

Hampton Roads Regional Economic Development Strategy



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September 2015

HAMPTON ROADS PLANNING DISTRICT COMMISSION

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CLYDE A. HAULMAN

YORK COUNTY

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THOMAS G. SHEPPERD JR.

PROJECT STAFF

RANDY R. KEATON
GREG GROOTENDORST
JAMES CLARY
DALE STITH
KEITH NICHOLS
KATIE CULLIPHER

DEPUTY EXECUTIVE DIRECTOR
CHIEF ECONOMIST
SENIOR ECONOMIST
PRINCIPAL TRANSPORTATION PLANNER
PRINCIPAL TRANSPORTATION ENGINEER
SENIOR ENVIRONMENTAL EDUCATION PLANNER

MICHAEL LONG
CHRISTOPHER W. VAIGNEUR
JENNIFER COLEMAN

GENERAL SERVICES MANAGER
ASSISTANT GENERAL SERVICES MANAGER
ADMINISTRATIVE ASSISTANT

Hampton Roads Regional Economic Development Strategy

With proper foresight, continuous planning and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure and a Sense of Place.

Prepared by the staff of the Hampton Roads Planning District Commission

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AUTHORS:

Greg Grootendorst
James Clary
Dale Stith
Keith Nichols
Dana Dickens, III
Donna Morris
Larry Filer
Doug Smith

GRANTS/SPONSORING AGENCY:

Local Funds

ORGANIZATION NAME, ADDRESS AND TELEPHONE

Hampton Roads Planning District Commission
723 Woodlake Drive
Chesapeake, Virginia 23320
(757) 420-8300
<http://www.hrpdcva.gov>

ABSTRACT

The Hampton Roads Regional Economic Development Strategy (REDS) is an extension of the region's Comprehensive Economic Development Strategy (CEDS) that was developed for the U.S. Department of Commerce Economic Development Administration in 2010. The purpose of the REDS is to provide Hampton Roads with a continued roadmap, i.e., a regional plan, describing economic conditions for the Hampton Roads metropolitan region and includes broad strategies and specific actions of prioritized importance that will position Hampton Roads as a leader in the global economy.

The REDS in Hampton Roads is about continuing an ongoing economic development process for Hampton Roads that is embraced by our region. Vision planning has placed Hampton Roads on a path to regional transformation by embedding a working process in all that we do... to think, live and act regionally.

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I. EXECUTIVE SUMMARY



A. Regional Summary

WHY WE NEED THIS PLAN.

Hampton Roads is a region that depends on its maritime-rich geography and all the benefits that come with it, such as commerce derived at its ports, tourism and real estate drawn to its beaches, and the waters that allow it to be one of the most concentrated naval strongholds on the planet. Those same geographic attributes, however, bring with them associated vulnerabilities that, if not properly planned and managed, have the potential to negate their benefits.

The region's economy is vulnerable to fluctuations in federal expenditures as changes to defense spending and shifting defense priorities have powerful direct, indirect, and induced impacts on the region's income and employment. Hampton Roads' magnificent geography demands a transportation infrastructure that relies on a complex and expensive system of bridges and tunnels - a system of bridges and tunnels that today is inadequate. That inadequacy results in traffic congestion that restricts the region's growth potential and increases costs throughout its economy. As a result of unacceptable congestion, some firms will not expand into this region, and other firms will leave. Tourists will not come here if they cannot easily get into and move around the region.

Hampton Roads has dealt with the closure in 2006 of Ford Motor Company's truck plant in Norfolk with more than 3,000 workers, the disestablishment of Joint Forces Command, and in 2011, Fort Monroe, home of the Army's Training and Doctrine Command (TRADOC), closed as a result of 2005 Defense Base Closure and Realignment (BRAC) actions. The recession, which began in late 2007, has also placed a strain on our economy with reductions in workforce through layoffs, transfers or closings within a number of large firms such as Hampton's TeleTech (532), West Corp. Call Center (450) and Alcoa Howmet (375); Norfolk's Cox Auto Trader (170), CooperVision (570) and USAA (436); Virginia Beach's Verizon Call Center (450). International Paper closed its Franklin-based paper mill in January 2010; a move that eliminated approximately 2,850 jobs (1,100 direct). These reductions, coupled with cuts in federal expenditures, reduced military personnel, navy ship transfers to other regions, and a "pivot to the Pacific" all place strains on the region's economy.

Hampton Roads has many great assets; we must acknowledge their related vulnerabilities.

B. Sponsorship

WHO FACILITATES THE PROCESS

In early 2009, a group of regional organizations and community leaders began collaborating to develop a Comprehensive Economic Development Strategy (CEDS) for the purpose of providing Hampton Roads with a roadmap, i.e., a regional plan, including broad strategies and specific actions of prioritized importance that will position Hampton Roads as an impactful leader in the global economy.

The Hampton Roads Partnership, chartered in 1996 to "focus on the region's strategic issues for

the purpose of enhancing our competitiveness in the global economy with resulting income and job growth for our citizens,” was the lead organization in the process. Comprised of the chief elected officials of seventeen communities, private sector, education, military and labor representation from both South Hampton Roads and the Virginia Peninsula, the Partnership was the logical lead for the planning effort. The Hampton Roads Planning District Commission (HRPDC) played a critical role in the CEDS process as the co-sponsor. The HRPDC has provided updates to the original CEDS to develop an officially adopted Regional Economic Development Strategy (REDS) so as to maintain regional momentum in working together towards Hampton Roads’ economic development goals.

C. Approach

HOW WE GET WHERE WE NEED TO BE.

Hampton Roads’ approach to the Regional Economic Development Strategy (REDS) process is to build upon previous regional planning efforts and to leverage existing regional organizations to provide both leadership and support in working towards a common goal.

Economists from Old Dominion University’s College of Business and Public Administration and the Hampton Roads Planning District Commission drafted and reviewed a preliminary Strength /Weakness /Opportunities /Threat (SWOT) analysis with the Strategy Committee and each of the Subcommittees. Strengths and Weaknesses of the Hampton Roads region were identified from background data already available from work done by the Hampton Roads Planning District Commission and the Annual Forecast and State of the Region Reports provided by the ODU Forecasting Project (<http://bpa.odu.edu/forecasting/index.shtml>). Opportunities and threats were proposed by members of the Sub-committees and the Strategy Committee during meetings held throughout the summer, fall and winter of 2009. The results of this process are provided in Section IV. Analysis of Economic Development Problems and Opportunities.

The Vision Strategy Committee decided that by focusing on the three main pillars of the current Hampton Roads economy – The Port, Tourism and Federal Assets - and analyzing opportunities to diversify the regional economy, we could better identify the assets we have, determine how we are doing and identify those areas for improvement.

The Strategy Committee and the four Subcommittees established – Federal; Port / Maritime; Tourism / Arts & Culture; and Opportunities - worked very deliberately to build upon previous regional strategic planning efforts, many of which were championed by the Hampton Roads Partnership. Those previous plans included:

- Plan 2007(in the early 1990s)
- Regional Competitiveness Program
- 2004- A Call to Action
- 2007 Strategic Plan and Metrics
- Hampton Roads Performs

D. Themes

BROAD ISSUES EMERGED

As the Strategy Committee and its Subcommittees continued their work of developing Goals, Objectives and Strategies for enhancing and diversifying the regional economy, broad themes emerged in nearly every discussion. Those themes or consistent topics of concern included:

- Adequate Transportation
- Regional Awareness
- 21st Century Education
- Innovation Economy

During the course of their deliberations of these themes, the Opportunities Subcommittee encouraged the larger group to look at the Brookings Institute's Blueprint for American Prosperity. The basic premise of the Blueprint is that economic development occurs without regard to jurisdictional boundaries. Instead economic development occurs on a regional level and big demographic, economic and environmental forces rewrite the rules that drive prosperity within regions. These forces assign enormous value to a relatively small number of assets and reward those regions where these assets come together.

According to the Brookings Institute, those assets include:

- Innovation – new products, processes and business models
- Human Capital – education and skills that further innovation
- Infrastructure – transportation, telecommunications, energy distribution
- Quality Places – special mix of distinctive communities

Those regions that thrive will be the ones that truly educate their workforce, cultivate innovation, invest in infrastructure, and create quality places.

E. Goal

WHAT WE WILL BECOME

Given the similarity of our broad themes to those championed by Brookings and the clear connection of those themes to previous regional planning efforts, the Strategy Committee agreed to create a regional economic development strategy for Hampton Roads in a manner that recognizes and builds those regional assets identified by Brookings. The overriding goal for Vision Hampton Roads became:

With proper foresight, continuous planning and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure and a Sense of Place.

F. Implementation

WHY THIS PLAN WILL WORK

The process of implementation will be in aligning the missions and objectives of many regional organizations behind the implementation of the plan and process of the region's economic

development strategy.

Previous economic development planning efforts have proven successful through the many organizations that serve Hampton Roads and through partnerships of local governments, local businesses, committed residents, and regional organizations. Different organizations will assist in addressing components of the strategic plan, while other organizations will support and enhance those efforts in a more tactical manner. The implementation of REDS will have a “Strategic Component” and an “Operations-Tactical Component.”

The “Strategic Component” will address the long term strategy development for the enhancement of the big demographic, economic and environmental forces of:

- Innovation – new products, processes and business models
- Intellectual and Human Capital – education and skills that further innovation
- Infrastructure – transportation, telecommunications, energy distribution
- Sense of Place – special mix of distinctive communities, regional identity

The “Operations-Tactical Component” will address the implementation of specific actions that will have the greatest short term impact on maintaining and growing the three (3) pillars of our regional economy and nurturing those regional assets that have the most realistic chance of diversifying our economy. The “Operations-Tactical Component” of the plan will focus on the following objectives:

- Federal
- Port / Maritime
- Tourism / Arts & Culture
- Opportunities

Regional organizations and local jurisdictions are encouraged to build upon regional activities and initiatives that are already underway.

To emphasize, the process of implementation will actually be one of alignment. The intent of this process is to align the missions and objectives of many regional organizations behind the vision of the plan and process outlined by the REDS.

We will be more successful when the entire region is aligned to achieve the shared goals and objectives as outlined in the regional economic development strategy.

G. Performance Measures

HOW WE MEASURE PROGRESS.

In 2004, a federal grant provided by the Office of Economic Adjustment paved the way for the development of the first Hampton Roads Regional Benchmarking Study. The purpose of the report was to provide a comprehensive series of socioeconomic data points to help inform decision-makers on topics of regional significance, and help determine the current condition of various benchmarks across the region.

The benchmarking study has since become an annual HRPDC publication, tracking over 150 socioeconomic indicators in Hampton Roads. The report includes sections on the economy, the defense industry, the port, the tourism industry, the retail industry, the real estate market, demographics, transportation, education, government finances, and quality of life. The benchmarking study is the ideal tool to help assess both what areas of the region's economic fabric requires attention, and to determine where progress is being made with respect to the region's economic development strategy.

H. Public Participation

HOW WE ENGAGE CITIZENS

The Public Comment Period (January 5 to February 5, 2010) provided invaluable updates in finalizing the initial economic development strategy. The total number of respondents was 446. A total of 363 respondents (81.4%) provided comments via the online survey; the remaining 83 responded via email, letter and social media.

The online survey used as a primary means to collect public comment was by no means considered scientific research or statistical analysis. Public comment, by its very nature, requires people to self-select their participation. Our results, however, are representative of a population interested in economic development.

The Public Comment Period provided invaluable updates in finalizing the initial strategic plan. Based upon responses, email was overwhelmingly the best way to disseminate the survey link and generate public participation (57.0%) followed by word-of-mouth at a distant second (12.1%). Based upon comments received, future survey questions will need to be formatted for clarity and understanding in order that "underserved" demographics will be better represented.

Some citizens were less than impressed and thought that the initial strategic plan was unremarkable. A clear majority, however, embraced the process and relished the opportunity to participate. Several citizens who took the time to read and review the region's strategic plan have volunteered their energy and expertise with implementation.

"I want to be part of the solution and continued success of Hampton Roads," said one new volunteer.

The breadth and depth of feedback was such that individual responses would be impossible for each.

Demographics

WHO AND WHAT IS HAMPTON ROADS

For a relatively young region (median age is 35.3), our respondents trended a bit older; 74.3% of respondents are aged 45 and over. With a higher than national average African American population (31%), much work needs to be done for future engagement; this public comment period only attracted 9.2% of African Americans to participate.

The majority of citizens providing public comment were highly educated (79.6% college graduate or above), in a higher socio-economic status (42.3% have household incomes over

\$100,000), and have lived in the region most, if not all, of their lives (73.9%).

However, regional awareness, especially of assets such as the Ports, Federal and Military, Tourism/Art & Culture and the vital role they play in our economy and as quality of life factors, is still a point of contention and highlights the need to further define who and what is Hampton Roads.

Themes

WHAT IS MOST IMPORTANT

A recurrent and resounding theme from citizens to accomplish the strategic plan and see results was: “Get the local governments, industry, state and federal government to work together like every other metropolitan area....One simple phrase E pluribus unum (Out of many, one) seems to apply here,” said one respondent. Several respondents went so far as to suggest consolidation of municipalities if not, at the least, government services.

“We need leadership. The political ‘leaders’ have often shown that they are mired in partisanship and short-sightedness. Our other community leaders have to pick up that slack and make a difference. Our various news publications and TV/radio stations need to help with this change...,” added one resident.

And via our social media platforms, another resident added, “The old expression ‘United we stand, divided we fall’ comes to mind. So does ‘Greater than the sum of its parts.’ Except, right now, from where I stand, we feel like stray parts strewn across a garage. What I like about the Hampton Roads Partnership is they feel like the organization trying to put it all together.”

According to a majority of respondents, transportation and education are the most important parts of the Hampton Roads economy not receiving a priority status in the strategic plan. It was even suggested to merge related strategies and actions from each of the four objectives into their own task forces.

Feedback received also helped with definition of terms and initiatives in the final strategic plan document.

Respondents on the whole were positive in their support of Vision but cautioned that this was “not a blank check” for raising taxes but rather encouraged use of creative ideas from a multitude of resources to move the region forward as a self-supporting, balanced, well-managed and growing regional economy.

“While I agree strongly with this report, resource constraints must be considered, and priorities set,” said one citizen.

Ideas

FROM THE PUBLIC PERSPECTIVE

Ideas for regional improvements included both the unique and the tried and true; for example:

- holding a marine-themed World’s Fair
- promoting in-home businesses
- increasing telecommuting
- applying new truck designs

- phasing out of the business professional occupational license (BPOL) tax and the machine and tool tax at the state and local level
- producing ethanol using cattail rhizomes
- providing every high school student with a laptop loaded with digital books
- mitigating congestion to enable more bike paths
- privatizing rest stops
- garnering energy savings and protecting the environment by painting roofs white and planting roof-top gardens
- expanding Norfolk International Airport to compete as a regional hub and add direct West Coast passenger air service
- starting direct-to-family consumer goods programs
- improving access to local agriculture and aquaculture farm products
- utilizing NASA’s wind tunnels with NASCAR and Formula 1™ racing
- providing free education via distance learning/computer-based training in fields with high demand for workers
- coordinating between economic development agencies and increasing resources to make a national and international impact

Intellectual and Human Capital

WHAT ABOUT BRAIN DRAIN

Building and retaining a creative class, young professionals and “brain drain” were often referenced.

“I would love to see our city cultivating reasons for its own youth to be vitally involved in the city and wanting to stay and build a future here,” said one citizen.

Another respondent suggested some of the drawbacks of the region that need to be addressed in order to help mitigate migration away from Hampton Roads include green spaces, recycling, bike friendliness, youth activities and music scene.

“Given the diverse population that lives in Hampton Roads area, especially with military imports, how come we don’t have a more diverse and [international] cultural scene?” another pointed out.

On retaining exiting military personnel here in the region, one citizen commented, “we should make an effort to determine what personnel can easily re-purpose their skills to fill needed jobs in, i.e., engineering, solar energy plant construction, safety, preventive medicine, wellness, other medical skills. We should determine what skills do not convert efficiently to necessary civilian jobs and let them go.”

“Adding jobs is great, but if no one wants to live here, it won't matter how many jobs there are,” warned another concerned citizen.

Sense of Place

WHERE WE ARE

Nearly 22% of all public comment respondents weighed in on Fort Monroe as not only a regional threat but an opportunity as well, and, therefore, the SWOT analysis was updated.

Ninety-six citizens recommended that the strategic plan embrace a vision for Fort Monroe, as it was vacated by the Army in 2011, as a self-sustaining, pays-its-own-way Fort Monroe National Park (re-use plan is currently underway). According to more than one citizen, Fort Monroe could qualify as a World Heritage Site, an international designation of a place of either cultural or physical significance, and as a potential addition to the Historic Triangle, i.e., the Historic Quadrangle, to add CivilWar stories and thereby completing the full story of America's formation.

When evaluating the best things about living in Hampton Roads, a wide range of attributes were noted involving our geography and environment as important, i.e., the scenic beauty, recreational and cultural activities but also a sense of community and regional identity.

"Get a vision of the region as a perfect youth, middle age and retirement community; playground for all ages and keep our population healthy and fit," added one resident.

However, when evaluating the biggest challenges to living in Hampton Roads, transportation was far and away the primary point of contention followed by job opportunities. Education was a distant third. Lack of regional spirit and cooperation as pertains to government was also noted in the write-in comments.

"We are not taking advantage of the potential we have in Hampton Roads as a region. Individual governments are not willing to give up control and we have suffered because of that," said one citizen. And more than one respondent asked "what is our region's business identity?"

"What is stopping us from getting an NFL franchise in Hampton Roads? Suffolk or Chesapeake are the logical places for a stadium. Much smaller markets have NFL teams and thus national recognition...why can't we pull off a major league team in any sport?" added yet another citizen.

Economic Sectors

WHAT ABOUT BUSINESS IDENTITY

When ranking the economic sectors that should receive priority attention, there were two distinct tiers: the first included the port and maritime business, quality of life improvements and the military, while the second included high-tech, small business and the environment.

However, most additional comments as to ranking economic sectors in this section related to, first and foremost, transportation as a missing element:

- "Transportation and connectivity is the key to being competitive."
- "Transportation is missing – it relates to quality of life improvements, tourism, port, etc. We must have strong transportation for all of this to work."
- "The Vision is going to increase traffic from both sides [of the harbor] and this will increase congestion. Have to explore other transportation avenues."

And then, secondly, pointed to education as a key economic sector:

- "Education should be the most important. A committed and sincere investment in education will inevitably lead to an increase in everything else. An educated community

makes for a more critical thinking, efficient and productive society.”

- “Make it easier for students to dream about going to college and earn a degree that will help them be productive citizens of Hampton Roads.”
- “Cultural appreciation derives from solid educations. You can't impose culture on people who lack the education to appreciate it.”

Entrepreneurism within economic sectors was a common theme as well. “Support for high-growth, innovation-based business. Note: this is not a ‘Small Business’ issue. Studies have consistently shown that approximately 75% of new job growth in the U.S. comes from high-growth entrepreneurial ventures that start as ‘small businesses’ but are designed to grow,” said one respondent.

Goals

When rating the goals of the economic development strategy, over one-half of citizens responding (51.7%) ranked the overall goal as the appropriate one. After reviewing all comments collectively and recognizing the preponderance of regional awareness issues, the Strategy Committee opted to add “internationally” to the overall regional goal to better define the recognition sought:

“Hampton Roads will be recognized internationally as a region for centers of excellence fueled by Innovation, Intellectual and Human Capital, Infrastructure and Sense of Place.”

Objectives ranked as “strongly agree” include the following top three (3):

1. Hampton Roads will be recognized as a region for Centers of Excellence fueled by a culture of innovation and economic opportunities. (53.9%)
2. Hampton Roads will be the premier East Coast port. (53.7%)
3. Hampton Roads will be the premier year-round destination of distinction and appeal to travelers while significantly increasing quality of life for residents by leveraging the variety of attractions, arts and culture, venues and performances and recreational opportunities that exist in the region. (50.0%)

Strategies ranked as “strongly agree” include the following top three (3):

1. Achieve an adequate transportation system to enhance regional mobility, facilitate ease of travel from outside the state and allow for full participation in the diversity of the Hampton Roads tourism and arts and culture experience upon arrival. (73.5%)
2. Hampton Roads will be a region of excellence for clusters of cutting edge technology-based business innovation and education. (60.2%)
3. Maintain the Port as an economic engine for the Hampton Roads region, the
4. Commonwealth of Virginia and the Nation. (55.7%)

Actions

More focus on technology was another recurring theme with comments such as:

- “How about ensuring that all Hampton Roads residents have online access to job applications, communication tools, community news, etc?”

- “Technology is the future for Hampton Roads; we could easily become the Silicon Valley of the east.”

One citizen tackled the inadequate transportation issue through technology as “wiser use of existing infrastructure. This implies encouraging and assisting with more telecommuting. Providing more fiber optic networks and capabilities is cheaper and more environmentally friendly than roads.”

Of the 65 Action items listed, nine (9) ranked above 50% as “strongly agree.” This helps in prioritizing the regional strategies. Those nine action items are as follows:

1. Address transportation by roads and the constant congestion of the area and continue to investigate the possibility of additional Hampton Roads Harbor crossings. (78.2%)
2. Address educational needs for a successful 21st century workforce. (70.0%)
3. Provide adequate surface connections (road and rail) to enhance regional mobility and access to inland markets, recognizing infrastructure improvements create jobs and wages today. (69.7%)
4. Address transportation by rail with the expansion of the current light rail project to continue to the oceanfront of Virginia Beach and encourage the possibility of higher speed rail to facilitate travel from the Northeastern corridor through to Southside Hampton Roads. (68.9%)
5. Provide adequate surface connections (road and rail) to enhance regional mobility and access to federal facilities and to Washington DC, recognizing infrastructure improvements create jobs and wages today. (66.7%)
6. Grow our 21st century workforce by including the knowledge, skills and capabilities of key Hampton Roads technologies in the curriculum of all pre-K, K-12 and higher education institutions. (64.5%)
7. Support transportation policies including investment in transit and programs that will promote more compact land use. (61.6%)
8. Leverage the strong R&D capabilities (wind tunnels, aerodynamics, advanced materials, bio-algae fuels and photovoltaics in NASA and regional universities) and mid-Atlantic coastal location near a power grid connection point to become a Coastal Energy Center of Excellence that studies and develops renewable energy sources. (60.3%)
9. Continue to enhance the current culture and movement that reinforces relationships with Hampton Roads communities and organizations in the region to work together on mutual goals. (54.9%)

Measures

As for indicators to measure the progress of a regional economic development strategy, the only metrics to gain a “strongly agree” from over one-half of the respondents were:

1. Workforce Quality, annual percent change of higher education or technical degrees awarded (57.9%), and

2. Employment Growth, annual percent change of jobs added (53.8%).

One resident suggested adding a “Happiness scale, degrees of social isolation among people” with the rationale that “happy people are productive people.” And another said, “Good jobs make a good community.”

“We need more opportunities like this to voice our opinion for the future of Hampton Roads,” said another.

Citizen’s Conclusion

“As you move forward with this activity, make certain you are seeing these visions through the eyes of the different generations, i.e., k-12, college age, new career starters, mature family builders, and retiring people. Each group's vision is affected by their current life needs,” cautioned one resident.

“The plan is a comprehensive, objective and very credible document. If it does in fact increase momentum to think and act regionally, its value - and impact - to the area's economic vitality and quality of life will be tremendous. So, to the many organizations and citizens involved in the Strategic and Tactical teams, here's a vote of confidence, a note of thanks, and a word of encouragement,” added one respondent.

Overall

The regional economic development experience in Hampton Roads is about creating an ongoing economic development process that is embraced by our region. Planning an economic development strategy has placed Hampton Roads on a path to regional transformation by embedding a working process in all that we do as we think, live and act regionally.

II. PROCESS OVERVIEW

A. Background detailing Community and Private Sector Participation

The Hampton Roads region is located in Southeastern Virginia and is roughly contiguous with the Virginia Beach – Norfolk - Newport News Metropolitan Statistical Area (MSA). Specifically, Hampton Roads, as defined by the Hampton Roads Planning District Commission, includes the ten (10) cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg; the six (6) counties of Gloucester, Isle of Wight, James City, Southampton, Surry and York; and the town of Smithfield. Hampton Roads is a diverse region of 1.7 million citizens that includes urban, suburban and rural communities, prosperous as well as distressed areas.



The Hampton Roads Partnership (HRP) together with the HRPDC led the effort to create the original CEDS. The process included chief elected officials of seventeen communities of Hampton Roads, private sector, education, military and labor representation from both South Hampton Roads and the Virginia Peninsula. Nearly 150 volunteers helped in developing the CEDS, representing a diverse cross-section of the community with approximately 75% acting on behalf of the private sector. This cross-section included, but was not limited to, healthcare, financial and professional services, ship repair, the arts, tourism and hospitality, manufacturing, technology, media and telecommunications, real estate, nonprofit, higher education and energy.

Additionally, nearly 450 citizens participated during the public comment period via online survey, email, letter and social media.

The Hampton Roads economy has faced some very strong headwinds since before the beginning of the recession. The region's economic slide began in 2006 with the closure of the Ford Motor Company's truck plant in Norfolk, where more than 3,000 workers lost their jobs. Since that time the region has experienced other significant losses such as the closure of Ft. Monroe, the disestablishment of JFCOM, and the closure of the Franklin Mill. Several large firms laid off employees as well, such as TeleTech, Alcoa, Auto Trader, Verizon, Cooper Vision and USAA West Corp. The region lost 50,000 civilian jobs during the recession, but has since recovered 30,000 jobs. In addition to the 20,000 civilian jobs that have not yet been recovered, the region has lost over 20,000 military personnel since the beginning of the Great Recession. The region must work together to find new opportunities for regional economic growth to recover what has been lost.

Based on the U.S. Census, Hampton Roads was the 37th most populous MSA in 2014, with a population of 1,716,624 people. In 2013 the region generated \$88.5 billion in economic activity, making it the 39th largest metropolitan economy. The region's economic structure is characterized by the strong presence of the military, followed by real estate and rental leasing, manufacturing and shipbuilding, construction, tourism, recreation and retail.

The Regional Economic Development Strategy (REDS) provides Hampton Roads with a roadmap, i.e., a regional plan, describing economic conditions for the Hampton Roads metropolitan region, by capturing elements of previous economic development plans and including broad strategies and specific actions of prioritized importance that will help position Hampton Roads as a leader in the global economy.

B. Evolution of Economic Planning in Hampton Roads

Plan 2007 (in the early 90s)

Plan 2007 was considered the first comprehensive regional plan for Hampton Roads. Led by the Hampton Roads and Virginia Peninsula Chambers of Commerce, Plan 2007 was the outcome of a year-long visioning/planning process in the early 1990s involving the HRPDC and hundreds of business leaders and citizens. The plan outlined a vision and goals for the region around education, infrastructure, quality of life, government, economic development and private sector leadership. Plan 2007 served as a foundation for other subsequent region-focused planning exercises briefly mentioned below.

Regional Competitiveness Program

In 1996, the Virginia General Assembly passed the Regional Competitiveness Act. The Act called for metropolitan areas to bring public and private leaders together in partnerships to develop regional plans focused on improving economic competitiveness. The Act also provided incentive funds (based on population) to regions that met specific criteria. Such criteria included the submission of a comprehensive application with an assessment of regional initiatives and plans to enhance regional cooperation. During the five years of the Regional Competitiveness Program (RCP), the Hampton Roads Partnership received state funds to leverage other resources to implement objectives of the regional plan.

Before the RCP funds were allocated, the Partnership updated Plan 2007, focusing attention on implementing objectives around port growth issues, technology-related economic development, transportation, tourism, workforce development and regional cooperation.

2004 – A Call To Action

With the 1999 Strategic Plan nearly complete, the Hampton Roads Partnership began setting the stage for the next progression in regional planning. A series of meetings were held during 2003 with public and private sector leaders. Extensive research was done to determine the industry clusters that made sense for the region to pursue thanks to a grant received by the Hampton Roads Planning District Commission from the U.S. Department of Commerce's Economic Development Administration. Additionally, a web survey was conducted, generating

1300 detailed responses to questions about ways to improve the region's quality of life and economy.

A steering committee was formed to review the feedback generated. They concluded a traditional strategic planning process was not what the Hampton Roads Partnership needed at the time, but instead a strategy focused upon three key themes or issues to drive the Partnership's work in the next three years would be more appropriate.

The resulting 2004 Action Plan had a specific Call to Action, driven by the region's performance (compared to the U.S., Commonwealth of Virginia and three peer metropolitan areas) on seven statistical measurements (per capita income, poverty rate, total employment, employment rate, earnings per worker, population growth and net migration). The three areas of focus of the action plan were regional citizenship, a focused economic strategy and building the region's fundamental assets:

Regional Citizenship

Work was needed to address the greatest barrier to regional cooperation – the lack of a common metropolitan consciousness and citizenship (attributed to Dr. Marc Weiss, a domestic and global regionalist with the Citi-states Group, <http://Citistates.com>). The Partnership's web survey revealed that 80% of the respondents linked their personal economic situation to things happening in the region as a whole, rather than their individual community. The bottom line – citizens see no municipal boundaries in what they do, while the structures in place do. This disconnect is a significant potential obstacle to achieving regional success in the this effort. The action plan steps would build upon thoughts expressed in the survey. One outcome of the plan was a joint activities/services list of 620 services or projects undertaken by two or more localities in the region. The report was used to demonstrate the functional approach to regionalism and serve as a starting point for identifying additional opportunities for communities of the region to work together.



Economic Strategy

The goal of having a focused regional economic strategy started with a study to determine how the economy works in Hampton Roads – identifying actions to improve regional outcomes. Dynamic industry networks and clusters were studied with the idea that a group of firms that are well connected and have good relationships as well as supporting infrastructure can be more competitive than those firms that are not connected. Clustering became the overarching framework for addressing all aspects of our regional economic development strategic plan including existing business issues, fundamental assets/current strengths, job creators of the future and aspects of entrepreneurship. Specific emerging clusters that have been identified are Modeling & Simulation (decision support technologies for a broad array of challenges), Bio-Science (innovations for medical, marine and environmental applications) and Sensors (systems

of next generation devices, networks and data-base management approaches) and the region's traditional and more highly developed industry clusters are defense (including defense contracting), transportation, manufacturing, and tourism.

Fundamental Assets

Every region has certain fundamental assets upon which its economy is built – both human and physical. The action plan included transportation, technology-based economic development, workforce development, ports and natural resources under this category.

Our efforts in workforce development are based on the belief that Hampton Roads is one labor market, and it must act as one to be successful. We were influenced by Guiding Principles for Successful Regionalism, a cooperative study by the University of Cincinnati, Northern Kentucky University and Xavier University, published by the University of Cincinnati's Institute for Policy Research in March 2000, which provides insights and lessons from Atlanta, Charlotte, Louisville, Minneapolis-St. Paul, Phoenix and Portland. The report reflects on the common threads of successes: “successful regions present a unified front to prospective customers and successful regions emphasize education and workforce development. Workforces are inherently regional. The development and viability of a strong labor force is an area in which an entire region must work together.”

The Port of Hampton Roads, or Hampton Roads Harbor, continues to be a major economic engine for the Commonwealth of Virginia and the Hampton Roads region as it has for centuries due to our unique geography. This asset inspires us to rededicate ourselves to doing what is necessary to reach our vast potential through port related economic development.

For the purposes of the REDS, “port” refers to all port-related activities including commercial, military and related land-based support facilities and inland transportation, also including, but not limited to, ship repair, ship building, cargo terminals, cargo and cruise ships, maritime insurance and legal services, shipping line offices, mega yacht repair and maritime construction.

The 2004 Action Plan offered a balanced approach focused on community, economy and environment. Our approach was to look at ways to protect, enhance and better capitalize on the natural resources that contribute to our dynamic quality of life in Hampton Roads.

2007 Strategic Plan and Metrics

In 2007, the Partnership's Board of Directors approved the 2007 Strategic Plan and Metrics document under which the Partnership has operated until the completion of the 2009-2010 Comprehensive Economic Development Strategy. The areas of focus within this plan include Education: school readiness, educational attainment and technological research; Transportation: traffic congestion, land use and public transit; and Economy: overall quality of jobs, port and maritime logistics and technology industry cluster development. During this planning cycle, the Partnership led a comprehensive Modeling and Simulation strategic planning process and received funds to conduct a long-term transit vision for the region to be included as part of a statewide vision plan.

Hampton Roads Performs

In February of 2009, the Hampton Roads Partnership launched the web-based Hampton Roads Performs, a regional source for data that shows how the region is performing on thirty-six (36) key indicators, including areas featured in the 2007 Strategic Plan and Metrics document. The site was originally used as a performance measuring tool showing the impact of the CEDS implementation.

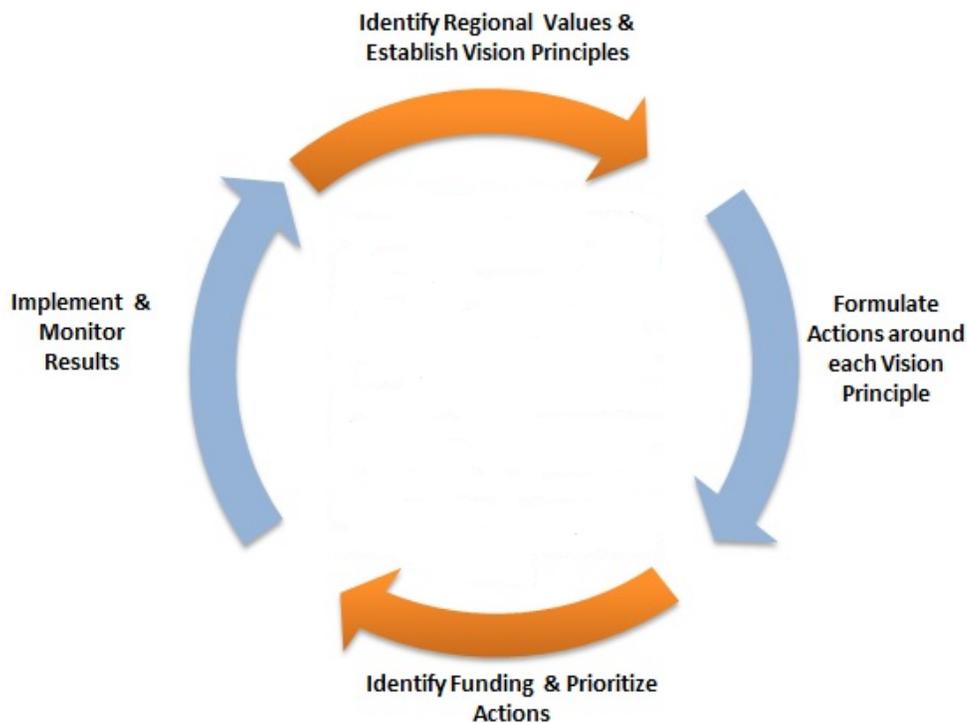
Envision Hampton Roads

The Hampton Roads Planning District Commission (HRPDC) is currently working to develop Hampton Roads' first Community-based Regional Strategic Plan entitled, Envision Hampton Roads. This innovative approach to planning, will serve as a useful tool in bridging the gap



between local government and the citizens in the region. It will also give the residents of Hampton Roads an opportunity to become engaged in the planning process and help promote dialogue, discussion and cohesive action for the future of Hampton Roads. In developing Envision Hampton Roads, initial public meetings and a Region wide scientific survey identified seven focal areas, which included equality; jobs; environmental awareness; education & training; healthy lifestyles; transportation; & nice neighborhoods. Envision Hampton Roads will continue to implement citizen and community engagement with the use of interviews, mapping exercises, surveys and other outreach activities. This information will be used to present different community scenarios based on the information gathered. The goal of Envision Hampton Roads is to engage residents to participate in the establishment of a shared Regional Vision that creates a blueprint for the Region's future, ultimately leading to Hampton Roads being a great place to live, work, play, learn, and visit.

Envision Hampton Roads' Overall Planning Process



C. 2010 Comprehensive Economic Development Strategy (CEDS) Approach

Hampton Roads' approach to the Comprehensive Economic Development Strategy (CEDS) process was to leverage existing regional organizations to provide both leadership and support. In order to ensure that the process ran effectively and efficiently, consulting assistance was obtained from Kaufman & Canoles Consulting, <http://www.KaufCanConsulting.com>, an economic development consulting firm experienced in CEDS planning with strong awareness of the economic development dynamics in the region.

Hampton Roads Planning District Commission (HRPDC) played a critical role in the CEDS process as a co-sponsor. HRPDC, one of twenty-one (21) Planning District Commissions in the Commonwealth of Virginia, is a regional organization representing the seventeen local governments of Hampton Roads. Planning District Commissions are voluntary associations and were created in 1969 pursuant to the Virginia Area Development Act and a regionally executed Charter Agreement. The HRPDC was formed in 1990 by the merger of the Southeastern Virginia Planning District Commission and the Peninsula Planning District Commission.

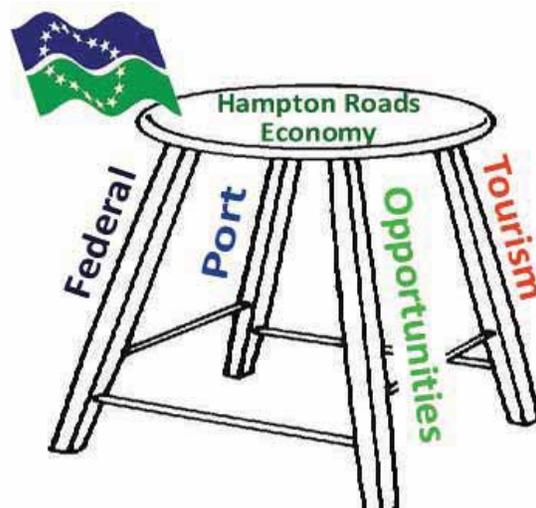
Old Dominion University (ODU, <http://ODU.edu>), Hampton Roads Economic Development Alliance (HREDA, <http://HREDA.com>), Hampton Road Research Partnership (HRRP, <http://HamptonRoadsRP.org>), Hampton Roads Technology Council (HRTC, <http://HRTC.org>); Hampton Roads Technology Incubator System (HRTIS, <http://HRTC.org/hrtis/incubator/>); Opportunity, Inc. (South Hampton Roads workforce development, OppInc., <http://OPP-inc.org>);

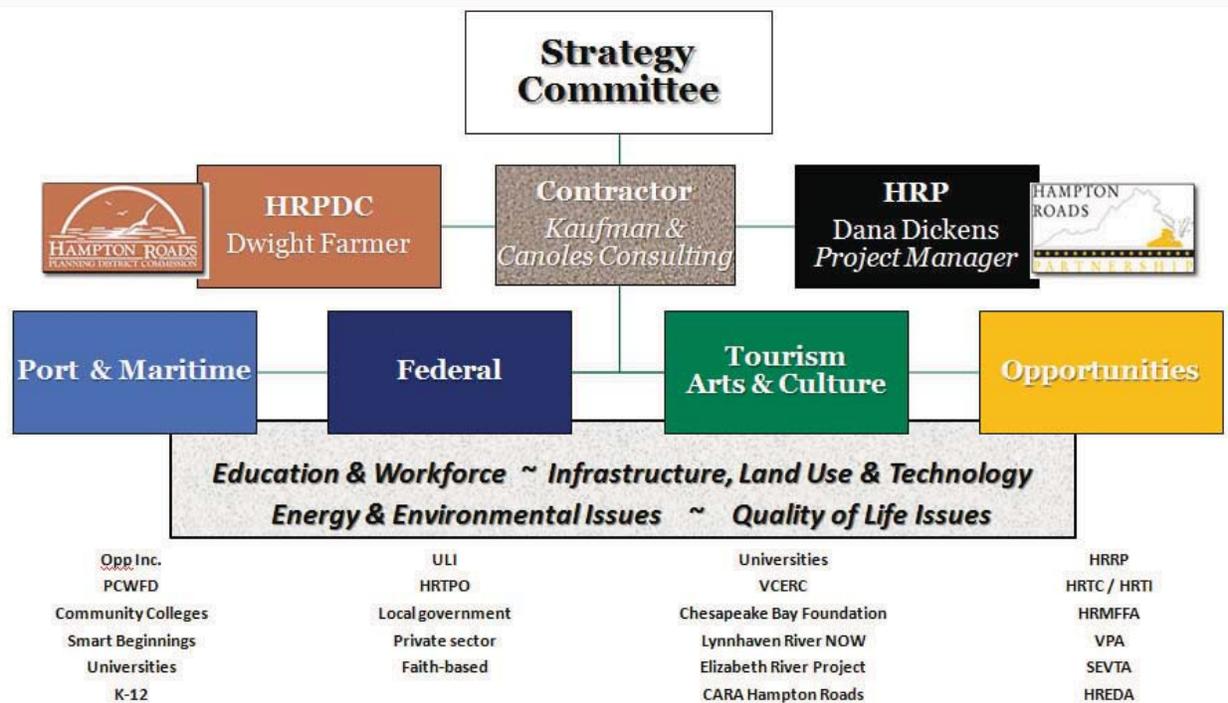
and Peninsula Council for Workforce Development (PCWD, <http://PCFWD.org>) all played important roles in the development of the CEDS



In the development of the CEDS, the strategy committee decided to focus on the three main pillars of the current Hampton Roads economy, the port, tourism and federal assets. By analyzing opportunities to diversify the regional economy, we can better identify the assets we have, determine how we are doing and identify those areas for improvement. The strategy committee established four sub-committees around these categories and challenged each to use the CEDS Plan of Action guidelines to determine those areas in which help is most needed in the region and engage those organizations most able to provide the needed expertise.

The following Organizational Chart outlines the committee structure followed during the development of the CEDS:





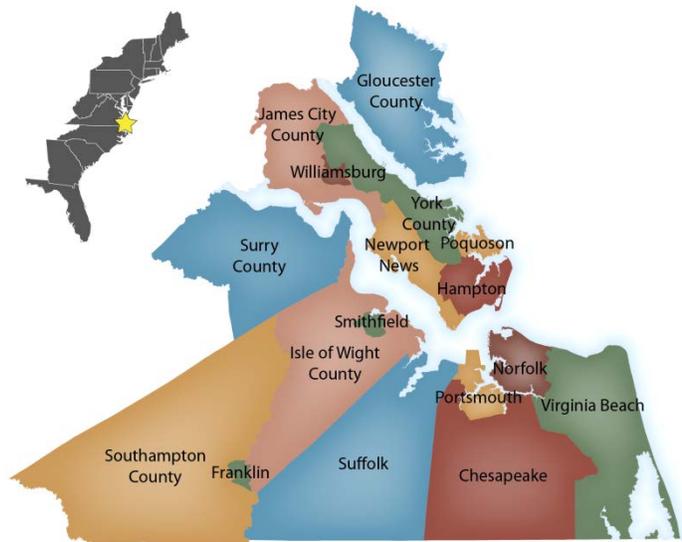
The four Sub-committees were chaired by members of the Strategy Committee with particular expertise within the economic sectors under examination. Each Sub-committee held a series of meetings over the course of several months. The outcomes of those meetings and discussions are a series of Objectives, Strategies and Actions detailed later in the REDS. The consultants and staff also worked with the Economic Development Directors of the seventeen (17) municipalities to validate the relevance of the committee outcomes and identify specific priorities from each community to outline and prioritize the strategic projects, programs and activities.

III. BACKGROUND

A. The Region's History

The Hampton Roads region is a great place to live, work and visit. Situated around the world's largest natural deepwater harbor, the region enjoys a thriving economy, an abundance of natural resources, a high quality workforce and a robust transportation network. Sustaining and improving the high quality of life in the Hampton Roads region requires the collective efforts of citizens, business and government.

Hampton Roads is located in southeastern Virginia where the Atlantic Ocean meets the Chesapeake Bay. The region is comprised of 17 jurisdictions – the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg; the counties of Gloucester, Isle of Wight, James City, Southampton, Surry and York; and the town of Smithfield.



The region's land area covers approximately 2,907 square miles and includes an extensive system of waterways including the Intracoastal Waterway and the James, York, Nansemond and Elizabeth Rivers. The region's safe harbors, proximity to the ocean and rich history have worked together to form the foundation of the Hampton Roads region.

B. The Region's Demographics

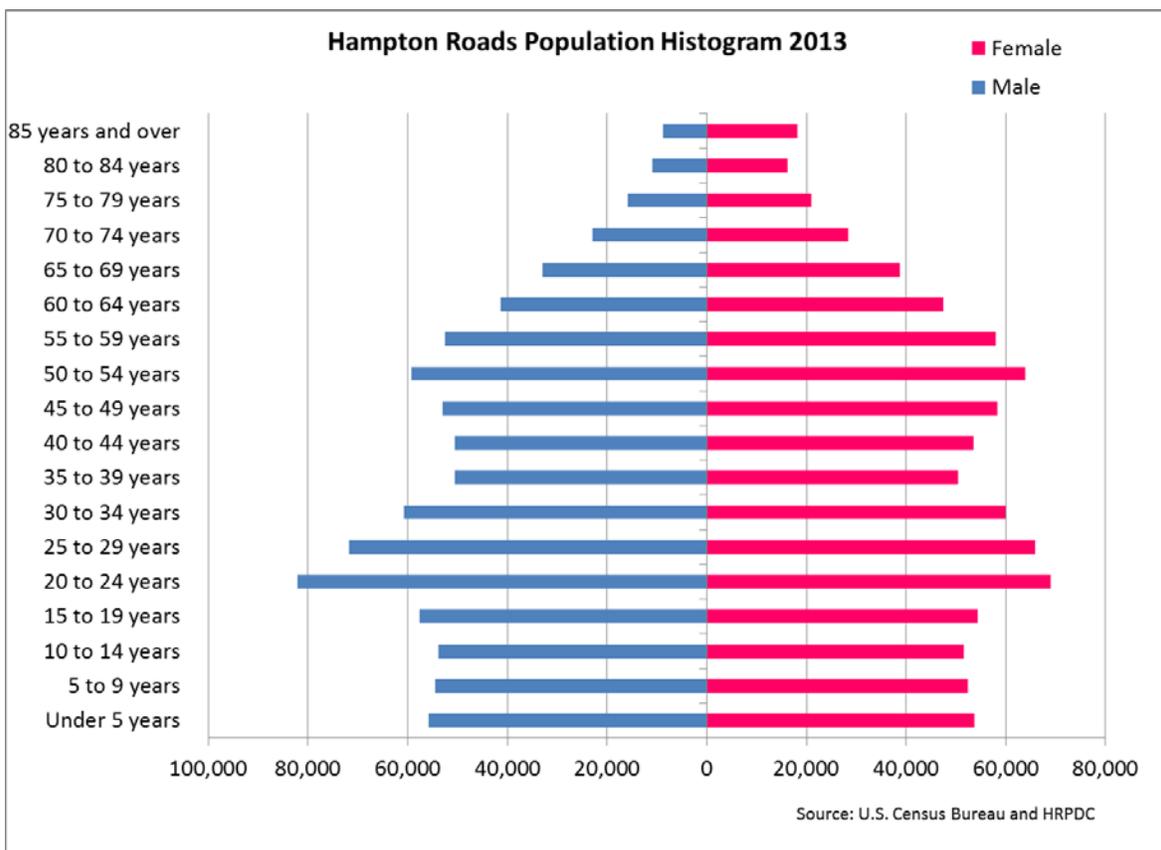
According to the U.S. Census Bureau, Hampton Roads is the 37th most populous Metropolitan Statistical Area (MSA) in the United States. Over the past four years, the Hampton Roads population has grown at an annualized rate of 0.59%, below the rate of the Commonwealth (1.00%) and the Nation (0.81%).

The American Community Survey estimated that Hampton Roads contained 625,540 households in 2013, with an average of 2.62 persons per household. Hampton Roads median age is 35.3, indicating that the region's population is younger than that of Virginia (37.6) and the U.S. (37.5). The population has a fairly even split between males and females (49.3%/50.7% respectively).

Individual cohorts in the region follow the natural pattern, with there being a slightly higher

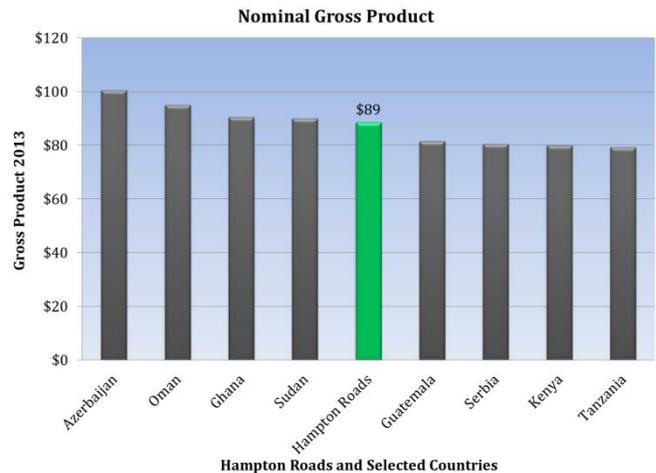
percentage of males for younger cohorts, and a slightly higher percentage of females in the older cohorts. The Hampton Roads population deviates from the trends for the age cohort 20 to 24, which skews more strongly to males as a result of uniformed military personnel in this region.

Relative to the nation, a significant number of the citizens in this region are African American, constituting 30.7% of the population (versus 12.6% of the national population). As a result, a smaller portion of the regional population is Caucasian, Asian, or Native American. Furthermore, the Hispanic population in Hampton Roads is smaller than that of the nation overall, with 6.1% of the region's population identifying with Hispanic ethnicity, versus 17.1% nationally.

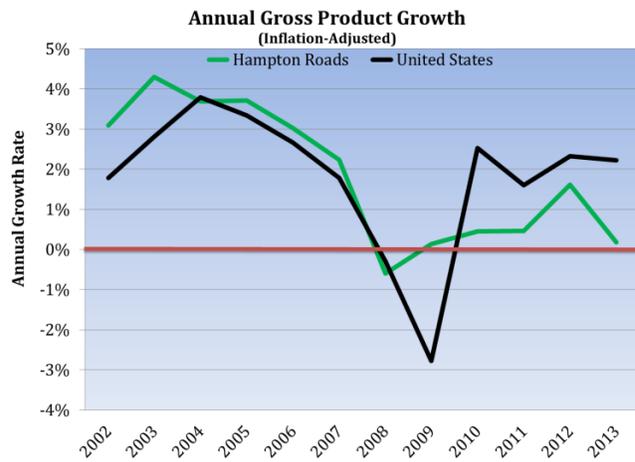
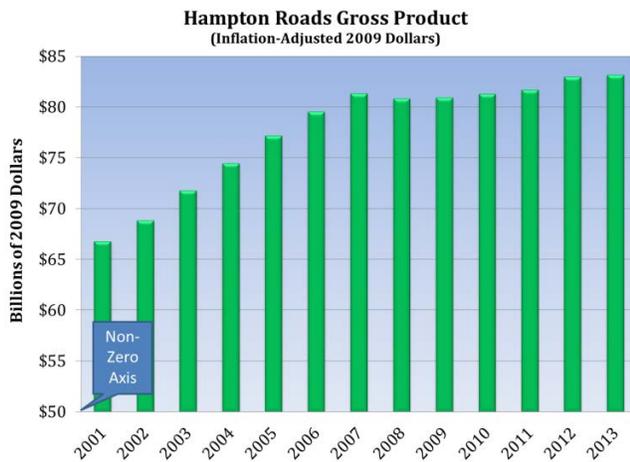


C. The Region's Economy

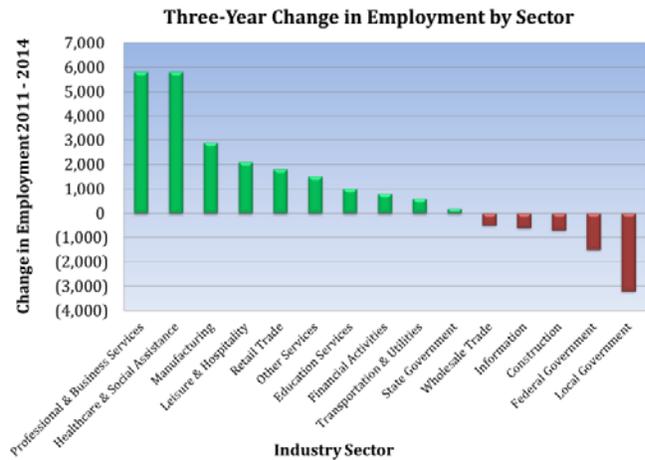
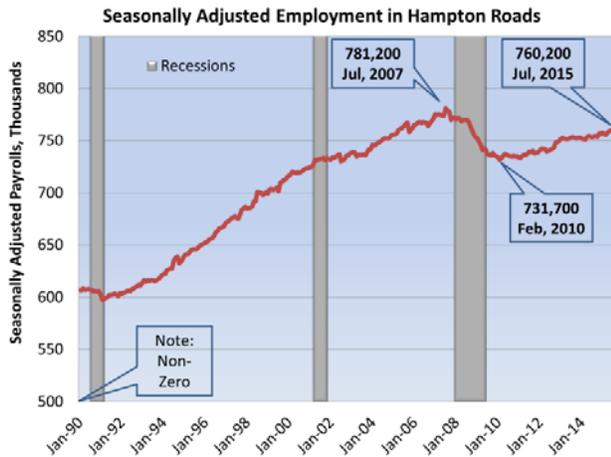
Hampton Roads economy produced goods and services worth \$88.5 billion in 2013. This region ranks 39th among all U.S. MSAs in terms of its gross product, and because of the productivity of regional economy, Hampton Roads has a gross product similar to that of entire nations. Guatemala, which ranks just behind Hampton Roads, has a population of 15.5 million, while Sudan has a population of 38 million. Thus Hampton Roads population of 1.7 million is ten times as productive of that of Guatemala (and 16 times as productive of that of Sudan).



While the size of the economy indicates the current conditions, it is the growth of the economy which informs the outlook for the region as a whole. Hampton Roads has experienced a period of slow economic growth since the start of the national recovery, only growing 0.75% on annualized basis since 2010, while the average U.S. MSA has grown by 1.95% annualized (inflation-adjusted). This followed an exceptionally strong period of growth for this region which concluded in 2007, and while the region did not experience the nations deep recession, neither has it participated in its strong recovery.



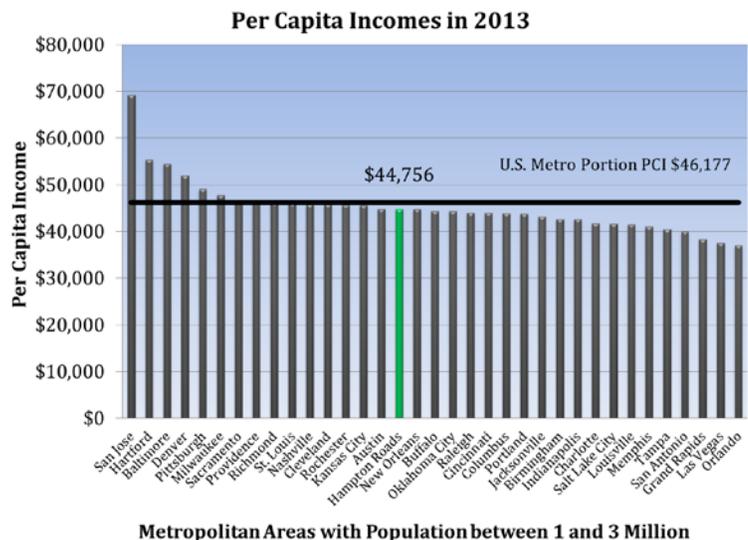
While output measures the size of the economy, it is employment and income that allows the citizens of Hampton Roads to experience the benefits of economic growth. Employment in Hampton Roads fell by almost 50,000 jobs between 2007 and 2010, and while employment has been growing, it still remains 21,000 jobs below the level eight years before.



While employment has increased by almost 29,000 jobs since Feb-2010, this impact has not been experienced uniformly. Healthcare & social assistance employers continued to add jobs throughout the recession, and this continued through 2014. Additionally, professional services, manufacturing, and leisure & hospitality have also been growing strongly through the recovery.

Government employment has suffered during the recovery, as federal employment has declined with budget concerns and the draw down in defense activities. Local governments also have cut employment, as budget issues resulting from the housing correction continue to put pressure on these employers. Through the end of 2014, construction employment continued to be down in the region, as housing activity still lags below even the long-term averages, and is significantly below the levels seen during the housing boom.

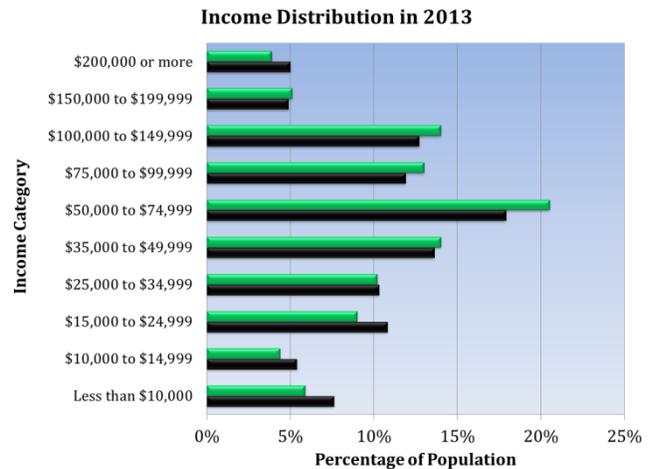
It is interesting that even as employment fell in Hampton Roads, real incomes in the region remained constant on a per capita basis, and were higher than the per capita incomes of the nation during the recession. Hampton Roads per capita income compares well with similarly sized metropolitan areas, which coupled with its relatively low inequality (Hampton Roads has by far the lowest inequality of its reference MSAs, with only Salt Lake City having similar levels). A significant portion of the Hampton Roads Population earns incomes between \$50,000 and \$75,000 in Hampton Roads, with fewer earning incomes above \$200,000, and fewer earning below \$25,000 than the nation as a whole.



D. Federal/Defense Dependence

Government employment constituted 25% of regional employment in 2013, down from 26% in 2011 (it was significantly higher in 1970's, when it was 40% of the regional economy).

While Defense Department employment, including both uniformed military personnel and federal civilians, only accounts for half of Government employment in the region, it has a much more significant impact.

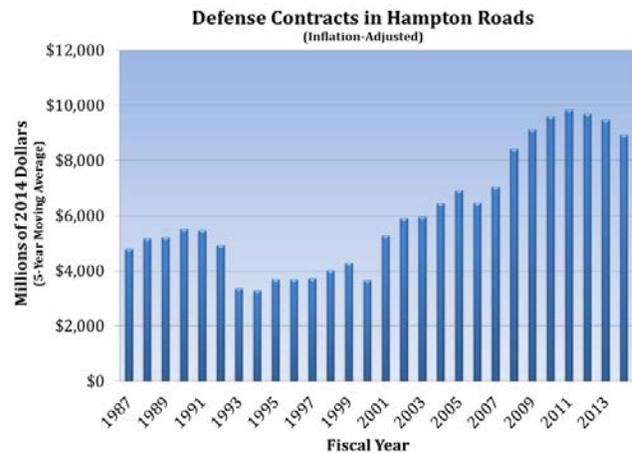
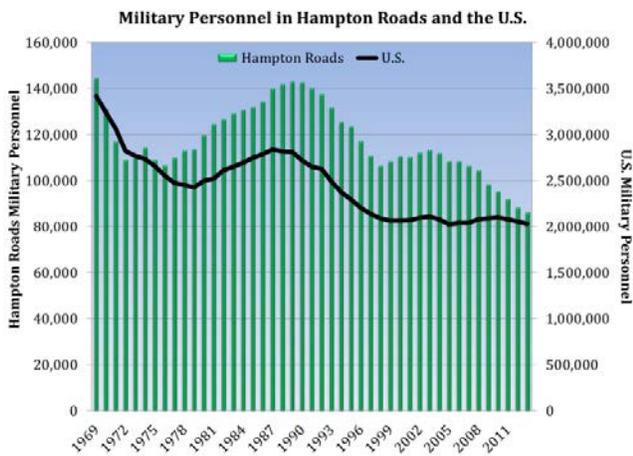


The defense industry is a major sector industry in this region, bringing in outside dollars that allow for investment and economic growth. Military employment pays incomes that exceed the regional average when benefits are included, and brings many skilled individuals into this region's labor market as either dependents or when they exit the service. Hampton Roads population has the highest percentage of veterans of any large MSA other than Colorado Springs.

Military Personnel in Hampton Roads (Including Coast Guard)				
<u>Base</u>	<u>Active Duty</u>	<u>Reserve</u>	<u>Civilian</u>	<u>Total</u>
Joint Base Langley-Eustis	13,181	2,974	5,614	21,769
Joint Base Little Creek-Story	8,779	3,725	1,161	13,665
Naval Air Station Oceana (includes Dam Neck)	6,888	1,184	1,917	9,989
Naval Medical Center Portsmouth	3,669	19	2,239	5,927
Naval Station Norfolk (includes Naval Shipyard)	35,695	2,055	23,216	60,966
NSA Northwest Annex	424	1	120	545
USCG Hampton Roads (includes Yorktown)	2,275	0	469	2,744
Yorktown NWS	747	18	867	1,632
Grand Totals	71,658	9,976	35,603	117,237

Additionally, military contracts play an important role in this region, and particularly support the region's shipbuilding & repair industry. Defense contracts totaling \$8.9 billion were performed in this region in FY2014, and that alone represents more than 10% of the regional economy.

Unfortunately, defense spending in the region peaked in 2011, and has been declining over the past years as a result of both a decline in the number of personnel stationed in the region, and as a result of budget cutbacks impact travel, training, and ship maintenance schedules.

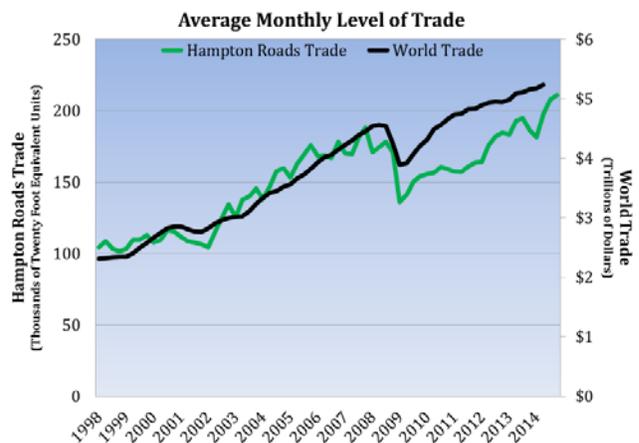
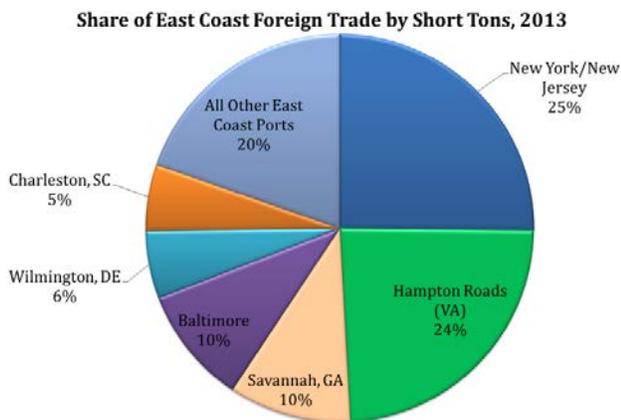


Current trends suggest that Department of Defense spending will not increase significantly in the short term, and thus the region will need to focus in other areas to assure future economic growth.

E. The Port

The region's natural harbor led to it being an important point of trade on the East Coast. Through the Port of Virginia, privately held terminals, railroads, and intermodal/distribution centers, this region serves as a hub of international trade. As with the Department of Defense, the Port and port-related activities bring money into the regional economy, allowing for long-term growth.

Almost 24% of East Coast trade by weight travels via Hampton Roads, although it is only 13% of trade if one measures container units, or 11% if one measures value of goods. The growth in trade through Hampton Roads comes as a result of both greater efficiencies in transportation and as a result of increasing trade worldwide.



It is difficult to measure the total impact of port employment within the regional economy, but 26,100 individuals work in transportation and warehousing industries in Hampton Roads, and 50,700 are employed in transportation occupations (this forms a lower and upper bound for direct port employment regionally).

H. The Region's Transportation System

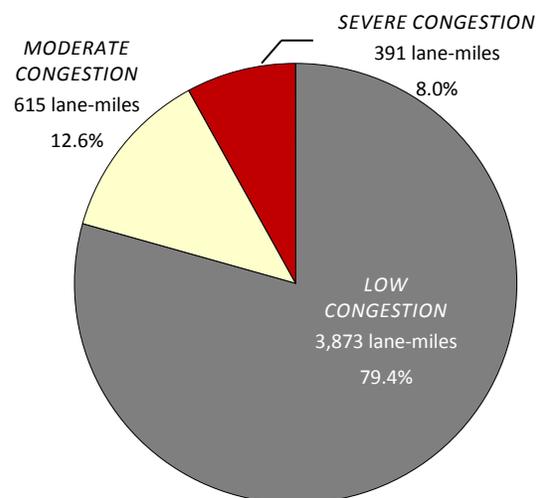
The Hampton Roads transportation network is comprised of an intricate system of roads, bridges, tunnels, bikeways, railroads, and waterways. These facilities are traveled by buses, trucks, ferries, trains, pedestrians, cyclists, and hundreds of thousands of drivers in personal vehicles each day, traveling throughout, into, and out of the region. There are a multitude of challenges related to efficiently moving 1.7 million residents and thousands of visitors each day on the existing transportation infrastructure, particularly due to the geographic features that make Hampton Roads a unique place.

Roadway congestion, like in many other large metropolitan areas, is prevalent throughout Hampton Roads. This roadway congestion is a primary concern facing the users of the Hampton Roads transportation system as it adversely impacts quality of life and regional commerce, particularly in those critical sectors in Hampton Roads that depend heavily on the regional transportation network such as the military, freight movement, and tourism.

Much of the congestion in the region is concentrated around the high-profile bottlenecks of the region. Some of these bottlenecks include the Hampton Roads Bridge-Tunnel, Downtown Tunnel, Midtown Tunnel, Monitor-Merrimac Memorial Bridge-Tunnel, I-264 east of I-64 in Norfolk and Virginia Beach, and sections of I-64 on the Peninsula, throughout Norfolk, and in Chesapeake.

Over 1,000 lane-miles of the Hampton Roads Congestion Management Process Roadway Network – which is comprised of all roadways in the region classified as minor arterials and above and selected collectors – are congested during the PM Peak Period. A total of 391 of the 4,879 lane-miles (8.0%) operate under severely congested conditions during the PM Peak Period, with another 615 lane-miles (12.6%) operating under moderately congested conditions. The remaining 3,873 lane-miles (79.4%) operate with low levels of congestion.

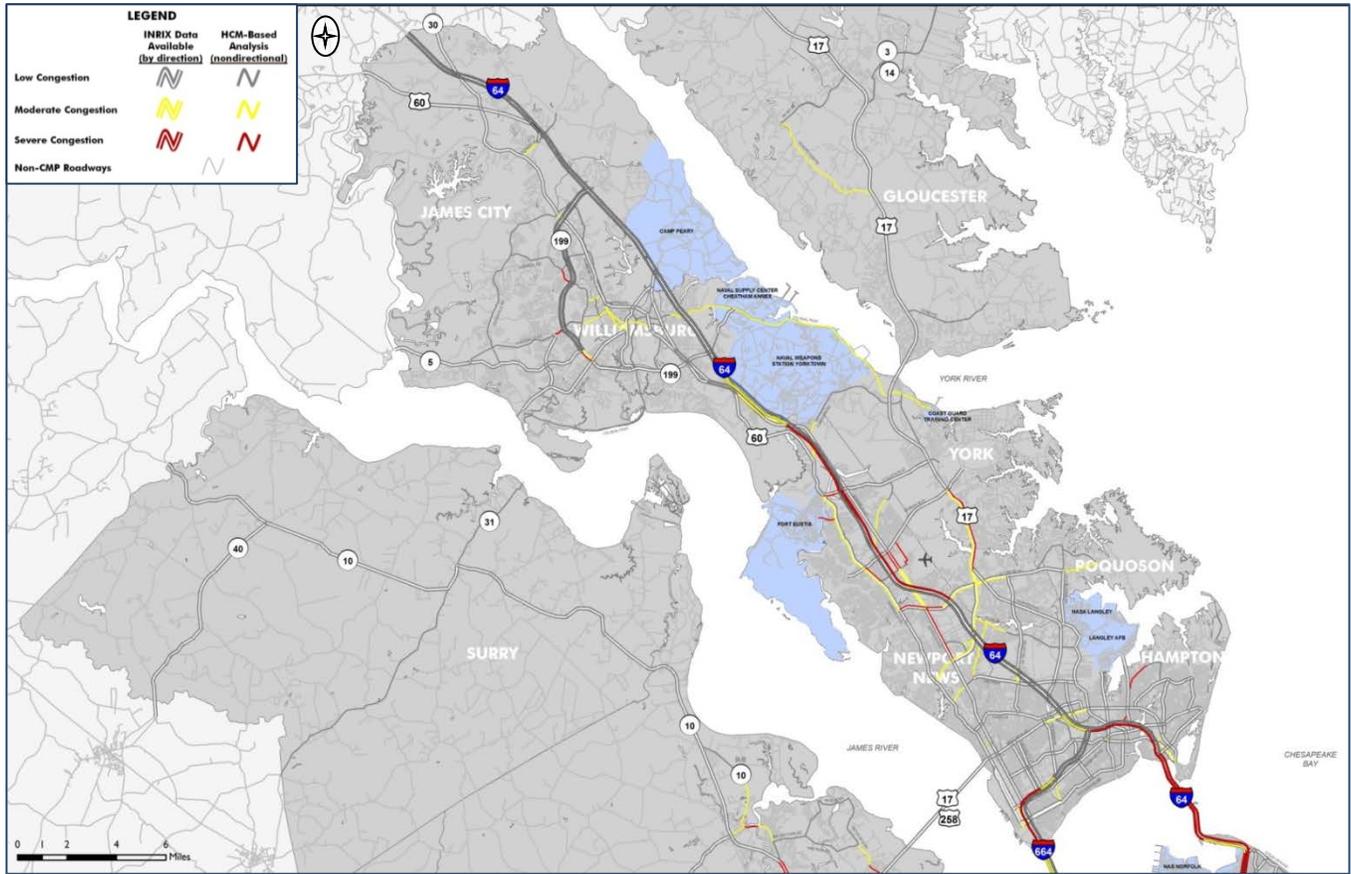
PM PEAK PERIOD CONGESTION LEVELS IN HAMPTON ROADS, 2013



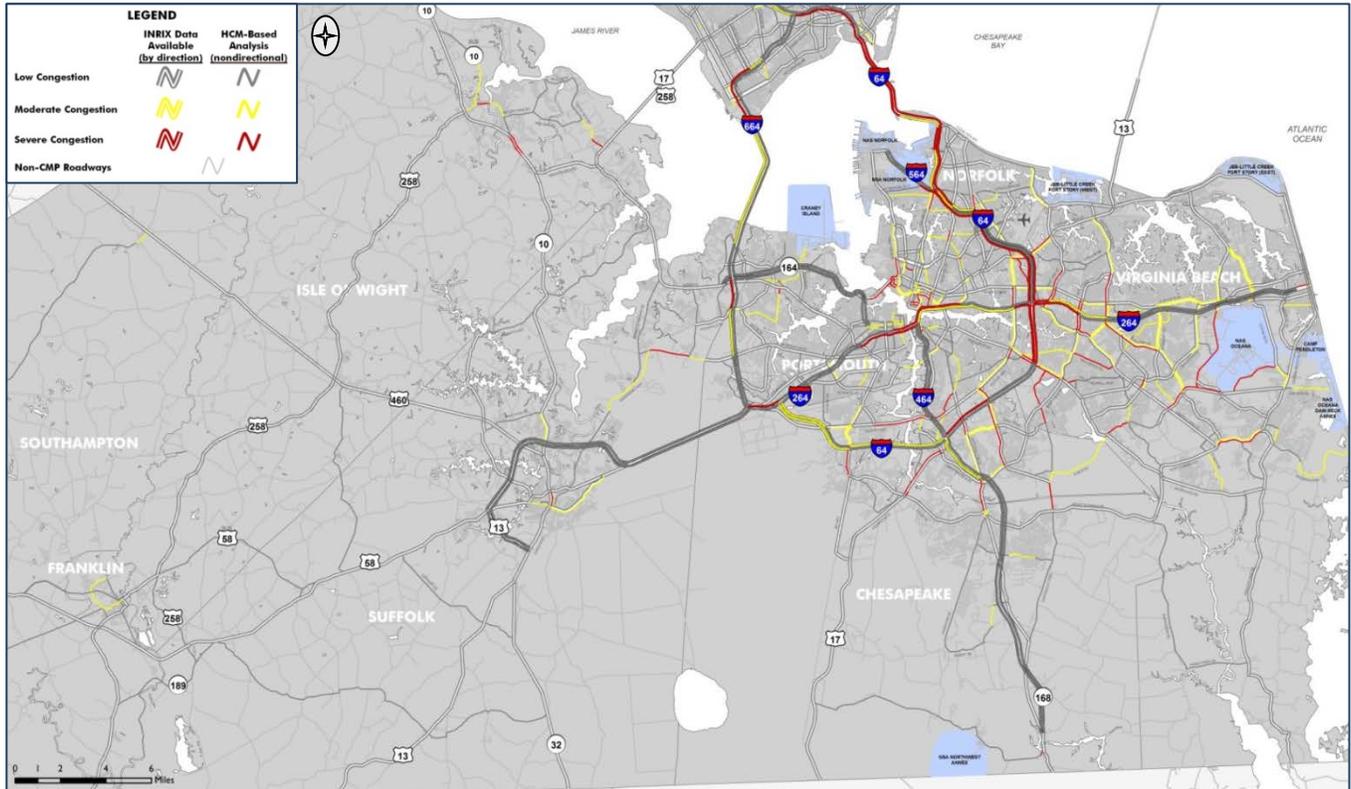
Source: HRTPO analysis of INRIX and VDOT data. Figure only includes those roadways in the CMP network within the Hampton Roads Metropolitan Planning Area (MPA).

A lane-mile is defined as the length of a roadway times the number of lanes and is commonly used to describe the amount of roadway capacity. A one mile section of a roadway that is 6 lanes wide comprises 6 lane-miles.

PM PEAK HOUR CONGESTION LEVELS, PENINSULA (2013 EXISTING)



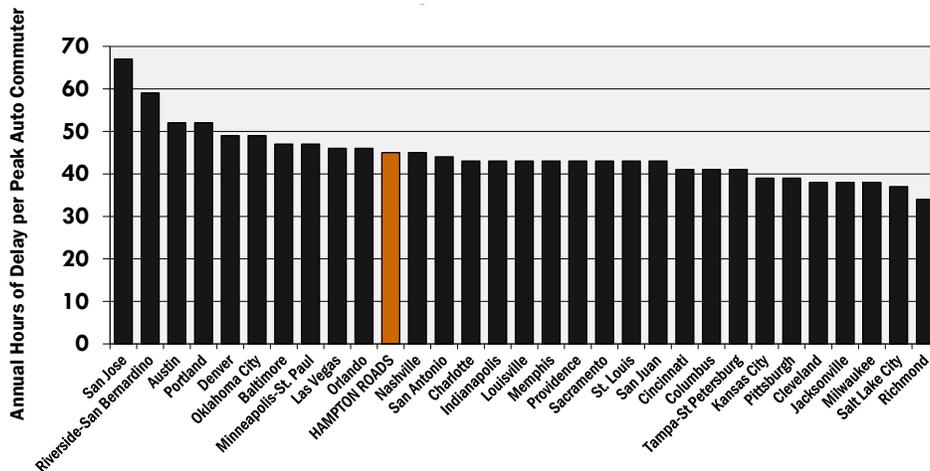
PM PEAK HOUR CONGESTION LEVELS, SOUTHSIDE (2013 EXISTING)



Source: HRTPO.

Congestion is more prevalent in Hampton Roads than in many other comparable metropolitan areas throughout the country. According to the Texas Transportation Institute’s Urban Mobility Scorecard, each person who commutes to work by automobile in Hampton Roads spent an average of 45 hours stuck in congestion in 2014. Looking at the 31 urbanized areas defined as “large” by TTI – meaning they have an urbanized area population of between one and three million people – Hampton Roads had the 11th highest delay per auto commuter in 2014.

**ANNUAL HOURS OF DELAY PER PEAK AUTO COMMUTER,
TTI LARGE URBAN AREAS, 2014**



Source: TTI.

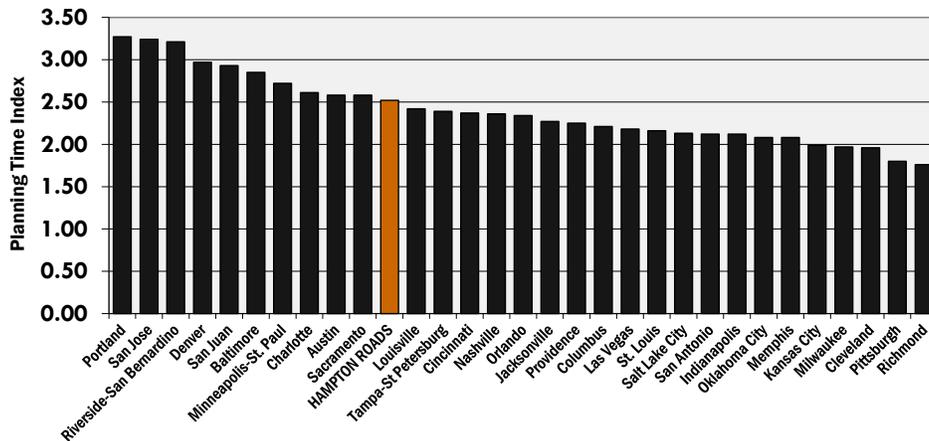
This congestion directly and indirectly costs local residents hundreds of millions of dollars. According to TTI, congestion cost each Hampton Roads peak period auto commuter an average of \$953 in 2014, which amounts to just over one billion dollars for all commuters. These values take into account the costs associated with wasted fuel (TTI estimates that over 20 million gallons were wasted in Hampton Roads in 2014), the value of a person’s time, and the costs associated with operating commercial vehicles.

While roadway congestion is an issue in Hampton Roads, the reliability of travel times is also a challenge. Daily congestion levels can vary greatly due to a variety of factors including crashes, bad weather, special events, or roadway maintenance. The consistency and dependability of travel times is very important for many roadway users, such as those that must arrive on time to work or an appointment, catch a flight at the airport, or pick up children from day care. The less reliable trips are, the earlier travelers must leave in order to guarantee arriving at their destination on time, leaving less time for other endeavors.

A measure commonly used to describe the travel time reliability of the roadway network is the planning time index. The planning time index measures reliability by comparing travel times during some of the most congested conditions with travel times in free-flow, uncongested conditions. The planning time index increases as the roadway network becomes more congested and less reliable.

As part of the Urban Mobility Report, the Texas Transportation Institute (TTI) measures the regional planning time index of the freeway network in urbanized areas throughout the country. According to TTI, the freeway planning time index in Hampton Roads in 2014 was 2.52, meaning that for an average uncongested 20-minute trip, a total of 50 minutes should be allocated during peak periods to be on time 95% of the time. The Hampton Roads planning time index ranked 11th highest among the 31 urbanized areas defined by TTI as large areas.

PLANNING TIME INDEX, TTI LARGE URBAN AREAS, 2014



Source: TTI.

There continue to be many other challenges related to transportation in Hampton Roads:

- In spite of the infusion of regional monies from the Hampton Roads Transportation Fund, funding levels will still be well short of meeting all of the needed improvements to the regional transportation system, and lower gasoline prices have decreased the amount of funding available.
- Roadway operations and maintenance needs will continue to increase, especially as transportation infrastructure continues to age.
- There were a total of 24,874 crashes in Hampton Roads in 2014. These crashes resulted in tens of millions of dollars of damage, 14,715 injuries, and 125 fatalities. These crashes have a wide range of impacts, not only on the transportation system, but also on families, friends, and society as a whole.
- Although public transportation use has increased in Hampton Roads over the last decade, funding for public transportation lags other similar-sized metropolitan areas.
- Hampton Roads has an extensive active transportation system, but there are many challenges including gaps in the network, safety concerns, and a lack of support facilities.

I. Summary and Complete Regional Profile

In summary, Hampton Roads as a region represents a diversified economy, a rich blend of public and private educational institutions and ample opportunities for residents to experience a high quality of life.

Stable and increasingly diverse population.

Compared to Virginia and the nation as a whole, the population of the Hampton Roads region has grown at a relatively slow pace and tends to be younger and more diverse than the population of the United States.

Intricate and unique economy.

Hampton Roads' economy has long been based on the defense, tourism, and the ports. Recent cuts to federal expenditures have resulted in a very weak recovery from the Great Recession. The region's economy has struggled to gain traction against the out-flow of federal dollars. In spite of this struggle, Hampton Roads maintains a high quality of life. Searching for growth opportunities that have already shown promise within the region, cultivating existing businesses, and continuing to foster a competitive business-friendly environment will assist the region in creating new jobs. Hampton Roads will also continue to benefit from having one of the largest concentrations of military personnel in the United States, strong and diverse employment in the tourism sector, and being home to one of the largest east coast ports, which contributes nearly 375,000 jobs and greater than \$17.5 billion in employee wages each year to the Commonwealth of Virginia according to a 2014 analysis by William and Mary's Mason School of Business.

Effective but aging transportation system.

Because of the abundance of waterways, the transportation network is heavily dependent on bridges and tunnels. Per capita vehicle miles traveled has remained relatively stable over the last 10 years, suggesting that commuting distances are relatively short. But, aging infrastructure and congestion around tunnels and bridges pose a threat for future economic development.

Educational attainment.

Children entering kindergarten in the Hampton Roads region are prepared at higher rates of literacy fundamentals than any other region of Virginia. The population living in Hampton Roads compares favorably to other regions and metropolitan areas in high school attainment, and is roughly average for those who have completed college and advanced degrees. The region does not compare favorably with respect to on-time graduation rates and per-pupil funding. Education must remain a top priority in Hampton Roads to ensure success in the region's future.

A complete regional profile may be available via the HRPDC benchmarking study, available online at: <http://hrpdcva.gov/uploads/docs/Hampton%20Roads%20Benchmarking%20Study%202015.pdf>

Topics and data covered include:

- The Economy
- Defense Industry
- Ports
- Tourism Industry
- Retail Industry
- Real Estate
- Education
- Government
- Finances
- Quality of Life
- Locality Profiles
- Transportation
- Demographics

IV. ANALYSIS OF ECONOMIC DEVELOPMENT PROBLEMS AND OPPORTUNITIES

Economists Dr. Larry Filer of Old Dominion University's College of Business and Public Administration and Greg Grootendorst of the Hampton Roads Planning District Commission drafted a preliminary Strength/Weakness/Opportunities/Threat (SWOT) analysis that was then reviewed with the Strategy Committee and each of the Sub-committees during the development of the CEDS.

The Strengths and Weaknesses of the Hampton Roads region were identified from the background data on the region. Much of that analysis was taken from work done by the Hampton Roads Planning District Commission and the State of the Region Report and Annual Forecast provided by the Old Dominion University Forecasting Project. (<http://bpa.odu.edu/forecasting/index.shtml>)

The identified SWOT analysis is as follows:

Strengths

- Educated and Skilled Workforce
- Healthcare Access
- Port/Harbor; large, deep water, ice free, central East Coast location
- Openness to Tourism
- Income Equality
- Access to Higher Education
- Square Footage of Open Spaces/Parks
- Geographic Location
- Logistics
- Stable level of Federal Employment

Weaknesses

- Lack of well-developed Mass Transit
- Dearth of Affordable Housing
- Brain Drain
- Crime Rates
- Lack of Corporate HQs
- Decision-making is Rarely at the Regional Level

Opportunities

- Modeling and Simulation
- Alternative Energy
- Affordable Office/Commercial Space
- BRAC Job Inflows
- Stimulus Money

- Tech Transfer (Leverage science into commercially applied technology)
- Attraction of more Advanced Manufacturing
- Re-use of Fort Monroe

Threats

- Flat/Slow Port Growth Forecast
- Decrease in DoD Spending
- Continued Deterioration of Infrastructure, Traffic
- Competition from Other States for Military Forces Based in the Region
- Rising Sea Levels and other Potential Impacts of Climate Change
- Lack of Ultra Broadband Infrastructure (High-Speed Internet Telecommunications)
- Lack of Regional Water Strategy

In a parallel process, the 2009 State of the Region Report made some very relevant observations regarding the regional economy. Old Dominion University's College of Business and Public Administration has conducted their Economic Forecasting Project since 2000, producing the State of the Region Report (SOR) led by ODU President Emeritus and Economist Dr. James Koch.

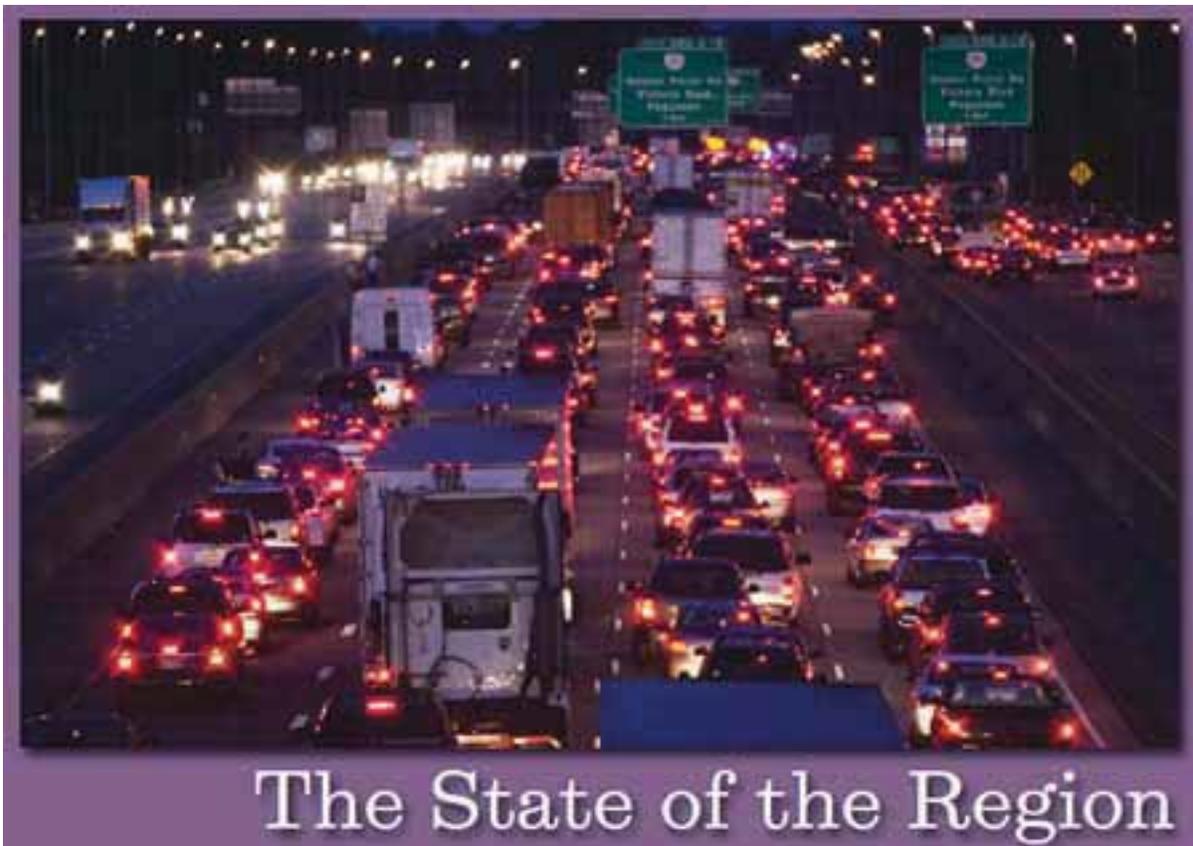
The State of the Region report this year described Hampton Roads as a region that depends on its maritime-rich geography including all the benefits that come with it, such as commerce derived at its ports, tourism and real estate drawn to its beaches and the waters that allow it to be one of the most concentrated naval strongholds on the planet. Those same geographic attributes, however, bring with them interconnected vulnerabilities that, if not managed and planned for properly, have the potential to overpower the positive. In ODU's State of the Region report, Dr. Koch summarized this duality of prosperity and vulnerability saying, "Our advantages are also our deficiencies. We have to find ways to minimize the deficiency part of that."

Hampton Roads strengths also create vulnerabilities that must be closely and continuously monitored to ensure they remain strengths. According to the 2009 report, defense spending continues to cushion our economic downturn, now approximately 34% of our economy, up from only 28% just 15 years ago. Those deficiencies include our increasing vulnerability to changes in defense spending as evidenced by the potential loss of an aircraft carrier group to Florida or the Pacific theater of operations and the increased reliance on "boots on the ground" over naval ships and naval aviation.

Our magnificent geography demands a transportation infrastructure that is reliant on a complex and expensive system of bridges and tunnels; a system of bridges and tunnels that today is inadequate. This inadequacy results in traffic congestion that has negative ripples throughout our economy. New firms are less likely to move here, and some will not stay here, if they cannot move their product in and out of the region. Tourists are less likely to come here if they cannot easily get into and move around the region.

Our best hopes for regional transformation and combating dependency in Hampton Roads are:

- Diversifying the economic base and developing new industry for the future;
- Gaining public support for and appreciation of the economic value of our regional assets.
- Maintaining and growing the three pillars of the regional economy – the Port, Tourism and our Federal assets;
- Building on defense-related competencies that can be utilized in other industries;
- Leveraging technologies developed at local colleges, universities and federal labs as well as commercial entities;
- Improving commerce derived from industry, all of which is dependent on transportation infrastructure; we must make it easier for people and products to move within the region; and
- Significantly increasing quality of life for residents by leveraging the variety of attractions, arts and culture, venues and performances and recreational opportunities that exist in the region.



<http://bpa.odu.edu/forecasting/index.shtml>

V. VISION HAMPTON ROADS GOALS AND OBJECTIVES -- DEFINING REGIONAL EXPECTATIONS

As mentioned in the opening section of this document, the Strategy Committee and the four Sub-committees established – Federal; Port / Maritime; Tourism / Arts & Culture; and Opportunities - worked very deliberately to build upon previous regional strategic planning efforts. Those previous actions included enhancing regional citizenship, developing a regional economic strategy, building on the region’s fundamental assets, raising the region’s human capital through education and laying an adequate physical infrastructure for the future and nurturing an attractive natural and man-made, environment.

In developing Goals, Objectives and Strategies for enhancing and diversifying the regional economy, broad themes emerged in nearly every discussion. Those themes or consistent topics of concern included:

- Adequate Transportation
- Regional Awareness
- 21st Century Education
- Innovation Economy

During the course of their deliberations of these themes, the Opportunities Sub-committee encouraged the other Sub-committees and the Strategy Committee to look at the Brookings Institute’s Blueprint for American Prosperity-Unleashing the Potential of a Metropolitan Nation (<http://www.brookings.edu/projects/blueprint.aspx>). The basic premise of the Blueprint is that economic development occurs without regard to jurisdictional boundaries. Instead, economic development occurs on a regional level and big demographic, economic and environmental forces rewrite the rules that drive prosperity within regions. These forces assign enormous value to a relatively small number of assets and reward those regions where these assets come together. According to the Brookings Institute, those assets include:

- Innovation – new products, processes and business models
- Human Capital – education and skills that further innovation
- Infrastructure – transportation, telecommunications, energy distribution
- Quality Places – special mix of distinctive communities

Given the similarity of our broad themes to those championed by Brookings and the clear connection of those themes to previous regional planning efforts, the Strategy Committee agreed to create Vision Hampton Roads in a manner that recognizes and builds those regional assets identified by Brookings. The overriding goal for the regional economic development strategy is:

With proper foresight, continuous planning and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure and a Sense of Place.

- proactively protect and defend the current range of military and federal capabilities;
- proactively identify and pursue opportunities and activities to grow military and federal capabilities in Hampton Roads; and
- to the extent possible through rigorous pro-activity, avoid being forced into crisis response and crisis management operations.

Federal Objectives, Strategies and Actions

OBJECTIVE 1: Hampton Roads will be the Premier Mission-Ready Region hosting Federal assets critical to the Commonwealth of Virginia and the Nation.

Strategy 1: Retain organizations, capabilities and investments owned, operated or funded by the Federal Government in Hampton Roads.

Action 1: Develop and implement a proactive, action-oriented strategy led by HRMFFA that addresses stability and viability of mission-critical entities including:

- Aircraft stationed at Oceana Naval Air Station, Langley Air Force Base and Fort Eustis;
- Army (Fort Eustis/ TRADOC);
- Coast Guard;
- Jefferson Lab;
- NASA Langley Research Center;
- NATO Allied Command Transformation;
- Navy ships home-ported in Hampton Roads; and
- Norfolk Naval Shipyard.

Action 2: Provide adequate surface connections (road and rail) to enhance regional mobility and access to federal facilities and to Washington, DC, recognizing infrastructure improvements create jobs and wages today and taking into account the safety of navigation, force protection and homeland security concerns of the Navy and other Federal agencies.

Action 3: Enhance the connectivity required to improve telework/telecommuting opportunities.

Action 4: Support contractors that serve federal installations by implementing appropriate economic development strategies such as creating on-site spaces and developing a regional water strategy.

Action 5: Enhance and coordinate political engagement among local elected leaders, the Hampton Roads Caucus of the General Assembly, the Governor and his staff and the Virginia Congressional Delegation.

Strategy 2: Attract and expand organizations, capabilities and investments owned, operated or funded by the Federal government in Hampton Roads.

Action 1: Remain aggressively engaged with organizations, capabilities and investments owned,

operated or funded by the Federal government and closely monitor all possible opportunities to expand Federal sector growth.

Action 2: Diversify the types of federal activities located in Hampton Roads by demonstrating logistical and economic sense for locating in the region.

Action 3: Develop and implement an action plan for job conversion for exiting military personnel to keep them in Hampton Roads, enhancing the skills and attractiveness of our workforce.

Action 4: Leverage the region's proximity to Washington, DC to position the region to host additional federal assets.

Action 5: Enhance and coordinate political engagement to increase the awareness and appreciation of our federal and military assets by local elected leaders, the Hampton Roads Caucus of the General Assembly, the Governor and his staff and the Virginia Congressional Delegation.

Strategy 3: Achieve public awareness and appreciation of the economic value of the Federal assets in the region to the Hampton Roads community, the Commonwealth and the nation.

Action 1: Continue to enhance the current culture and movement that reinforces relationships with Hampton Roads communities and organizations in the region to work together on mutual goals.

Action 2: Build relationships with key business and political leadership at Local, State and National levels.

Action 3: Involve the international community (ports, international science, etc.) in awareness of federal assets.

Action 4: Build Congressional, state and local awareness/engagement of value of non- military federal assets.

Action 5: Promote Hampton Roads as part of the global economy.

Strategy 4: Grow the indirect and induced investments and business located in the Hampton Roads region because of federal assets.

Action 1: Quantify the indirect and induced investments and business using assets available (research capability, wireless connectivity, etc.).

Action 2: Use data to motivate/inform specific strategies to mitigate negative impacts and enhance positive impacts (i.e., promoting region as a preferred location for federal government

retirees).

Action 3: Identify and address the needs of ancillary and emerging businesses.

B. Port/Maritime

The naturally safe harbors in Hampton Roads have been bringing commerce and trade to the Hampton Roads region for centuries. Deepwater access that can accommodate today's ... and tomorrow's ... supertankers, a strategic Mid-Atlantic location and a streamlined infrastructure network have helped to make Hampton Roads home to one of the premier ports on the East Coast, known internationally as the Port of Virginia, with over 3,000 foreign and domestic vessels calling annually. Significant investments by both the Port of Virginia (includes all Port facilities in Virginia) and by APM Terminals (A.P. Moller-Maersk Group) have positioned Hampton Roads well to capitalize on and accommodate increased port traffic well into the future.



The Port of Virginia is a tremendous economic engine for Hampton Roads and the entire Commonwealth. A 2014 analysis conducted by the College of William and Mary's Mason School of Business estimates that the Port of Virginia contributes 374,000 jobs, \$17.5 billion in employee wages, \$1.44 billion in taxes and \$60.3 billion in spending in the Commonwealth annually.

Those numbers and the overall economic impact of the Port of Virginia should increase significantly in the coming decades, if the Commonwealth of Virginia can make the necessary

investments to support that growth. Prior to the current recession industry experts estimated that U.S. cargo would double in volume by 2020. The Panama Canal Commission has undertaken a \$5 billion project to widen and improve the Panama Canal to be completed in 2016.

The 2040 Virginia Port Authority Master Plan driven by the proposed Craney Island Marine Terminal (CIMT) and supported by improvements at Norfolk International Terminals (NIT) and Portsmouth Marine Terminals (PMT) coupled with development at the APM Terminal in Portsmouth and the new intermodal rail service provided by the Norfolk Southern Heartland Corridor project and the CSX National Gateway project position Virginia to be the dominant port on the East Coast.

Unfortunately, there are very significant constraints facing the Commonwealth and the Port of Virginia. There is simply inadequate capital funding for Port expansion and a slowing economy will reduce public funding for port-related infrastructure. The reality is that infrastructure capacity increases tend to take years to realize. The process to create the 600 acres of land for the CIMT will take ten years alone. This does not include the construction of any terminal facilities which will take another three to five years. The CIMT estimated development cost is \$2.4 billion.

Road connections to the port are already strained. Virginia must make surface investments at the same time to fully leverage all of the advantages which this port provides, not the least of which are excellent ship repair and ship building facilities and world class cargo terminals. With declining gas tax and motor vehicle sales receipts - primary sources of funding at the federal and state level - the outlook for the needed road and rail improvements is pessimistic.

PORT / MARITIME Objectives, Strategies and Actions

OBJECTIVE 2: Hampton Roads will be the Premier East Coast Sea Port.

Strategy 1: Maintain the Port as an economic engine for the Hampton Roads region, the Commonwealth of Virginia and the Nation.

Action 1: Provide adequate surface connections (road and rail) to enhance regional mobility and improve access to inland markets recognizing infrastructure improvements create jobs and wages today.

Action 2: Ensure government at all levels maintains sound fiscal policies and economic development tools that support the Port.

Action 3: Meet the present and future needs of the Port of Hampton Roads through the provisions of safe, efficient and environmentally compatible commercial and military navigation systems and related land-based support facilities.

Action 4: Ensure government at all levels is provided reliable and validated data sets as to the economic contribution of the port.

Strategy 2: Grow and enhance the Port of Hampton Roads and become the East Coast port of call for all major ship lines.

Action 1: Prepare to take the next evolutionary step toward becoming a mega port of the future serving as the East Coast port of call for every major ship line by maximizing the competitive advantages of our Port assets resulting in a Port Hub model, including technological advances.

Action 2: Leverage existing and develop new inland connections to capture a larger share of discretionary cargo moving into inland markets.

Action 3: Maintain focus on container cargo and continue to enhance the diversification of the Port (retrograde cargo, break bulk, rolling cargo and energy support services).

Action 4: Support workforce development programs in the region through annual evaluation of opportunities and threats.

Strategy 3: Gain public support and appreciation of the economic value of the Port to the Hampton Roads region, the Commonwealth of Virginia and the Nation.

Action 1: Maximize growth with appropriate local and regional policies and vision that includes acting with environmental responsibility.

Action 2: Build advocacy coalitions of local, state and federal political leadership by focusing on the distinct needs and interests of each level of government.

Action 3: Engage citizens in issues of importance to the Port and benefits to the region's economic health to build public awareness.

Strategy 4: Grow and enhance indirect and induced effects of Port activities including ship building, ship repair and all related businesses.

Action 1: Maintain and grow the Navy presence in the region which sustains ship repair capabilities that support maritime industries including emergency repair for cargo and cruise ships.

Action 2: Advance the development of logistics parks within mixed use environments, i.e., a business park with combination of land uses centered around port related activities with strategic multi modal transportation access.

Action 3: Determine the needs of ancillary businesses such as maritime insurance, maritime legal services and shipping line offices in order to expand their presence in Hampton Roads.

Action 4: Address the needs of emerging businesses, such as mega yacht repair and maritime construction.

Strategy 5: Establish the Port as the manufacturing and supply chain hub of the East Coast offshore energy industry.

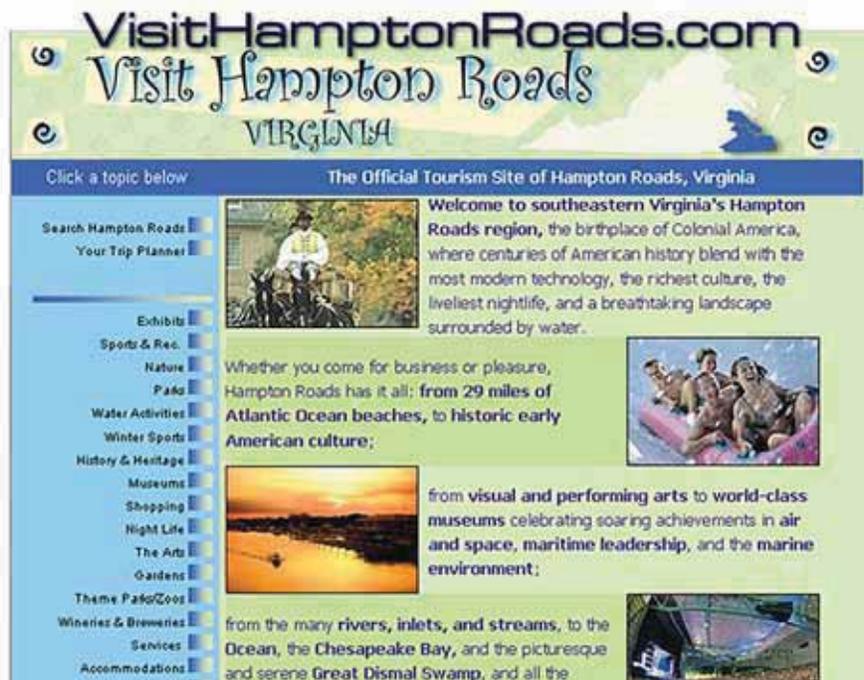
Action 1: Site and develop a large break bulk terminal dedicated to offshore energy shipping, assembly and distribution, including heavy lift capability, inland rail connectivity and deep water staging.

Action 2: Promote governmental policy and economic development support for offshore energy supply chain development at the local, state and federal level.

Action 3: Cooperate with regional port facilities in Delaware, Maryland, District of Columbia and North Carolina on transportation and logistics of major offshore energy components.

C. Tourism / Arts and Culture

Hampton Roads is a popular vacation destination for millions of visitors annually. Each city has its own unique attractions, events and activities. Getting to the region is easy and economical – whether driving, traveling by train or via any of the airlines serving Newport News/Williamsburg International Airport and Norfolk International Airport.



From the surf and sand of Virginia Beach, longest pleasure beach in the world, to the Historic Triangle of Williamsburg, Jamestown and Yorktown, to the attractive convention centers spread throughout the region, Hampton Roads is an established multi-faceted tourist destination. According to the Virginia Tourism Corporation, tourists spent in excess of \$4.1 billion in Hampton Roads in 2013. The Leisure and Hospitality industry employed 40,683 people in

Hampton Roads, growing 1.4% from the previous year. In addition to the hoteliers who depend on tourists to fill their rooms, tourism brings extensive new money to restaurants, retail establishments and government coffers.

Tourism impacts practically all area businesses, contributing to quality of life through the influx of tax revenue, creation of jobs and rise of services and attractions that add to the vibrancy of life in Hampton Roads. Tourism supports the development and enhancement of amenities that local business employees and residents can enjoy. For businesses in Hampton Roads, that means improved recruiting and retention of work force talent and greater quality of life for those employees.

Arts and Culture in Hampton Roads serve as a significant component of the Tourism industry. The arts strengthen our communities, lift our spirits and build a better quality of life for everyone in Hampton Roads. * As a billion dollar industry, arts and cultural organizations create millions of dollars in revenues for Hampton Roads businesses, attract out-of-state tourism spending, generate millions of dollars in personal income for Hampton Roads' workforce and entrepreneurs and create thousands of jobs for residents in the region. The economic impact of arts and cultural organizations in Hampton Roads is significant.

TOURISM / ARTS & CULTURE Objectives, Strategies and Actions

OBJECTIVE 3: Hampton Roads will be the Premier Year-Round Destination of distinction and appeal to travelers while significantly increasing quality of life for residents by leveraging the variety of attractions, arts and culture, venues and performances and recreational opportunities that exist in the region.

Strategy 1: Develop and promote a brand identity to capture the region's diversity as the gateway to a Virginia vacation.

Action 1: Develop products that extend the tourism season in Hampton Roads.

Action 2: Invest in arts and culture offerings that support travel and tourism, enhance the quality of life for residents of the region and attract creative and entrepreneurial knowledge workers to relocate to the region.

Action 3: Promote the region's existing and new venues as innovative complements to the Hampton Roads' tourism, arts and culture experience.

Action 4: Define, develop and promote Hampton Roads as an eco-friendly tourism destination.

Action 5: Develop identification of and a regional awareness of travel and tourism target markets for Hampton Roads, including intraregional.

Strategy 2: Attract economic investment in Hampton Roads by providing an exceptional quality of life made possible by the region's tourism and arts and culture experience.

Action 1: Ensure existing arts and culture facilities are properly provided with consistent funding and dynamic programming.

Action 2: Determine local populace's unmet and supportable arts and cultural needs and expand the current programming to encompass those activities and events.

Action 3: Augment marketing strategies for the region's current tourism, arts and culture opportunities outside the state, both nationally and internationally.

Action 4: Attract new businesses and leverage existing business services and products to help the region tell its "brand identity" story.

Action 5: Quantify, through research, the economic impact of travel and tourism for new, significant investment in Tourism and Arts & Culture.

Strategy 3: Create sustainable regional tourism and a diverse arts and culture experience that is consistently funded, well-coordinated and fully appreciated by the community.

Action 1: Quantify and clearly articulate the depth, scope and quality of the economic and lifestyle impact of tourism, arts and culture in Hampton Roads.

Action 2: Educate the community, including business and political leaders, about the economic impact of tourism, arts and culture in Hampton Roads thereby resulting in additional support for tourism, arts and culture.

Strategy 4: Achieve an adequate transportation system to enhance regional mobility, facilitate ease of travel from outside the state and allow for full participation in the diversity of the Hampton Roads tourism and arts and culture experience upon arrival.

Action 1: Address transportation by rail with the expansion of the current light rail project and encourage the possibility of higher speed rail to facilitate travel from the Northeastern corridor through to Southside Hampton Roads, along with improvements on the Peninsula.

Action 2: Address transportation by roads and the constant congestion of the area and continue to investigate the possibility of additional Hampton Roads Harbor crossings.

Action 3: Address transportation by ferries by ensuring continued service between Surry and Williamsburg and examine capabilities for crossing the mouth of the James River.

Action 4: Address air service development by monitoring and continuing to cultivate service with major airlines that feed airline service to Newport News/Williamsburg International Airport and Norfolk International Airports.

D. Opportunities

Diversifying the regional economy will be the most challenging of the four objectives defined in this document. The four areas of focus:

1. Technology-based business innovation and education;
2. Coastal energy solutions;
3. Environmental distinction; and
4. Healthcare and life sciences.



In the following pages, we will provide a detailed overview of all four areas of focus:

1. Technology-based business innovation and education

The regional innovation economy is composed of the network of individuals, organizations and activities that collectively represent the means by which new technologies can be devised and brought to market. The components of the network include:

- The presence of industry clusters;
- The research strengths of the region;
- The existing technology transfer infrastructure;
- Interactions between universities and industry;
- Networking; and
- Capital availability.

So how does Hampton Roads score on each of these components, and what can we do to accelerate the process? ANGLE Technology in Portsmouth is an international consulting firm specializing in all aspects of technology commercialization. The company has completed projects in Hampton Roads on the economic impact of modeling and simulation, the identification of a bioscience cluster and a strategic and marketing plan for a research park at Norfolk State University. Robert Rea, a senior executive with ANGLE Technology, prepared the following analysis related to Building the Innovation Economy of Hampton Roads:

The presence of industry clusters

Industry clusters are here - in modeling and simulation, information technology, biomedical research and devices, sensors and marine science. An ANGLE survey identified over 2,000 direct jobs paying an average of \$80,000 per year in modeling and simulation. Another survey identified over 1,200 jobs paying an average of \$65,000 per year in Bioscience.

The modeling and simulation industry, although supported strongly by military sponsors, has expanded to transportation, port operations, education and the medical world. The Bioscience cluster includes research developed at local colleges, universities and federal labs as well as commercial entities and extends to organ replacement, marine science and medical devices.

The Hampton Road Research Partnership and the Hampton Roads Technology Council collaborated on a project to establish a National Center for Sensor Research and an associated professional society at Norfolk State University. These activities will capitalize on the growing sensor industry in the region as well as the materials research capability and clean room for sensor development at the university.

The research strengths of the region

The following table lists the principal fields addressed by Hampton Roads' research institutions:

Institution	Research Centers	
Old Dominion University http://ODU.edu	Advanced Ship Repair & Maintenance Accelerator Science/Nuclear Physics Bioelectrics Bioinformatics/Computational Science & Digital Preservation Coastal Physical Oceanography Dental Hygiene	Laser and Plasma Engineering Magnetic Levitation Modeling and Simulation Health Sciences Marine Biology Molecular Medicine/Immunology Nanobiotechnology Aerospace Engineering
Eastern Virginia Medical School http://EVMS.edu	Epidemiology & Biostatistics Medical Modeling and Simulation Cardiovascular & Renal Research Pediatrics Contraception Geriatrics & Gerontology Reproductive Medicine Biodefense, Sleep Disorders	Diabetes Ocular Pharmacology Breast Cancer Prostate Cancer Microbiology Neonatology Physiological Sciences Psychiatry and Behavioral Sciences
Hampton University http://HamptonU.edu	Aeropropulsion Advanced Medical Instrumentation Atmospheric Sciences Origin and Structure of Matter Intermodal Transportation	Laser Atmospheric Studies Proton Therapy Engineering Research Modeling and Simulation
National Institute of Aerospace http://NIAnet.org	Adaptive Aerospace Vehicles Aerospace Systems Engineering Modeling & Simulation	Multifunctional Materials Nanotechnology Planetary Atmospheric Flight

Institution	Research Centers	
College of William and Mary http://WM.edu	Archaeology Conservation Biology Aging and Geriatric Health Gifted Education Legal and Court Technology Operations Management	Public Policy Computational Science Historical Biology Early American History Marine Science (VIMS) Applied Science & Particle Physics
Thomas Jefferson National Accelerator Facility (Jefferson Lab) http://JLab.org	Nuclear Physics Accelerator Technology Detectors and Medical Imaging Cryogenics Simulations for Nuclear Physics	Large scale data acquisition Free Electron Laser Light source technology Superconducting radiofrequency technology
NASA Langley Research Center http://www.larc.nasa.gov	Aeronautics Structures and Materials	Space Exploration Atmospheric Science
Applied Research Center at Jefferson Lab http://jlab.org/ARC/	Plasma and Photon Processing Materials Modeling Environmental Monitoring	Thin Films and Optical Materials Materials Characterization
Norfolk State University http://NSU.edu	Gaming & Simulation Sensors Materials Science Photonics Nanotechnology	Biotechnology Power Communications Information Assurance
Christopher Newport University http://CNU.edu	Bioscience Environmental Sustainability Materials Science	Nanotechnology (Advanced Materials for Alternative Energy & Environmental Remediation, Green Processing, Nanotechnology, Biomedical Surfaces, Non- destructive Evolution of Materials)

Although this is an impressive list, not all of these topics offer opportunities for technology commercialization and the creation of technology-based jobs beyond additional research. Economic development comes from research commercialization, not from more research. There are, however, organizations in place to help budding entrepreneurs enter the market place, identified in the next section.

Technology transfer infrastructure

There are active technology transfer offices at Old Dominion University, Eastern Virginia Medical School, William and Mary, NASA and Jefferson Lab. Also, several technology business incubators are available in the region where entrepreneurs can obtain office space and advice on building their businesses:

- Virginia Modeling, Analysis and Simulation Center at ODU in Suffolk
- James City County Business and Technology Incubator managed by the College of William and Mary and
- Franklin Southampton Economic Development Incubator in Franklin.
- Hampton Technology Incubator
- Peninsula Technology Incubator
- Hampton University Small Business Incubator

Additionally, the Federal Lab Consortium (FLC), whose mission is to promote and facilitate the rapid movement of federal laboratory results and technologies into the mainstream U.S. economy, houses about 10% of their organizations in the Mid-Atlantic Region, nine (9) of which are located in or near Hampton Roads:

- Army Vehicle Technology Directorate
- Naval Medical Center, Portsmouth
- Naval Safety Center
- Space & Naval Warfare Systems Command Systems Center Norfolk
- Dept. of Energy Thomas Jefferson National Accelerator Facility
- NASA Langley Research Center
- NASA Wallops Flight Facility

Technologies of focus by FLC are Agriculture, Analytic Tools/GIS, Military Sciences, Engineering, Energy/Power, Environment, Marine Sciences, Space & Atmospheric Sciences, Health, Materials, and Intelligence.

Interactions between universities and industry

Although the region enjoys large expenditures on a wide variety of research and development topics, a very small percentage is sponsored by private industry. Nationally, industry sponsorship of university research runs from three to five percent of university R&D expenditures.

Most research is paid for by agencies of the federal government and directed toward solving government problems. Researchers in these programs are typically not familiar with the technology problems in private sector markets, so private companies do not typically seek them out. It is also more difficult for university researchers to market their services to private companies because their research needs are not widely published, they require non-disclosure agreements to initiate conversations and they seek full ownership of the intellectual property developed with their funds.

Networking

Innovate! Hampton Roads, a nonprofit membership organization, maintains an extensive networking program in the region with numerous events as well as linking its membership with local elected officials, state legislators and economic development organizations. It organizes social events for its members such as Tech Nite, an annual awards banquet. The Council also supports technology cluster organizations for sensors, information technology, electronic commerce, entrepreneurs, robotics, defense and homeland security and modeling and simulation.

Capital availability

Sources of equity capital for investments in start-ups and early stage companies are very limited in Hampton Roads. There is one private equity company in Virginia Beach, Envest Ventures LLC, that invests in basic industries and non-revolutionary technologies. The company has experience in financial services, franchising, manufacturing, healthcare services, travel and

entertainment and software/IT sectors but rarely invests in companies in Hampton Roads. There is an angel group headquartered in Charlottesville, the Virginia Active Angel Network, which would consider deals from Hampton Roads companies. There are also active angel and venture investors readily available in Northern Virginia that can be approached with high quality business plans. Although the venture capital industry is not well-represented locally, the constraint is inadequate deal flow rather than the absence of interested investors.

The Score

The following grade card shows how Hampton Roads scores in developing an innovation economy and suggests what can be done to build the road to diversification even faster:

Component	Grade	Action Plan
Industry Clusters	B	Economy still heavily dependent on defense and port operations, but emerging clusters show signs of diversification in growing markets. Increase participation in cluster activities and form new ones.
Research Strengths	B	An impressive variety of research fields, but few projects are focused on solving problems in private sector markets. Researchers should learn about commercial markets, and private companies should share new technology opportunities with them.
Technology Transfer	C	A small percentage of research results find their way into commercial markets. HRTC incubators are a big help, but they need to be expanded well beyond Hampton and James City County.
University-Industry Relations	C	A small percentage of university research is sponsored by private industry. Concerted effort is needed by both universities and private industry to bridge this gap.
Networking	A	The Hampton Roads Technology Council is doing an excellent job. Everyone in the innovation economy in both the public and private sectors should join and participate.
Capital Availability	C	Equity investors for early stage technology companies are not available in the region, and the deal flow is not adequate to attract them. We need more entrepreneurs to put together competitive business plans and sell them to investors wherever they are.

2. Coastal energy solutions

The current global emphasis on low-carbon fuels will create an opportunity for wind energy development. Hampton Roads is uniquely positioned to capitalize on the significant economic opportunity associated with offshore wind development, not only in Virginia’s waters, but also all along the East Coast. The Port of Hampton Roads has much of the industrial infrastructure needed to support the development and maintenance of wind farms off of the Mid-Atlantic coast. Developing wind energy would leverage Hampton Roads port resources and large steel fabrication facilities. We have talked extensively about our Port resources. According to the Virginia Coastal Energy Resource Consortium about 30% of the turbine and tower package cost associated with wind farms might be readily sourced in Virginia. The remaining 70% represents a potential manufacturing opportunity in Hampton Roads.

Virginia has significant offshore wind resources. Those resources are natural, maritime and human. Class 5 and 6 winds in the Virginia offshore waters will support the development of wind farms off of Virginia Beach. Virginia has immediate installation potential of 3,000 megawatts (MW) in Class 6 wind resources located less than 12.5 miles (20 km) offshore in water depths less than 100 feet (30 meters) and largely beyond the visual horizon.

Virginia’s longer term potential farther offshore is greater than 15,000 MW.

Our region also has significant relevant human capital in the form of former military personnel. Hampton Roads has the necessary market pull in the form of customers, projects and supply chain investment. Nominal wholesale electric prices in the Pennsylvania-New Jersey-Maryland Interconnection (PJM) regional market are forecast to triple by 2030 and will reach \$120/MWh by 2016-2018. The U.S. Department of Defense must obtain 25% of its stationary electric power from new renewable energy resources by 2025. Furthermore, the Department of the Navy intends to obtain 50% of its stationary power from renewable energy sources by 2020. In other words, the market will demand less expensive and readily available sources of fuel.

Another marine renewable energy technology that represents a tremendous opportunity for diversifying the regional economy is algae cultivation and biofuel. According to VCERC, algae cultivation and biofuel processing technologies could meet U.S. transportation demand.

In September 2008, Old Dominion University opened its pilot facility for algae farming and biodiesel production to fulfill the main tenets of a Virginia energy plan that strives for reliable new sources of energy while also protecting the environment.

ODU, in conjunction with VCERC, has developed a 1-acre test pond in rural Prince George County near the border with Surry County and has conducted algae-growing and algae-harvesting experiments. Research has addressed one of the problems that has plagued open algae-growing ponds: keeping favorable species growing while fending off invasive species that are not oil-rich. So far, the researchers have reported gains in maintaining species constancy and in developing ways to monitor algae growth.

Late in 2009, ACENT Laboratories, a company based in New York, joined with ODU researchers to win federal development funds for a new system by which algae is harvested and dewatered so it can be used to produce biofuels.

ODU scientists and engineers have stockpiled hundreds of pounds of dried algae grown in the test pond. Using a small, laboratory reactor, they have produced sample amounts of biodiesel fuel from the dried algae. Using a large-scale reactor will allow the team to ramp up biodiesel fuel production by means of a proprietary, one-step process.

In September 2009, the College of William and Mary and its Virginia Institute of Marine Science (VIMS, <http://www.vims.edu>) formed a collaborative research initiative to investigate a promising new technology to produce biofuel from the algae growing naturally in rivers and the Chesapeake Bay.

The enterprise, called ChAP—the Chesapeake Algae Project—is an integrated research approach to algae-based energy production and environmental remediation. It includes a number of corporate partners, notably StatoilHydro, a Norwegian energy company.

The William & Mary/VIMS group is investigating a process that not only is environmentally sustainable but, if used on a large scale, can help to reverse a number of environmental problems such as excess nutrient enrichment that produces “dead zones” in the Chesapeake Bay and other waters.

The project involves the entire process of producing biofuels, from algal growth to harvesting, extracting the oil and other products from the algae, processing the oil and producing the final biofuel product. Algae are good candidates for use as biofuel because of their rapid growth rates and ability to take-up nutrients such as nitrogen and phosphorus. Some of these aquatic plants have as much as 50 percent oil content, depending on environmental factors.

The Sub-committee chose to not address off shore oil and natural gas drilling in this document. They were not deemed to be achievable or readily available resources within this Vision’s five-year time frame and Federal policy currently is in a state of flux, making it difficult to formulate a viable near-term approach to these energy sources.

3. Environmental distinction

A set of occupations with strong growth potential are in fields related to clean energy production and environmental protection. There are growing opportunities in these fields, particularly for workers with technical skills. A growing list of occupations and industries are becoming increasingly devoted to clean energy production, energy efficiency and environmental protection.

The current administration has pledged to work with Congress to pass comprehensive legislation to protect our nation from the serious economic and strategic risks associated with our reliance on foreign oil and the destabilizing effects of a changing climate. Policies to advance energy and climate security should promote economic recovery efforts, accelerate job creation and drive clean energy manufacturing by:

Investing in the Clean Energy Jobs of the Future

By developing an American clean energy industry, a 21st century economy will flourish within our borders. Creating new jobs in the “clean energy economy” will drive the development of new, green jobs that pay well and cannot be outsourced. Investing in the next generation of energy technologies will focus energy research and development to transition the U.S. to a clean energy economy.

Securing our Energy Future

Our reliance on oil poses a threat to our economic security. Over the last few decades, we have watched our economy rise and fall along with the price of a barrel of oil. We must commit ourselves to an economic future in which the strength of our economy is not tied to the unpredictability of oil markets. We must make the investments in clean energy sources that will

curb our dependence on fossil fuels and make America energy independent. We must produce more energy at home by enhancing U.S. energy supplies through responsible development of domestic renewable energy, fossil fuels, advanced biofuels and nuclear energy. We must also promote energy efficiency by promoting investments in the transportation, electricity, industrial, building and agricultural sectors that reduce energy bills.

Closing the Carbon Loophole and Cracking Down on Polluters

We must take immediate action to reduce the carbon pollution that threatens our climate and sustains our dependence on fossil fuels. We have had limits in place on pollutants like sulfur dioxide, nitrogen dioxide and other harmful emissions for some time. After decades of inaction, we will finally close the carbon pollution loophole by limiting the amount of carbon pollutants are allowed to pump into the atmosphere.

Revenues generated by closing the carbon loophole will be returned to the people, especially vulnerable families, communities and businesses.

4. Healthcare and life sciences

Healthcare is forecasted by the President's Council of Economic Advisers (CEA) to remain a large source of job growth in the labor market. The long-term trend toward more employment in healthcare is expected to continue, with many health care occupations, including medical records and health information technicians, registered nurses, clinical laboratory technicians and physical therapists, expected to grow.

Hampton Roads can become the place where people from around the world come for specific medical treatments given the current facilities/assets as well as those on the horizon. Eastern Virginia Medical School (EVMS, <http://EVMS.edu>) has fourteen Medical Centers of Excellence already in place (including The Jones Institute for Reproductive Medicine, <http://www.JonesInstitute.org>).

With plans to treat over 2,000 patients per year with breast, lung, prostate, pediatric and other cancers, Hampton University Proton Therapy Institute (<http://HamptonProton.org>) will be the largest free-standing proton therapy institute in the world.

LifeNet Health (<http://LifeNet.org>), founded in 1982, is a full-service biomedical tissue banking system and a leading nonprofit organ and tissue donation agency whose mission is saving lives and restoring health. LifeNet Health provides recovery and processing services for musculoskeletal and cardiovascular tissues, distributing more than 300,000 biomedical implants every year to restore health to patients around the world.

Hampton Roads currently ranks among the best in the country for cardiac services provided by five major providers:

- Bon Secours Hampton Roads (<http://BonSecoursHamptonRoads.com>);
- Sentara Healthcare (<http://Sentara.com>);
- Chesapeake Regional Medical Center (<http://ChesapeakeRegional.com>);
- Riverside Health System (<http://www.riversideonline.com>);

- Children’s Hospital of the Kings’ Daughters, Virginia’s only free-standing, full-service pediatric hospital (<http://CHKD.org>).

Hampton Roads also hosts significant military health facilities. Building of the Nationwide Health Information Network (<http://bit.ly/NHINetwork>), proposed to ultimately link all health providers together electronically to speed medical care and reduce costs, will start at the regional level. The region is an ideal location to pursue health information exchange technologies among military, Veteran’s Administration and private health systems. Local facilities are:

- Naval Medical Center Portsmouth
- (<http://www.med.navy.mil/SITES/NMCP/Pages/default.aspx>)
- Veterans Administration Medical Center (VA) at Hampton
- (<http://www.hampton.va.gov>);
- VA Community-Based Outpatient Clinic, Virginia Beach
- (<http://www.hampton.va.gov/visitors/cboc.asp>);
- VA Extended Care and Rehabilitation, Hampton
- (<http://www.hampton.va.gov/visitors/cboc.asp>);
- McDonald Army Health Center (MCAHC), Joint Base Langley-Eustis
- (<http://mcdonald.narmc.amedd.army.mil/default.aspx>); and
- USAF Langley Hospital (Air Force), Joint Base Langley-Eustis
- (<http://www.langley.af.mil/healthcareinformation/index.asp>).

OPPORTUNITIES Objectives, Strategies and Actions

OBJECTIVE 4: Hampton Roads will be recognized internationally as a region for centers of excellence fueled by a culture of innovation and economic opportunities.

Strategy 1: Hampton Roads will be a region of excellence for clusters of cutting edge technology-based business innovation and education.

Action 1: Address the inadequate innovation system and support for entrepreneurship in Hampton Roads by providing education and training in entrepreneurship, business incubation, support for early stage companies and access to equity investors.

Action 2: Grow our 21st century workforce by including the knowledge, skills and capabilities of key Hampton Roads technologies in the curriculum of all Region II K-12 school divisions, addressing educational needs for a successful 21st century workforce.

Action 3: Continue to grow the technology clusters of Modeling and Simulation, Sensors and Bio Science and embrace new clusters as they develop.

Action 4: Encourage and support Hampton Roads’ research universities as focal points of knowledge-led economic development.

Action 5: Work to remove barriers to entrepreneurial activities in order to drive innovation, above average economic growth and above average net incomes for workers.

Strategy 2: Hampton Roads will be a region of excellence for developing and implementing

offshore wind energy and other coastal energy solutions.

Action 1: Develop and implement the multi-disciplinary systems capabilities to enable critical assessments and tradeoffs between energy, the environment and the economy.

Action 2: Leverage the strong R&D capabilities developed at local colleges, universities and federal labs as well as commercial entities and Mid-Atlantic coastal location near a power grid connection point to become a Coastal Energy Center of Excellence that studies and develops offshore wind and other renewable energy sources.

Action 3: Leverage the strong heavy-industry (primarily shipyard trade) capabilities in Hampton Roads to become a center for the manufacture and maintenance of conventional, nuclear and renewable energy-related infrastructure.

Action 4: Support, promote, and expand the Virginia Coastal Energy Research Consortium as a Center of Excellence for the translation of basic alternative energy research into commercial economic development projects; especially in wind, algal biodiesel, and wave energy.

Strategy 3: Hampton Roads will be a region of excellence for environmental distinction.

Action 1: Develop and implement the multi-disciplinary systems capabilities to enable critical assessments and tradeoffs between energy, the environment and the economy.

Action 2: Develop a framework for a green economy by connecting all of the public, private, nonprofit and higher education activities aimed at coordinating the regional green agenda.

Action 3: Develop and implement a regional campaign for awareness of environmental issues and their implications and methodologies for going “green.”

Action 4: Develop a long-term adaptation strategy for the impacts of climate change and sea level rise on Hampton Roads.

Action 5: Utilize the strengths of the region’s modeling and simulation industry to develop tools to support regional leaders in developing climate change and sea level rise adaptation strategies.

Action 6: Support transportation policies including investment in transit and programs that will promote more compact land use.

Strategy 4: Hampton Roads will be a region of excellence for healthcare and life sciences.

Action 1: Work to insure quality, cost effective healthcare is available to citizens of Hampton Roads in order that businesses may be more competitive.

Action 2: Address healthcare as a quality of life measure for our region.

Action 3: Reach out to regional leaders in healthcare to determine and address what they need to grow their industry.

Action 4: Leverage the academic, research, and infrastructure capabilities of local colleges, universities and federal labs as well as commercial entities to become a region of distinction for the convergence of life sciences, information technology, photonics, nanotechnology and personalized healthcare.

VI. STRATEGIC PROJECTS, PROGRAMS AND ACTIVITIES:

The process of implementation, including prioritization, will actually be one of alignment. The intent of this process is to align the missions and objectives of many regional organizations behind the implementation of the plan and process that is the region's economic development strategy.

We will be more successful when the entire region is aligned to achieve the goal and objectives of REDS.

Job #1: Work to support and facilitate alignment of organizational missions and strategies within objectives and strategies of the region's economic development strategy.

Thematic Prioritization: The following themes, in priority order, have been identified as the most impactful and most immediate which will improve upon the measures used to gauge economic success of this plan (Section VIII):

1. Infrastructure with specific focus on transportation
2. Innovation with specific focus on opportunities and entrepreneurship
3. Intellectual & Human Capital with specific focus on education
4. Sense of Place with specific focus on regional awareness

Obviously, work on each theme will occur concurrently; however, our priority focus will be: Transportation and Innovation.

Support of Infrastructure Investments:

1. **Infrastructure with specific focus on transportation**

Strategy: "Achieve an adequate transportation system to enhance regional mobility, facilitate ease of travel from outside the state and allow for full participation in the diversity of the Hampton Roads tourism and arts and culture experience upon arrival."

Hampton Roads Transportation Planning Organization's Hampton Roads Project Prioritization and Selection Process:

Federal regulations require that the urban transportation planning process include the development of a long-range transportation plan, which identify transportation facilities that should function as an integrated metropolitan transportation system, giving emphasis to those

facilities that serve important national and regional transportation functions. It is the responsibility of the Hampton Roads Transportation Planning Organization (HRTPO) to establish regional transportation priorities within the HRTPO's planning boundaries that are equitable for all areas of the Hampton Roads Metropolitan Planning Area by means of instituting a methodology for a regional transportation project prioritization and selection process in an effort to improve the region's long-range transportation plan.

The Hampton Roads Project Prioritization and Selection Process task was initiated in the summer of 2009 to assist the HRTPO Board with prioritizing transportation projects according to their technical merits and regional economic benefit, in light of scarce financial resources. This prioritization tool is based on the collective experience of other metropolitan planning organizations and localities, the eight SAFETEA- LU Federal Planning Factors, and the regional transportation goals and objectives. The purpose of tool is to develop a process by which policy makers are given a set of objective measures to identify the most practical and feasible transportation projects.

The prioritization methodology is based on a set of criteria and measures of effectiveness developed for three major components: Project Utility, Project Viability, and Economic Vitality. A project's utility considers the project's ability to solve an existing transportation issue, which could be correlated to congestion, safety, infrastructure condition, or ridership. A project viability level indicates the readiness of the project to be constructed based on available funding and completion of required documentation. The economic vitality component provides additional insight for a project's ability to support regional plans for future development and economic growth of the region. Therefore, it's advantageous for policy makers to have the ability to develop an overall project prioritization process using information relative to utility, viability, and economic vitality.

During the public participation process of the original Comprehensive Economic Development Strategy, transportation was clearly identified as the top priority of Hampton Roads residents. Transportation infrastructure investments are critical to the long-term health of the regional economy, as the transportation network serves as the backbone of the region's economy. Each of Hampton Roads localities have identified specific infrastructure investments that are recognized as vital to increasing the economic vitality and opportunity within the region. Transportation projects that have been identified include:

Locality	Project	From	To
BRIDGE AND TUNNEL PROJECTS			
Multi-jurisdictional	Chesapeake Bay Bridge-Tunnel Parallel Thimble Shoal Tunnel	Virginia Beach	Northampton County
Multi-	Downtown Tunnel/Midtown Tunnel/MLK	Hampton Blvd	I-264

jurisdictional	Extension		
Multi-jurisdictional	Hampton Roads Bridge Tunnel (8-Lanes)	I-64/I-664 (at Coliseum)	I-64/I-564
Multi-jurisdictional	I-64 Southside Widening (including High Rise Bridge)	I-64/I-464	I-64/I-264 (at Bowers Hill)
Multi-jurisdictional	I-664 portion of Third Crossing (including Bowers Hill Interchange)	I-64/I-664 (at Coliseum)	I-264/I-64 (at Bowers Hill)
Multi-jurisdictional	Patriots Crossing portion of Third Crossing (including Craney Island Connector)	Hampton Blvd/Intermodal Connector	I-664; VA 164
Chesapeake	22nd St Bridge	Liberty St	Wilson Rd
Chesapeake	Deep Crk AIW Bridge Replacement and G.W. Hwy (US 17)/ Moses Grandy Trail Intersection Improvements	Mill Creek Pkwy	Diamond Ave
Chesapeake	Dominion Blvd	0.05 mi N. of Great Bridge Blvd	0.75 mil S. of Cedar Rd
Chesapeake	Gilmerton Bridge	0.36 mi E. of Bridge (Bainbridge Blvd)	0.42 mi W. of Bridge (Shell Rd)
Chesapeake	Triple Decker Bridge (Interchange of US 13, US 460, and Norfolk Southern Rail Line)	N/A	N/A
Hampton	Bridge Street Bridge	Rudd Ln	Marrow St
James City	Humelsine Pkwy (Rte 199) at Colonial Pkwy	N/A	N/A
Locality	Project	From	To
BRIDGE AND TUNNEL PROJECTS Continued			
James City County	Jamestown Rd (Rte 31) Over Powhatan Creek	N/A	N/A
James City County	Rte 601 Over Diascund Creek	0.87 mi to Int Rte. 603	0.87 mi to Rte. 603

Newport News	Denbigh Blvd Bridge Replacement	Richneck Rd	Trailblazer Blvd
Newport News	Fort Eustis Blvd Bridge Replacement	E. side of Lee Hall Reservoir	W. side of Lee Hall Reservoir
Newport News	Huntington Ave Bridge Replacement	39th St	41st St
Newport News	Warwick Blvd over Lake Maury	Gatewood Rd	J Clyde Morris Blvd
Portsmouth	Churchland Bridge	N/A	N/A
Portsmouth	Paradise Creek Bridge (Rte 239)	N/A	N/A
Southampton County	VA 35 Over Nottoway River	N/A	N/A
Southampton County	VA 608 Over Raccoon Swamp Rd (Structure #6006)	N/A	N/A
Southampton County	VA 635 Over N&W Railroad (Structure #6042)	N/A	N/A
Southampton County	VA 659 Over Flat Swamp (Structure #6069)	N/A	N/A
Suffolk	Kings Hwy Bridge	Godwin Blvd (Rte 10)	Kings Hwy

Locality	Project	From	To
BRIDGE AND TUNNEL PROJECTS Continued			
Suffolk	Mills Godwin Bridge	Quail Hollow	Waterview Rd
Virginia Beach	Laskin Rd Bridge Replacement	Laskin Rd	Laskin Rd
Virginia Beach	Lesner Bridge	E. Stratford Rd	Paige Ave
HIGHWAY PROJECTS			
Multi-jurisdictional	I-64 Peninsula Widening- Segment 1	Jefferson Ave (Exit 255)	Route 238/Mile Marker 248 (Exit 247)
Multi-jurisdictional	I-64 Peninsula Widening- Segment 2	Route 238/Mile Marker 248 (exit 247)	Route 199 East of Williamsburg (exit 242)
Multi-jurisdictional	I-64 Peninsula Widening - Segment 3	Route 199 East of Williamsburg (exit 242)	Route 199 West of Williamsburg (exit 234)
Multi-jurisdictional	I-64 & Fort Eustis Blvd Interchange	N/A	N/A
Multi-jurisdictional	US 460/58/13 Connector (including SPSA Overpass and Hampton Roads Exec. Airport Interchanges)	Bowers Hill	Eastern End of Suffolk Bypass
Multi-jurisdictional	US Route 460 - Hampton Roads Portion*	Suffolk Bypass	West of Zuni
Multi-jurisdictional	Denbigh Blvd (Rte 173)	Independence Blvd	York CL
Multi-jurisdictional	Denbigh Blvd (Rte 173)	Newport News CL	G.W. Mem Hwy (US 17)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Multi-jurisdictional	Mooretown Rd Extension	Lightfoot Rd	Croaker Rd
Multi-jurisdictional	Southeastern Pkwy and Greenbelt (Study)	I-264	I-64/I-464
Multi-jurisdictional	Victory Blvd (Rte 171)	Poquoson CL	Hampton Hwy (Rte 134)
Multi-jurisdictional	Victory Blvd (Rte 171)	Wythe Creek Rd (Rte 172)	York County CL
Multi-jurisdictional	Wythe Creek Rd	Alphus St	Commander Shepard Blvd
Multi-jurisdictional	US 460/58/13 (8-Lane Option)	Bowers Hill	Suffolk Bypass
Multi-jurisdictional	US 60 Relocation (includes Skiffes Creek Connector)	Fort Eustis Blvd	Merrimac Trail (Rte 143)
Chesapeake	Ballahack Rd	G.W. Hwy (US 17)	Old Battlefield Blvd
Chesapeake	Centerville Tnpk	Mount Pleasant Rd	Virginia Beach CL
Chesapeake	Chesapeake Regional Airport Access Rd	West Rd	G.W. Hwy (US 17)
Chesapeake	Dominion Blvd Phase II	0.75 mi South of Cedar Rd	Existing 4-lane Segment South of Cedar Rd
Chesapeake	Elbow Rd	Butts Station Rd	Virginia Beach CL
Chesapeake	G.W. Hwy (US 17)	Yadkin Rd	Canal Dr

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Chesapeake	Hanbury Rd	Johnstown Rd	Battlefield Blvd
Chesapeake	Military Hwy	Allison Dr	Virginia Beach CL
Chesapeake	Mt Pleasant Rd, Phase 1	Chesapeake Expressway	Etheridge Rd
Chesapeake	Mt Pleasant Rd, Phase 2	Etheridge Rd	Centerville TnPk
Chesapeake	Portsmouth Blvd	Jolliff Rd	Suffolk CL
Chesapeake	Woodlake Dr	Battlefield Blvd	Existing Woodlake Dr
Franklin	2nd Avenue	Mechanic Street	Franklin City Line
Franklin	2nd Avenue	High Street (VA 3905)	Mechanic Street (US 58)
Franklin	Andrew Avenue Extension	Chaucer Ct	High Street (VA 3905)
Franklin	Armory Drive	College Drive	High Street
Franklin	Armory Drive	Franklin City Limits / US 58	College Drive
Franklin	College Drive (VA 3907)	South Street (US 258)	Armory Drive (VA 3904)
Franklin	College Drive (VA 3907)	Armory Drive (VA 3904)	Steward Drive
Franklin	College Drive (VA 3907)	Steward Drive	Sycamore Road
Franklin	College Drive (VA 3907)	Sycamore Road	Clay Street

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Franklin	Council Drive	Clay Street (US 58)	Armory Drive (VA 671)
Franklin	Fairview Drive	Hunterdale Road	High Street
Franklin	High Street	Fairview Drive	North City Limits of Franklin
Franklin	High Street (VA 3905)	Birch Street	South Street (US 258)
Franklin	High Street (VA 3905)	South Street (US 258)	Beaman Street
Franklin	High Street (VA 3905)	Beaman Street	Fairview Drive (VA 3912)
Franklin	Hunterdale Road (VA 3907)	Clay Street	Northern City Limits of Franklin
Franklin	Mechanic Street	4th Avenue	2nd Avenue
Franklin	Pretlow Street	South Corporate Limits of Franklin	US 58 Bypass East Bound off Ramp
Franklin	Pretlow Street	US 58 Bypass East Bound off Ramp	Progress Parkway
Franklin	Pretlow Street (VA 3903)	Laurel Street	South Street (US 258)
Franklin	Pretlow Street (VA 3903)	Progress Parkway	Morton Street (VA 3915)
Franklin	Pretlow Street (VA 3903)	Morton Street (VA 3915)	0.17 miles North Morton Street

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Franklin	Pretlow Street (VA 3903)	0.17 miles North Morton Street	Laurel Street
Franklin	South Street (US 258)	South Corporate Limits of Franklin	Amber Street
Franklin	South Street (US 258)	Amber Drive	High Street (VA 3905)
Franklin	VA 687	Franklin Corporate Limits	Hunterdale Rd
Franklin	Washington Street Extension	Railroad Crossing	Armory Drive (VA 3904)
Gloucester County	G.W. Mem Hwy (US 17)	1 mi North of Coleman Bridge	Main St (@ Walmart)
Gloucester County	G.W. Mem Hwy (US 17)	Main St (@ Walmart)	Ark Rd
Gloucester County	US 17 (George Washington Memorial Hwy)	VA 606 (Ark Rd)	HRTPO Boundary
Gloucester County	VA 198 (Glenns Rd)	US 17 (George Washington Memorial Hwy)	Matthews Co. Line
Gloucester County	VA 602 (Burkes Pond Rd)	VA 3 (John Clayton Memorial Hwy)	VA 198 (Dutton Rd)
Gloucester County	VA 605 (Indian Rd)	VA 603 (Figg Shop Rd)	VA 606 (Farys Mill Rd)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Gloucester County	VA 606 (Farys Mill Rd.)	US 17 (George Washington Memorial Hwy)	VA 198 (Dutton Rd)
Gloucester County	VA 610 (Pinetta Rd)	VA 610 (Davenport Rd)	VA 616 (Belroi Rd)
Gloucester County	VA 616 (Belroi Rd)	VA 614 (Hickory Fork Rd)	VA 615 (Blurleigh Rd)
Gloucester County	VA 616 (Clay Bank Rd)	VA 631 (Gum Fork Rd)	VA 616 (Hickory Fork Rd)
Hampton	Coliseum Dr	Hampton Roads Center Pkwy	Butler Farm Rd
Hampton	Little Back River Rd	N. King St	Harris Creek Rd
Hampton	Saunders Rd	Big Bethel Rd	Newport News CL
Isle of Wight County	US 258	US 460	Sunset Dr
James City County	Airport Access Road	Marclay Rd at Rte 617	Airport
James City County	Croaker Rd	Richmond Rd (US 60)	Rochambeau Rd
James City County	Longhill Rd (Phases 1-3)	Humelsine Pkwy (Rte 199)	Centerville Rd
Newport News	Atkinson Blvd	Jefferson Ave	Warwick Blvd

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Newport News	Briarfield Rd	Jefferson Ave	Hampton CL
Newport News	Chestnut Ave	I-664	Briarfield Rd
Newport News	City Center Blvd (formerly Middle Ground Blvd)	Jefferson Ave	Warwick Blvd
Newport News	Harpersville Rd	J. Clyde Morris Blvd	Saunders Rd
Newport News	Harpersville Rd	Jefferson Ave	Warwick Blvd
Newport News	Independence Blvd	Denbigh Blvd (Rte 173)	Fort Eustis Blvd
Newport News	J. Clyde Morris Blvd	Jefferson Ave	Warwick Blvd
Newport News	J. Clyde Morris Blvd / G.W. Hwy (US 17)	I-64	York CL
Newport News	Jefferson Ave	Green Grove Ln	Fort Eustis Blvd
Newport News	Liberty Pkwy	Oyster Point Rd	Freedom Way
Newport News	Lucas Creek Rd Extension	Denbigh Blvd (Rte 173)	Atkinson Blvd
Newport News	Oyster Point Rd	Jefferson Ave	Warwick Blvd

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Newport News	Patrick Henry Dr	Bland Blvd	Turnberry Blvd
Newport News	Saunders Rd	Harpersville Rd	Hampton CL
Newport News	Turnberry Blvd	McManus Blvd	Denbigh Blvd (Rte 173)
Newport News	Warwick Blvd	Nettles Dr	Fort Eustis Blvd
Norfolk	Brambleton Ave	Midtown Tunnel	I-264
Norfolk	Intermodal Connector	I-564	Hampton Blvd
Norfolk	Little Creek Rd	Tidewater Dr	Shore Dr
Norfolk	Military Hwy	0.3 mile S. of Northampton Blvd	Lowery Rd
Norfolk	Military Hwy	Robin Hood Rd	0.3 mile N. of Northampton Blvd
Norfolk	Virginia Beach Blvd	Military Hwy	Newtown Rd
Portsmouth	Elm Ave	Victory Blvd (Rte 239)	G.W. Hwy (US 17)
Portsmouth	Turnpike Rd	0.13 mi E. of Frederick Blvd	Constitution Ave
Portsmouth	West Norfolk Rd	Western Fwy (Rte 164)	End of West Norfolk Rd

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Smithfield	Battery Park Rd	S. Church St	Nike Park Rd
Smithfield	S. Church St	Battery Park Rd	Talbot Dr
Southampton County	US 258 (Smith Ferry Road)	Nottoway River Bridge South	VA 189
Southampton County	US 258 (Smith Ferry Road)	VA 684 North	US 58 (Southampton Parkway)
Southampton County	US 460 (General Mahone Boulevard)	VA 616 (Proctors Bridge Road)	VA 620 (Broadwater Road)
Southampton county	US 460 Expressway	Sussex County Line	Isle of Wight CL (Zuni)
Southampton County	US 58 (Southampton Parkway)	US 58 Business (Camp Parkway)	VA 35 West Exit
Southampton County	VA 603 (Unity Road)	VA 616	VA 641 West (Cottage Hill Road / Sycamore Road)
Southampton County	VA 603 (Unity Road)	VA 641 West (Cottage Hill Road / Sycamore Road)	VA 635 West
Southampton County	VA 603 (Unity Road)	VA 635 East	Isle of Wight County Line
Southampton County	VA 605 (Millfield Road)	VA 628 (The Rolfe Highway)	VA 614 (Seacock Chapel Road)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Southampton County	VA 609 (Popas Station Road)	VA 735	VA 608 East
Southampton County	VA 614 (Seacock Chapel Road)	VA 605 (Millfield Road)	VA 635
Southampton County	VA 614 (Seacock Chapel Road)	VA 635	Isle of Wight County Line
Southampton County	VA 616 (Proctors Bridge Road)	North Corporate Limits of Ivor	VA 737
Southampton County	VA 616 (Proctors Bridge Road)	VA 617	VA 621
Southampton County	VA 628 (The Rolfe Highway)	VA 728	VA 605 South (Millfield Road)
Southampton County	VA 628 (The Rolfe Highway)	VA 605 South (Millfield Road)	Sussex County Line
Southampton County	VA 635 (Black Creek Road)	VA 626	VA 603 North (Unity Road)
Southampton County	VA 641 (Johnson Mill Road)	VA 645	VA 616
Southampton County	VA 641 (Sycamore Road)	VA 632	VA 1006
Southampton County	VA 643	VA 644	VA 611
Southampton County	VA 646 (Governor Darden Road)	East Corporate Limits of Courtland	VA 641 North

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Southampton County	VA 653 (Caryls Bridge Road)	VA 651	VA 35 (Plank Road)
Southampton County	VA 653 (Little Texas Road)	VA 730	VA 661
Southampton County	VA 653 (Little Texas Road)	VA 661	VA 658 North
Southampton County	VA 653 (Pinopolis Road)	VA 658 North	South Corporate Limits of Capron
Southampton County	VA 668 (Clarksbury Road)	VA 666	VA 653 (Pinopolis Road)
Southampton County	VA 671 (General Thomas Hwy)	VA 650	Franklin Corporate Limits
Southampton County	VA 673 (Statesville Road)	North Carolina State Limits	VA 672 East
Southampton County	VA 684 (Monroe Road)	North Carolina State Limits	VA 720
Southampton County	VA 687	US 58 Business (Camp Parkway)	Franklin Corporate Limits
Southampton County	VA 687 (Delaware Road)	VA 684 North	VA 671 (General Thomas Highway)
Southampton County	VA 706 (Woods Trail)	Northern City Limits of Franklin	VA 635 (Black Creek Road)
Southampton County (Capron)	VA 653 (Main Street)	South Corporate Limits of Capron	US 58 (Southampton Parkway)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Southampton County (Courtland)	US 58 Business (South Main Street)	VA 35 (South Main Street)	East Corporate Limits of Courtland
Southampton County (Ivor)	VA 616 (Main Street)	SCL of Ivor	VA 1201
Suffolk	Bridge Rd (US 17)	Mills Godwin Bridge	Chesapeake CL
Suffolk	Bridge Rd (US 17)	Mills Godwin Bridge	Isle of Wight CL
Suffolk	Kenyon Rd Connector	Kenyon Court	Holland Rd (US 58)
Suffolk	Nansemond Pkwy	Chesapeake CL	NS Railroad
Suffolk	Nansemond Pkwy (Rte 337)	Shoulder's Hill Rd (Rte 626)	Wilroy Rd (Rte 642)
Suffolk	Route 58 (Holland Rd)	Suffolk Bypass	0.7 mi W. of Manning Bridge Rd
Suffolk	Shoulders Hill Rd (Rte 626)	Nansemond Pkwy (Rte 337)	Bridge Rd (US 17)
Suffolk	Wilroy Rd (Rte 642)	Nansemond Pkwy (Rte 337)	Constance Rd
Surry County	VA 10 (Colonial Trail)	VA T 1001 (Bank St)	Isle of Wight Co Line
Surry County	VA 31 (Rolfe Hwy)	VA 10 N (Colonial Trail E)	VA 637 (Pleasant Point Rd)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Surry County	VA 609 (Bailey Ave)	VA 626 (Beaverdam Rd)	T 1209 (Dillard St)
Surry County	VA 615 (Carsley Rd)	VA 40 (Martin Luther King Hwy)	VA 31
Surry County	VA 616 (Golden Hill Rd)	VA 10 E (Colonial Trail E)	VA 632 (Chapel Bottom Rd)
Surry County	VA 617 (White Marsh Rd)	VA 622 E (Runnymede Rd)	VA 626 (Beechland Rd)
Surry County	VA 617 (White Marsh Rd)	VA 604 W (Goodrich Fork Rd)	VA 618 E (Sexton Rd)
Surry County	VA 617 (White Marsh Rd)	VA 10 E (Colonial Trail E)	2.8 m S of VA 10
Surry County	VA 622 (Runnymede Rd)	VA 31 (Rolfe Hwy)	VA 617 W (White Marsh Rd)
Surry County	VA 626 (Beechland Rd)	VA T 1001 (Bank St)	VA 616 S (Golden Hill Rd)
Surry County	VA 627 (Moonlight Rd)	VA 10 E (Colonial Trail E)	0.5 m S of VA 10
Surry County	VA 633 (Chippokes Farm Rd)	VA 10 E (Colonial Trail E)	VA 634 (Highgate Rd)
Surry County	VA 634 (Alliance Rd)	VA 665 (Chippokes Park Rd)	VA 10 E (Colonial Trail E)

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Surry County	VA 634 (Alliance Rd)	VA 10 E (Colonial Trail E)	VA 633 (Chippokes Farm Rd)
Surry County	VA 646 (Spring Grove Rd)	VA 626 (Beaverdam Rd)	VA 613 (Cabin Point Rd)
Surry County	VA 650 (Hog Island Rd)	VA 617 (White Marsh Rd)	James River
Virginia Beach	Birdneck Rd	I-264	Virginia Beach Blvd
Virginia Beach	Centerville Tnpk - Phase III	Chesapeake CL	Kempsville Rd
Virginia Beach	Centerville Turnpike	Indian River Rd	Kempsville Rd
Virginia Beach	Cleveland St - Phase III	Witchduck Rd	Clearfield Ave
Virginia Beach	Cleveland St - Phase IV	Aragona Blvd	Independence Blvd
Virginia Beach	Dam Neck Rd - Phase I	Princess Anne Rd	Holland Rd
Virginia Beach	Dam Neck Rd - Phase II	Holland Rd	Drakesmile Rd
Virginia Beach	Dam Neck Rd - Phase III	Drakesmile Rd	London Bridge Rd
Virginia Beach	Drakesmile Ext'd - Phase I	Dam Neck Rd	Holland Rd
Virginia Beach	Drakesmile Ext'd - Phase II	Holland Rd	Princess Anne Rd
Virginia Beach	Drakesmile Rd Extended	Dam Neck Rd	Princess Anne Rd
Virginia Beach	Elbow Rd / Dam Neck Rd	Indian River Rd	Virginia Beach Amphitheater

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Virginia Beach	Ferrell Pkwy	Indian Lakes Blvd	Pleasant Valley Rd
Virginia Beach	Ferrell Pkwy	Pleasant Valley Rd	Salem Rd
Virginia Beach	Ferrell Pkwy	Indian River Rd	Indian Lakes Blvd
Virginia Beach	First Colonial Rd	Old Donation Pkwy	Virginia Beach Blvd
Virginia Beach	General Booth Blvd	Oceana Blvd	Dam Neck Rd
Virginia Beach	Holland Rd	Dam Neck Rd	Rosemont Rd
Virginia Beach	Holland Rd	Rosemont Rd	Independence Blvd
Virginia Beach	Holland Road	Nimmo Pkwy	Dam Neck Rd
Virginia Beach	Independence Blvd	Haygood Rd	Northampton Blvd
Virginia Beach	Indian River Rd	Centerville Tnpk	Ferrell Pkwy
Virginia Beach	Indian River Rd	Elbow Rd	North Landing Rd
Virginia Beach	Indian River Rd - Phase VII	Lynnhaven Pkwy	Elbow Rd
Virginia Beach	Landstown Rd	Landstown Centre Way	Landstown Rd
Virginia Beach	Laskin Rd - Phase I	Republic Rd	Oriole Dr
Virginia Beach	Laskin Rd - Phase II	Oriole Dr	30th/31st St
Virginia Beach	London Bridge Rd	Dam Neck Rd	Shipps Corner Rd
Virginia Beach	Lynnhaven Pkwy	Holland Rd	Princess Anne Rd

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Virginia Beach	Lynnhaven Pkwy	Indian River Rd	Centerville Tnpk
Virginia Beach	Newtown Rd	Baker Rd	Virginia Beach Blvd
Virginia Beach	Nimmo Pkwy	Indian River Rd/North Landing Rd	West Neck Rd Ext'd
Virginia Beach	Nimmo Pkwy	Holland Rd	General Booth Blvd
Virginia Beach	Princess Anne Rd	Providence Rd	Salem Rd
Virginia Beach	Princess Anne Rd - Phase VII	Fisher Arch	General Booth Blvd
Virginia Beach	Providence Rd	Kempsville Rd	Princess Anne Rd
Virginia Beach	Rosemont Rd	Virginia Beach Blvd	Holland Rd
Virginia Beach	Rosemont Rd V	Dam Neck Rd	Lynnhaven Pkwy
Virginia Beach	Salem Rd	Elbow Rd	North Landing Rd
Virginia Beach	Salem Rd	Independence Blvd	Elbow Rd
Virginia Beach	Sandbridge Rd - Nimmo VII-A	Sandpiper Rd	One Mile West of Sandpiper Road
Virginia Beach	Seaboard Rd	Princess Anne Rd (North)	Princess Anne Rd (South)
Virginia Beach	Shore Dr	Norfolk CL	Diamond Springs Rd

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
Virginia Beach	Shore Dr	Pleasure House Rd	Treasure Island Dr
Virginia Beach	Shore Dr - Phase III	Eastern End of Lesner Bridge	Great Neck Rd
Virginia Beach	Shore Dr - Phase IV	Marlin Bay Dr/Sandy Oaks Dr	West End of Lesner Bridge
Virginia Beach	West Neck Pkwy Ext'd	Elbow Rd/Dam Neck Rd	North Landing Rd
Virginia Beach	West Neck Rd	North Landing Rd	Indian River Rd
Virginia Beach	Witchduck Rd	I-264	Virginia Beach Blvd
Williamsburg	Ironbound Rd (Rte 615)	Richmond Rd (US 60)	DePue Dr (formerly Longhill Connector)
Williamsburg	Monticello Ave	Richmond Rd (US 60)	Treyburn Dr
York County	Commonwealth Drive Extension	G.W. Mem Hwy (US 17)	Commonwealth Dr
York County	G.W. Mem Hwy (US 17)	Dare Rd	Denbigh Blvd (Rte 173)
York County	G.W. Mem Hwy (US 17)	Denbigh Blvd (Rte 173)	Fort Eustis Blvd (Rte 105)
York County	G.W. Mem Hwy (US 17)	Fort Eustis Blvd (Rte 105)	Coleman Bridge

Locality	Project	From	To
HIGHWAY PROJECTS Continued			
York County	J. Clyde Morris Blvd / G.W. Hwy (US 17)	Newport News CL	1.27 mi South of Rte 620 (Lakeside Dr / Oriana Rd)
York County	Route 17 (George Washington Memorial Hwy)	Hampton Hwy	Dare Rd
York County	Victory Blvd (Rte 171)	G.W. Mem Hwy (US 17)	Hampton Hwy (Rte 134)
INTERCHANGE/INTERSECTION PROJECTS			
Multi-jurisdictional	I-64/I-264 Interchange (including Witchduck Rd Interchange)	I-64 Westbound	Witchduck Road Interchange
Chesapeake	Great Bridge Blvd	Battlefield Blvd	Chesapeake Expressway Off Ramp
Chesapeake	Mt Pleasant Rd/Great Bridge Bypass	N/A	N/A
Franklin	2nd Avenue (US 258) at Main Street (US 258)	N/A	N/A
Franklin	2nd Avenue at Armory Drive	N/A	N/A
Franklin	2nd Avenue at High Street (VA 3905)	N/A	N/A
Franklin	2nd Avenue at Mechanic Street (US 58)	N/A	N/A
Franklin	Armory Drive (VA 3904) at College Drive (VA 3907)	N/A	N/A
Franklin	Bailey Drive at Steward Drive	N/A	N/A
Franklin	Beaman Street over N&W railroad	N/A	N/A

Locality	Project	From	To
INTERCHANGE/INTERSECTION PROJECTS Continued			
Franklin	Bowers Road over N&W railroad	N/A	N/A
Franklin	Clay Street (US 58) at 4th Avenue	N/A	N/A
Franklin	Clay Street US 58 (US 58) at College Drive (VA 3907)	N/A	N/A
Franklin	Country Club Road at Hunterdale Road	N/A	N/A
Franklin	Elm Street at Main Street (US 258)	N/A	N/A
Franklin	Fairview Drive (VA 3912) at High Street (VA 3905)	N/A	N/A
Franklin	Fairview Drive (VA 3912) over N&W railroad	N/A	N/A
Franklin	High Street (VA 3905) over N&W railroad	N/A	N/A
Franklin	Hunterdale Road (VA 3907) over N&W railroad	N/A	N/A
Franklin	Hunterdale Road at Fairview Drive	N/A	N/A
Franklin	Hunterdale Road at VA 687	N/A	N/A
Franklin	Mechanic Street North (US 58) at 4th Avenue	N/A	N/A
Franklin	South Street (US 258) at College Drive (VA 3907)	N/A	N/A
Franklin	South Street(US 258) at Pretlow Street	N/A	N/A
Franklin	VA 3905 (High Street) over N&W railroad	N/A	N/A
Gloucester County	US 17 (G.W. Mem. Hwy)/VA 198 (Glenns Rd)	N/A	N/A

Locality	Project	From	To
INTERCHANGE/INTERSECTION PROJECTS Continued			
Gloucester County	US 17 (G.W. Mem. Hwy)/VA 601 (Pampa Rd)	N/A	N/A
Gloucester County	US 17 (G.W. Mem. Hwy)/VA 606 (Ark Rd)	N/A	N/A
Gloucester County	US 17 (G.W. Mem. Hwy)/VA 610 (Davenport Rd)	N/A	N/A
Gloucester County	VA 3 (John Clayton Memorial Hwy)/VA 623 (Ware Neck Rd)	N/A	N/A
Gloucester County	VA 617 (Tanyard Landing Rd)/VA 610 (Pinetta Rd)	N/A	N/A
Gloucester County	Route 3/14 and Business 17 Intersection Improvement	N/A	N/A
Gloucester County	Route 17 and Fiddler's Green Rd. (619) Intersection Improvement	N/A	N/A
Hampton	I-64 at Lasalle Ave (PE)	I-64 WB	Lasalle Ave
Hampton	I-64 at N. King St (PE)	N/A	N/A
Hampton	I-64 at Settlers Landing Rd	N/A	N/A
Hampton	I-64 Interchange at Lasalle Ave	N/A	N/A
James City County	Centerville Rd at News Rd	0.27 mi North of News Road	0.19 mi South of News Rd
James City County	Humelsine Pkwy (Rte 199) at Brookwood Dr	N/A	N/A
James City County	Monticello Ave at Ironbound Rd (Rte 315)	N/A	N/A
James City County	Richmond Rd (US 60) at Humelsine Pkwy (Rte 199) West Ramp	N/A	N/A

Locality	Project	From	To
INTERCHANGE/INTERSECTION PROJECTS Continued			
Newport News	I-64 at Denbigh Blvd (Rte 173) (Study)	N/A	N/A
Norfolk	Air Terminal Interchange	N/A	N/A
Norfolk	I-264 at Ballentine Blvd Diverging Diamond Interchange	N/A	N/A
Norfolk	I-64 at Northampton Blvd Interchange Improvement (Study)	N/A	N/A
Norfolk	Military Hwy	0.3 mi N. of Northampton Blvd	0.3 S. of Northampton Blvd
Norfolk	Military Hwy at I-64 -- New EB On-Ramp (Study)	N/A	N/A
Norfolk	Terminal Blvd at Diven St	N/A	N/A
Poquoson	Laydon Way at Poquoson Ave at Little Florida Rd	N/A	N/A
Portsmouth	Elm Ave at Navy Gates 29 and 36	N/A	N/A
Southampton County	US 58 (Southampton Parkway) at VA 650 / East End Courtland Bypass	N/A	N/A
Southampton County	US 58 (Southampton Parkway) at US 58 Business	N/A	N/A
Southampton County	VA 35 (Plank Road) at VA 647	N/A	N/A
Southampton County	VA 35 (Plank Road) at VA 713	N/A	N/A

Locality	Project	From	To
INTERCHANGE/INTERSECTION PROJECTS Continued			
Southampton County	VA 35 (Plank Road) at VA 719	N/A	N/A
Southampton County	VA 58 (Southampton Parkway) at VA 659	N/A	N/A
Southampton County	VA 671 (General Thomas Hwy) at US 58 eastbound exit	N/A	N/A
Southampton County	VA 671 (General Thomas Hwy) at US 58 westbound exit	N/A	N/A
Southampton County	VA 714 (Pretlow Road) at VA 189 (South Quay Road)	N/A	N/A
Southampton County (Capron)	VA 58 (Southampton Parkway) at VA 653 (Main Street)	N/A	N/A
Suffolk	Route 17/Shoulders Hill Road Intersection Improvements	N/A	N/A
Surry County	VA 10 (Colonial Trail E)/VA 650 (Mount Ray Dr)/Hog Island Rd	N/A	N/A
Surry County	VA 10 E (Colonial Trail E)/VA 617 (Bacons Castle Trail)	N/A	N/A
Surry County	VA 626 (Beaverdam Rd)/VA 618 (Hollybush Rd)	N/A	N/A
Surry County	VA 626 (Lebanon Rd)/VA 618 (Southwark Rd)	N/A	N/A
Surry County	VA 10 (Colonial Trail E)/VA 31 N (Rolfe Hwy)	N/A	N/A
Virginia Beach	First Colonial Rd at Virginia Beach Blvd	N/A	N/A
Virginia Beach	I-264 at Independence Blvd (Study)	N/A	N/A

Locality	Project	From	To
INTERCHANGE/INTERSECTION PROJECTS Continued			
Virginia Beach	I-264 at Rosemont Rd (Study)	N/A	N/A
Virginia Beach	Kempsville Rd Intersection at Princess Anne Rd	N/A	N/A
Virginia Beach	Princess Anne Rd and Nimmo Pkwy	Dam Neck Rd	Holland Rd
Virginia Beach	Rosemont Rd at Holland Rd	N/A	N/A
Williamsburg	Bypass Rd at Page St at Capitol Landing Rd	N/A	N/A
INTERMODAL PROJECTS			
Chesapeake	Freeman Ave	N/A	N/A
Chesapeake	Portlock Rd	N/A	N/A
Norfolk	Hampton Blvd at Terminal Blvd	Trouville Ave/Portor St	Hampton Blvd
Norfolk	Hampton Blvd Railroad Grade Separation	Rogers Ave	B Ave
Suffolk	Finney Ave Flyover	Pinner St	Route 13/337 E Washington St
Suffolk	North Suffolk Connector Rd	N/A	N/A
TRANSIT PROJECTS			
Multi-jurisdictional	Elizabeth River Ferry Expansion	Current Service Locations	ODU and Naval Station Norfolk
Multi-jurisdictional	Enhanced Bus Service/Bus Replacement - HRT	N/A	N/A

Locality	Project	From	To
TRANSIT PROJECTS Continued			
Multi-jurisdictional	Enhanced Bus Service/Bus Replacement - WATA	N/A	N/A
Multi-jurisdictional	Ferry Service	Norfolk	Hampton
Multi-jurisdictional	Ferry Service	Old Towne (Portsmouth)	Downtown Norfolk - Naval Station Norfolk
Multi-jurisdictional	High-Speed and Intercity Passenger Rail - DRPT Tier I EIS ROD - Preferred Alternative	Hampton Roads	Richmond / Northeast Corridor
Multi-jurisdictional	Peninsula Commuter Rail	Newport News	Williamsburg
Multi-jurisdictional	Peninsula Fixed Guideway (A1 Alignment)	Newport News City Hall	Denbigh Blvd (Rte 173)
Multi-jurisdictional	Peninsula Fixed Guideway (A3 Alignment)	Christopher Newport University	Huntington Pointe
Multi-jurisdictional	Portsmouth-Southside Light Rail	Portsmouth	Southside
Chesapeake	Light Rail Transit Extension to Greenbrier Area	South Norfolk	Greenbrier Area
James City County	WATA Administrative Operations Center	N/A	N/A
Newport News	Newport News Multimodal High-Speed and Intercity Passenger Rail Station Development	N/A	N/A

Locality	Project	From	To
TRANSIT PROJECTS Continued			
Norfolk	Naval Station Norfolk Transit Extension	Existing LRT	Naval Station Norfolk
Portsmouth	Hampton Roads Transit Transfer Station	N/A	N/A
Suffolk	Godwin Blvd./Route 58 Park and Ride	N/A	N/A
Suffolk	Suffolk Rail Station	N/A	N/A
Virginia Beach	Virginia Beach Transit Extension (to Oceanfront)	Newtown Rd Station	Virginia Beach Oceanfront
Virginia Beach	Virginia Beach Transit Extension North - Phase II	Town Center / Independence Blvd	Shore Dr
Virginia Beach	Virginia Beach Transit Extension South - Phase III	Town Center / Independence Blvd	Virginia Beach Municipal Center
ACTIVE TRANSPORTATION PROJECTS			
Multi-jurisdictional	Bike Path Along Shore Dr/Hampton Blvd/Little Creek Rd	Norfolk Elizabeth River Trail	Virginia Beach City Line
Multi-jurisdictional	South Hampton Roads Trail: Complete Trail (Suffolk to VB)	Suffolk	Virginia Beach
Multi-jurisdictional	South Hampton Roads Trail: Virginia Beach (Bike Trails/Lanes Along Light Rail Tracks)	Norfolk	Oceanfront
Multi-jurisdictional	VA/NC Dismal Swamp Bike/Walk Trail Connection	VA	NC
Chesapeake	Construct multi-use path along Etheridge Manor Blvd/ Hanbury Rd	Centerville Tnpk	Johnstown Rd

Locality	Project	From	To
ACTIVE TRANSPORTATION PROJECTS Continued			
Chesapeake	Construct multi-use path along George Washington Hwy	Old Mill Rd	Deep Creek Park
Chesapeake	Construct multi-use path trail along Dismal Swamp Canal	Existing Trailhead	North Carolina Border
Chesapeake	South Hampton Roads Trail: Western Branch	Taylor Rd	Poplar Hill Rd
Gloucester County	Roaring Springs Pedestrian Improvement Project	N/A	N/A
Gloucester County	Route 17 Sidewalk Infill Project	N/A	N/A
James City County	Bike Lanes on Greensprings Rd and Centerville Rd that connect to Capital Trail	Jamestown Rd (Rte 31)	John Tyler Hwy (Rte 5)
James City County	Monticello Ave Bike Lane	News Rd	Centerville Rd
James City County	Route 60 Multimodal Improvement Project	N/A	N/A
James City County	Pocahontas Trail Reconstruction	James City County Fire Station #2 (8429 Pocahontas Trail)	James River Elementary School (8901 Pocahontas Trail)
James City County	Sidewalks along Longhill Rd over Route 199	DePue Drive	Lane Place
Norfolk	Extend Elizabeth River Trail to Naval Station Norfolk	Cloncurry Road	Admiral Tausig Boulevard
Poquoson	Bike Path on Hunts Neck Rd (Rte 172)	Yorktown Rd	Pasture Rd
Portsmouth	Bike lanes on Churchland Blvd	Portsmouth Trail	High St
Suffolk	Rail-to-Trail (Suffolk Seaboard Coastline Trail, part of the South Hampton Roads Trail)	Pughsville Rd	Downtown Suffolk

Locality	Project	From	To
ACTIVE TRANSPORTATION PROJECTS Continued			
Surry County	VA 617 (White Marsh Rd)	VA 10 (Colonial Trail E)	VA 650 (Hog Island Rd)
Virginia Beach	Level Green Powerline Corridor	Reon Dr	Chesapeake CL at S. Military Hwy
Virginia Beach	Light Rail Corridor Shared-Use Path	Newtown Rd	Norfolk Ave
Virginia Beach	Nimmo Trail	Nimmo Pkwy	Sandbridge Rd
Virginia Beach	Northampton Blvd Right-of-Way	Bayside Dr	Greenwell Rd
Virginia Beach	Scarborough Bridge	Magic Hollow Blvd	Old Clubhouse Rd
Virginia Beach	Thalia Creek Greenway - Phase 1C	Bonney Rd	I-264
Virginia Beach	Thalia Creek Greenway Phase - 1D	Constitution Dr	Virginia Beach Blvd
Virginia Beach	Violet Bank Dr Bike Trail	Kittery Dr	Selwood Dr
Virginia Beach	Virginia Beach Transit Extension ¹	Newtown Rd Station	Town Center / Constitution Dr
Virginia Beach	Walkway at Virginia Beach Town Center Over I-264	Thalia Creek Greenway	Mt. Trashmore Park
Williamsburg	Monticello Ave Shared-Use Path	Treyburn Drive	Ironbound Rd (Rte 615)
York County	Penniman Rd (Sidewalk / Multi Use Path)	Williamsburg CL	Marquis Center Pkwy (Rte 199)
York County	Shared Use Path - Yorktown Road	Tabb High School	Hampton Hwy (Rte 134) at Brick Kiln Creek Bridge
York County	Shared Use Path Along Yorktown Rd	Cardinal Ln (Rte 670)	Victory Blvd (Rte 171)

Locality	Project	From	To
ACTIVE TRANSPORTATION PROJECTS Continued			
York County	Shared Use Path Victory Blvd (Rte 171)	Hampton Hwy (Rt 134)	Carys Chapel Rd

2. Innovation with specific focus on opportunities and entrepreneurship

Municipal Economic Development:

Each municipality in Hampton Roads has an economic development staff that is responsible for business attraction, deal-making and retention in that community. Each economic development staff was asked to provide their priority project, program or activity for inclusion in Vision Hampton Roads; this list was enhanced and prioritized based upon feedback received during Public Comment and will be further enhanced during implementation especially as transportation and other impending deteriorating infrastructure, such as drainage and seawalls, are identified.

Chesapeake and Suffolk

- Share an Eco-Tourism area known as The Great Dismal Swamp. This natural attraction, along with other protected parks in Hampton Roads, is an important part of developing the region as an Eco-Tourism destination. These assets may need some level of EDA funding to enhance access to these attractions.

Franklin, Southampton County and Isle of Wight County

- Plans an expansion of Business Incubator. The build-out of the existing building will serve to maximize job creation and economic development benefit. It is expected to create up to 77 new, permanent jobs and 15 temporary construction jobs in Franklin and the surrounding counties. The Business Incubator project was born from a discussion between the Federal Economic Development Administration (EDA) and the Franklin-Southampton Economic Development Commission in an effort to revitalize the community following the flood in 1999. Over 2 million dollars in funding was subsequently awarded from the EDA, the Virginia Department of Business Assistance and Community Development Block Grant.
- Seeks to upgrade and expand communications infrastructure. Current internet communication services are insufficient for development and economic growth in Western Hampton Roads. Expanding the broadband communications network will help diversify the economy and enhance the economic viability of the transportation corridor and potential port related development.
- Explores creation of a western Regional Water Authority. Additional water capacity is needed to provide for population, business park and commercial growth corridors in Franklin, Southampton and Isle of Wight.
- Seeks to enhance economic development and job growth through research and

- innovation. Goal is to replace those lost through closure of the International Paper plant.
- Seeks to upgrade Infrastructure and Utility services and expand western Regional Business Parks:
 - Current business park developments in Southampton County and City of Franklin need increased natural gas line capacity to remain competitive and to support expansion of the Port of Hampton Roads.
 - Shirley T. Holland Intermodal Park in Isle of Wight County is the centerpiece of efforts to attract new sustainable jobs and investment to the community from within targeted industry sectors: distribution/ logistics, plastics, renewable energy, and advanced manufacturing. The park leverages and supports expansion of the Port of Hampton Roads. Phase I is completely built out. Phase II offers over 300 acres of shovel-ready prime industrial property. The rezoning process of Phase III is nearing completion and infrastructure improvements, environmental permitting, and related engineering/design work is ready to move forward.

Gloucester County

- Plans for economic development:
 - Work with the Virginia Institute of Marine Science and its Industry Partnership Committee to advance research-based economic development.
 - Advance through the Comprehensive Planning process to grow a long-term plan for the development of a new central business area.
- Plans for expansion of higher education.
 - Work with Hampton University to continue development of the Thomas C. Walker historical/educational campus.

Hampton

- Plans for economic development. Guided by planning goals to increase the business tax base, employment opportunities, taxable sales and housing values, Hampton will enhance the quality and value of development and redevelopment through six Master Plans adopted by the City Council covering the following areas: Downtown, Coliseum Central, Buckroe, Kecoughtan Roads Corridor, Phoebus and North King Street.
- Plans for major development projects. To be completed in 2010 are:
 - The redevelopment of the Coliseum Mall to Peninsula Town Center. The largest economic development project in the City's history.
 - Hampton University's Proton Therapy Institute, a \$225,000,000 cancer treatment center which is believed to be the largest of its kind in the world.
 - Sentara Careplex's third tower will be the region's only orthopedic hospital.
- Plans for expansion of business parks. The Magruder Boulevard Corridor includes Hampton's four business parks. Construction will begin in 2010 for a 60,000 square foot building in the Research Quad of Hampton Roads Center North Park. This will allow much needed expansion space for the National Institute of Aerospace which is collaboratively operated by nine universities.

Newport News:

- Plans to further develop the technological capabilities in the Tech Center at Oyster Point by planning, designing and/or executing the following:
 - Relocation of the School Center for Operations and Transportation (SCOT);
 - Internal infrastructure to accommodate Jefferson Lab potential expansion, future

economic development involving technology transfer from Jefferson Lab and/or research and development to support advanced manufacturing capabilities;

- Develop a second building (Applied Research Center 2) devoted to collaborative effort by local universities, Jefferson Lab scientists and the private sector. This space will be created for prototyping and other post research and development activities for the purpose of commercializing technologies development.
- Seeks to create urban mixed-use centers. These centers will create new venues for festivals and cultural activities and will work to reduce emissions by creating walkable working and living spaces. Mixed-use communities ensure viable business growth with a shared space relationship. Infrastructure to support this effort is needed in:
 - Newport Crossing (potential redevelopment infrastructure to create an affordable and mixed-use sustainable community);
 - Brooks Crossing (ongoing redevelopment to create an economic anchor in the Southeast Community); and
 - Oyster Point Central Business District expansion (using the same office, retail and residential density concept as successfully created in City Center at Oyster Point).

Norfolk

- Seeks to replace aging physical infrastructure.

Portsmouth

- Seeks to replace aging physical infrastructure. Infrastructure such as seawall, drainage system and small road projects are supporting the downtown business district and other employment centers.

Suffolk

- Seeks to leverage existing assets. Economic Development focuses on high tech modeling and simulation, intermodal warehouse/distribution facilities, mixed use centers and tourism, based on Suffolk's strategic location in the region and available land supply.
- Transportation infrastructure improvements for Route 58 from the Suffolk Bypass to the Center Point Intermodal Park. This corridor includes:
 - Virginia Commerce Center - 100acre future logistic commerce park
 - Westport Commerce Center - 200 acre future logistic commerce park
 - Center Point Intermodal Park - 900 acre future logistic commerce park intermodal commerce park located on a CSX rail line
 - Marketing / infrastructure improvements for the Hampton Roads Technology Park adjacent to USJFCOM, an ideal location for future office corporate growth supporting the M&S industry.

Virginia Beach

- Identified the Northampton Boulevard Corridor as a strategic growth area with enormous potential. The Northampton Boulevard/Burton Station strategic growth area is located in the northwestern part of the largest populated city in the region. It is strategically located next to Norfolk International Airport, Joint Expeditionary Base Little Creek, Airport Industrial Park and Interstate 64. Burton Station is the name of an historic African-American community located in the center of the study area. Many of the current residents are decedents of two freed slaves who were given this land for their families.
- Developing a Capital Improvement Plan (CIP). In the short term, Virginia Beach is

developing a CIP to support utility and roadway improvements that will include sewer, city water, lighting, roadway curbs, gutters and sidewalks. The longer term CIP includes intersection improvements (Northampton Boulevard and Diamond Springs Road), realignment of Air Rail Avenue to increase connectivity to Norfolk International Airport and alignment with Amphibious Base Development.

VII. VISION HAMPTON ROADS PLAN OF ACTION:

Hampton Roads includes the ten (10) cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg, the six (6) counties of Gloucester, Isle of Wight, James City, Southampton, Surry and York and the town of Smithfield. Having seventeen (17) independent local governments and a myriad of local and regional organizations whose roles and missions overlap, and at times even conflict, presents a very real challenge as the region works to implement this regional economic development strategy. The reality is that the member communities are independent and not subordinate to any regional organization.



The process of implementation will actually be one of alignment. The intent of this process is to align the missions and objectives of many regional organizations behind the implementation of the plan and process that is the region's economic development strategy.

The Hampton Roads Planning District Commission will work to support and facilitate this alignment of organizational missions and strategies with the objectives and strategies of the REDS.

A. Alignment

Alignment is the process of having people, organizations and governmental units realize a vision, adopt it as their own and share responsibility for its achievement. Regional objectives cannot be achieved to the maximum extent unless the entire system is aligned to support them.

Individual organizations will actually drive different components of the REDS themselves while other organizations will support and enhance those efforts in a more tactical manner. The implementation of the region's economic development will be through the alignment of goals and objectives for organizations across Hampton Roads

B. Plan of Action

The process of implementation will actually be one of alignment. The intent of this process is to align the missions and objectives of many regional organizations behind the goals and strategies outline by the REDS. The Hampton Roads Planning District Commission, will work to support and facilitate this alignment of organizational missions and strategies with the objectives and strategies of the economic development strategy.

C. The “Strategic Component” of the Plan of Action

The “Strategic Component” will address the long term strategy development for the enhancement of the big demographic, economic and environmental forces of:

- Innovation – new products, processes and business models
- Intellectual and Human Capital – education and skills that further innovation
- Infrastructure – transportation, telecommunications, energy distribution
- Sense of Place – special mix of distinctive communities, regional identity

1. Innovation

Through the development of the region’s economic development strategy, the goal was to develop Hampton Roads into a major source of technological innovation leading to a new pillar of technology-based economic development. The region’s technology incubators and economic development organizations will serve as central agent for stimulating Hampton Roads technology innovation by building on the technological strengths and natural resources of Hampton Roads. Those strengths include:

- The technology clusters of modeling & simulation, sensors, bioscience, robotics and coastal energy;
- Ports, Military and Tourism; and
- Exceptional Workforce and Business Friendly Communities.

Stakeholders will promote and establish full-service entrepreneurship support including business stimulators, incubators and accelerator services and coordinate and align the many allies including local municipal and regional economic development organizations, local universities, regional business associations and other organizations championing technology-based economic development. Those allies include:

- Hampton Roads Technology Incubators;
- Hampton Roads Military and Federal Facilities Alliance;
- Universities’ Engineering and Business Schools;
- Government Labs at NASA, Jefferson Lab and USJFCOM;
- College of William & Mary Technology & Business Center;
- Local/State/Federal Economic Development Entities;
- Virginia Business Incubation Alliance; and
- Angel and Venture Capital Investing Networks.

Through the coordinated efforts of the regional economic development strategy, we anticipate the following results:

- Magnet for Research and Development Investment;
- Facilitate University/Government Lab/Industry Teaming;
- Catalyst for New Business Formation and Incubation and Acceleration through IdeaWorksHamptonRoads;
- Champion and Coordinate Private/Public Investments;
- Growth of Cluster Contributions to Gross Regional Product (GRP); and
- Job Creation.

2. Intellectual and Human Capital

There is no one organization to champion or drive the strategy development for “Intellectual and Human Capital” and as such the responsibility will fall to a variety of organizations to determine the best model for defining and developing “Intellectual and Human Capital” in Hampton Roads.

Organizations initially identified for implementation include:

- Christopher Newport University (<http://CNU.edu>);
- College of William and Mary (<http://WM.edu>);
- Hampton University (<http://www.HamptonU.edu>);
- Norfolk State University (<http://NSU.edu>);
- Old Dominion University (<http://ODU.edu>);
- Opportunity Inc. (<http://Opp-Inc.org>);
- Paul D. Camp Community College (<http://pdc.edu/workforce-development/>);
- Peninsula Council for Workforce Development (<http://PCFWD.org>);
- Region II Public Schools;
- Smart Beginnings’ early childhood focus (<http://SmartBeginnings.org>);
- Thomas Nelson Community College (<http://workforce.tncc.edu>);
- Tidewater Community College (<http://TCC.edu>); and
- Virginia Tidewater Consortium of Higher Education (<http://VTC.ODU.edu>).

With so many institutions and entities vital to the development of “Intellectual and Human Capital,” co-lead organizations were identified as the region’s major non-college workforce development boards, Opportunity Inc. and Peninsula Council for Workforce Development.

As described by the President’s Council of Economic Advisers (CEA), the 20th century saw rapid technological change that enhanced productivity, created new industries and increased demand for skilled labor.¹ The core of our economy shifted first from agriculture to manufacturing and then from manufacturing to services.²

In recent decades, increasing specialization and trade have blurred the lines between the domestic and global economies. In many industries, globalization has increased competition for jobs as workers around the world participate in the constant flow of goods, services and information. But it has also created opportunities for highly skilled workers, who now enjoy broader markets for their output. Throughout the course of these fundamental changes, America’s workers have adapted and provided the skills and ingenuity that fueled a growing economy.

Testing the resilience of the U.S. workforce, however, our economy slid into the Great Recession beginning in December 2007 that has proven to be the worst downturn in the United States since the Great Depression. While the nation has since recovered the jobs lost during the recession, Hampton Roads remains approximately 40,000 jobs below the pre-recession level (20,000 civilian and 20,000 military personnel). Civilian jobs have begun to return to the region, but Hampton Roads' net job gains have been made against the outflow of federal dollars and military personnel. We must therefore improve training and job search assistance policies to facilitate re-entry into the labor market.

Employers demand workers who can think critically and solve problems. As a result, future prosperity will require greater worker investment in post-secondary education and training. The current U.S. education and training system offers a variety of ways in which workers can obtain the skills valued by employers. Many of the existing programs, particularly those in fields related to high-growth industries and occupations, have been shown to lead to improved employment and earnings outcomes.

However, there remain important limitations to our education and training system, many stemming from low completion rates, limited accountability, poor coordination among different programs and excessive bureaucratic restrictions on the use of training funds.

Source: President's Council of Economic Advisers, [Preparing the Workers of Today for the Jobs of Tomorrow](http://www.hrp.org/Site/docs/ResourceLibrary/Jobs_of_the_Future_Jul09.pdf), complete document available at:
http://www.hrp.org/Site/docs/ResourceLibrary/Jobs_of_the_Future_Jul09.pdf

The preceding introduction by the President's Council of Economic Advisers (CEA) summarizes the human capital challenge facing our nation. Hampton Roads' challenge is no different.

3. Infrastructure

Organization initially identified for implementation:

- Hampton Roads Transportation Planning Organization

The unique system of waterways in Hampton Roads results in a transportation network that is heavily dependent on bridges and tunnels. Aging infrastructure costs coupled with increased congestion pose an economic threat by potentially limiting commerce, deterring tourism and limiting the capacity of the port. That reality was a major theme discussed in nearly every working committee and Sub-committee meeting. For that reason, the Infrastructure component of Vision Hampton Roads will focus on transportation.

The Hampton Roads Transportation Planning Organization (HRTPO, <http://HRTPO.org>) is the intergovernmental transportation planning body for thirteen jurisdictions in Hampton Roads and the lead regional organization on transportation. There is a Transit Vision Plan for Hampton Roads that proposes an integrated, high-capacity transit system that will help address some of the region's social, environmental, and economic challenges that are interrelated to land use and transportation planning.

As part of its planning process the HRTPO developed a process for project prioritization that analyzes and ranks projects according to three major criteria of utility, viability and economic vitality in the following categories:

- Highway Projects;
- Bridge/Tunnel Projects;
- Bicycle and Pedestrian Projects;
- Systems Management, TDM and Operational Improvement Projects;
- Transit Projects; and
- Intermodal Projects.

4. Sense of Place

The Brookings Institute’s Blueprint for American Prosperity talks about “Quality Places” as being one of the four big demographic, economic and environmental forces that shape a region. REDS is using the term “Sense of Place” in an effort to capture not only the Brookings concept that “Sustainable places are those in which people have a variety of options in housing type, neighborhood type, and transportation modes,” but also to begin to address the awareness issue that was so prevalent in our Sub-committee discussions. Clearly, part of the region’s challenge will be to help people feel more connected to the region.

Part of our challenge in defining “Sense of Place” in Hampton Roads is the current lack of a common metropolitan consciousness, i.e., that our communities are interconnected. It is incumbent upon us to focus on ways to build interest, increase involvement and promote enthusiasm among our diverse population to sustain regional citizenship, much the same way we identify as sports fans and collectively support the “home team” by working together as citizens of a metropolitan economy to promote local and regional prosperity and quality of life.

Quality places represent a special mix of distinctive communities and responsible growth that is competitively wise, fiscally responsible and environmentally sustainable.

In his book, The New Geography, Joel Kotkin, noted scholar on urban development and a fellow at Chapman University and the New American Foundation says, “The oldest fundamentals of place – sense of community, identity, history and faith – not only remain important, they are increasingly the critical determinants of success and failure. As people and advanced industries hunt the globe for locations, they will not necessarily seek out those places that are the biggest, the cheapest, or the most well-favored by location. Instead, they will seek out a new kind of geography, one that appeals to their sense of values and to their hearts, and it is there that the successful communities of the digital age will be found.”

“People do not live together merely to be together,” wrote the Spanish Philosopher José Ortega y Gasset at the beginning of the 20th century. “They live together to do something together.” Whether in efforts to enhance education and skills that further innovation or the fostering of new enterprise or creating of new public infrastructure, healthy communities will be those that can develop a sense of common purpose within the regional “Sense of Place.”

Our work under “Sense of Place” will build upon previous efforts undertaken by the Hampton Roads Partnership specifically the Regional Citizenship work during the 2004 Call to Action. We intend to work with a number of organizations and groups to expand those efforts. We will first define then enhance this “Sense of Place” in Hampton Roads.

Organizations initially identified for implementation include:

- Urban Land Institute;
- Convention and Visitors’ Bureaus;
- Chambers of Commerce; and
- Local government planners and economic developers.

With so many entities and individuals, both public and private, vital to the development of “Sense of Place,” co-lead organizations were identified as the region’s predominant Chambers, Hampton Roads Chamber of Commerce (<http://HamptonRoadsChamber.com>) and Virginia Peninsula Chamber of Commerce (<http://VPCC.org>).

D. The “Tactical Component” of the Plan of Action

The “Tactical Component” will address the implementation of specific actions that will have the greatest short term impact on maintaining and growing the 3 pillars of our regional economy and nurturing those regional assets that have the most realistic chance of diversifying our economy. The tactical component of the REDS includes:

- Federal
- Port / Maritime
- Tourism / Arts & Culture
- Opportunities

Regional organizations that are already working in that arena will be encouraged to build upon regional activities and initiatives that are already underway.

1. Federal: The Federal Sub-committee should be coordinated and led by the Hampton Roads Military and Federal Facilities Alliance.

The Hampton Roads Military and Federal Facilities Alliance (HRMFFA, <http://HRMFFA.org>) is the entity to advance the regional interest and positions relating to protection, sustainment and growth of military and federal activities and related private sector organizations with the Virginia Congressional delegation, the Governor and key staff of the Commonwealth of Virginia, the federal Executive Branch leadership, the Hampton Roads Caucus of the Virginia General Assembly, local area military and federal leaders and the local business community in complement to and in augmentation of individual community efforts through a formalized regional network of supporting-supported relationships with local governments, professional, business and trade associations, civic groups and interested parties with specific expertise that can contribute to mission performance and vision realization.

2. Port / Maritime: The Port / Maritime Sub-committee should be coordinated and led by the

Virginia Port Authority, the Virginia Maritime Association and the Virginia Ship Repair Association.

The Virginia Port Authority (VPA, <http://PortOfVirginia.com>) is an autonomous agency of the Commonwealth of Virginia that owns the Port of Virginia. The Port of Virginia comprises three marine terminals and one intermodal container transfer facility: Norfolk International Terminals (NIT), Portsmouth Marine Terminal (PMT), Newport News Marine Terminal (NNMT) and the Virginia Inland Port (VIP).

The Virginia Maritime Association (VMA, <http://VaMaritime.com>) was organized in 1920 to promote, protect and encourage international and domestic commerce through the Port of Virginia. With a membership of over 400 companies employing over 70,000 Virginians, the VMA continues to be the "Voice of the Port" for progressive development of our waterfront and Virginia's maritime industry. The VMA seeks and advocates the continued growth of the Port and related commercial activity and plays a significant leadership role to ensure that Virginia remains competitive as it relates to waterborne commerce.

The Virginia Ship Repair Association (VSRA, <http://VirginiaShipRepair.org>) is a regional trade association representing companies engaged in, or supporting, the ship repair industry in Virginia and the Mid-Atlantic region. Its mission is to focus and coordinate member resources on issues, challenges and opportunities facing the ship repair industry.

3. Tourism / Arts & Culture: The Tourism / Arts & Culture Sub-committee should be coordinated and led by the Coastal Virginia Tourism Alliance and the Virginia Arts Festival.

The Coastal Virginia Tourism Alliance is a forum for destination marketing organizations to advance a greater awareness of the tourism and hospitality industry as a major economic generator, promote Southeast Virginia as a destination and encourage development and growth of tourism and hospitality businesses and venues throughout the region.

The Virginia Arts Festival (VAF, <http://VaFest.org>) was established in 1997 as a cultural tourism initiative by the city of Norfolk to promote travel to Hampton Roads. Each spring, internationally acclaimed artists from around the globe team up with the best of the regions own professional arts organizations to present a dazzling lineup of music, theatre and dance. Truly a regional collaboration, Festival events now take place in ten cities across Hampton Roads in concert halls, performing arts centers, opera houses, theatres, museums, outdoor stages and historic churches, all within a 60-minute drive. Now in its eighteenth season, the Festival has established itself as one of the premier cultural events in the Mid-Atlantic U.S.

4. Opportunities:

The Hampton Roads Economic Development Alliance is the region's lead economic marketing organization and aggressively pursues new business opportunities throughout the world. HREDA represents Southeastern Virginia to market the Hampton Roads region nationally and internationally in conjunction with the resources and investment of the business community.

Other organizations initially identified for implementation:

- Hampton Roads Planning District Commission (HRPDC);
- Municipal Economic Development Departments;
- Hampton Roads Research Partnership (HRRP);
- Hampton Roads Technology Council (HRTC);
- Virginia Business Coalition on Health (VBCH);
- Virginia Coastal Energy Research Consortium (VCERC); and
- Virginia Modeling, Analysis and Simulation Center (VMASC).

E. Integrating CEDS with the State's economic development priorities

How does Hampton Roads align its vision with Virginia's Economic Development Strategies? To see that the REDS is perfectly aligned with state-wide assets and programs, one has only to reference the economic development priorities of the Virginia Economic Development Partnership (VEDP, <http://YesVirginia.org>). In this section, we will describe the focus of VEDP and draw the connections to the region's economic development strategy, as appropriate.

VEDP was created by the Virginia General Assembly in 1995, "to enhance the quality of life and raise the standard of living for all Virginians, in collaboration with Virginia communities, through aggressive business recruitment, expansion assistance, and trade development, thereby expanding the tax base and creating higher-income employment opportunities."

To fulfill this mission, VEDP focuses on cultivating new business investment, fostering international trade growth and encouraging the expansion of existing Virginia businesses, promoting several of Virginia's economic development attributes which are highlighted below:

- Virginia is Pro-Business
 - In each analysis, cost of doing business, quality of workforce and regulatory environment all drove Virginia to the top of the rankings for pro-business States.
- Virginia has a Cost-Effective Operating Climate
 - Companies have improved their bottom lines just by locating in Virginia, from soft costs like healthier, more productive workers to hard costs like cheaper, available and reliable electricity.
- Virginia provides a Highly-Skilled, Educated and Talented Workforce
 - Customized recruiting and training services to companies that are creating new jobs or experiencing technological change are made available through the Virginia Department of Business Assistance (VDBA, <http://www.dba.state.va.us/>). On average, more than 18,000 military personnel separate from the armed services in Virginia annually (15,000 in Hampton Roads alone), adding a skilled, disciplined supply of potential recruits to the state's labor supply.
- Virginia has Excellence in Education
 - Virginia's workforce is repeatedly cited as a key factor for companies expanding or relocating to the Commonwealth. Virginia's schools exhibit excellence at all levels, from elementary and secondary schools to community colleges, vocational schools, universities and graduate schools as well as Workforce

Development Centers. The College of William and Mary ranked 6th in U.S. News and World Report's 2016 Top Public National Universities list.

- Virginia has a Great Quality of Life
 - Visitors spend billions of dollars each year to enjoy Virginia. Boundless outdoor and cultural activities, one of the nation's highest concentrations of historic resources, amusement parks and countless local attractions all combine to provide limitless opportunities for recreation and relaxation.
- Virginia has Business Incentives
 - Virginia actively works with expanding Virginia employers that create a higher standard of living for Virginians, enhance the local and state economies and increase revenues to state and local governments. Performance-based incentives are Virginia's investment in its economic future and a business decision for both the Commonwealth and the company, ranging from tax credits to tax exemptions.
- Virginia has Easy Access to Domestic and Global Markets as a Hub for Global Logistics, a Leading Gateway to the World
 - The Commonwealth of Virginia and VEDP enthusiastically encourage the expansion of existing Virginia businesses and the location and re-location of new businesses to the state. Located adjacent to Washington, DC, Virginia is strategically located on the U.S. East Coast. Fifty-six percent of all U.S. consumers live within 745 miles of Virginia.
 - VEDP highlights Virginia's connectivity with its airports and excellent Class I freight rail service. (Hampton Roads hosts two Class I rail services as the headquarters of Norfolk Southern is located in the region, and CSX has significant operations here as well. There are many more "short line" railroads in the region.)
 - The Port of Virginia, with primary facilities in Hampton Roads, offers world-class shipping facilities and a schedule of approximately 3,000 sailings annually to 300 ports in 100 foreign countries. Due to natural harbor depth and Suez-class cranes, the Port of Virginia is the only East Coast location capable of handling post-Panamax vessels as a first port of call.
- Virginia's Economy is Strong and Diversified
 - Virginians provide a vast array of services and manufactured goods to customers throughout the world, with a manufacturing base producing everything from steel beams, wood flooring and trucks to semiconductors, robots and rocket engines. Virginia is the birthplace of the Internet, one of the leading centers of software development and one of only four U.S. states currently licensed and capable of launching communications satellites and other commercial payloads into space.
- Virginia is home to Innovative Research & Development
 - The Commonwealth is home to many internationally recognized research and development (R&D) facilities. Federally funded R&D facilities, coupled with the research from Virginia universities, provide Virginia businesses access to leading researchers and cutting-edge technology. From the automotive industry to medical research to the next generation of high technology, these research facilities have something to offer your business.
 - VEDP references a number of Hampton Roads facilities and initiatives including:

NASA Langley Research Center; the Department of Energy's unique Jefferson Lab; Old Dominion University's Virginia Modeling, Analysis and Simulation Center (VMASC); and the National Institute of Aerospace (NIA) in Hampton.

Hampton Roads businesses and initiatives are referenced throughout the descriptions of the VEDP focus areas. It is very easy to draw the connection to certain VEDP focus areas and the "Strategic" and "Tactical" focus areas of the REDS in those portions of the VEDP strategy that focus on:

- A highly skilled, educated and talented workforce (Intellectual/Human Capital);
- Easy access to domestic and global markets (Infrastructure);
- Innovative research and development (Innovation);
- Energy initiatives (Opportunities);
- Virginia's nuclear industry (Opportunities);
- Launch pad success (Opportunities);
- Life sciences industry (Opportunities);
- Modeling and simulation industry (Opportunities); and
- Virginia is technology (Opportunities).

VIII. FINAL NOTES:

The Hampton Roads region is a great place to live, work and visit. Situated around the world's largest natural deepwater harbor, the region enjoys a thriving economy, an abundance of natural resources, a high quality workforce and a robust transportation network. Sustaining and improving the high quality of life in the Hampton Roads region requires the collective efforts of citizens, business and government.

The Regional Economic Development Strategy serves to provide Hampton Roads with a unified set of goals and strategies for increasing the region's quality of life by making sound investments for the purpose of growing the region's economy. We believe that with proper foresight, continuous planning and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure and a Sense of Place.