon? Concern is justified given that current and projected rates of sea level rise represent a significant increase over what we experienced during the last century. There is general consensus that rise in sea level will continue for centuries to come, and that human and natural communities within the Middle Peninsula will be vulnerable. Understanding the challenge is vital for local government to develop strategies to reduce the regions vulnerability to sea level rise.

## **Causes and Current Rates of Local Sea Level Rise**

Processes responsible for rising sea levels are complex. To help simplify the matter, it is useful to make a distinction between the concepts of eustatic and relative sea level (RSL) change. Eustatic change, which can vary over large spatial scales, describes sea level changes at the oceanic to global scale that result from changes in the volume of seawater or the ocean basins themselves. The two major processes responsible for eustatic change are the thermal expansion of seawater due to warming and the melting and discharge of continental ice (i.e., glaciers and ice sheets) into the oceans. The global average for current (2003-mid 2011) eustatic sea level change is 0.11 in/yr (2.8 mm/yr) (NOAA Laboratory for Satellite Altimetry) with estimates for the Chesapeake Bay region on the order of 0.07 in/yr (1.8 mm/yr; Boon et al. 2010) for the approximate same time period.



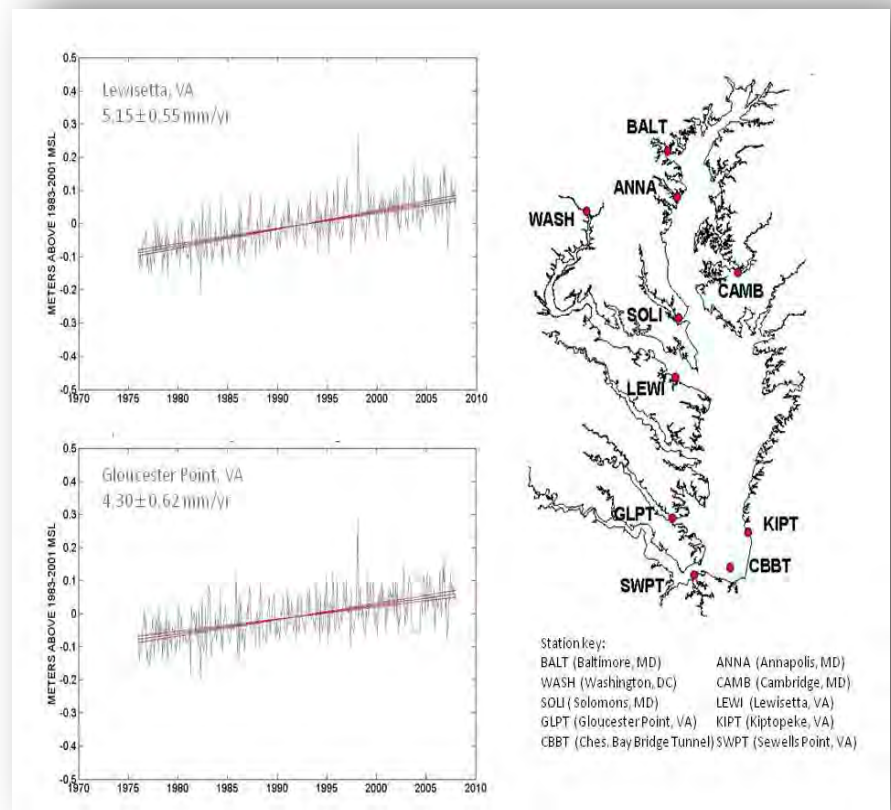
Coastal flooding at Gloucester Point during Hurricane Isabel, 2003. Photo credit: VIMS.

RSL change describes the observed change in water level at a particular location and represents the sum of eustatic sea level change and local vertical land movement (subsidence or uplift) at that location. Within the Chesapeake Bay region, land subsidence represents a significant component of RSL change. Processes contributing to land subsidence include tectonic (movement of the earth's crust) and man-induced impacts (e.g., groundwater withdrawal, hydrocarbon removal). During the last glacial period (maximum extent approximately 20,000 yr BP), the southern East Coast limit of the Laurentide ice sheet coincided with northern portions of Pennsylvania (Mickelson and Colgan 2003). As a consequence, land subsided under the ice load and, in turn, created a fore-bulge or upward displacement of lands south of the ice load. Upon retreat of the glacier, the land continued to redistribute, rebounding in previously glaciated areas and subsiding in the more southern forebulge region. Land subsidence rates on the order of 0.05-0.06 in/yr (1.2-1.4 mm/yr) are attributed to the postglacial forebulge collapse within the Bay region (Douglas 1991). It can take many thousands of years for impacted regions to reach isostatic equilibrium.

At a more local level, overdrafting of groundwater is a significant factor driving land subsidence rates. Within the Eastern Virginia Groundwater Management Area, large industrial and domestic use groundwater withdrawals from the Potomac aquifer series occur in the areas of Franklin, Suffolk and West Point, VA. Elevated subsidence rates, which integrate both regional and local causes, were first observed near the centers of large groundwater withdrawals through repetitive high-precision relevelings and analysis of tide records, and later through studies that directly measured aquifer system compaction. Land subsidence rates within the Middle Peninsula, based on releveling analysis, vary between 0.09-0.15 in/yr (2.4-3.8 mm/yr) with maximum values being observed at West Point (Holdahl and Morrison 1974; Davis 1987). Pope and Burbey (2004) reported average aquifer system compaction rates of 0.06 in/yr (1.5 mm/yr; 1979-1995) and 0.15 in/yr (3.7 mm/yr; 1982-1995) near the Franklin and Suffolk pumping centers, respectively, and that compaction appeared to correlate with groundwater withdrawal; West Point was not included as part of this study. It has been suggested that the Chesapeake Bay impact structure, whose outer rim traverses the lower Middle Peninsula (Powars and Bruce 1999) may contribute to local land subsidence. While observations suggest postimpact subsidence at a geologic scale (Johnson et al. 1998), present day influence is currently unknown.

RSL rise rates at the local level are derived from accurate time series of water level measurements spanning several decades or more. A recent analysis of tide gauge data by the Virginia Institute of Marine Science reported RSL rise rates ranging from 0.11-0.23 in/yr (2.9-5.8 mm/yr; period: 1976-2007; 10 stations) within the Chesapeake Bay region, with a number of the values representing the highest rates reported along the U.S. Atlantic coast (Boon et al. 2010). With respect to the Middle Peninsula, the two nearest stations located at Gloucester Point and Lewisetta, VA indicate current RSL rise rates of 0.17 (4.30 mm/yr) and 0.20 in/yr (5.15 mm/yr), respectively (see Figure 1). Although there are no additional adequate tidal records available for the Middle Peninsula's bordering rivers (i.e., York and Rappahannock Rivers), one would expect RSL rise rates to increase as one approached areas of elevated land subsidence such as West Point, VA. Based on land subsidence and eustatic sea level information, the RSL rise rate would be expected to be on the order of 0.22 in/yr (5.6 mm/yr) at or near West Point, VA.

Extrapolating current Gloucester Point and Lewisetta rates, RSL would increase by another 0.7-0.8 ft (21-25 cm) by 2050 and 1.4-1.7 ft (43-51 cm) by 2100; this represents a conservative and low-end estimate. There is growing concern that RSL rise rates will accelerate in the future with projections of sea level increases in the Bay region of approximately 2.3-5.3 ft (70-160 cm) by 2100 (Pyke et al. 2008).



**Figure 1.** RSL trends and 95% confidence intervals for Lewisetta, VA and Gloucester Point, VA (after removal of seasonal cycle and decadal signal) for the 1976-2007 period and location map for Chesapeake Bay National Water Level Observation Network stations (Boon et al. 2010; reprinted with permission).



### **Why You Should Care: Examples of Impending Risks**

Sea level rise, along with direct influences on inundation of low-lying lands, coastal erosion and flooding from storms, and saltwater intrusion into coastal freshwater/low salinity water bodies and groundwater aquifers represent significant threats to the people, public and private property, and natural resources of the Middle Peninsula.

- ***Increased Inundation and Land Conversion.***

The Middle Peninsula is rich in gently sloping, low elevation uplands and wetlands immediately adjacent to or in close proximity to tidal waters. Lands exhibiting these characteristics are at risk to increased frequency of high-tide flooding and gradual inundation from rising sea levels. Within the Middle Peninsula, vulnerable lands include but are not limited to New Point Comfort, Bohannon, Retz, Onemo, Diggs, Roane, Heart Quake Trail area, Deltaville, Locklies, West Point, Romancoke, Winona Park Road, Pamunkey Tribe Reservation, Ware Neck, Nexara, Guinea, Purtan Bay, Catlett Islands, Tappahannock, Gynnfield Subdivision, Lower Essex, Kendall Road, and Layton Peninsula (MPPDC, 2010).



Marsh regression into an adjacent low-lying pine forest on the York River. Photo credit: W. Reay.

In developed areas, the combined effect of rising sea level and water tables can have profound consequences on underground (e.g., onsite wastewater disposal systems, fuel storage tanks) and ground-level (e.g., building structures, roads, drainage ditches) infrastructure. In contrast to developed areas where some protection measures may be feasible, vast expanses of natural and agricultural areas will remain exposed to the consequences of a rising sea level. Tidal wetlands within the Middle Peninsula region are already responding to sea level rise and associated salt intrusion. Observed responses include elevated erosion rates, inundation of fringing marshes and marsh interiors, transgression of marshes into adjacent coastal forests, and conversion of freshwater to brackish water vegetation communities.

- ***Increased Storm Damage.*** Elevated sea levels will intensify storm impacts due to increases in damaging wave energy and risks of severe flooding further inland. Comparisons between two locally relevant storms whose storm surges peaked near high tide illustrate the impact of sea level rise on coastal flooding. The more powerful 1933 hurricane produced a storm surge 1.0 ft (0.3 m) greater than Hurricane Isabel in 2003, yet the high water mark or storm tide elevation (sum of storm surge and astronomical tide), was comparable to Hurricane Isabel's 7.9 ft (2.4 m) above mean lower low water. A rise in sea level over the 70 year period between storms, on the order of 1.0 ft (30 cm), is attributed to allowing the weaker storm to produce an equivalent storm tide (Boon 2005). In light of rising sea levels, significant property and infrastructure damage from erosion, wave action and flooding is likely to occur from severe storm events such as hurricanes and nor'easters, as well as less powerful storm systems.



Storm damage incurred on the York River during Hurricane Isabel, 2003. Photo credit: J. Rickards.

- ***Increased Saltwater Intrusion.*** Rising sea levels and associated saltwater intrusion can raise the salt content of Chesapeake Bay proper, its tidal tributaries and groundwater aquifers. Under various sea level rise scenarios ranging from 0.5-5.5 ft (18-167 cm), Hilton et al. (2008) estimated Chesapeake Bay salinity changes



of 0.4-12 by 2100. If such large-scale changes in Bay salinity are realized, both coastal natural resources and society would suffer. Saltwater intrusion is problematic for surface and groundwater domestic, irrigation and industrial water sources. In the Middle Peninsula, where nearly all water for domestic and business use is groundwater sourced, wells have already been contaminated by saltwater to the point of being unusable or requiring expensive reverse osmosis treatment (MPPDC 2010). In addition to saltwater intrusion into freshwater aquifer systems, inundation and storm induced flooding of wellheads and shallow wells can contaminate and jeopardize the dependability of wells and groundwater sources.

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Prepared by:

William G. Reay, Ph.D., CBNERRVA, Virginia Institute of Marine Science and Sandra Y. Erdle, CBNERRVA, Virginia Institute of Marine Science. September 2011.

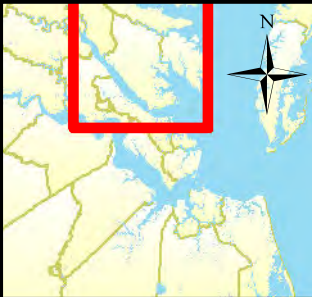
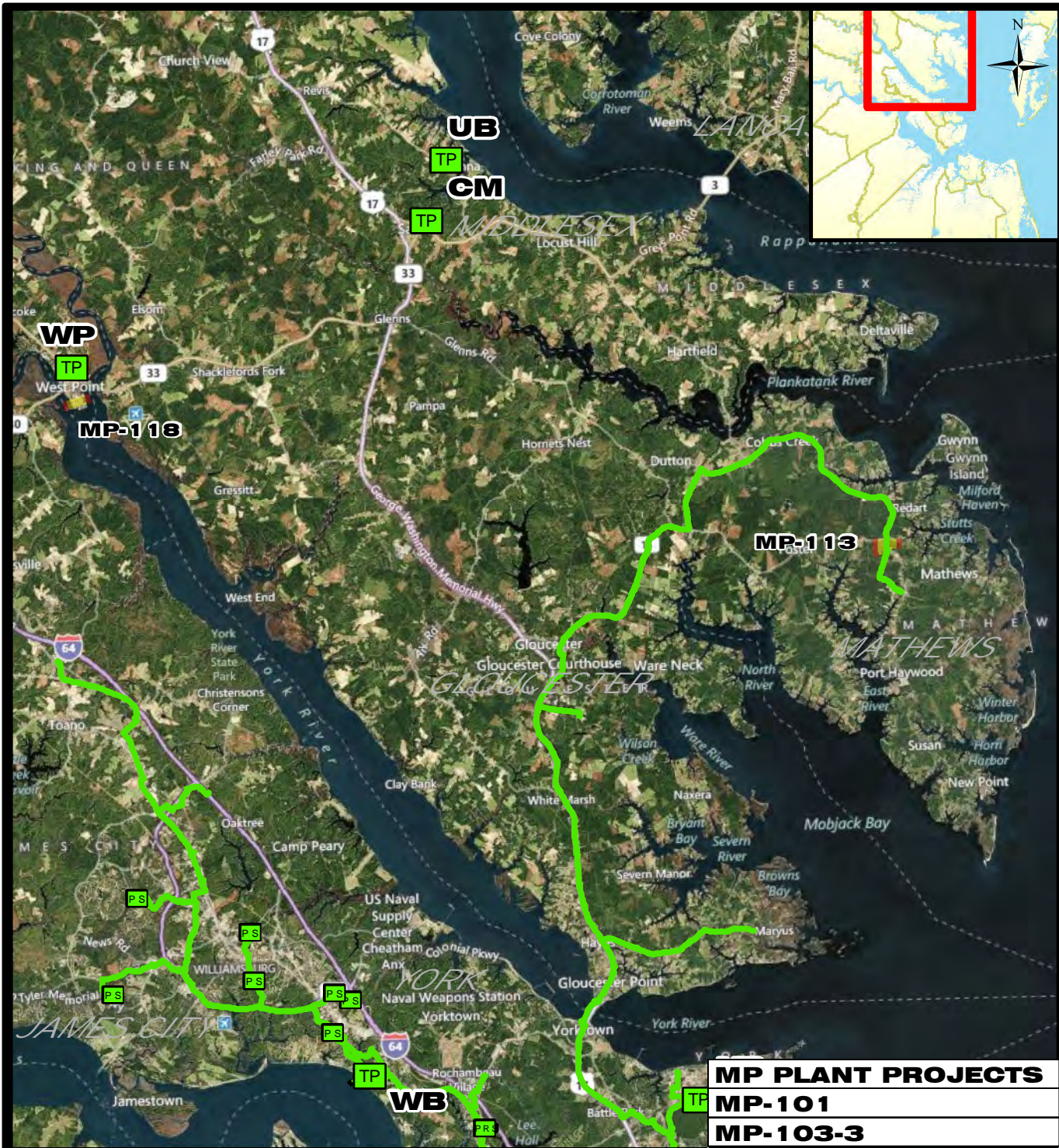


This information project was funded, in part, by the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant #NA FY10NOS4190205 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.

**Appendix C:**  
HRSD Middle Peninsula FY 2012 – 2022 Capital Project Plan








# Middle Peninsula





**MP PLANT PROJECTS**  
**MP-101**  
**MP-103-3**

**Legend**

-  HRSD Treatment Plant
-  HRSD Pressure Reducing Station
-  HRSD Pump Station
-  HRSD Interceptor Force Main
-  HRSD Interceptor Gravity Main
-  HRSD CIP - Project Location
-  HRSD CIP - Interceptor Limits

**MIDDLE PENINSULA  
TREATMENT PLANT  
SERVICE AREA FY  
2013 TO 2022 CIP  
PROJECTS**







SYSTEM Middle Peninsula CATEGORY Treatment Plant  
 TYPE Expansion/New PROJ STATUS Proposed

**PROGRAM CASH FLOW PROJECTION (\$,000)**

Prog Cost	Exp to FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
<b>\$3,415</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$15</b>	<b>\$83</b>	<b>\$3,318</b>	<b>\$0</b>	<b>\$0</b>

**PROJECT DESCRIPTION**

This project will expand the capacity of the existing King William Treatment Plant from 0.100 MGD to 0.200 MGD to meet the required capacity to serve planned development. The project will be designed to match existing equipment.

**PROJECT JUSTIFICATION**

This project will provide additional capacity at the King William Treatment Plant. King William County has established a wastewater service area around the Central Garage area of the County. They require that all commercial establishments and residences in the service area be connected to both the sewer system and their new water system. Several developers are moving forward with developments in the service area that will utilize the remaining capacity of the existing treatment plant and require further expansion.

FUNDING TYPE	REQUIRED SERVICES	CONTACTS
Revenue Bonds  Acct No _____ VRLF No _____	Outside Design Build	Requesting Dept: <u>Operations - Treatment</u> Dept Contact: <u>Jim Pyne</u> Managing Dept: <u>Engineering</u>

**PROPOSED SCHEDULE**

Pre-Planning	Sep-17
PER	Jan-18
Design	Jul-18
Pre Construction	Apr-19
Construction	Jul-19
Project Completion	Jul-20

**COST ESTIMATE**

PER		\$14,500
Design		\$81,900
Pre Construction		\$1,000
Construction		\$3,318,000
<b>Est. Program Cost</b>		<b>\$3,415,400</b>
Contingency	<b>20%</b>	\$664,000
<b>Est. Project Cost</b>		<b>\$4,079,400</b>

**RELATED INFRASTRUCTURE**

**RELATED PROJECTS**

MP-115 King William Equalization Tank Addition



SYSTEM Middle Peninsula CATEGORY Treatment Plant  
 TYPE Abandonment PROJ STATUS Pre Construction

**PROGRAM CASH FLOW PROJECTION (\$,000)**

Prog Cost	Exp to FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$98	\$79	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**PROJECT DESCRIPTION**

This project will close the existing Mathews Treatment Plant once the Mathews Transmission Force Main and Pump Stations are in operation. The Closure Plan was submitted to Virginia Department of Environmental Quality for their review and was approved in August 2011. The funding estimate includes the development of the closure plan, design, and demolition of the existing plant. The potential need for standby power generation for the pump station was evaluated during the design phase.

**PROJECT JUSTIFICATION**

The existing Mathews Wastewater Treatment Plant is being replaced by the transmission force main and pump stations that were completed and put into service in 2011. The closure plan is a regulatory requirement.

FUNDING TYPE	REQUIRED SERVICES	CONTACTS
Revenue Bonds  Acct No <u>3-4705-XXXXX-5350</u> VRLF No _____	Outside Study Outside Design Outside Construction	Requesting Dept: <u>Operations - Treatment</u> Dept Contact: <u>Ann Copeland</u> Managing Dept: <u>Engineering</u>

**PROPOSED SCHEDULE**

Pre-Planning	Jan-11
Design	Aug-11
Bid Delay	Dec-11
Pre Construction	Jan-12
Construction	Apr-12
Close Out	Aug-12
Project Completion	Oct-12

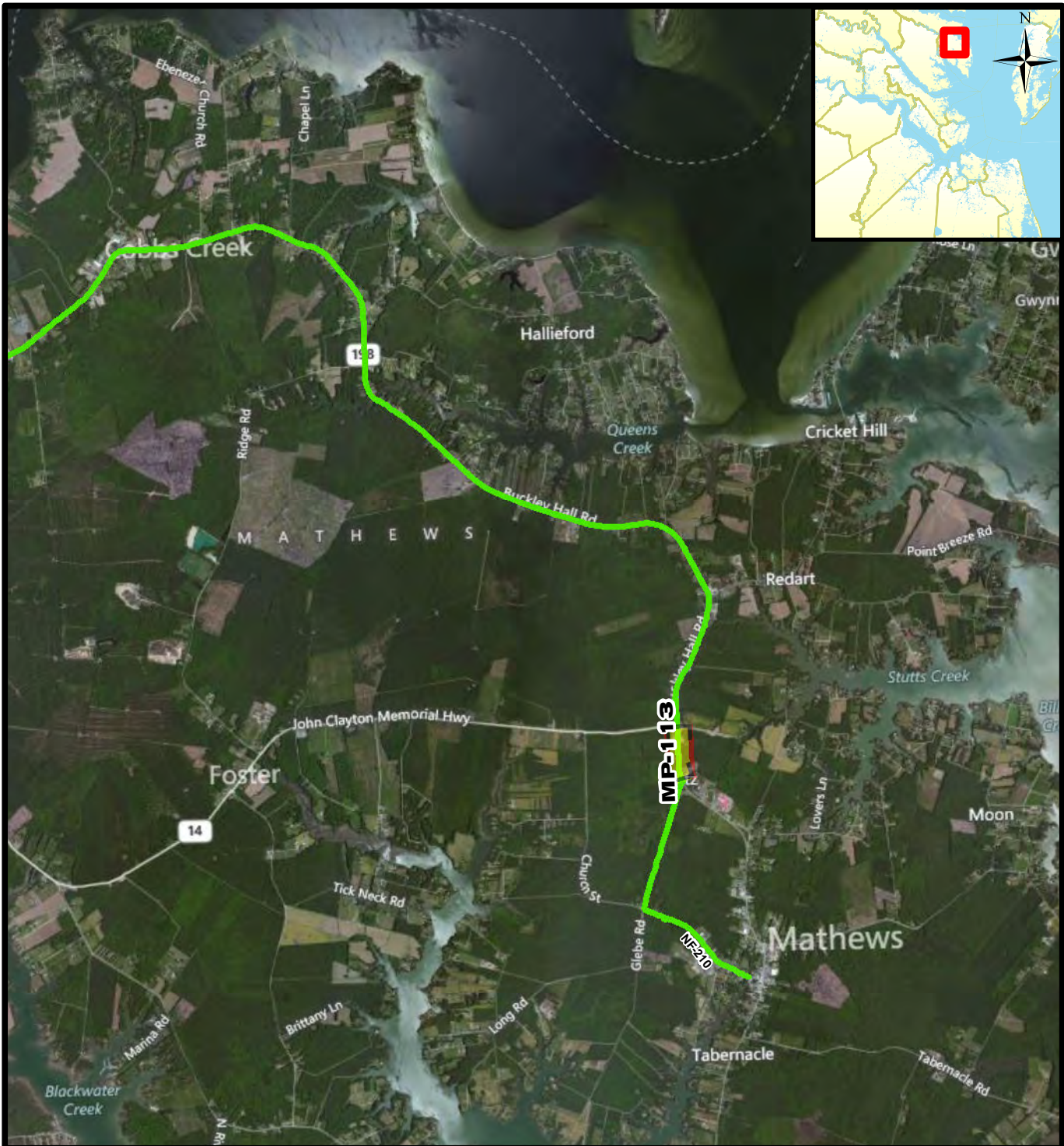
**COST ESTIMATE**

Pre-Planning	\$11,700
Design	\$32,493
Construction	\$54,060
<b>Est. Program Cost</b>	<b>\$98,253</b>
Contingency <b>3%</b>	\$1,785
<b>Est. Project Cost</b>	<b>\$100,038</b>






**RELATED INFRASTRUCTURE**

**RELATED PROJECTS**

- MP-103-1 Mathews Transmission Force Main and Pump Stations Contract A- Pipeline
- MP-103-2 Mathews Transmission Force Main and Pump Stations Contract B- Pump Stations
- YR-113 York - Gloucester Pressure and Operating Study



### Legend

-  **HRSD Treatment Plant**
-  **HRSD Pressure Reducing Station**
-  **HRSD Pump Station**
-  **HRSD Interceptor Force Main**
-  **HRSD Interceptor Gravity Main**
-  **HRSD CIP - Project Location**
-  **HRSD CIP - Interceptor Limits**

## MP-113

**Mathews Davidson Corner Pump Station and Collection System**





SYSTEM Middle Peninsula CATEGORY Pump Station  
 TYPE Expansion/New PROJ STATUS Proposed

**PROGRAM CASH FLOW PROJECTION (\$,000)**

Prog Cost	Exp to FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
<b>\$1,838</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$71</b>	<b>\$898</b>	<b>\$869</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**PROJECT DESCRIPTION**

This project includes the construction of a pump station near the intersection of Glebe Road and Buckley Hall Road (Davidson Corner) in Mathews County. The pump station and collection system will serve commercial establishments and development in the vicinities of both Davidson and Wards Corners. The project will also include a pump station and collection system near the intersection of Buckley Hall Road and Twiggs Ferry Road (Dixie) to serve commercial development in that area. The current concept for the collection system is to install a low pressure sewer system (LPSS) with grinder pumps either at individual establishments or shared among multiple establishments where practical. A future project will convert the Mathews Vacuum Booster Station to a terminal vacuum station and construct a force main to discharge into the Davidson Corner Pump Station. That project will remove some of the load from the Mathews Main Vacuum station to increase its reliability and allow some expansion of service in the immediate courthouse area. Funding for this project will include cost recovery utilizing an interest participation agreement (IPA).

**PROJECT JUSTIFICATION**

To extend wastewater service to unsewered areas as requested by the locality.

FUNDING TYPE	REQUIRED SERVICES	CONTACTS
Revenue Bonds IPA  Acct No _____ VRLF No _____	Outside Design Outside Construction	Requesting Dept: <u>Operations - Treatment</u> Dept Contact: <u>Jim Pyne</u> Managing Dept: <u>Engineering</u>

**PROPOSED SCHEDULE**

Pre-Planning	Mar-16
PER	Jul-16
Design	Jan-17
Pre Construction	Oct-17
Construction	Jan-18
Project Completion	Jan-19

**COST ESTIMATE**

PER		\$14,850
Design		\$84,100
Pre Construction		\$990
Construction		\$1,738,000
<b>Est. Program Cost</b>		<b>\$1,837,940</b>
Contingency	<b>20%</b>	\$348,000
<b>Est. Project Cost</b>		<b>\$2,185,940</b>

**RELATED INFRASTRUCTURE**

**RELATED PROJECTS**





SYSTEM   Middle Peninsula   CATEGORY   Interceptor System    
 TYPE   Rehab/Replacement   PROJ STATUS   Construction  

**PROGRAM CASH FLOW PROJECTION (\$,000)**

Prog Cost	Exp to FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
<b>\$1,318</b>	<b>\$293</b>	<b>\$0</b>	<b>\$205</b>	<b>\$205</b>	<b>\$205</b>	<b>\$205</b>	<b>\$205</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**PROJECT DESCRIPTION**

The project will replace **36** failing vacuum valve chambers and sumps per year over 5 years for a total of 180 units. The contractor will excavate and remove both the existing orangeburg valve chambers and the existing unreinforced concrete sumps and replace them with new single piece plastic valve chamber and sump systems with internal controller vent. The project will require sole source procurement of the systems from Airvac.

**PROJECT JUSTIFICATION**

Replace aging vacuum valves to restore system reliability and reduce after hour service calls.

FUNDING TYPE	REQUIRED SERVICES	CONTACTS
Revenue Bonds	In-house Design Outside Construction	Requesting Dept: <u>  Operations - Treatment  </u> Dept Contact: <u>  Jim Pyne  </u> Managing Dept: <u>  Operations - Treatment  </u>
Acct No <u>  3-4705-XXXXXX-5310  </u>		
VRLF No <u>                                  </u>		

**PROPOSED SCHEDULE**

Phase I	Jul-10
Phase II	Jul-12
Phase III	Jul-13
Phase IV	Jul-14
Phase V	Jul-15
Phase VI	Jul-16
Project Completion	Jul-17

**COST ESTIMATE**

Construction	\$1,318,000
<b>Est. Program Cost</b>	<b>\$1,318,000</b>
Contingency <b>4%</b>	\$52,700
<b>Est. Project Cost</b>	<b>\$1,370,700</b>






**RELATED INFRASTRUCTURE**

**RELATED PROJECTS**





### Legend

-  **HRSD Treatment Plant**
-  **HRSD Pressure Reducing Station**
-  **HRSD Pump Station**
-  **HRSD Interceptor Force Main**
-  **HRSD Interceptor Gravity Main**
-  **HRSD CIP - Project Location**
-  **HRSD CIP - Interceptor Limits**

## MP-118

### Kirby Street Sanitary Sewer Rehabilitation





SYSTEM Middle Peninsula CATEGORY Interceptor System  
 TYPE Rehab/Replacement PROJ STATUS Proposed

**PROGRAM CASH FLOW PROJECTION (\$,000)**

Prog Cost	Exp to FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$247		\$0	\$214	\$33	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**PROJECT DESCRIPTION**

This project will rehabilitate approximately 1600 LF of 10-inch and 12-inch vitrified clay (VC) gravity sewer that spans parallel to Kirby Street from 7th to 2nd Street under the tidal marsh lands. The rehabilitation will be done utilizing trenchless technologies and will also include the rehabilitation of associated manholes along the corridor.

**PROJECT JUSTIFICATION**

In accordance with record drawings of existing gravity sewers in the system, it is believed the original VC pipe was installed in the 1940's. CCTV inspection done on the existing pipe in Fall of 2011 revealed moderate joint deterioration and partial cracks along the corridor allowing the continuous flow of infiltration into the system. The analysis of the CCTV footage determined that the pipe was feasible to be rehabilitated with a CIPP installation under the assumption of a fully deteriorated host pipe to eliminate the infiltration and return full structural integrity to the gravity sewer.

FUNDING TYPE	REQUIRED SERVICES	CONTACTS
Revenue Bonds  Acct No _____ VRLF No _____	In-house Study Outside Design Outside Construction	Requesting Dept: <u>Operations - Treatment</u> Dept Contact: <u>Jim Pyne</u> Managing Dept: <u>Engineering</u>

**PROPOSED SCHEDULE**

Pre-Planning	Jun-13
PER	Jul-13
Design	Sep-13
Pre Construction	Dec-13
Construction	Feb-14
Close Out	Aug-14
Project Completion	Oct-14

**COST ESTIMATE**

PER	\$5,000
Design	\$40,000
Pre Construction	\$3,000
Construction	\$199,250
<b>Est. Program Cost</b>	<b>\$247,250</b>
Contingency 20%	\$39,850
<b>Est. Project Cost</b>	<b>\$287,100</b>

**RELATED INFRASTRUCTURE**

**RELATED PROJECTS**



**Appendix D:**  
CEDS Worksheets

# Economic Development SWOT Analysis Template

Strengths	Opportunities
Weaknesses	Threats

# Employment Committee

---

Goals:
1.
2.
3.
4.

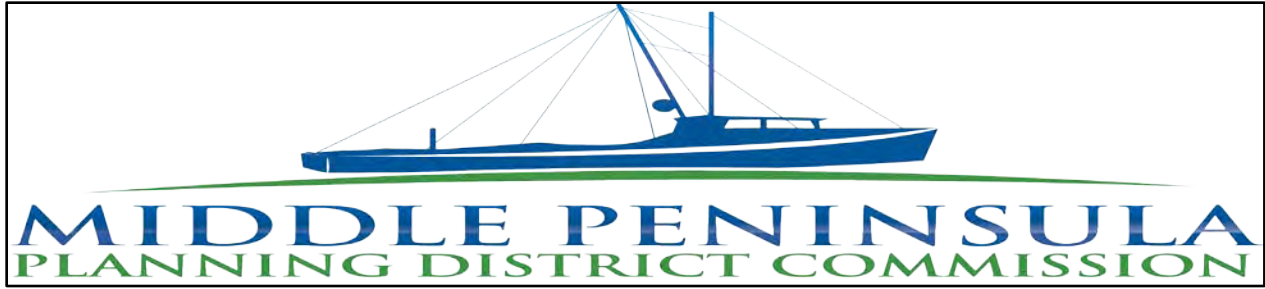
Objectives:
1.
2.
3.
4.

## Regional Cluster Analysis

1. What is a “Cluster”?
  - a. A cluster consists of interdependent firms and institutions
  - b. Interdependence: each member firm’s competitive position depends on one, some, or all other members of the group.
  - c. Example of Industry Cluster
    - i. A paper mill requires trees and workers
    - ii. Trees need to be cut by a crew
    - iii. A crew needs heavy equipment
2. Please list any industry clusters in your “Employment Category”

Type of Business	Interdependent Businesses	Geographical Region
1.		
2.		
3.		
4.		
5.		
6.		





2012 Economic Development Project Information Worksheet

Middle Peninsula Comprehensive Economic Development Strategy

Instructions: Please complete the project information worksheet for each project you would like to nominate for inclusion in the Middle Peninsula Comprehensive Economic Development Strategy. Please fill in as many blanks as possible. If the answer is unknown, or if the particular item is not relevant to the project, please enter "Unknown" or "NA" as appropriate. When providing cost information, provide the most recent estimate available. Submit electronically or hard copy.

Please contact Harrison Bresee at [hbresee@mppdc.com](mailto:hbresee@mppdc.com) or 804-758-2311 with any questions.

Project Name:

--

Project Description:

--

Estimated Jobs Created as Well as Other Economic Impact Information:

--

Estimated Start Date:

--

Estimated Completion Date:

--

Current Project Status/Readiness:

--

<b>Project Location:</b>

<b>Impacted Localities:</b>

<b>Estimated Cost:</b>

<b>Potential Funding Sources:</b>			
	<b>Name</b>	<b>Amount</b>	<b>Status</b>
	Federal Agency		
	Other Federal Agency		
	State Agency		
	Other State Agency		
	Local Funds		
	Other Local Funds		
	Other Agency Funds		
	Other Funds		

<b>Total Project Funding:</b>

<b>Estimated Private Funds Invested (Leveraged):</b>	
<b>Name of Organization/Company/individual</b>	<b>Amount</b>

<b>Project Contact:</b>	
<b>Name</b>	<b>Name</b>
<b>Job Title</b>	
<b>Agency</b>	
<b>Phone</b>	
<b>Fax</b>	
<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Zip</b>	
<b>Email</b>	



**Appendix E:**  
SWOT Voting

## SWOT Analysis Results

<b>Strengths</b>	<b>Individual Votes</b>
Access to water, natural resources, beaches (recreation-tourism)	10
Natural resources (wood, water, seafood, agriculture, mining, land)	9
Rural Character (Small Town Feel/good quality of life)	8
Good roads (scenic highway 17, easy for commuting to big cities)	7
Regional Airports	7
Affordable Housing (low cost of living including taxes)	6
Commuting Distance to Cities/large airports	6
Good Health Care (regional hospitals)	5
Good Public/private Schools	5
Historic assets	4
Community College (workforce development)	4
Government officials helpful and cooperative (approachable)	4
Mid-Atlantic location (commerce)	3
Skilled work force	3
VIMS and marine science corridor (cluster)	2
Blueways	2
Manufacturing cluster in West Point (cluster)	2
Low crime	2
Lots of Retired folks with talents	1
Training programs for medical careers (at Riverside Hospital)	1
Marine Industry	1
Business Friendly – gross receipts tax (KQ)	1

<b>Weaknesses</b>	<b>Individual Votes</b>
Limited infrastructure (water, sewer, internet)	12
Lack of population/\$\$ to support many gov't services (especially for youths and seniors)	8
Lack of in-place appropriate zoning (industrial, multi family, mixed use)/strip malls struggling –divergent development strategies/poor planning	6
Poor government understanding of how to work with business (too long to rezone, long time for permitting, )	4
Residents leave region for work (out commute)/limited job opportunities locally	4
Poor public education system and no universities	4
Long distance to grocery stores/lack of retail, accommodations	4
Young people leave region (limited local labor force)	4
No interstate	4
Weak tourism marketing plan	3
No railway	3
No port	3
Must have a vehicle to live in region (limited public transportation)	3
Limited tax base (Dillon law)-Lack of matching funds for poor localities	3
Low education level of population (college training)	3
Resistance among citizens to change to “big city ways”	3
Limited green space (parks)	3
Underdeveloped water access infrastructure (public access)	3
Few cultural attractions	2
Limited natural gas	2
Mostly volunteer fire and ems	2
Aging population/workforce	2
Onerous environmental regulations (\$\$\$)	2
Low skilled workforce (esp. electrical, manufacturing, chemical, technicians)	2
No commercial airport	2
Limited maritime training (workforce development)	2
Little 12 month economy (due to small population)	2
Poor secondary and tertiary roads	2
Growing number of uninsured and underinsured	1
Limited permanent lodging/housing for employees (rental)	1
Poverty (esp. demand on medical field)	1

<b>Opportunities</b>	<b>Individual Votes</b>
Tourism (more water access, parks, historical, aquaculture with watermen, blueways, dredging, fishing, eco-tours, rental boats, visitor's center –regional, fishing piers, Advertising region, etc.)	11
Improve water and sewer and natural gas and internet	6
Transportation for businesses (rail, port)	6
RCC – utilize more for workforce training, coordinate with HS	3
Develop Clusters (Industrial parks)	3
Telehealth (esp. rural areas)	3
Incentives for businesses (attract to empty commercial space, military and gov. suppliers, )	3
Long term care services	2
Retirement villages/destinations	2
Improve public sector/private sector relationship	2
Available/cheap land	1
Export opportunities	1
Village Concept growth planning	1
Green energy markets to utilize bio-mass natural resource	1
Eliminate boat tax	1
Gateways to the MP (Tappahannock Main Street improvement, etc.)	1
Renew community interest in school systems (volunteerism)	1
Regional stormwater bank	1
Commercial waterfront development	1

<b>Threats</b>	<b>Individual Votes</b>
Environmental Regulations (water, land, air)	6
Public opposition to development (residential and commercial)	5
Small tax base (can't afford infrastructure or maintenance of existing)	4
Land easements (potential cap on future development potential)	4
Diminishing agriculture and timber industry employment (due to sprawl/farms not staying in families)	3
Ground Water withdrawals (not enough water for long term growth)	3
Short term planning in county governments (no big ideas/long term ideas locally/lack of vision)	3
Increasing numbers of under/un insured / Hospitals may close due to economics	3
Foreign competition for area raw materials/exports to USA	2
Recession affecting tourism \$ spent	2
Litter	1
Out-Commuting	1
Work ethic of youth	1
Fire and rescue – lack of volunteers (paid staff would increase tax burden)	1
Sprawl	1
Rising health care costs	1
Physician shortage	1
Increasing age of population	1
Growing poverty (needing gov. support)	1
Obesity epidemic, diabetes, bad health of population in general	1
Climate of public opposition against developing tourist driven economy	1
Difficulty in competing (local industries) with other areas with better transportation options	1
Attrition of workforce (positions not refilled)	1
Personal property tax on boats (competing with areas that have none)	1
Lack of professional and skilled workers	1
Pollution	1



<b>Threats</b>	<b>Individual Votes</b>
Lack of funding for infrastructure expansion	1
Paper mill closing	1
Cost of real estate values (inflated)	1
Adjacent counties and towns (no regional plan/no cooperation)	1

**Appendix F:**  
Virginia Employment Commission Middle Peninsula Community Profile

PDC 18

# COMMUNITY PROFILE

## Middle Peninsula PDC

Essex County • Gloucester County • King and Queen County •  
King William County • Mathews County • Middlesex County



**VIRGINIA EMPLOYMENT COMMISSION**  
ECONOMIC INFORMATION SERVICES DIVISION  
LABOR MARKET INFORMATION

703 EAST MAIN STREET  
RICHMOND, VA 23219

TEL: (804) 786-8223

[WWW.VIRGINIALMI.COM](http://WWW.VIRGINIALMI.COM)

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## I. Introduction

This report provides a community profile of Middle Peninsula PDC. It is intended to compliment the information found in our Virginia Workforce Connection application, which can be accessed online at:

[www.VirginiaLMI.com](http://www.VirginiaLMI.com)

The report is divided into three major sections. The first contains a profile of regional demographic characteristics and trends, the second supplies similar information for the regional economy, and the third provides a profile of regional education characteristics.

## II. Demographic Profile

### Overview

This Demographic Profile provides an in-depth analysis of the population in Middle Peninsula PDC. Most of the data is produced by the U.S. Census Bureau, and includes demographic characteristics such as age, race/ethnicity, and gender.



### Related Census Terms and Definitions

#### Ability to speak English

For people who speak a language other than English at home, the response represents the person's own perception of his or her ability to speak English. Because census questionnaires are usually completed by one household member, the responses may represent the perception of another household member.

#### Age

The age classification is based on the age of the person in complete years as of April 1, 2010. The age of the person usually was derived from their date of birth information. Their reported age was used only when date of birth information was unavailable.

#### Gender

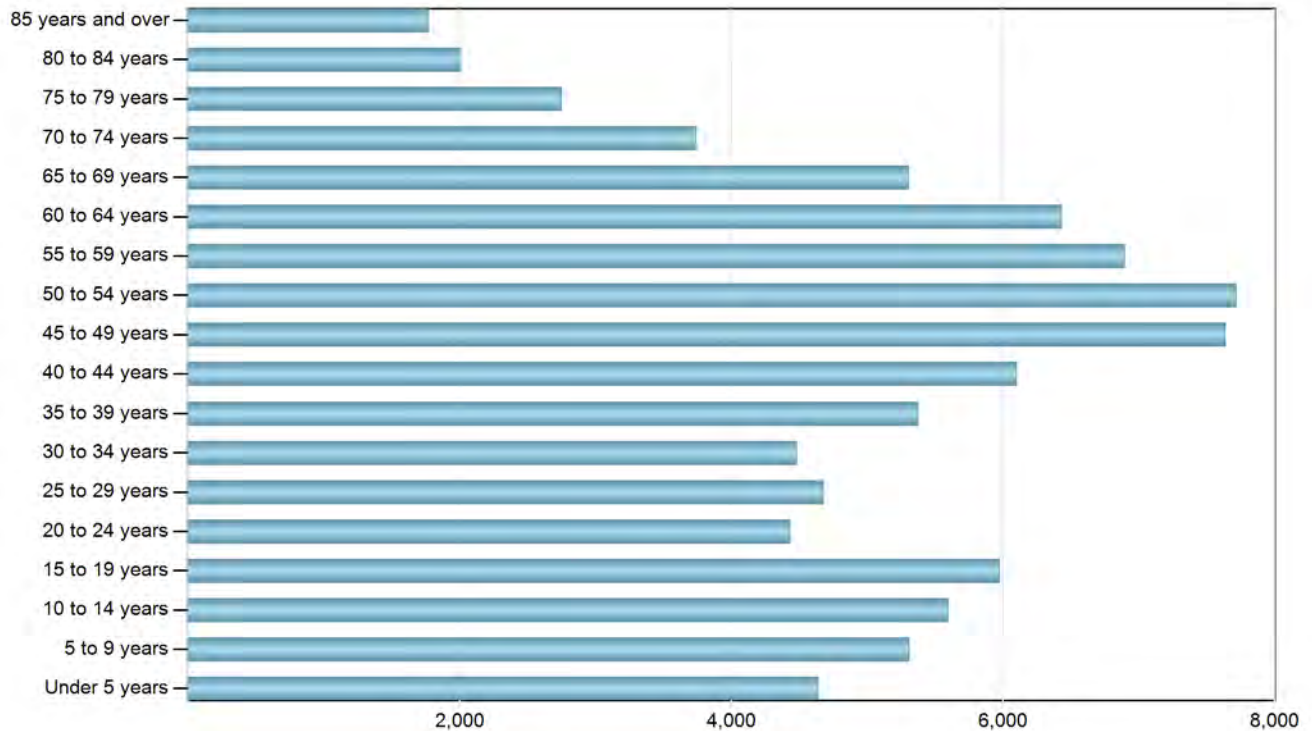
The data on gender were derived from answers to a question that was asked of all people. Individuals were asked to mark either "male" or "female" to indicate their gender. For most cases in which gender was not reported, it was determined by the appropriate entry from the person's given (i.e., first) name and household relationship. Otherwise, gender was imputed according to the relationship to the householder and the age of the person.

#### Race

The concept of race as used by the Census Bureau reflects self-identification by people according to the race or races with which they most closely identify. The categories are sociopolitical constructs and should not be interpreted as being scientific or anthropological in nature. Furthermore, the race categories include both racial and national-origin groups.

**Please note:** In the past, our population by race/ethnicity data has always excluded the Hispanic ethnicity from each race category. Starting in January 2013, each race category now includes all ethnicities.

### Population by Age



	PDC 18	Virginia	United States
<b>Under 5 years</b>	4,639	509,625	20,201,362
<b>5 to 9 years</b>	5,308	511,849	20,348,657
<b>10 to 14 years</b>	5,597	511,246	20,677,194
<b>15 to 19 years</b>	5,973	550,965	22,040,343
<b>20 to 24 years</b>	4,432	572,091	21,585,999
<b>25 to 29 years</b>	4,679	564,342	21,101,849
<b>30 to 34 years</b>	4,481	526,077	19,962,099
<b>35 to 39 years</b>	5,375	540,063	20,179,642
<b>40 to 44 years</b>	6,099	568,865	20,890,964
<b>45 to 49 years</b>	7,633	621,155	22,708,591
<b>50 to 54 years</b>	7,716	592,845	22,298,125
<b>55 to 59 years</b>	6,895	512,595	19,664,805
<b>60 to 64 years</b>	6,430	442,369	16,817,924
<b>65 to 69 years</b>	5,306	320,302	12,435,263
<b>70 to 74 years</b>	3,738	229,502	9,278,166
<b>75 to 79 years</b>	2,748	173,929	7,317,795
<b>80 to 84 years</b>	2,007	130,801	5,743,327
<b>85 years and over</b>	1,770	122,403	5,493,433
	<b>90,826</b>	<b>8,001,024</b>	<b>308,745,538</b>

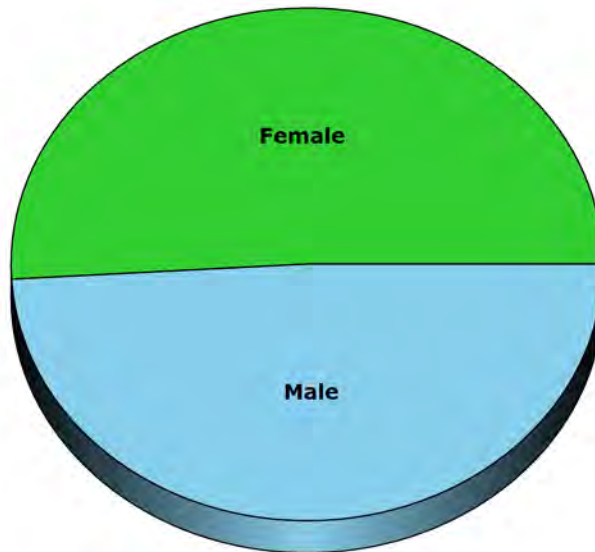
Source: 2010 Census.

### Population by Race/Ethnicity

	PDC 18	Virginia	United States
<b>Total</b>			
Total Population	90,826	8,001,024	308,745,538
<b>Race</b>			
White	72,057	5,486,852	223,553,265
Black or African American	15,039	1,551,399	38,929,319
American Indian or Alaska Native	598	29,225	2,932,248
Asian	575	439,890	14,674,252
Native Hawaiian/Pacific Islander	26	5,980	540,013
Other	600	254,278	19,107,368
Multiple Races	1,931	233,400	9,009,073
<b>Ethnicity</b>			
Not Hispanic or Latino (of any race)	88,764	7,369,199	258,267,944
Hispanic or Latino (of any race)	2,062	631,825	50,477,594

Source: 2010 Census.

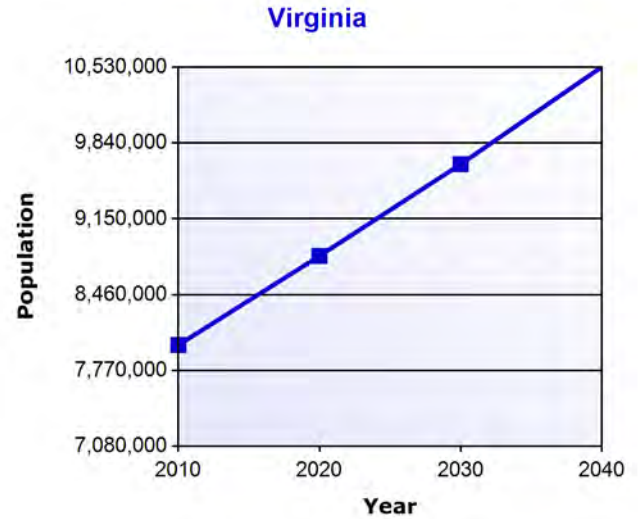
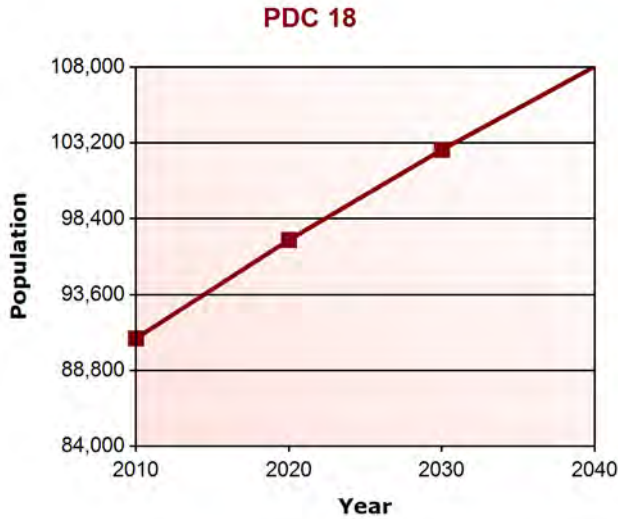
### Population by Gender



	PDC 18	Virginia	United States
<b>Male</b>	44,555	3,925,983	151,781,326
<b>Female</b>	46,271	4,075,041	156,964,212
	<b>90,826</b>	<b>8,001,024</b>	<b>308,745,538</b>

Source: 2010 Census.

### Population Change



	PDC 18	(% change)	Virginia	(% change)
<b>2000</b>	83,684		7,079,030	
<b>2010</b>	90,826	8.53 %	8,001,024	13.02 %
<b>2020</b>	97,060	6.86 %	8,811,512	10.13 %
<b>2030</b>	102,761	5.87 %	9,645,281	9.46 %
<b>2040</b>	108,028	5.13 %	10,530,229	9.17 %

Source: U.S. Census Bureau, Virginia Employment Commission.

### Did you know...

you can log on to our website today and see population counts from each Decennial Census all the way back to 1900? Looking for annual population estimates? We have those too, all the way back to the 1970s!

For this data and more, visit us on the web at:

[www.VirginiaLMI.com](http://www.VirginiaLMI.com)





## Population Projections by Age and Gender

	2020		2030		2040	
	Female	Male	Female	Male	Female	Male
<b>Under 5 years</b>	2,225	2,364	2,342	2,488	2,360	2,504
<b>5 to 9 years</b>	2,598	2,650	2,780	2,834	2,850	2,909
<b>10 to 14 years</b>	2,757	2,907	2,761	2,917	2,978	3,150
<b>15 to 19 years</b>	2,646	2,828	2,658	2,838	2,915	3,113
<b>20 to 24 years</b>	1,926	1,973	1,987	2,033	2,038	2,085
<b>25 to 29 years</b>	2,626	2,711	2,453	2,529	2,524	2,604
<b>30 to 34 years</b>	2,899	2,837	2,605	2,543	2,743	2,676
<b>35 to 39 years</b>	2,943	2,861	3,410	3,309	3,260	3,164
<b>40 to 44 years</b>	2,646	2,500	3,440	3,257	3,162	2,991
<b>45 to 49 years</b>	3,020	2,853	3,311	3,136	3,929	3,716
<b>50 to 54 years</b>	3,421	3,311	2,920	2,829	3,910	3,779
<b>55 to 59 years</b>	4,344	4,044	3,399	3,152	3,829	3,563
<b>60 to 64 years</b>	4,330	4,076	3,843	3,615	3,342	3,149
<b>65 to 69 years</b>	3,525	3,424	4,367	4,225	3,495	3,381
<b>70 to 74 years</b>	2,966	2,642	3,956	3,525	3,597	3,211
<b>75 to 79 years</b>	2,125	1,800	2,844	2,390	3,616	3,040
<b>80 to 84 years</b>	1,255	974	1,922	1,491	2,644	2,044
<b>85 years and over</b>	1,360	692	1,756	893	2,496	1,265
	<b>49,612</b>	<b>47,447</b>	<b>52,754</b>	<b>50,004</b>	<b>55,688</b>	<b>52,344</b>
	<b>97,059</b>		<b>102,758</b>		<b>108,032</b>	

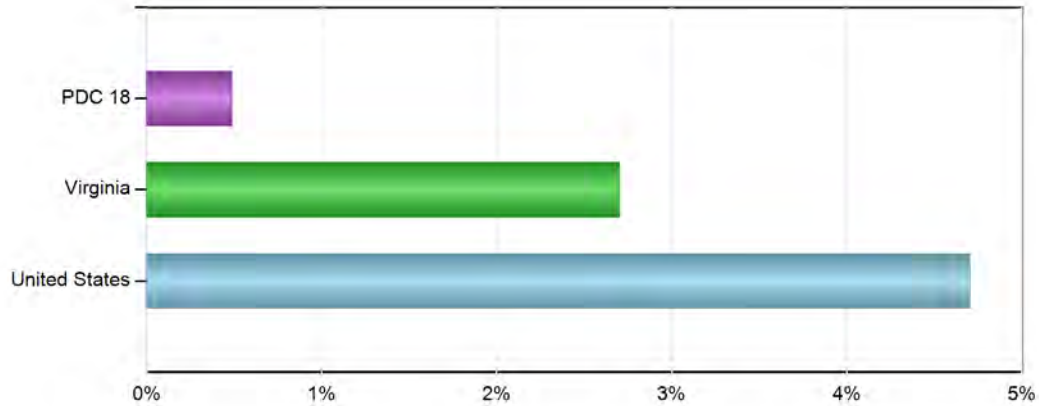
Source: Virginia Employment Commission.

## Population Projections by Race/Ethnicity

	2020	2030	2040
<b>Total</b>			
Total Population	97,060	102,761	108,028
<b>Race</b>			
White	75,564	77,287	77,675
Black or African American	15,652	16,087	15,967
Asian	959	1,525	2,264
Other	4,887	7,861	12,123
<b>Ethnicity</b>			
Not Hispanic or Latino (of any race)	93,251	95,863	96,695
Hispanic or Latino (of any race)	3,811	6,898	11,335

Source: Virginia Employment Commission.

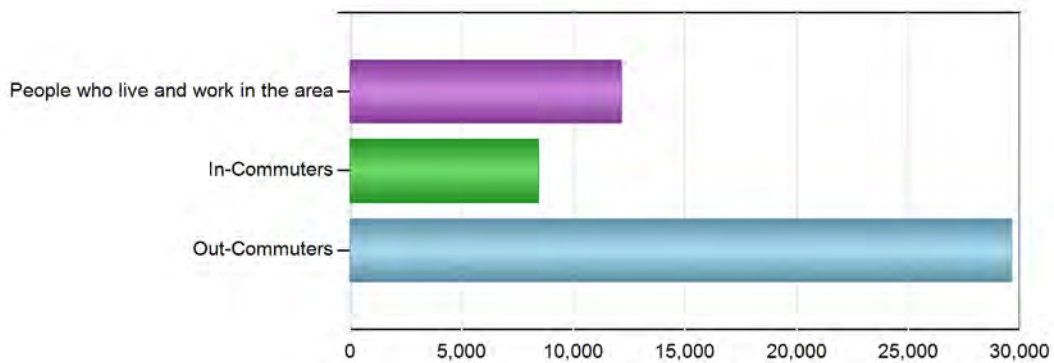
### English Language Skills (Age 5 and over that speak English less than well)



	Total	Speak English less than well	Percent
<b>PDC 18</b>	85,724	418	0.49%
<b>Virginia</b>	7,419,283	200,418	2.70%
<b>United States</b>	286,433,395	13,472,190	4.70%

Source: U.S. Census Bureau  
American Community Survey, 2007-2011.

### Commuting Patterns



Commuting Patterns	
People who live and work in the area	12,156
In-Commuters	8,448
Out-Commuters	29,622
Net In-Commuters (In-Commuters minus Out-Commuters)	-21,174

Source: U.S. Census Bureau,  
OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2010.

## Top 10 Places Residents are Commuting To

Area	Workers
Newport News city, VA	4,037
Henrico County, VA	2,589
Richmond city, VA	1,947
Hanover County, VA	1,885
York County, VA	1,638
James City County, VA	1,444
Hampton city, VA	1,358
Fairfax County, VA	1,323
Chesterfield County, VA	1,146
Virginia Beach city, VA	1,112

## Top 10 Places Workers are Commuting From

Area	Workers
Newport News city, VA	639
Henrico County, VA	466
Richmond County, VA	454
Hanover County, VA	419
York County, VA	417
James City County, VA	390
Chesterfield County, VA	350
Lancaster County, VA	317
Westmoreland County, VA	291
Northumberland County, VA	284

Source: U.S. Census Bureau,  
OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2010.

**Please Note:** Commuting patterns data is no longer produced from the Decennial Census. As an alternative, we are providing commuting data from the U.S. Census Bureau's OnTheMap application and LEHD Origin-Destination Employment Statistics program. Since this data is produced from an entirely different data set, it is not advisable to compare the new data with previously released commuting patterns. For more information about the OnTheMap application or the LEHD program, please visit the following website:

<http://lehd.ces.census.gov>

## III. Economic Profile

### Overview

The Economic Profile of Middle Peninsula PDC consists primarily of data produced by the Virginia Employment Commission, U.S. Census Bureau, and the Bureau of Labor Statistics.



### Related Terms and Definitions

#### Average Weekly Wage

Computed as average quarterly wages divided by 13.

#### Consumer Price Index (CPI)

The Consumer Price Index measures the average change over time in the prices paid by urban consumers for a representative market basket of consumer goods and services.

#### Local Employment Dynamics (LED)

The Local Employment Dynamics Program at the Census Bureau, together with its state partners, provides employment information at the county, city, and Workforce Investment Area level. This information tracks workers in different industries by age and gender and provides statistics on job creation, separation, turnover, and wages.

#### Quarterly Census of Employment & Wages (QCEW)

A federal/state cooperative program that collects and compiles employment and wage data for workers covered by state unemployment insurance (UI) laws and the federal civilian workers covered by Unemployment Compensation for Federal Employees (UCFE). These data are maintained at the state in micro and macro levels and also sent to BLS quarterly.

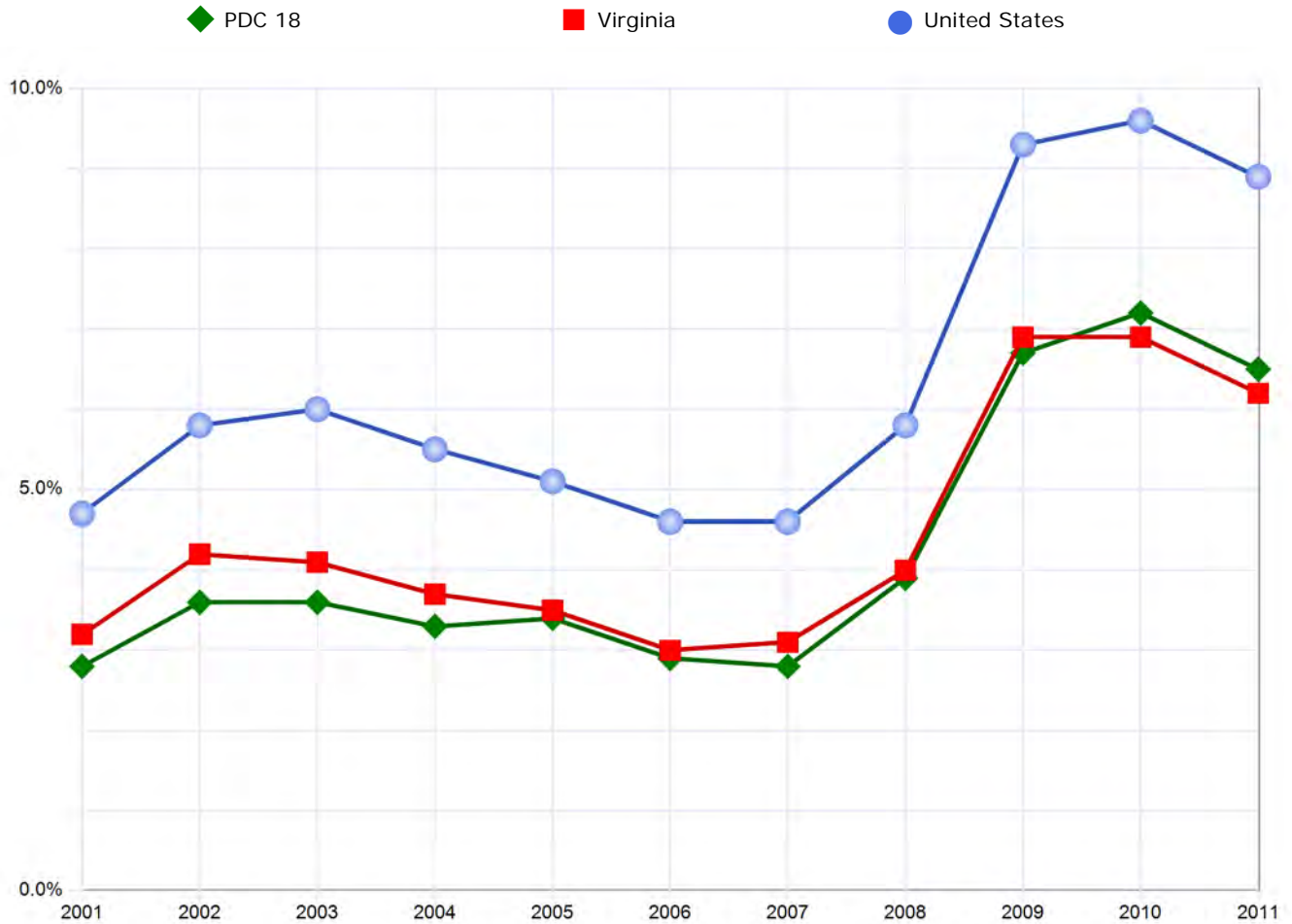
#### Unemployment Insurance (UI)

Unemployment insurance is a program for the accumulation of funds paid by employers to be used for the payment of unemployment insurance to workers during periods of unemployment which are beyond the workers' control. Unemployment insurance replaces a part of the worker's wage loss if he becomes eligible for payments. UI serves as an economic stabilizer by maintaining an individual's purchasing power when unemployed.

#### Unemployment Rate

The number of unemployed people as a percentage of the labor force.

## Unemployment Rates *Trends*

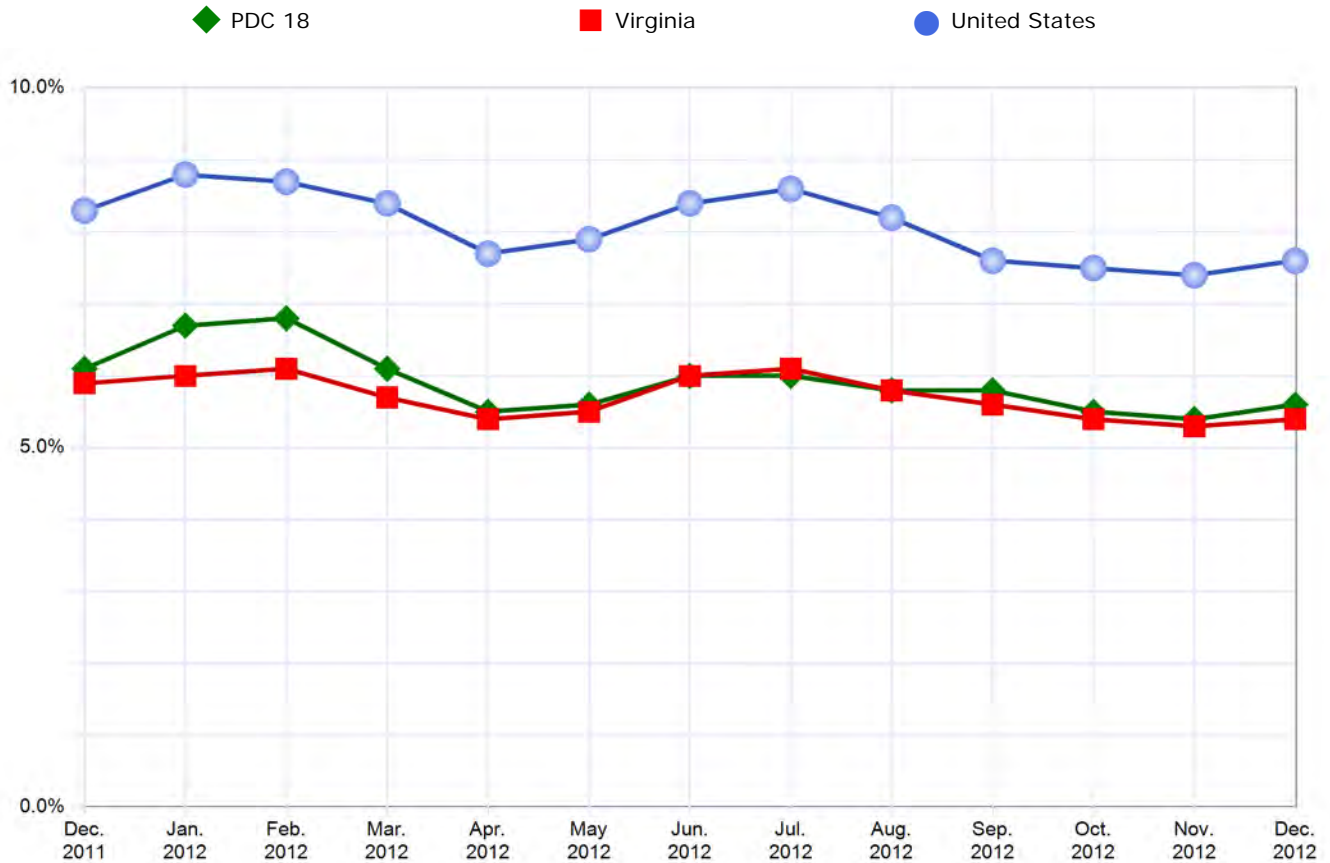


	PDC 18	Virginia	United States
<b>2001</b>	2.8%	3.2%	4.7%
<b>2002</b>	3.6%	4.2%	5.8%
<b>2003</b>	3.6%	4.1%	6.0%
<b>2004</b>	3.3%	3.7%	5.5%
<b>2005</b>	3.4%	3.5%	5.1%
<b>2006</b>	2.9%	3.0%	4.6%
<b>2007</b>	2.8%	3.1%	4.6%
<b>2008</b>	3.9%	4.0%	5.8%
<b>2009</b>	6.7%	6.9%	9.3%
<b>2010</b>	7.2%	6.9%	9.6%
<b>2011</b>	6.5%	6.2%	8.9%

Source: Virginia Employment Commission,  
Local Area Unemployment Statistics.



### Unemployment Rates Past 12 Months



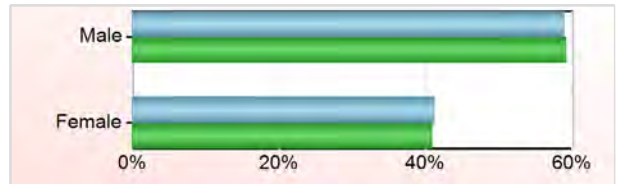
	PDC 18	Virginia	United States
<b>Dec. 2011</b>	6.1%	5.9%	8.3%
<b>Jan. 2012</b>	6.7%	6.0%	8.8%
<b>Feb. 2012</b>	6.8%	6.1%	8.7%
<b>Mar. 2012</b>	6.1%	5.7%	8.4%
<b>Apr. 2012</b>	5.5%	5.4%	7.7%
<b>May 2012</b>	5.6%	5.5%	7.9%
<b>Jun. 2012</b>	6.0%	6.0%	8.4%
<b>Jul. 2012</b>	6.0%	6.1%	8.6%
<b>Aug. 2012</b>	5.8%	5.8%	8.2%
<b>Sep. 2012</b>	5.8%	5.6%	7.6%
<b>Oct. 2012</b>	5.5%	5.4%	7.5%
<b>Nov. 2012</b>	5.4%	5.3%	7.4%
<b>Dec. 2012</b>	5.6%	5.4%	7.6%

Source: Virginia Employment Commission, Local Area Unemployment Statistics.

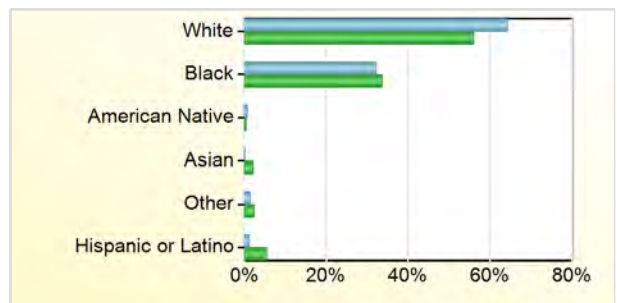
### Characteristics of the Insured Unemployed

- Middle Peninsula PDC - (671 claimants)
- Virginia - (60,089 claimants)

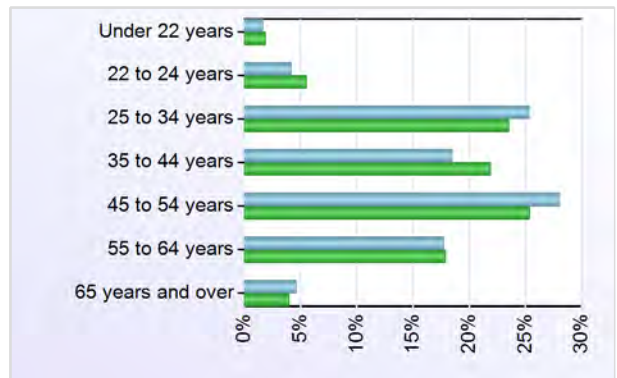
Gender	PDC 18	Virginia
<b>Male</b>	395	35,535
<b>Female</b>	276	24,554
<b>Unspecified</b>		



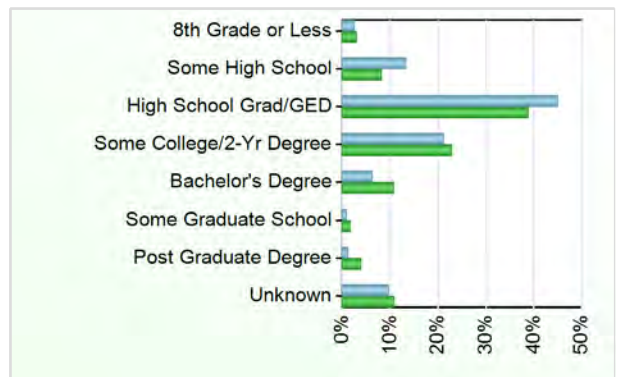
Race	PDC 18	Virginia
<b>White</b>	431	33,634
<b>Black</b>	216	20,203
<b>American Native</b>	5	280
<b>Asian</b>	1	1,275
<b>Other</b>	10	1,451
<b>Hispanic or Latino</b>	8	3,246



Age	PDC 18	Virginia
<b>Under 22 years</b>	11	1,124
<b>22 to 24 years</b>	28	3,312
<b>25 to 34 years</b>	170	14,133
<b>35 to 44 years</b>	124	13,149
<b>45 to 54 years</b>	188	15,240
<b>55 to 64 years</b>	119	10,745
<b>65 years and over</b>	31	2,386
<b>Unknown</b>		



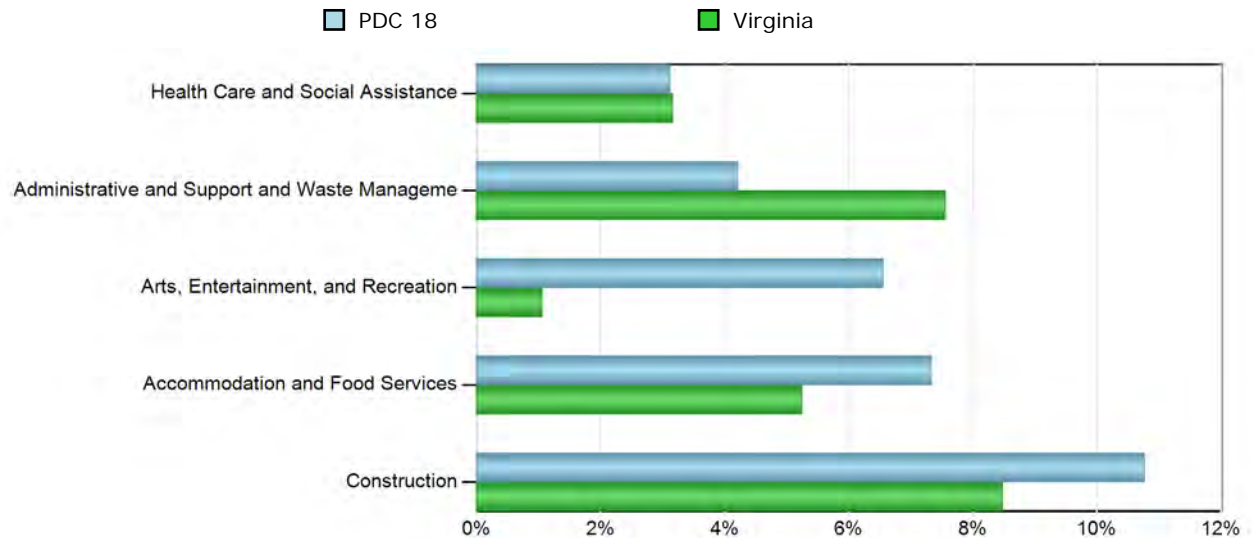
Education	PDC 18	Virginia
<b>8th Grade or Less</b>	17	1,770
<b>Some High School</b>	89	4,913
<b>High School Grad/GED</b>	302	23,325
<b>Some College/2-Yr Degree</b>	142	13,735
<b>Bachelor's Degree</b>	42	6,452
<b>Some Graduate School</b>	6	998
<b>Post Graduate Degree</b>	8	2,341
<b>Unknown</b>	65	6,555



Source: Virginia Employment Commission, Characteristics of the Insured Unemployed, January 2013.

## Characteristics of the Insured Unemployed

**Top 5 Industries With Largest Number of Claimants in PDC 18**  
(excludes unclassified)

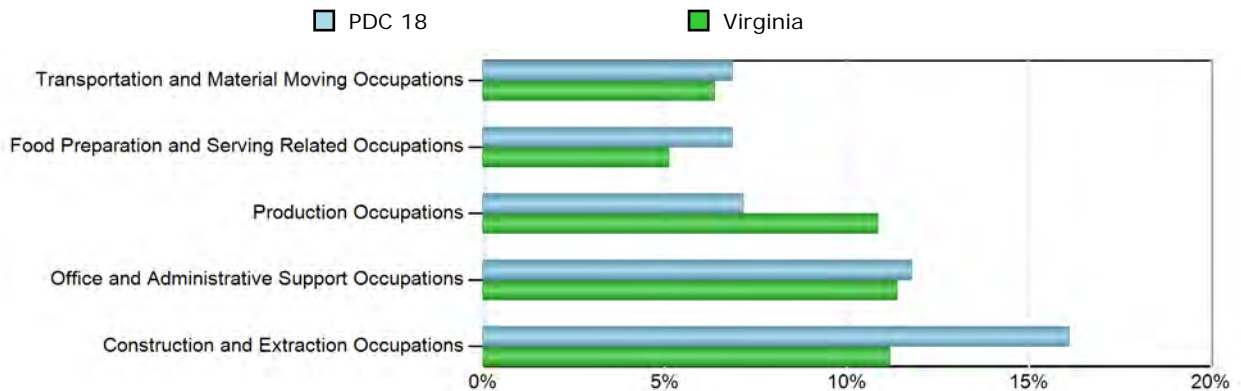


Industry	PDC 18	Virginia
Agriculture, Forestry, Fishing and Hunting	3	156
Mining, Quarrying, and Oil and Gas Extraction		375
Utilities		14
Construction	69	4,614
Manufacturing	14	1,135
Wholesale Trade	7	706
Retail Trade	16	1,129
Transportation and Warehousing	8	881
Information	3	260
Finance and Insurance	2	399
Real Estate and Rental and Leasing	2	336
Professional, Scientific, and Technical Services	6	1,448
Management of Companies and Enterprises	1	73
Administrative and Support and Waste Management	27	4,111
Educational Services	2	189
Health Care and Social Assistance	20	1,723
Arts, Entertainment, and Recreation	42	578
Accommodation and Food Services	47	2,854
Other Services (except Public Administration)	5	722
Unclassified	367	32,725

Source: Virginia Employment Commission, Characteristics of the Insured Unemployed, January 2013.

## Characteristics of the Insured Unemployed

**Top 5 Occupation Groups With Largest Number of Claimants in PDC 18**  
(excludes unclassified)

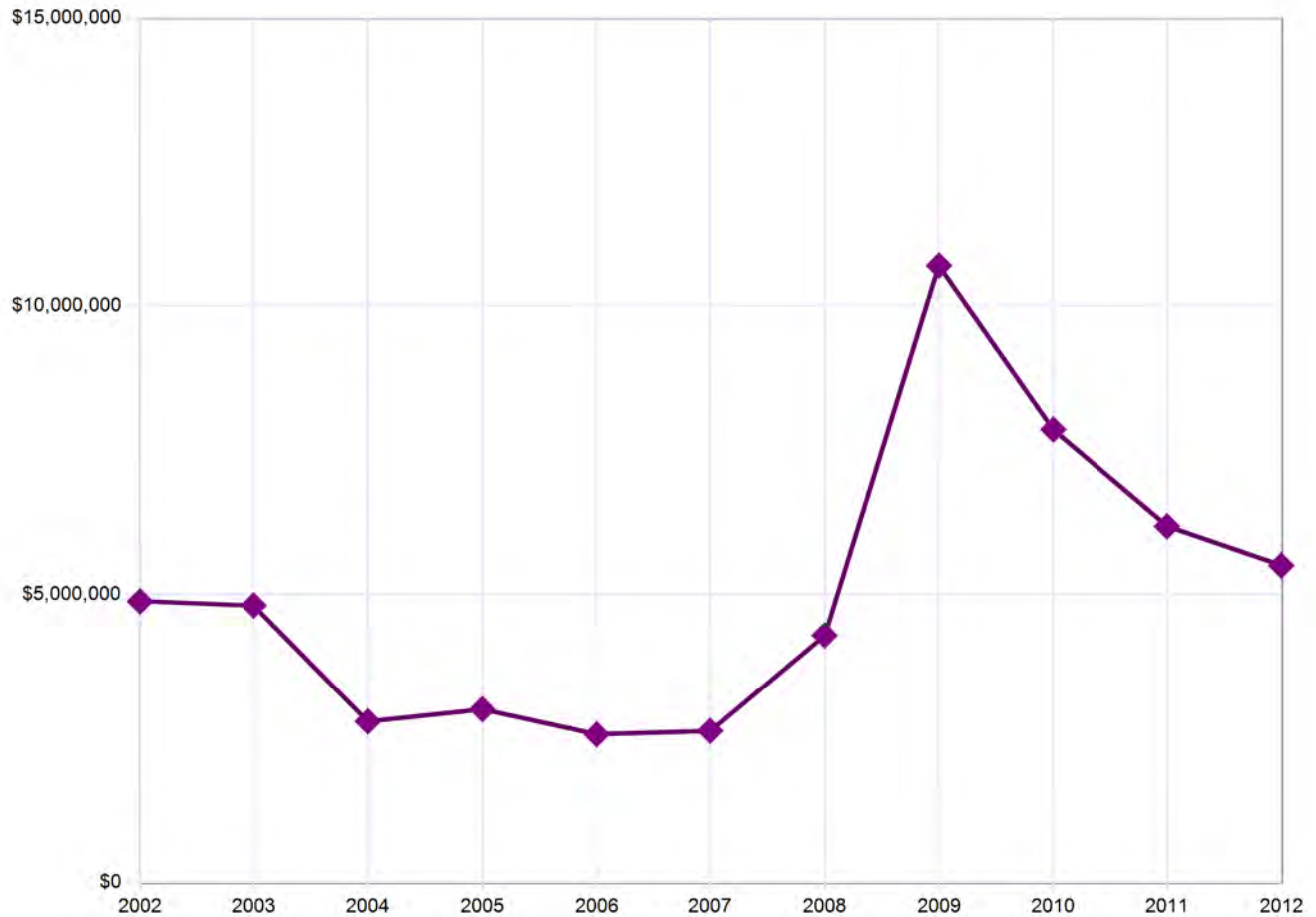


Occupation	PDC 18	Virginia
Management Occupations	38	4,021
Business and Financial Operations Occupations	11	1,918
Computer and Mathematical Occupations	4	1,349
Architecture and Engineering Occupations	14	804
Life, Physical, and Social Science Occupations		266
Community and Social Service Occupations	1	375
Legal Occupations		219
Education, Training, and Library Occupations	10	764
Arts, Design, Entertainment, Sports, and Media Occ	2	889
Healthcare Practitioners and Technical Occupations	10	888
Healthcare Support Occupations	25	1,335
Protective Service Occupations	5	655
Food Preparation and Serving Related Occupations	46	3,067
Building and Grounds Cleaning and Maintenance Occu	36	2,389
Personal Care and Service Occupations	13	836
Sales and Related Occupations	38	4,093
Office and Administrative Support Occupations	79	6,832
Farming, Fishing, and Forestry Occupations	10	355
Construction and Extraction Occupations	108	6,713
Installation, Maintenance, and Repair Occupations	43	2,247
Production Occupations	48	6,519
Transportation and Material Moving Occupations	46	3,824
Military Specific Occupations	5	883
Unknown Occupation Code	79	8,848

Source: Virginia Employment Commission, Characteristics of the Insured Unemployed, January 2013.

## Unemployment Insurance Payments

### Trends

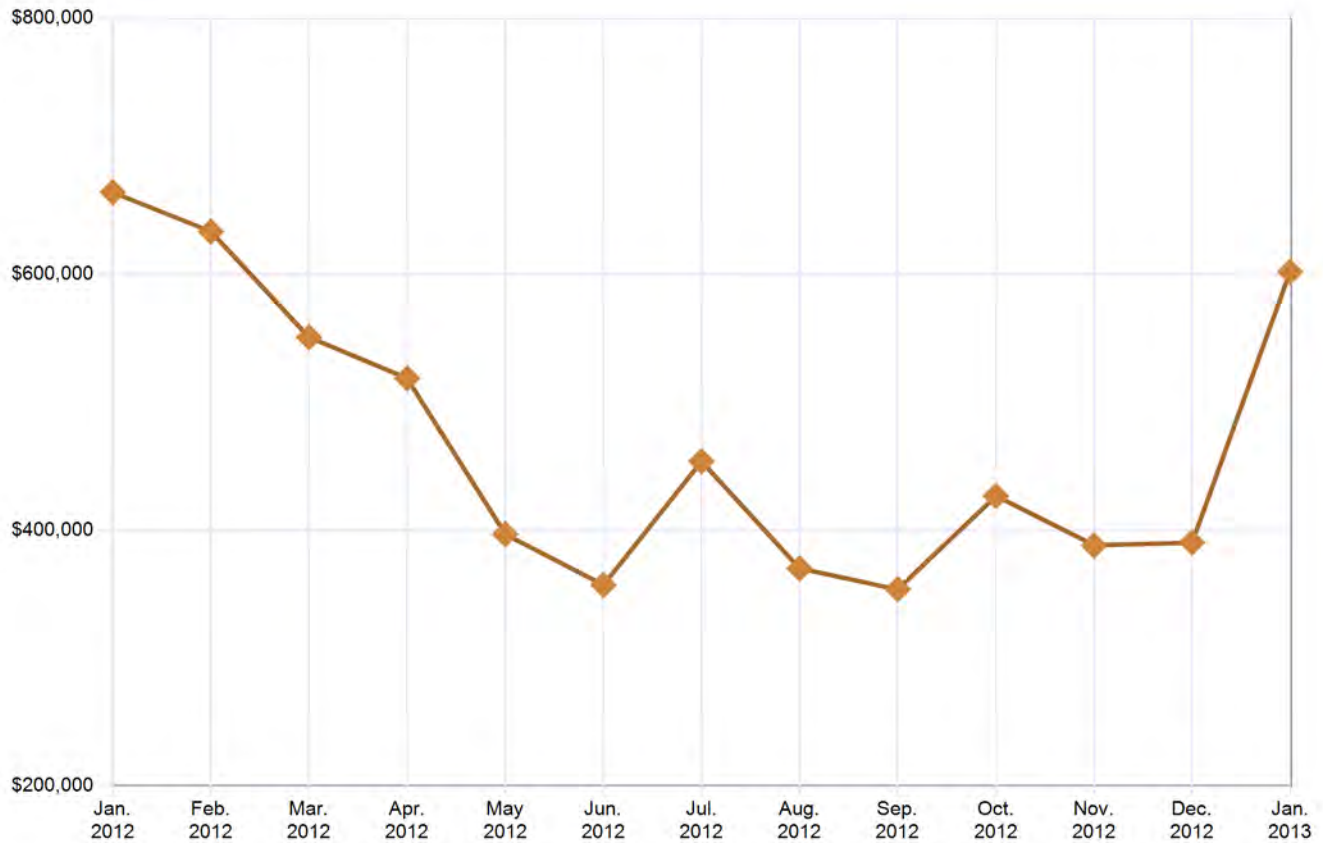


	PDC 18		Virginia	
	Weeks Paid	Amount Paid	Weeks Paid	Amount Paid
<b>2002</b>	17,018	\$4,888,089	2,494,138	\$741,502,766
<b>2003</b>	18,390	\$4,816,266	2,320,260	\$608,250,060
<b>2004</b>	12,157	\$2,796,997	1,632,841	\$376,193,745
<b>2005</b>	12,916	\$3,009,633	1,382,659	\$327,192,126
<b>2006</b>	10,464	\$2,571,875	1,334,848	\$334,996,815
<b>2007</b>	10,418	\$2,634,611	1,384,335	\$364,789,088
<b>2008</b>	15,819	\$4,296,847	1,699,923	\$468,544,246
<b>2009</b>	38,131	\$10,701,993	3,782,630	\$1,069,206,277
<b>2010</b>	28,933	\$7,864,383	2,727,738	\$748,174,724
<b>2011</b>	23,331	\$6,187,704	2,242,341	\$612,702,314
<b>2012</b>	20,536	\$5,507,957	2,102,986	\$592,044,339

Source: Virginia Employment Commission, Unemployment Insurance Program.



### Unemployment Insurance Payments Past 12 Months



	PDC 18		Virginia	
	Weeks Paid	Amount Paid	Weeks Paid	Amount Paid
<b>Jan. 2012</b>	2,492	\$664,448	226,523	\$62,242,751
<b>Feb. 2012</b>	2,365	\$633,784	200,293	\$55,891,726
<b>Mar. 2012</b>	2,039	\$551,131	192,067	\$54,065,424
<b>Apr. 2012</b>	1,884	\$519,061	192,477	\$54,935,227
<b>May 2012</b>	1,427	\$397,148	166,114	\$47,206,566
<b>Jun. 2012</b>	1,284	\$357,480	161,971	\$45,322,169
<b>Jul. 2012</b>	1,694	\$454,203	197,021	\$54,729,865
<b>Aug. 2012</b>	1,436	\$370,477	160,972	\$44,988,220
<b>Sep. 2012</b>	1,344	\$354,200	142,335	\$40,685,067
<b>Oct. 2012</b>	1,606	\$427,029	169,497	\$48,641,092
<b>Nov. 2012</b>	1,488	\$388,315	148,802	\$42,228,783
<b>Dec. 2012</b>	1,477	\$390,681	144,914	\$41,107,449
<b>Jan. 2013</b>	2,258	\$602,218	218,684	\$60,852,121

Source: Virginia Employment Commission, Unemployment Insurance Program.

## Employers by Size of Establishment

	PDC 18	Virginia
<b>0 to 4 employees</b>	1,495	141,435
<b>5 to 9 employees</b>	451	37,383
<b>10 to 19 employees</b>	270	26,803
<b>20 to 49 employees</b>	147	19,396
<b>50 to 99 employees</b>	30	6,930
<b>100 to 249 employees</b>	17	3,690
<b>250 to 499 employees</b>	11	1,022
<b>500 to 999 employees</b>	1	351
<b>1000 and over employees</b>	0	235
	<b>2,422</b>	<b>237,245</b>

## Employment by Size of Establishment

	PDC 18	Virginia
<b>0 to 4 employees</b>	2,486	214,444
<b>5 to 9 employees</b>	2,966	248,279
<b>10 to 19 employees</b>	3,597	363,943
<b>20 to 49 employees</b>	4,280	588,769
<b>50 to 99 employees</b>	1,920	472,742
<b>100 to 249 employees</b>	2,423	551,626
<b>250 to 499 employees</b>	4,067	355,171
<b>500 to 999 employees</b>	926	239,363
<b>1000 and over employees</b>	0	587,939
	<b>22,665</b>	<b>3,622,276</b>

Note: Asterisks (\*\*\*) indicate non-disclosable data.

'Zero; no employment' typically represents new startup firms or sole-proprietorships.

Source: Virginia Employment Commission,  
Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2012.

## 50 Largest Employers

- |  |   |
|--|---|
| 1. Riverside Regional Medical Center                   | 26. Big Cheese                                |
| 2. Gloucester County School                            | 27. VDOT                                      |
| 3. Wal Mart  | 28. County of King William                    |
| 4. Alliance Group Rock Tenn                            | 29. County of Middlesex                       |
| 5. Virginia Institute of Marine Science                | 30. Industrial Resource Technology            |
| 6. Middle Peninsula Northern Neck Mental Health Center | 31. The Home Depot                            |
| 7. County of Gloucester                                | 32. NPC International Inc                     |
| 8. Rappahannock Community College                      | 33. O'malley Timber Products LLC              |
| 9. King William County Schools                         | 34. Farm Fresh                                |
| 10. Food Lion  | 35. Middle Peninsula Regional Security Center |
| 11. FDP Virginia                                       | 36. A I I Services                            |
| 12. Essex County School Board                          | 37. JL Jkm Enterprises Lc                     |
| 13. Lowes' Home Centers, Inc.                          | 38. Lowery S. Seafood Restaurant              |
| 14. Middlesex County Schools                           | 39. Virginia Log Company                      |
| 15. Mathews County School Board                        | 40. Penisula Metropolitan YMCA                |
| 16. Southside Bank                                     | 41. Ball Lumber Company                       |
| 17. Chesapeake Bay Agency on Aging                     | 42. Mizpah Health Care Center                 |
| 18. York Convalescent Center                           | 43. Bank of Essex                             |
| 19. Nestle Purina Petcare Company                      | 44. Wendy's                                   |
| 20. King & Queen County Public                         | 45. James River Group                         |
| 21. Postal Service                                     | 46. County of King and Queen                  |
| 22. Hardee's   | 47. Dolgencorp LLC                            |
| 23. Town of West Point School Board                    | 48. McDonald's                                |
| 24. 7-Eleven   | 49. Brambles Inc                              |
| 25. County of Essex                                    | 50. Hope In Home Care                         |

Source: Virginia Employment Commission,  
Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2012.

### Did you know...

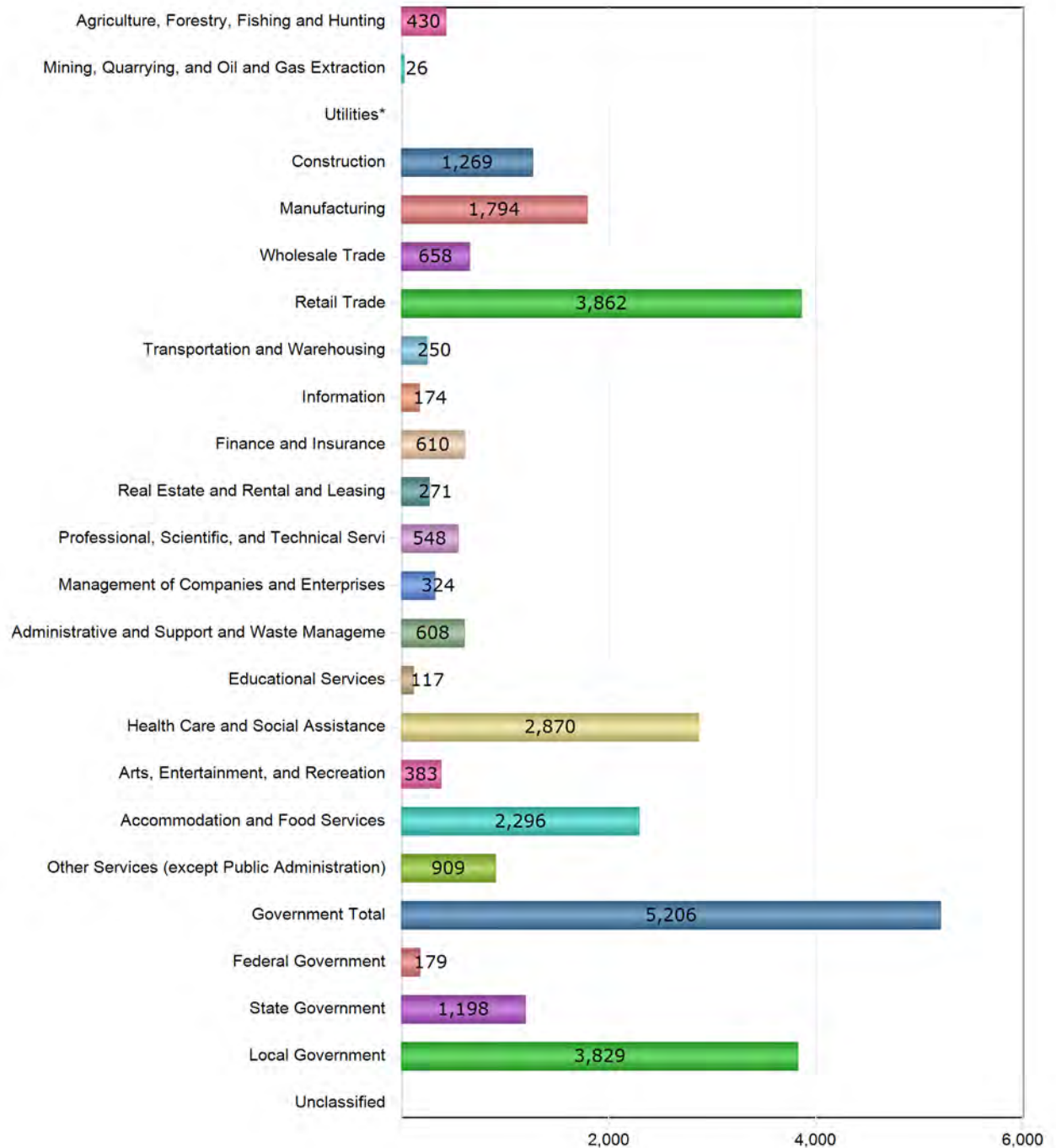
you can search over 300,000 employer listings on our website provided by Infogroup? This easy-to-use feature lets you search for employers by keyword, industry, sales volume, size range, and more!



For this data and more, visit us on the web at:

[www.VirginiaLMI.com](http://www.VirginiaLMI.com)

### Employment by Industry

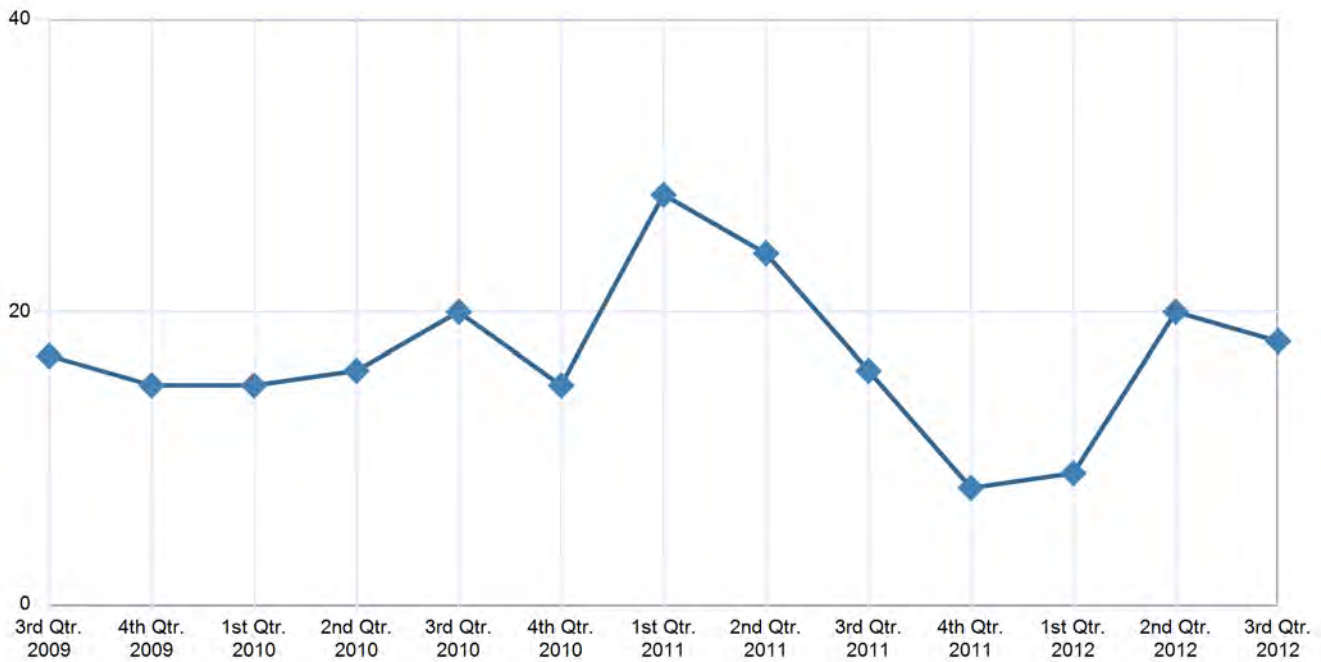


**Total: 22,666**

Note: Asterisk (\*) indicates non-disclosable data.

Source: Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2012.

### New Startup Firms



	PDC 18	Virginia
<b>3rd Qtr. 2009</b>	17	2,436
<b>4th Qtr. 2009</b>	15	2,135
<b>1st Qtr. 2010</b>	15	2,633
<b>2nd Qtr. 2010</b>	16	2,475
<b>3rd Qtr. 2010</b>	20	2,758
<b>4th Qtr. 2010</b>	15	2,580
<b>1st Qtr. 2011</b>	28	3,090
<b>2nd Qtr. 2011</b>	24	3,023
<b>3rd Qtr. 2011</b>	16	2,405
<b>4th Qtr. 2011</b>	8	2,518
<b>1st Qtr. 2012</b>	9	3,079
<b>2nd Qtr. 2012</b>	20	2,506
<b>3rd Qtr. 2012</b>	18	4,051

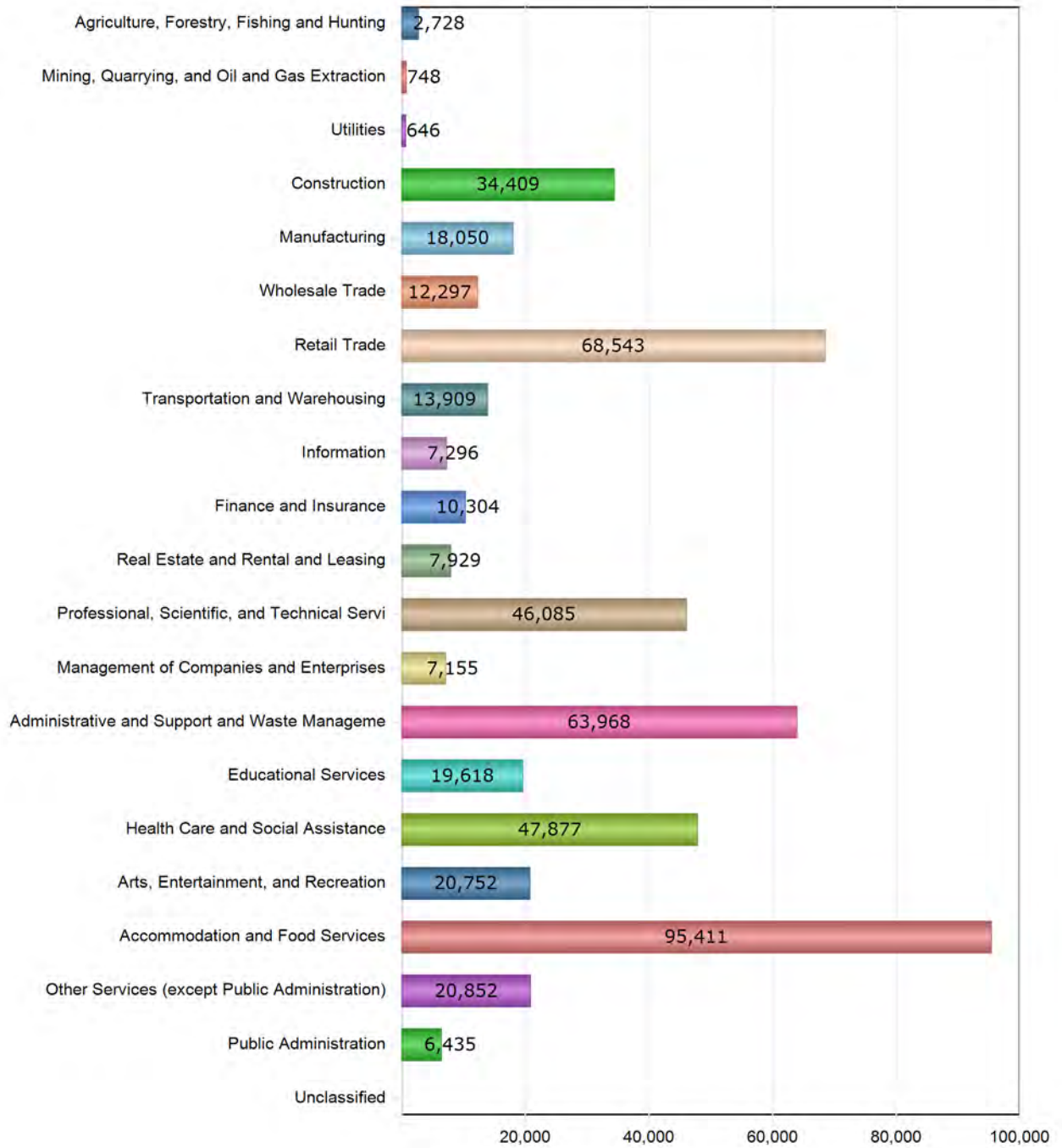
Note: The following criteria was used to define new startup firms:

- 1.) Setup and liability date both occurred during 3rd Quarter (July, August, September) 2012
- 2.) Establishment had no predecessor UI Account Number
- 3.) Private Ownership
- 4.) Average employment is less than 250
- 5.) For multi-unit establishments, the parent company must also meet the above criteria.

Source: Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2012.



### New Hires by Industry

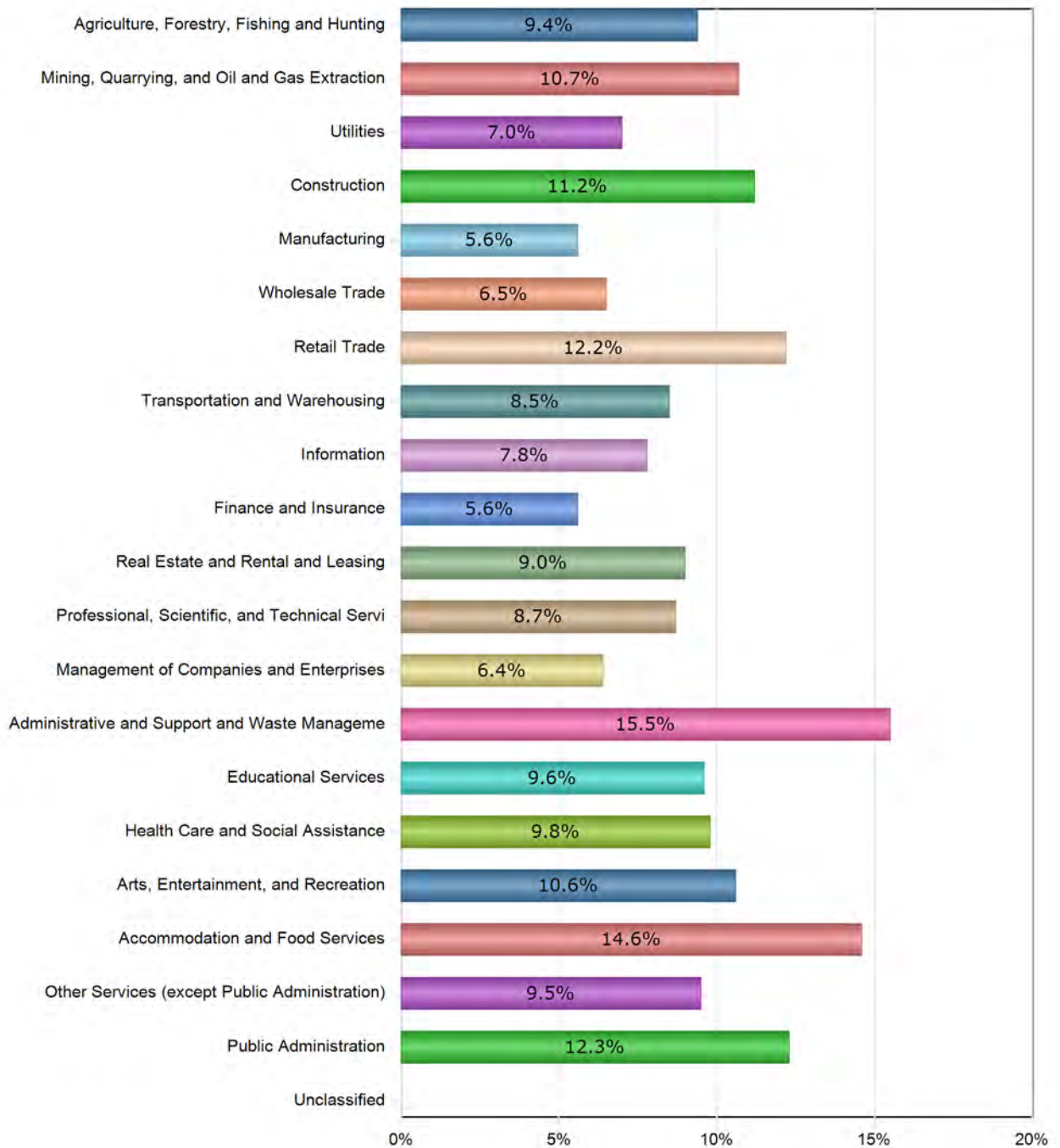


**Total: 505,015**

Data is for Virginia. No data available for Middle Peninsula PDC.

Source: U.S. Census Bureau, Local Employment Dynamics (LED) Program, 2nd Quarter (April, May, June) 2012, all ownerships.

### Turnover by Industry

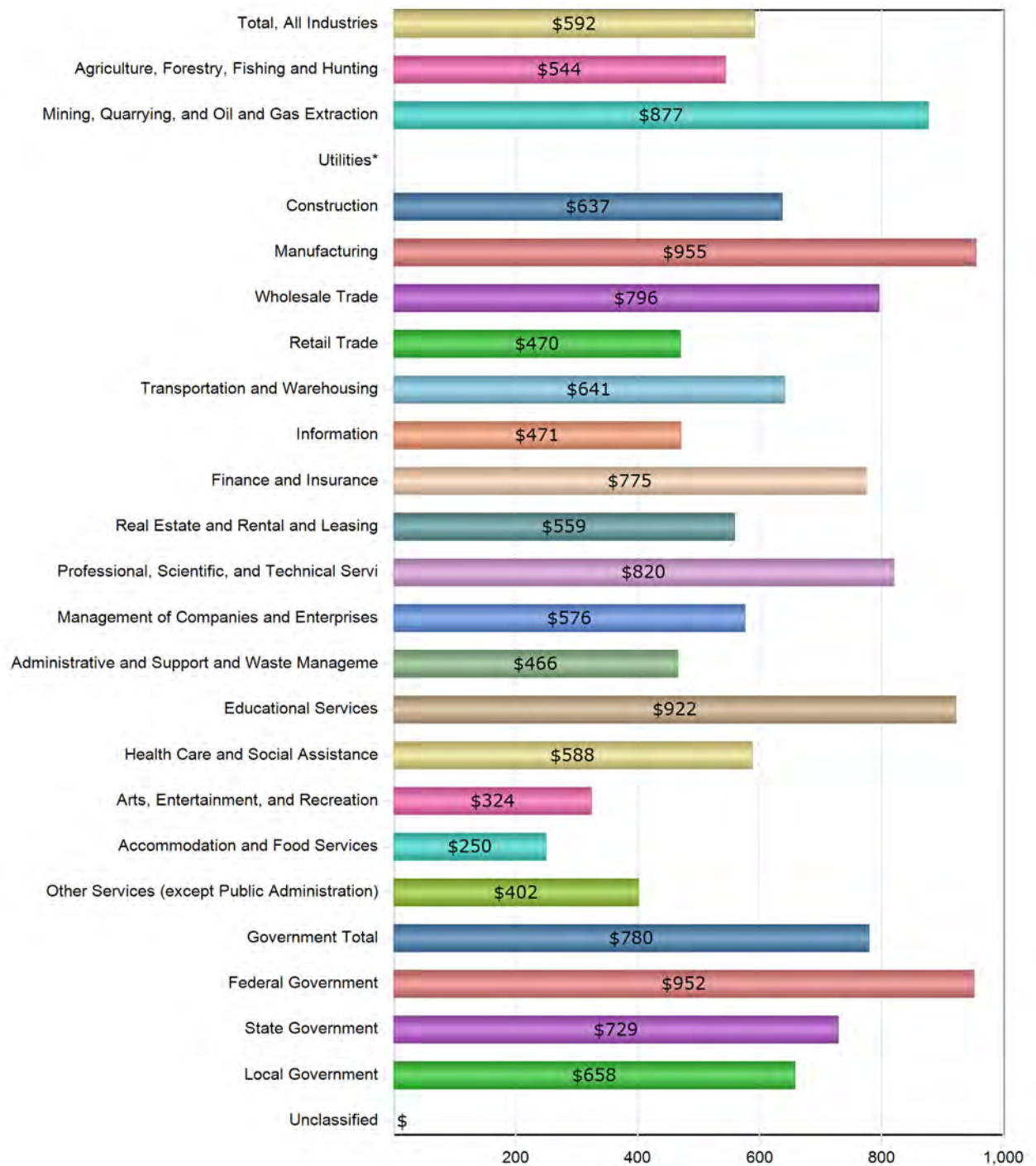


**Average: 10.0%**

Data is for Virginia. No data available for Middle Peninsula PDC.

Source: U.S. Census Bureau, Local Employment Dynamics (LED) Program, 1st Quarter (January, February, March) 2012, all ownerships.

### Average Weekly Wage by Industry



Note: Asterisk (\*) indicates non-disclosable data.

Source: Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW), 3rd Quarter (July, August, September) 2012.

## Age of Workers by Industry

	14 - 18	19 - 21	22 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+
Total, All Industries	63,180	149,020	205,394	734,644	736,608	810,423	546,622	172,159
Agriculture, Forestry, Fishing and Hunting	340	521	659	2,206	2,244	2,726	1,958	1,073
Mining, Quarrying, and Oil and Gas Extraction	7	235	475	1,890	2,070	2,194	1,665	212
Utilities	29	155	451	3,210	3,742	6,061	3,649	438
Construction	1,431	5,157	7,950	37,690	41,389	45,925	26,369	8,121
Manufacturing	950	5,353	9,211	41,696	53,638	75,172	49,521	9,283
Wholesale Trade	503	2,124	4,262	22,141	28,547	32,251	20,121	5,860
Retail Trade	13,496	39,606	39,383	82,173	66,223	75,675	52,842	21,565
Transportation and Warehousing	448	2,653	4,373	18,206	23,691	31,404	19,464	5,143
Information	877	1,582	3,140	17,171	22,069	19,574	10,831	2,333
Finance and Insurance	253	1,851	6,729	31,831	34,369	32,386	18,577	4,121
Real Estate and Rental and Leasing	434	1,343	2,848	11,885	11,345	13,028	8,598	3,935
Professional, Scientific, and Technical Services	1,434	4,424	17,777	105,511	101,100	97,081	59,780	18,162
Management of Companies and Enterprises	573	1,505	3,045	16,412	18,587	21,328	13,743	3,223
Administrative and Support and Waste Management	1,877	8,232	13,913	49,848	45,484	45,990	27,961	10,620
Educational Services	2,023	6,176	13,681	67,621	79,858	94,500	83,457	26,171
Health Care and Social Assistance	2,913	12,533	24,075	95,961	94,797	102,255	72,817	20,714
Arts, Entertainment, and Recreation	4,639	4,787	4,767	11,836	9,678	10,363	7,438	3,642
Accommodation and Food Services	27,805	42,720	36,189	70,127	46,424	41,807	22,700	11,364
Other Services (except Public Administration)	2,700	6,689	8,861	27,738	26,961	30,622	21,556	9,498
Public Administration	447	1,373	3,606	19,492	24,391	30,081	23,576	6,680

Data is for Virginia. No data available for Middle Peninsula PDC.

Source: U.S. Census Bureau, Local Employment Dynamics (LED) Program, 2nd Quarter (April, May, June) 2012, all ownerships.

### What is LED?

Developed by the U.S. Census Bureau, the Local Employment Dynamics (LED) program merges Virginia's Unemployment Compensation wage and employer records with Census demographic data. Read more about LED on the following website:

<http://lehd.did.census.gov/led/>



## Industry Employment and Projections

### Long Term

	Employment			Percent	
	Estimated 2010	Projected 2020	Change	Total	Annual
Total, All Industries	3,923,952	4,623,926	699,974	17.84%	1.66%
Agriculture, Forestry, Fishing and Hunting	57,682	53,526	-4,156	-7.21%	-.75%
Mining, Quarrying, and Oil and Gas Extraction	8,596	8,354	-242	-2.82%	-.29%
Utilities	10,896	10,880	-16	-.15%	-.01%
Construction	182,999	247,486	64,487	35.24%	3.06%
Manufacturing	229,827	235,292	5,465	2.38%	.24%
Wholesale Trade	110,111	126,499	16,388	14.88%	1.4%
Retail Trade	398,103	454,590	56,487	14.19%	1.34%
Transportation and Warehousing	101,632	119,997	18,365	18.07%	1.68%
Information	76,089	82,720	6,631	8.71%	.84%
Finance and Insurance	120,580	137,719	17,139	14.21%	1.34%
Real Estate and Rental and Leasing	51,509	58,228	6,719	13.04%	1.23%
Professional, Scientific, and Technical Servi Management of Companies and Enterprises	381,552	522,818	141,266	37.02%	3.2%
Administrative and Support and Waste Manageme	73,845	77,928	4,083	5.53%	.54%
Administrative and Support and Waste Manageme	194,688	232,358	37,670	19.35%	1.78%
Educational Services	350,312	432,989	82,677	23.6%	2.14%
Health Care and Social Assistance	386,804	523,900	137,096	35.44%	3.08%
Arts, Entertainment, and Recreation	46,535	54,151	7,616	16.37%	1.53%
Accommodation and Food Services	294,179	335,566	41,387	14.07%	1.33%
Other Services (except Public Administration)	125,799	148,068	22,269	17.7%	1.64%

Note: Asterisks (\*\*\*) indicate non-disclosable data.  
Projections data is for Virginia. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Long Term Industry and Occupational Projections, 2010-2020.



## Industry Employment and Projections

### *Short Term*

	Employment			Percent	
	Estimated 2011	Projected 2013	Change	Total	Annual
Total, All Industries	3,917,477	3,998,670	81,193	2.07%	1.03%
Agriculture, Forestry, Fishing and Hunting	3,556	3,617	61	1.72%	.85%
Mining, Quarrying, and Oil and Gas Extraction	9,214	9,258	44	.48%	.24%
Utilities	10,767	10,268	-499	-4.63%	-2.34%
Construction	177,832	176,132	-1,700	-.96%	-.48%
Manufacturing	231,573	227,248	-4,325	-1.87%	-.94%
Wholesale Trade	112,928	113,226	298	.26%	.13%
Retail Trade	414,729	421,846	7,117	1.72%	.85%
Transportation and Warehousing	104,873	105,955	1,082	1.03%	.51%
Information	74,603	73,226	-1,377	-1.85%	-.93%
Finance and Insurance	124,188	129,142	4,954	3.99%	1.98%
Real Estate and Rental and Leasing	50,432	50,642	210	.42%	.21%
Professional, Scientific, and Technical Servi	394,232	413,403	19,171	4.86%	2.4%
Management of Companies and Enterprises	73,640	76,810	3,170	4.3%	2.13%
Administrative and Support and Waste Manageme	203,539	207,982	4,443	2.18%	1.09%
Educational Services	368,837	382,724	13,887	3.77%	1.87%
Health Care and Social Assistance	401,810	420,222	18,412	4.58%	2.27%
Arts, Entertainment, and Recreation	42,230	43,862	1,632	3.86%	1.91%
Accommodation and Food Services	302,431	312,025	9,594	3.17%	1.57%
Other Services (except Public Administration)	128,491	131,939	3,448	2.68%	1.33%

Note: Asterisks (\*\*\*) indicate non-disclosable data.  
Projections data is for Virginia Statewide. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Short Term Industry and Occupational Projections, 2011-2013.

## Occupation Employment and Projections

### Long Term

	Employment			Openings		
	Estimated 2010	Projected 2020	% Change	Replace-ments	Growth	Total
Total, All Occupations	3,923,952	4,623,926	17.84%	91,758	71,656	163,414
Management Occupations	254,349	275,909	8.48%	5,189	2,680	7,869
Business and Financial Operations Occupations	257,351	317,155	23.24%	5,078	5,980	11,058
Computer and Mathematical Occupations	199,506	267,482	34.07%	3,426	6,798	10,224
Architecture and Engineering Occupations	82,795	96,348	16.37%	1,848	1,361	3,209
Life, Physical, and Social Science Occupations	30,711	36,657	19.36%	969	595	1,564
Community and Social Service Occupations	53,943	67,495	25.12%	1,185	1,355	2,540
Legal Occupations	41,964	48,589	15.79%	706	667	1,373
Education, Training, and Library Occupations	234,584	290,152	23.69%	4,980	5,557	10,537
Arts, Design, Entertainment, Sports, and Media Occupations	68,439	82,283	20.23%	1,814	1,400	3,214
Healthcare Practitioners and Technical Occupations	191,430	240,333	25.55%	3,888	4,890	8,778
Healthcare Support Occupations	89,059	121,200	36.09%	1,292	3,214	4,506
Protective Service Occupations	97,055	108,342	11.63%	2,394	1,138	3,532
Food Preparation and Serving Related Occupations	294,938	340,905	15.59%	10,537	4,598	15,135
Building and Grounds Cleaning and Maintenance Occupations	145,679	170,016	16.71%	2,630	2,434	5,064
Personal Care and Service Occupations	130,058	167,256	28.6%	2,978	3,739	6,717
Sales and Related Occupations	414,390	472,738	14.08%	12,637	5,858	18,495
Office and Administrative Support Occupations	541,884	613,286	13.18%	11,899	7,656	19,555
Farming, Fishing, and Forestry Occupations	41,109	38,669	-5.94%	1,224	12	1,236
Construction and Extraction Occupations	197,026	243,212	23.44%	4,310	4,642	8,952
Installation, Maintenance, and Repair Occupations	153,129	178,907	16.83%	3,460	2,584	6,044
Production Occupations	177,951	189,353	6.41%	3,603	1,369	4,972
Transportation and Material Moving Occupations	226,602	257,639	13.7%	5,709	3,130	8,839

Note: Asterisks (\*\*\*) indicate non-disclosable data.  
Projections data is for Virginia. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Long Term Industry and Occupational Projections, 2010-2020.

## Occupation Employment and Projections

### *Short Term*

	Employment			Openings		
	Estimated 2011	Projected 2013	% Change	Replace-ments	Growth	Total
Total, All Occupations	3,917,477	3,998,670	2.07%	91,489	44,772	136,261
Management Occupations	215,653	218,034	1.1%	3,978	1,335	5,313
Business and Financial Operations Occupations	261,465	270,997	3.65%	4,690	4,766	9,456
Computer and Mathematical Occupations	205,508	214,728	4.49%	3,086	4,610	7,696
Architecture and Engineering Occupations	83,099	83,681	.7%	1,736	360	2,096
Life, Physical, and Social Science Occupations	31,141	32,004	2.77%	974	432	1,406
Community and Social Service Occupations	55,642	58,099	4.42%	1,160	1,228	2,388
Legal Occupations	42,387	43,092	1.66%	648	354	1,002
Education, Training, and Library Occupations	246,009	254,817	3.58%	4,964	4,404	9,368
Arts, Design, Entertainment, Sports, and Media Occupations	69,324	71,096	2.56%	1,796	978	2,774
Healthcare Practitioners and Technical Occupations	197,464	203,927	3.27%	3,570	3,232	6,802
Healthcare Support Occupations	92,991	97,647	5.01%	1,187	2,328	3,515
Protective Service Occupations	98,024	99,126	1.12%	2,504	588	3,092
Food Preparation and Serving Related Occupations	303,715	314,023	3.39%	12,831	5,154	17,985
Building and Grounds Cleaning and Maintenance Occupations	146,279	149,229	2.02%	2,416	1,482	3,898
Personal Care and Service Occupations	132,693	139,277	4.96%	3,022	3,301	6,323
Sales and Related Occupations	422,775	428,137	1.27%	14,208	2,810	17,018
Office and Administrative Support Occupations	551,068	559,464	1.52%	11,966	4,950	16,916
Farming, Fishing, and Forestry Occupations	7,045	7,040	-.07%	198	18	216
Construction and Extraction Occupations	192,819	190,543	-1.18%	4,030	113	4,143
Installation, Maintenance, and Repair Occupations	153,472	154,697	.8%	3,274	845	4,119
Production Occupations	179,482	178,002	-.82%	3,622	506	4,128
Transportation and Material Moving Occupations	229,422	231,010	.69%	5,630	976	6,606

Note: Asterisks (\*\*\*) indicate non-disclosable data.  
Projections data is for Virginia Statewide. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Short Term Industry and Occupational Projections, 2011-2013.

## Growth Occupations

	Employment			Average Annual Openings			Average Annual Salary
	Estimated 2010	Projected 2020	% Change	Replacements	Growth	Total	
Biomedical Engineers	462	905	95.89%	10	44	54	\$99,144
Personal Care Aides	23,440	41,721	77.99%	186	1,828	2,014	\$19,695
Home Health Aides	13,369	23,539	76.07%	172	1,017	1,189	\$19,887
Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	1,336	2,143	60.4%	35	81	116	\$27,269
Interpreters and Translators	4,854	7,781	60.3%	130	293	423	\$91,060
Helpers--Carpenters	2,501	3,987	59.42%	66	149	215	\$26,564
Meeting, Convention, and Event Planners	3,662	5,669	54.81%	70	201	271	\$55,898
Software Developers, Systems Software	31,371	48,184	53.59%	326	1,681	2,007	\$112,932
Veterinary Technologists and Technicians	1,338	2,044	52.77%	23	71	94	\$37,036
Reinforcing Iron and Rebar Workers	365	556	52.33%	8	19	27	\$47,579
Dental Hygienists	4,469	6,740	50.82%	90	227	317	\$82,338
Physical Therapist Assistants	1,698	2,539	49.53%	26	84	110	\$51,162
Physical Therapist Aides	1,362	2,036	49.49%	21	67	88	\$22,858
Occupational Therapy Assistants	545	811	48.81%	8	27	35	\$58,983
Market Research Analysts and Marketing Specialists	11,374	16,737	47.15%	303	536	839	\$69,410
Marriage and Family Therapists	1,349	1,961	45.37%	29	61	90	\$42,922
Epidemiologists	***	***	***	***	***	***	\$66,373
Audiologists	358	515	43.85%	2	16	18	\$80,920
Biochemists and Biophysicists	424	608	43.4%	10	18	28	\$66,971
Medical Scientists, Except Epidemiologists	994	1,423	43.16%	6	43	49	\$101,039

Note: Asterisks (\*\*\*) indicate non-disclosable data.

Projections and OES wage data are for Virginia. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Long Term Industry and Occupational Projections, 2010-2020  
Occupational Employment Statistics (OES) Survey, 2011.

## Declining Occupations

	Employment			Openings		
	Estimated 2010	Projected 2020	% Change	Replace-ments	Growth	Total
Postal Service Clerks	1,822	932	-48.85%	43	0	43
Postal Service Mail Sorters, Processors, and Processing Machine Operators	3,381	1,731	-48.8%	18	0	18
Postmasters and Mail Superintendents	678	487	-28.17%	13	0	13
Semiconductor Processors	325	249	-23.38%	8	0	8
Gas Compressor and Gas Pumping Station Operators	***	***	***	***	***	***
Switchboard Operators, Including Answering Service	2,705	2,100	-22.37%	52	0	52
Rail Yard Engineers, Dinkey Operators, and Hostlers	***	***	***	***	***	***
Textile Cutting Machine Setters, Operators, and Tenders	248	203	-18.15%	6	0	6
Correspondence Clerks	179	147	-17.88%	5	0	5
Chemical Plant and System Operators	1,056	877	-16.95%	34	0	34
Telephone Operators	194	162	-16.49%	5	0	5
Sewing Machine Operators	2,756	2,309	-16.22%	15	0	15
Prepress Technicians and Workers	1,269	1,064	-16.15%	30	0	30
Coil Winders, Tapers, and Finishers	455	387	-14.95%	7	0	7
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	822	712	-13.38%	5	0	5
Gaming Cage Workers	202	175	-13.37%	4	0	4
Textile Bleaching and Dyeing Machine Operators and Tenders	182	158	-13.19%	2	0	2
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	1,130	983	-13.01%	13	0	13
Petroleum Pump System Operators, Refinery Operators, and Gaugers	215	188	-12.56%	7	0	7
Postal Service Mail Carriers	7,707	6,745	-12.48%	252	0	252

Note: Asterisks (\*\*\*) indicate non-disclosable data.  
Projections data is for Virginia. No data available for Middle Peninsula PDC.

Source: Virginia Employment Commission,  
Long Term Industry and Occupational Projections, 2010-2020.



## Consumer Price Index (CPI)

### *All Urban Consumers (CPI-U)*

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.	% chg
<b>2002</b>	177.100	177.800	178.800	179.800	179.800	179.900	180.100	180.700	181.000	181.300	181.300	180.900	179.900	1.6
<b>2003</b>	181.700	183.100	184.200	183.800	183.500	183.700	183.900	184.600	185.200	185.000	184.500	184.300	184.000	2.3
<b>2004</b>	185.200	186.200	187.400	188.000	189.100	189.700	189.400	189.500	189.900	190.900	191.000	190.300	188.900	2.7
<b>2005</b>	190.700	191.800	193.300	194.600	194.400	194.500	195.400	196.400	198.800	199.200	197.600	196.800	195.300	3.4
<b>2006</b>	198.300	198.700	199.800	201.500	202.500	202.900	203.500	203.900	202.900	201.800	201.500	201.800	201.600	3.2
<b>2007</b>	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.490	208.936	210.177	210.036	207.342	2.8
<b>2008</b>	211.080	211.693	213.528	214.823	216.632	218.815	219.964	219.086	218.783	216.573	212.425	210.228	215.303	3.8
<b>2009</b>	211.143	212.193	212.709	213.240	213.856	215.693	215.351	215.834	215.969	216.177	216.330	215.949	214.537	-0.4
<b>2010</b>	216.687	216.741	217.631	218.009	218.178	217.965	218.011	218.312	218.439	218.711	218.803	219.179	218.056	1.6
<b>2011</b>	220.223	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.230	225.672	224.939	3.2
<b>2012</b>	226.665	227.663	229.392	230.085	229.815	229.478	229.104	230.379	231.407	231.317	230.221	229.601	229.594	2.1

### *Urban Wage Earners and Clerical Workers (CPI-W)*

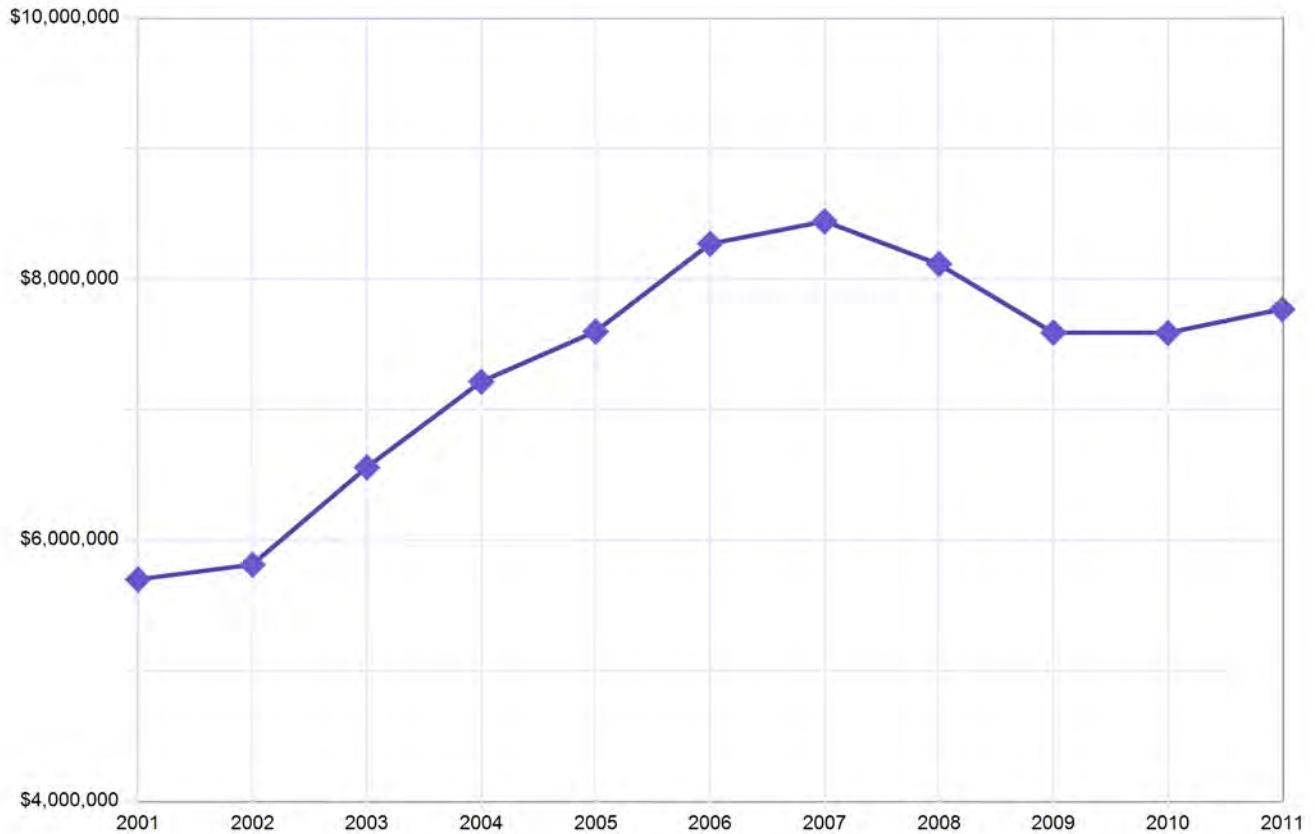
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.	% chg
<b>2002</b>	173.200	173.700	174.700	175.800	175.800	175.900	176.100	176.600	177.000	177.300	177.400	177.000	175.900	1.4
<b>2003</b>	177.700	179.200	180.300	179.800	179.400	179.600	179.600	180.300	181.000	180.700	180.200	179.900	179.800	2.2
<b>2004</b>	180.900	181.900	182.900	183.500	184.700	185.300	184.900	185.000	185.400	186.500	186.800	186.000	184.500	2.6
<b>2005</b>	186.300	187.300	188.600	190.200	190.000	190.100	191.000	192.100	195.000	195.200	193.400	192.500	191.000	3.5
<b>2006</b>	194.000	194.200	195.300	197.200	198.200	198.600	199.200	199.600	198.400	197.000	196.800	197.200	197.100	3.2
<b>2007</b>	197.559	198.544	200.612	202.130	203.661	203.906	203.700	203.199	203.889	204.338	205.891	205.777	202.767	2.9
<b>2008</b>	206.744	207.254	209.147	210.698	212.788	215.223	216.304	215.247	214.935	212.182	207.296	204.813	211.053	4.1
<b>2009</b>	205.700	206.708	207.218	207.925	208.774	210.972	210.526	211.156	211.322	211.549	212.003	211.703	209.630	-0.7
<b>2010</b>	212.568	212.544	213.525	213.958	214.124	213.839	213.898	214.205	214.306	214.623	214.750	215.262	213.967	2.1
<b>2011</b>	216.400	217.535	220.024	221.743	222.954	222.522	222.686	223.326	223.688	223.043	222.813	222.166	221.575	3.6
<b>2012</b>	223.216	224.317	226.304	227.012	226.600	226.036	225.568	227.056	228.184	227.974	226.595	225.889	226.229	2.1

Note: CPI data is for the United States only. No data available for Middle Peninsula PDC.

The CPI-U includes expenditures by urban wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees and others not in the labor force. The CPI-W only includes expenditures by those in hourly wage earning or clerical jobs.

Source: Bureau of Labor Statistics,  
Consumer Price Indexes (CPI) Program.

### Local Option Sales Tax Trends

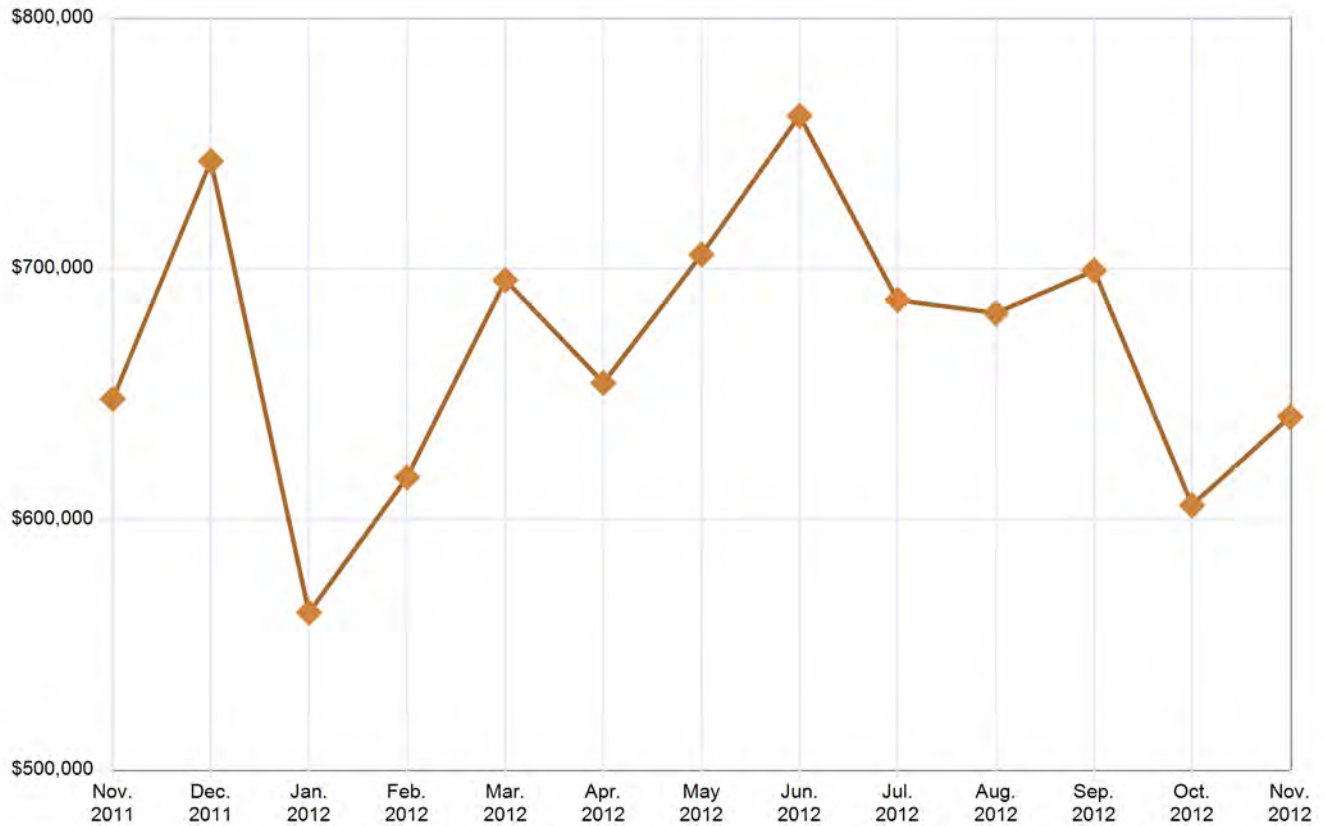


	PDC 18	Virginia
<b>2001</b>	\$5,697,702	\$777,241,737
<b>2002</b>	\$5,810,696	\$789,905,170
<b>2003</b>	\$6,556,482	\$838,275,059
<b>2004</b>	\$7,212,818	\$914,499,686
<b>2005</b>	\$7,597,619	\$976,923,577
<b>2006</b>	\$8,270,112	\$1,028,544,074
<b>2007</b>	\$8,440,806	\$1,056,766,678
<b>2008</b>	\$8,115,460	\$1,032,815,078
<b>2009</b>	\$7,589,575	\$979,594,664
<b>2010</b>	\$7,586,365	\$992,820,512
<b>2011</b>	\$7,768,502	\$1,035,981,229

Note: This data is based on Virginia sales tax revenues deposited, rather than the actual taxable sales figures as reported on a dealer's return.

Source: Virginia Department of Taxation,  
Revenue Forecasting.

### Local Option Sales Tax Past 12 Months



	PDC 18	Virginia
<b>Nov. 2011</b>	\$647,968	\$86,998,062
<b>Dec. 2011</b>	\$742,898	\$105,313,522
<b>Jan. 2012</b>	\$562,741	\$76,922,127
<b>Feb. 2012</b>	\$616,747	\$80,597,580
<b>Mar. 2012</b>	\$695,391	\$93,009,772
<b>Apr. 2012</b>	\$654,397	\$87,074,205
<b>May 2012</b>	\$705,586	\$92,276,660
<b>Jun. 2012</b>	\$760,923	\$95,717,390
<b>Jul. 2012</b>	\$687,531	\$90,152,230
<b>Aug. 2012</b>	\$682,221	\$91,983,080
<b>Sep. 2012</b>	\$699,228	\$90,120,871
<b>Oct. 2012</b>	\$605,546	\$84,242,722
<b>Nov. 2012</b>	\$640,850	\$91,139,984

Note: This data is based on Virginia sales tax revenues deposited, rather than the actual taxable sales figures as reported on a dealer's return.

Source: Virginia Department of Taxation, Revenue Forecasting.

## IV. Education Profile

### Overview

The Education Profile for Middle Peninsula PDC provides an assortment of data collected from the United States Census Bureau and the National Center for Education Statistics (NCES).



### Related Terms and Definitions

**Associate's degree**

An award that normally requires at least two but less than four years of full-time equivalent college work.

**Bachelor's degree**

An award that normally requires at least four but not more than five years of full-time equivalent college-level work.

**Post-baccalaureate certificate**

An award that requires completion of an organized program of study equivalent to 18 semester credit hours beyond the bachelor's. It is designed for persons who have completed a bachelor's degree, but do not meet the requirements of a master's degree.

**Master's degree**

An award that requires the successful completion of a program of study of at least the full-time equivalent of one but not more than two academic years of work beyond the bachelor's degree.

**Post-master's certificate**

An award that requires completion of an organized program of study equivalent to 24 semester credit hours beyond the master's degree, but does not meet the requirements of academic degrees at the doctor's level.

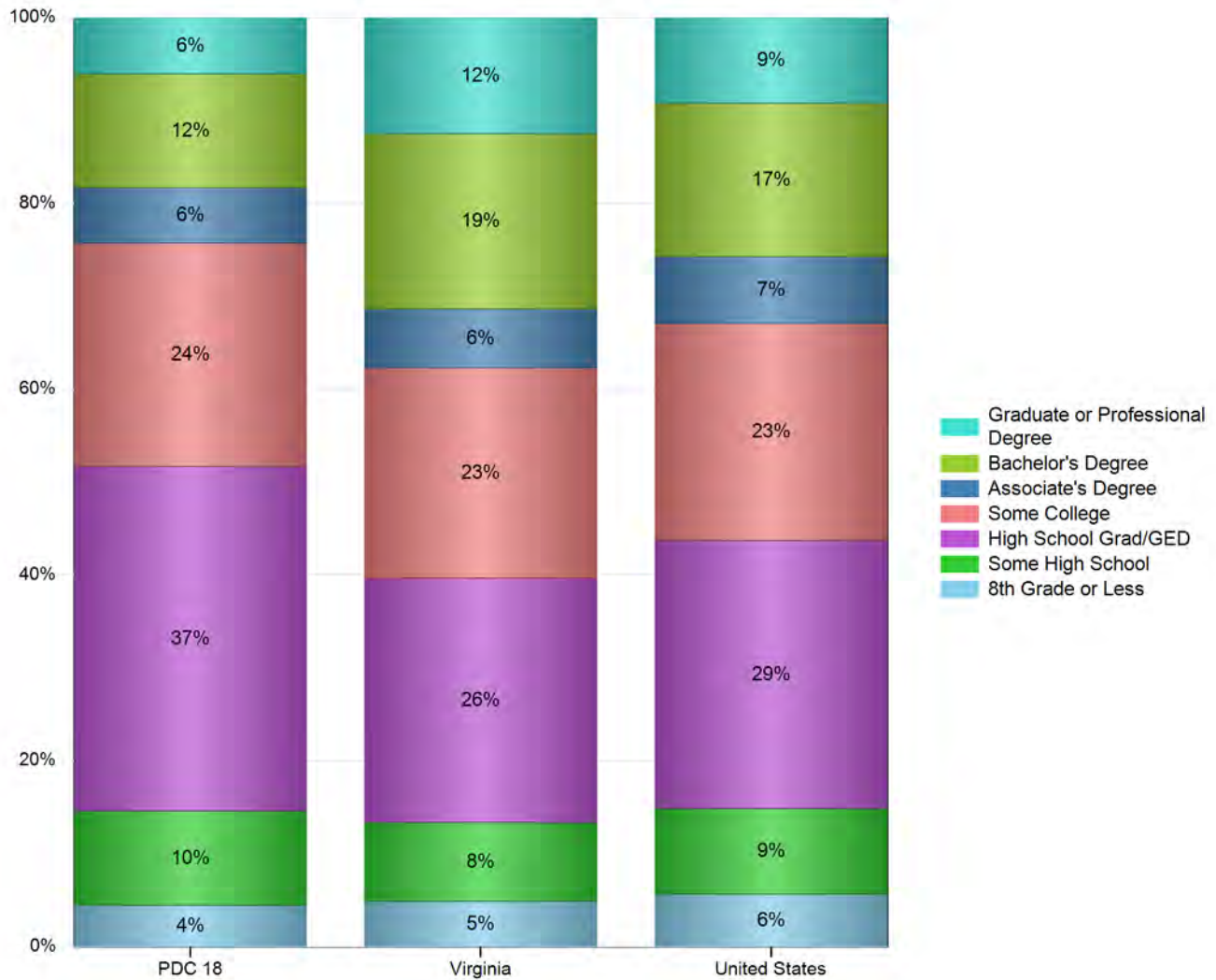
**Doctor's degree**

The highest award a student can earn for graduate study.

**First-professional degree**

An award that requires completion of a program that meets all of the following criteria: (1) completion of the academic requirements to begin practice in the profession; (2) at least two years of college work prior to entering the program; and (3) a total of at least six academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself.

### Educational Attainment (Population 18 years and over)

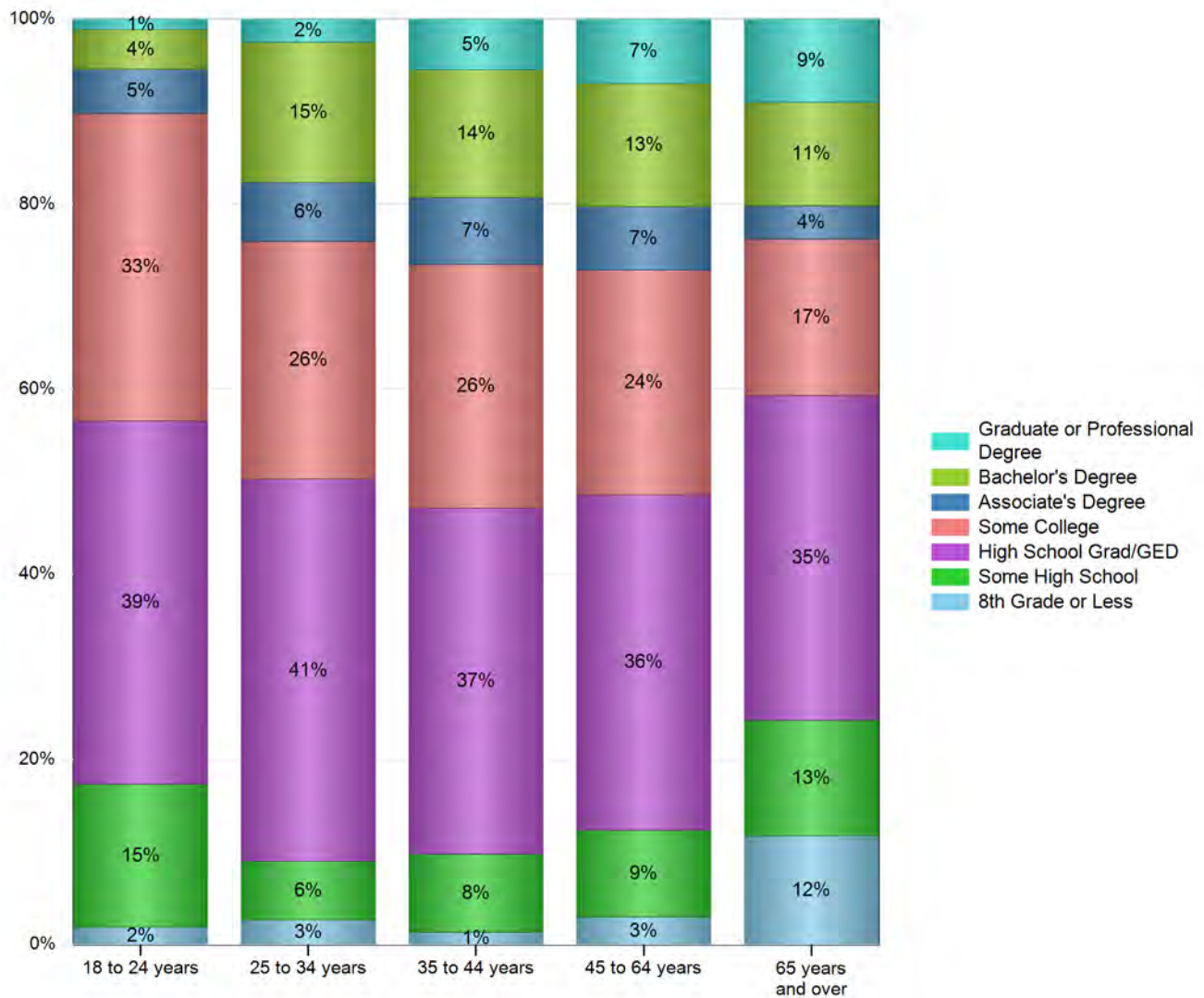


	PDC 18	Virginia	United States
<b>8th Grade or Less</b>	3,158	297,540	13,124,676
<b>Some High School</b>	7,197	515,340	21,475,508
<b>High School Grad/GED</b>	26,309	1,601,046	67,086,675
<b>Some College</b>	17,074	1,375,592	54,322,434
<b>Associate's Degree</b>	4,224	386,024	16,749,576
<b>Bachelor's Degree</b>	8,692	1,149,525	38,480,296
<b>Graduate or Professional Degree</b>	4,275	757,198	21,316,854
	<b>70,929</b>	<b>6,082,265</b>	<b>232,556,019</b>

Source: U.S. Census Bureau  
American Community Survey, 2007-2011.



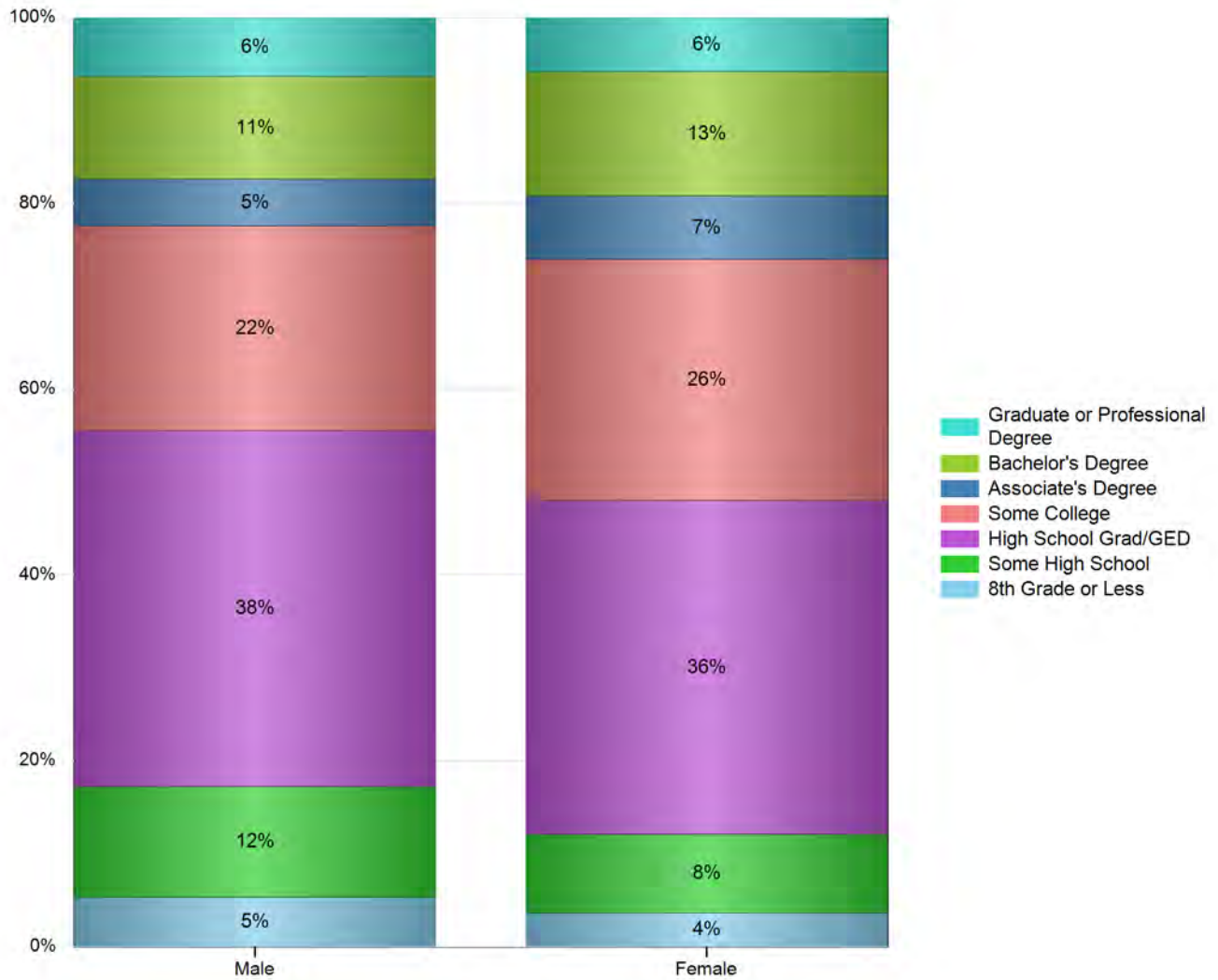
### Educational Attainment by Age



	18 - 24	25 - 34	35 - 44	45 - 64	65+	Total
<b>8th Grade or Less</b>	132	220	164	836	1,806	<b>3,158</b>
<b>Some High School</b>	1,076	527	1,029	2,644	1,921	<b>7,197</b>
<b>High School Grad/GED</b>	2,737	3,426	4,555	10,197	5,394	<b>26,309</b>
<b>Some College</b>	2,316	2,131	3,207	6,824	2,596	<b>17,074</b>
<b>Associate's Degree</b>	334	528	880	1,926	556	<b>4,224</b>
<b>Bachelor's Degree</b>	298	1,258	1,679	3,742	1,715	<b>8,692</b>
<b>Graduate or Professional Degree</b>	77	204	665	1,950	1,379	<b>4,275</b>
	<b>6,970</b>	<b>8,294</b>	<b>12,179</b>	<b>28,119</b>	<b>15,367</b>	<b>70,929</b>

Source: U.S. Census Bureau  
American Community Survey, 2007-2011.

### Educational Attainment by Gender (Population 18 years and over)

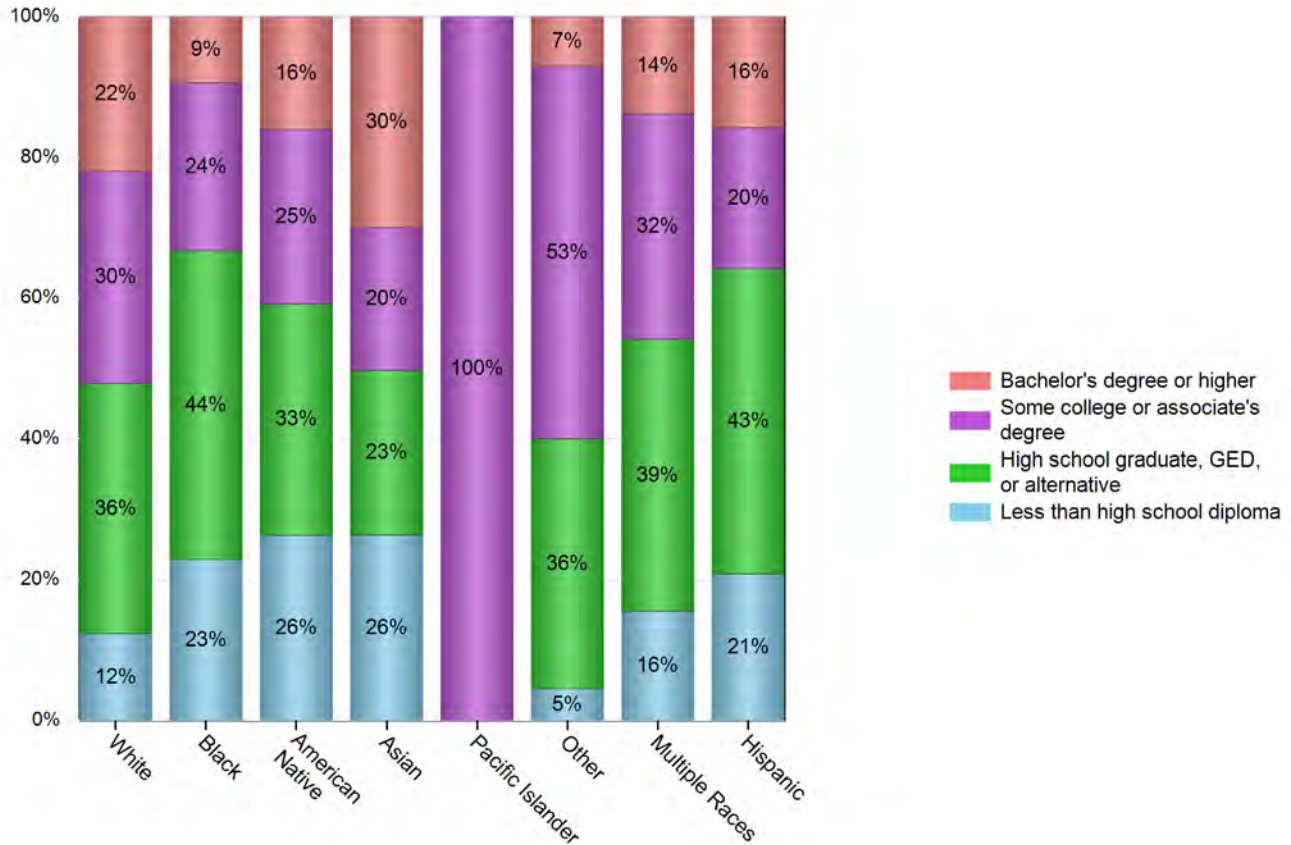


	Male	Female	Total
<b>8th Grade or Less</b>	1,832	1,326	<b>3,158</b>
<b>Some High School</b>	4,105	3,092	<b>7,197</b>
<b>High School Grad/GED</b>	13,193	13,116	<b>26,309</b>
<b>Some College</b>	7,591	9,483	<b>17,074</b>
<b>Associate's Degree</b>	1,733	2,491	<b>4,224</b>
<b>Bachelor's Degree</b>	3,804	4,888	<b>8,692</b>
<b>Graduate or Professional Degree</b>	2,169	2,106	<b>4,275</b>
	<b>34,427</b>	<b>36,502</b>	<b>70,929</b>

Source: U.S. Census Bureau  
American Community Survey, 2007-2011.

### Educational Attainment by Race/Ethnicity

(Population 25 years and over)



	Less than high school diploma	High school graduate, GED, or alternative	Some college or associate's degree	Bachelor's degree or higher	Total
<b>Race</b>					
White	6,406	18,386	15,630	11,363	<b>51,785</b>
Black or African American	2,469	4,721	2,578	1,009	<b>10,777</b>
American Indian or Alaska Native	142	177	134	86	<b>539</b>
Asian	52	46	40	59	<b>197</b>
Native Hawaiian/Pacific Islander	0	0	18	0	<b>18</b>
Other	9	71	106	14	<b>200</b>
Multiple Races	69	171	142	61	<b>443</b>
<b>Ethnicity</b>					
Hispanic or Latino (of any race)	220	457	212	166	<b>1,055</b>
	<b>9,367</b>	<b>24,029</b>	<b>18,860</b>	<b>12,758</b>	<b>65,014</b>

Source: U.S. Census Bureau  
American Community Survey, 2007-2011.

### Graduate Data Trends

#### Middle Peninsula PDC

	Cert. <1 yr.	Cert. 1-2 yrs.	Assoc.	Cert. 2-4 yrs.	BA	Cert. Post-BA	MA	Cert. Post-MA	Ph.D.	1st Prof.
1997	32	7	112							
1998	213	4	83							
2000	115	5	85							
2001	48	22	120							
2002	40	14	116							
2003	36	15	94							
2004	31	23	118							
2005	20	27	111							
2006	23	22	137							
2007	45	27	137							

Note: This table only reflects the degrees completed from institutions within PDC 18.

#### Virginia Statewide

	Cert. <1 yr.	Cert. 1-2 yrs.	Assoc.	Cert. 2-4 yrs.	BA	Cert. Post-BA	MA	Cert. Post-MA	Ph.D.	1st Prof.
1997	2,904	2,269	9,242	158	26,416	261	9,800	184	945	1,902
1998	3,319	2,440	8,969	259	26,648	185	9,560	184	886	1,919
2000	3,804	2,368	9,223	212	28,948	451	9,431	113	917	2,181
2001	4,710	2,419	9,581	175	30,709	339	9,424	104	871	2,134
2002	4,970	2,730	10,241	134	30,653	441	9,303	95	954	2,213
2003	5,245	3,079	11,174	97	32,635	178	9,948	447	974	2,133
2004	4,465	3,772	11,400	76	33,392	247	10,487	360	1,033	2,407
2005	3,983	3,831	11,833	77	34,615	476	11,255	251	1,268	2,496
2006	4,213	4,298	14,431	102	39,247	608	12,429	225	1,440	2,490
2007	4,478	3,686	15,519	116	40,381	650	12,781	252	1,516	2,626

Source: U.S. Department of Education, Institute of Education Sciences (IES).

### Did you know...

you can search over 2,300 school listings online provided by the U.S. Department of Education?

For this data and more, visit us on the web at:

[www.VirginiaLMI.com](http://www.VirginiaLMI.com)



## Training Providers

**Rappahannock Community College**

12745 College Drive  
Glenns, VA 23149-2616

Phone: (804) 758-6700

[www.rappahannock.edu/](http://www.rappahannock.edu/)

Number of 2007 graduates: 209

*Source: U.S. Department of Education,  
Institute of Education Sciences (IES), 2007.*



**Appendix G:**  
NOAA's County Maritime Jobs Snapshots for  
Gloucester, Mathews and Middlesex Counties

# Maritime Jobs Snapshot Mathews County, Virginia

### Maritime Jobs = A Healthy Economy

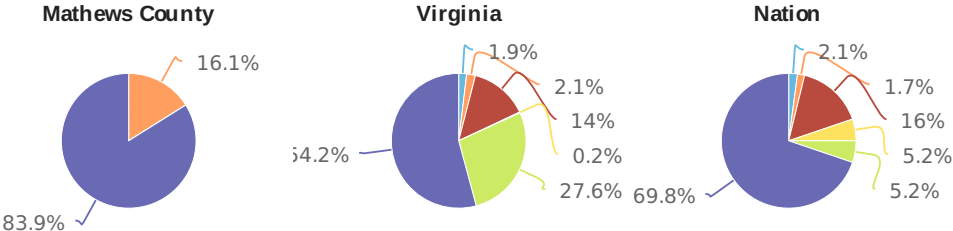
In 2010, Maritime-related businesses provided 8.1% of the total jobs in Mathews County. This represents a 2% increase in Maritime jobs since 2005. Nationwide, Maritime jobs represent double the number of jobs supported by agriculture.

### Mathews County Maritime jobs account for

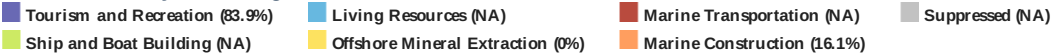


### Maritime Jobs by Sector

Comparing Mathews County's Maritime sectors to the state and nation shows how local concerns may or may not coincide with state and national priorities.



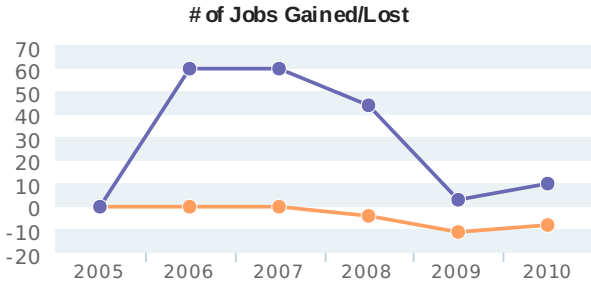
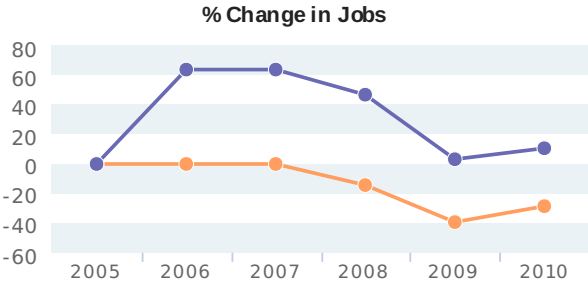
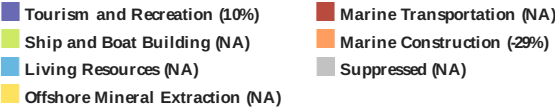
### Mathews County Percentages



### Job Trends

When making coastal management decisions, it is important to understand how the six sectors have changed over time.

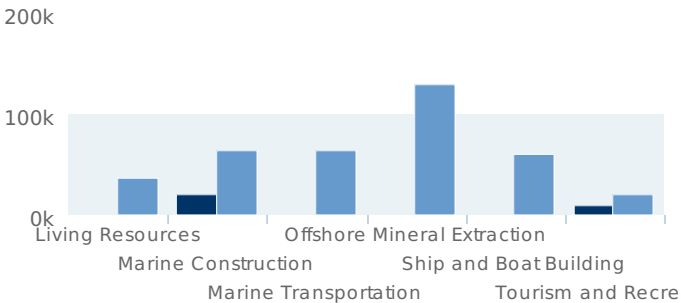
### Mathews County Percent Changes



### County and National Wages

Higher local wages can be attractive to employees but a deterrent to new or expanding businesses. Managers should consider cost of living rates when making this comparison.

### Average Wage Per Employee (2010)

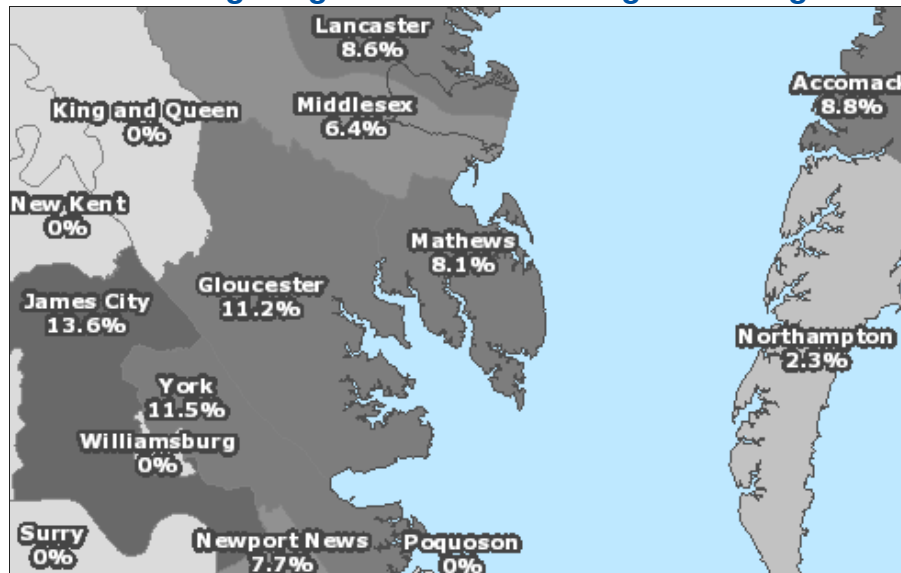


### Impact of Part-time Workers

Average tourism wages can be smaller due to the high percentage of part-time workers, but total tourism wages are often among the highest because of the large number of people employed.

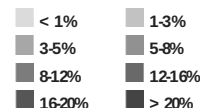
■ County ■ National

## Understanding Neighbors Makes a Region Stronger



Knowing how neighboring communities depend on Maritime resources can be important when it comes to developing regional governance policies that benefit all. See the Coastal County Snapshots for nearby counties to better understand regional similarities and differences

Maritime Jobs as % of Total Jobs (2010)



## Digging Deeper

This snapshot provides a good starting point, but there are aspects of the Maritime economy that are not captured in this analysis. Information to help fill these gaps is listed below.

Frequently Asked Questions(<http://www.csc.noaa.gov/snapshots/faq/ocean-jobs.pdf>)

### Key Economic Sectors

Economic statistics that focus on employment, like those used in this snapshot, miss the contributions of the self-employed. However, the self-employed are an important part of some sectors, like commercial fishing. NOAA compiles a wide range of data on commercial fishing(<http://www.st.nmfs.noaa.gov/commercial-fisheries/index>) that more fully illustrates this sector's economic importance.

### Values outside the Market

Because many of the natural features that make the coast attractive can be enjoyed at no cost, their value is not evident in the 'market' data (jobs, wages, etc.). However, independent studies have estimated these 'nonmarket' values (aesthetics, health, safety, etc.).

- State of the Coast([http://stateofthecoast.noaa.gov/coastal\\_economy/nonmarket.html](http://stateofthecoast.noaa.gov/coastal_economy/nonmarket.html))
- National Ocean Economics Program(<http://www.oceaneconomics.org/nonmarket/>)

### Combining Data to Make Decisions

Combining information on market and nonmarket values to inform coastal management can be complicated. Below are a few resources that will assist in this task.

- General overview in laymen's terms(<http://www.ecosystemvaluation.org>)
- Developing and using information on nonmarket values(<http://www.hd.gov/HDdotGov/detail.jsp?ContentID=299>)
- Assessing trade-offs([http://www.elistore.org/Data/products/d19\\_03.pdf](http://www.elistore.org/Data/products/d19_03.pdf))

### Additional Coastal Economic Resources

- HumanDimensions.gov(<http://www.hd.gov>)
- Introduction to Economics for Coastal Managers(<http://www.csc.noaa.gov/economics/>)

## Data Source for This Snapshot

**Economics: National Ocean Watch (ENOW)** (<http://www.csc.noaa.gov/enow>). This 2010 data set provides ocean- and Great Lakes-related establishments, employment, and wages computed using the Bureau of Labor Statistics' Quarterly Census of Employment and Wages, and gross domestic product (GDP) data derived from state GDP statistics from the Bureau of Economic Analysis.

# Maritime Jobs Snapshot Gloucester County, Virginia

### Maritime Jobs = A Healthy Economy

In 2010, Maritime-related businesses provided 11.2% of the total jobs in Gloucester County. This represents a 71% increase in Maritime jobs since 2005. Nationwide, Maritime jobs represent double the number of jobs supported by agriculture.

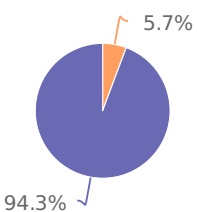
### Gloucester County Maritime jobs account for



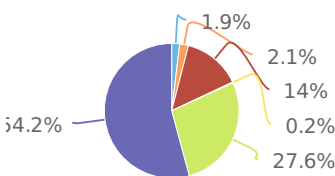
### Maritime Jobs by Sector

Comparing Gloucester County's Maritime sectors to the state and nation shows how local concerns may or may not coincide with state and national priorities.

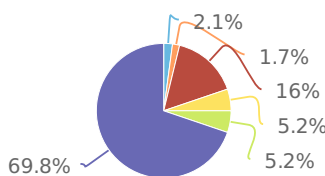
Gloucester County



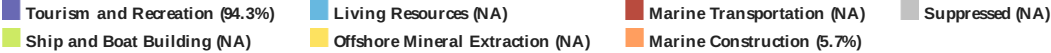
Virginia



Nation



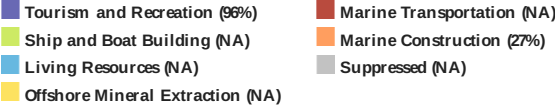
### Gloucester County Percentages



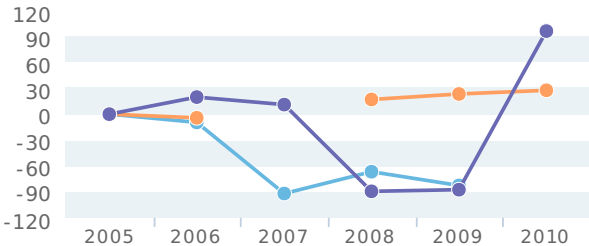
### Job Trends

When making coastal management decisions, it is important to understand how the six sectors have changed over time.

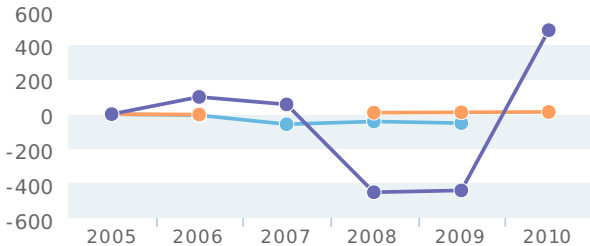
### Gloucester County Percent Changes



% Change in Jobs



# of Jobs Gained/Lost



### County and National Wages

Higher local wages can be attractive to employees but a deterrent to new or expanding businesses. Managers should consider cost of living rates when making this comparison.

Average Wage Per Employee (2010)

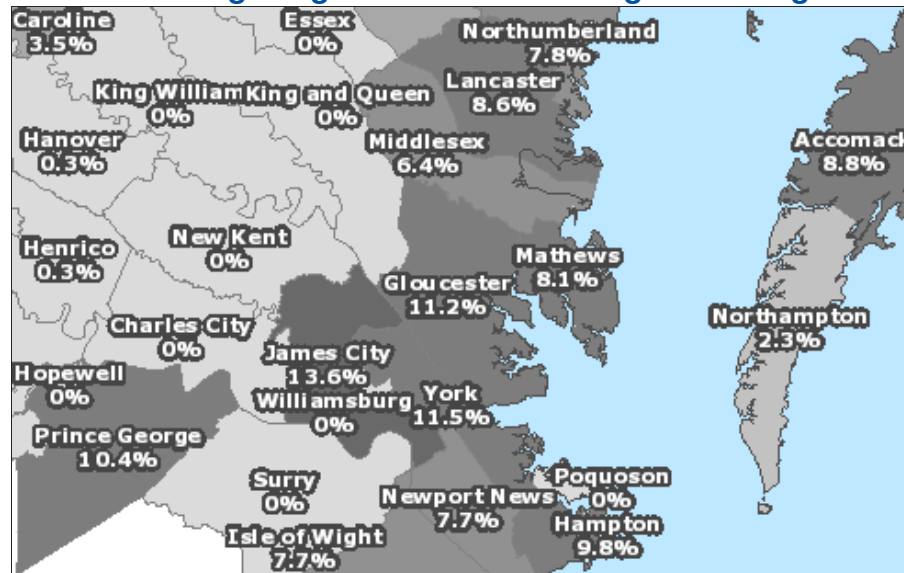


### Impact of Part-time Workers

Average tourism wages can be smaller due to the high percentage of part-time workers, but total tourism wages are often among the highest because of the large number of people employed.

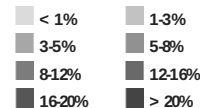
■ County ■ National

## Understanding Neighbors Makes a Region Stronger



Knowing how neighboring communities depend on Maritime resources can be important when it comes to developing regional governance policies that benefit all. See the Coastal County Snapshots for nearby counties to better understand regional similarities and differences

Maritime Jobs as % of Total Jobs (2010)



## Digging Deeper

This snapshot provides a good starting point, but there are aspects of the Maritime economy that are not captured in this analysis. Information to help fill these gaps is listed below.

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### Key Economic Sectors

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### Values outside the Market

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# Maritime Jobs Snapshot Middlesex County, Virginia

### Maritime Jobs = A Healthy Economy

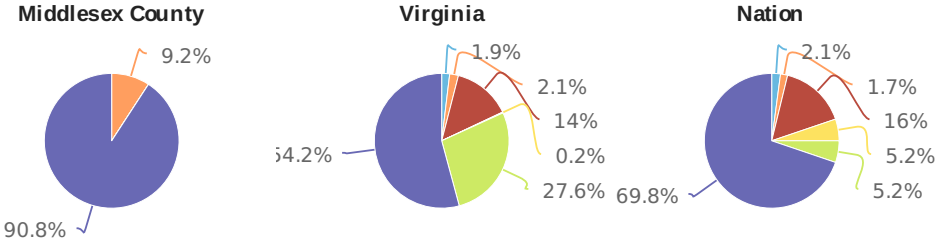
In 2010, Maritime-related businesses provided 6.4% of the total jobs in Middlesex County. This represents a 45% decrease in Maritime jobs since 2005. Nationwide, Maritime jobs represent double the number of jobs supported by agriculture.

### Middlesex County Maritime jobs account for

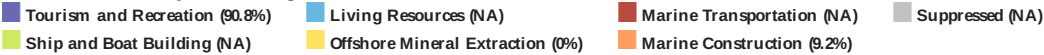


### Maritime Jobs by Sector

Comparing Middlesex County's Maritime sectors to the state and nation shows how local concerns may or may not coincide with state and national priorities.



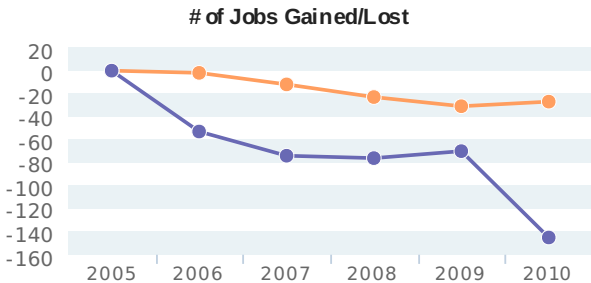
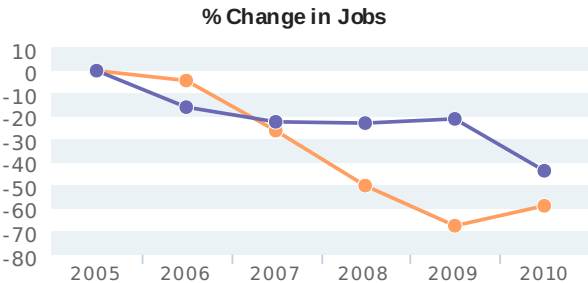
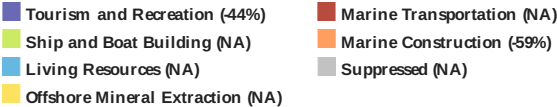
### Middlesex County Percentages



### Job Trends

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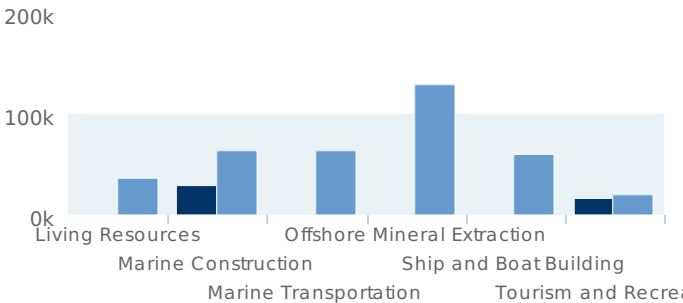
### Middlesex County Percent Changes



### County and National Wages

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### Average Wage Per Employee (2010)

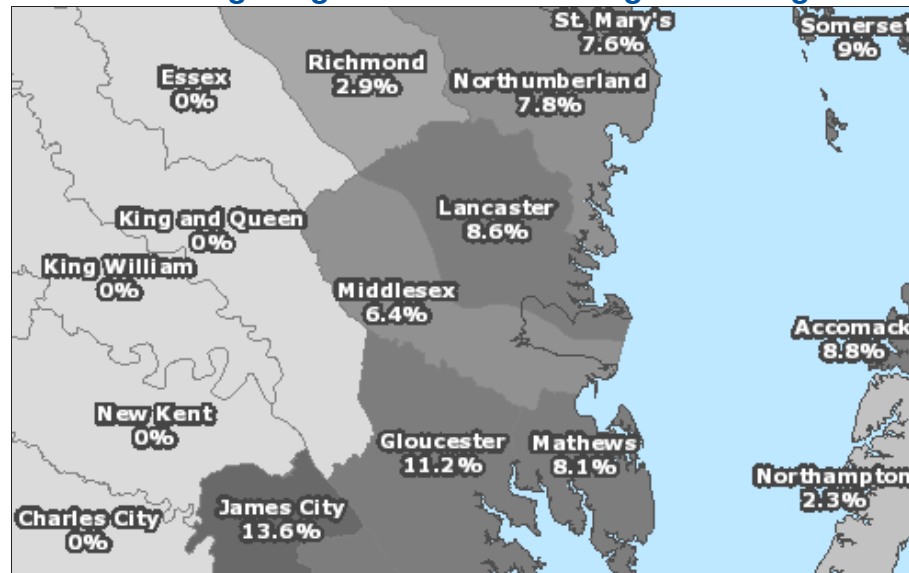


### Impact of Part-time Workers

Average tourism wages can be smaller due to the high percentage of part-time workers, but total tourism wages are often among the highest because of the large number of people employed.

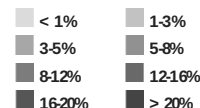
■ County ■ National

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Maritime Jobs as % of Total Jobs (2010)



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