SEVA-PORT Innovation Index:

Tracking progress in Southeastern Virginia

June 2010

Southeastern Virginia Partnership for Regional Transformation

CONSULTING

CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Table of Contents

WIRED

Background

Virginia's Southeastern region, centered in the Hampton Roads, has a long and distinguished history as an important economic center for Virginia, the Atlantic Coast, and the entire US. The region can trace its modern history back to the Jamestown Settlement of 1607, and, thanks to its unparalleled harbor and port facilities, it has long been a leading center for the US Navy and related defense purposes.

The military and defense-related industries have always served as the region's economic anchors, and continue to do so today. However, the 21st century Hampton Roads economy diverges from past patterns because of its growing sophistication and diversity. The region is no longer simply a "Navy Town;" it is becoming a thriving hub of innovation and entrepreneurship. Today, the Hampton Roads metropolitan area is home to more than 1.7 million people, making it the 35th largest metropolitan area in the US. The wider Southeastern Virginia region is home to more than 2.3 million.

The region's growing economic prosperity and dynamism did not simply emerge out of thin air. It has been the result of conscious effort by regional leaders who have worked to nurture a strong, innovative, diversified, and resilient economy that builds upon long-standing connections with defense-related industries to support innovation in a host of industries and clusters. Groups like the Hampton Roads Partnership, the Hampton Roads Research Partnership, and the Crater Regional Partnership have long supported this mission.

Beginning in 2007, these efforts were rapidly accelerated by the creation of the Southeastern Virginia Partnership for Regional Transformation (SEVA-PORT). SEVA-PORT was a new regional initiative focused on the critical task of building a stronger talent base in a region encompassing 25 cities and counties located in Southeastern Virginia. Building on promising initiatives focused on local strengths in the modeling and simulation (M&S) sector, and the transportation, warehousing and distribution (TWD) industries, SEVA-PORT sought to strengthen the region's talent base with skills and expertise in science, technology, engineering, and mathematics-related (STEM) disciplines.

The SEVA-PORT collaborative has operated for nearly three years, and has spawned a host of new economic and workforce development initiatives throughout Southeastern Virginia. This report assesses the SEVA-PORT legacy, but is also does much more. SEVA-PORT was an important first step, but more needs to be done. Thus, this analysis also looks forward and assesses how the region performs in terms of building a strong base for future innovation. It contains a newly created Southeast Virginia STEM Workforce Innovation Index that tracks the region's performance on several key variables: 1) Its ability to nurture and support a STEM-savvy workforce, 2) Its local base of entrepreneurial companies and innovation-based businesses, and 3) Its performance, and projected performance in the key regional business clusters of Modeling and Simulation, and Transportation, Warehousing, and Distribution.

This report concludes with suggested steps for building on the progress already made via SEVA-PORT and other regional economic and workforce development initiatives. Specifically, the region should consider the following goals as top priorities for work that will continue to support the legacy of the SEVA-PORT effort. These initiatives include:

1) Build and Retain STEM Talent: Continue efforts to develop world-class local education and training offerings that will serve to groom home-grown technology talent and attract new talent to the region.

2) Nurture Entrepreneurs and Innovators: Expand local programs to support entrepreneurs and improve coordination and collaboration among existing business support providers.

3) Support Leading Clusters: Continue to invest in the Modeling & Simulation cluster and the Transportation, Warehousing, and Distribution cluster as key engines for future technology-based economic development.

4) Maintain Regional Momentum: Maintain and deepen the SEVA-PORT regional collaboration that has created strong business and workforce links between Hampton Roads and the Crater region.

The WIRED Initiative

WIRED (Workforce Innovation in Regional Economic Development) was a Federal initiative first launched by the US Department of Labor (DOL) in November 2005. WIRED represented a significant policy shift for the Labor Department. For many years, DOL had made major investments in workforce development under authority of the Workforce Investment Act, and its predecessor laws. WIRED sought to broaden this portfolio to more actively engage workforce development organizations, especially local Workforce Investment Boards (WIBs), in the process of building innovation-based regional economies.

Several themes were at the heart of the WIRED experiment. First, WIRED embraced and accelerated the concept of regionalism which argued that economic success requires that communities collaborate across traditional city, county, and even state boundaries to build stronger and more competitive economies.[1]

Second, WIRED advocates agreed that future prosperity could not depend on "working harder;" it instead depended on "working smarter." In this view, a region's future prosperity depends on its ability to nurture new entrepreneurial activity and to support innovation-based businesses that develop or exploit new technologies and who provide better quality jobs and economic opportunities for local residents.[2]

Finally, WIRED sought to encourage new ways of doing business. For decades, workforce and economic development professionals had often worked in isolation.[3] Workforce agencies focused on job placements and job training, while economic developers focused on recruiting new businesses and supporting existing firms. As innovation and talent development have grown in importance, regions also saw a pressing need for closer alignment between these two missions. WIRED sought to encourage these collaborations through Federal investments in regional partnerships.

The WIRED program made its first investments in February 2006, when it selected thirteen regions as WIRED 1st Generation. These regions all received $15 million in Federal funds (over three years) to help transform their regional economies. WIRED subsequently invested in thirteen 2nd Generation regions (in January 2007), and an additional thirteen 3rd Generation WIRED regions in June 2007. Second and Third Generation regions each received a total Federal investment of $5 million.

The SEVA-PORT project was part of the third and final generation of WIRED investments. The Federal initiative came at a good time from the region's perspective. All three of the region's leading WIBs---Opportunity Inc. (based in Norfolk), the Peninsula Council for Workforce Development (based in Newport News), and the Crater Regional Workforce Investment Group (based in Petersburg)---were

---

[1] See, for example, Council on Competitiveness, *Regional Innovation/National Prosperity: Summary Report of the Regional Competitiveness Initiative and Proceedings of the 2005 National Summit on Regional Innovation*. Report Prepared for the US Economic Development Administration, 2005. Available at: www.compete.org.

[2] Council on Competitiveness, *Innovate America: National Innovation Initiative Summit and Report*, (Washington, DC: Council on Competitiveness, 2005). Available at: www.compete.org.

[3] National Center for Education and the Economy, *Under One Roof: New Governance Structures for Local Economic and Workforce Development*, Washington, DC: NCEE, 2005). Available at: http://colosus.ncee.org/pdf/wfd/Under_One_Roof_FINAL.pdf.

already moving in the directions envisioned by the WIRED program's designers. Hoping to capitalize on the WIRED funds, Opportunity Inc. led a region-wide planning effort that ultimately became the SEVA-PORT Collaborative.

WIRED and Southeast Virginia

The SEVA-PORT Collaborative was initially viewed as a means to address several significant economic development and workforce challenges facing Southeast Virginia. At the broadest level, the Collaborative sought to advance one of the region's long-term economic development goals: easing the transformation from a military-focused economy to a more diversified economy that supported a host of industry clusters and that was widely viewed as a hot spot for innovation-based businesses and new entrepreneurial ventures.

More specifically, the SEVA-PORT Collaborative's original vision sought to strengthen two local industry clusters: Modeling and Simulation (M&S) and Transportation, Warehousing and Distribution (TWD). These two sectors were targeted for a number of reasons. Important untapped synergies between the two sectors were a critical factor. Southeast Virginia is home to the nation's seventh largest port facility, but these important facilities were choking on their own success. Their expansion, along with overall population growth in the region, was putting tremendous pressure on local roads and other transportation infrastructure. Growing congestion placed potentially severe limits on the port's future expansion plans. M&S technologies offer one potential means to address these challenges. The use of simulation and other technologies could help address potential bottlenecks, improve planning, and improve workforce training capacity.

At the same time, the M&S sector offered intriguing growth possibilities of its own. Thanks to military contracts, many local businesses have developed extensive capabilities in this field. A 2007 industry assessment predicted 8.9 percent annual growth in the industry with strong growth prospects in the aerospace, defense, and communication sectors.[4]

Finally, both target clusters, and the region's technology industry more generally, faced major challenges in terms of identifying, attracting, and retaining workers with needed technical skills. The local STEM workforce base was improving and growing in size, but not at a sufficiently rapid pace. SEVA-PORT hoped to accelerate the pace of this progress, by training new workers, but, more importantly, by investing to build new programs and new infrastructure to support local talent development.

The Collaborative Takes Shape

United around these missions, the SEVA-PORT Collaborative soon became a formal reality. In the end, thirty-five leading organizations became formal partners in the coalition.[5] These groups included private sector employers, community colleges, local colleges and universities, workforce development groups, chambers of commerce, and regional economic development organizations. The partnership was unique in the region's history in that it fostered collaborations across disciplines and areas of expertise. In the past, economic developers, educators, workforce professionals had all collaborated within their own silos. SEVA-PORT broke those silos and created real integration across these disciplines.

Even more importantly, SEVA-PORT built partnerships that extended beyond Hampton Roads by including the Crater region around Petersburg. This area had not always been viewed as a natural partner to the Hampton Roads, despite the fact that it was also home to significant Department of Defense (DoD) presence as well as major TWD assets.

---

[4] See discussion in Angle Technology Group, *The Economic Impact of Modeling, Simulation and Visualization in Hampton Roads*, December 2007.

[5] A list of SEVA-PORT Partners can be found in Appendix II

Washington ultimately recognized the power of these partnerships when the Labor Department approved a regional WIRED grant for the SEVA-PORT Collaborative in June 2007. Armed with the Federal seal of approval (and investment dollars), the project soon took off. A full-time SEVA-PORT staffer was hired, and a formal management structure was put into place. The organizational structure was later fleshed out with the creation of a WIRED Executive Committee as well as industry panels composed of business leaders working in the M&S and TWD sectors.

Early Work

With a leadership team established and professional staff on the ground, SEVA-PORT began its formal operations in late 2007. These early efforts sought to advance three broad strategic goals first developed in the region's formal application for Federal dollars:

1) To Develop Communities of Practice

In a nutshell, this strategy sought to build closer partnerships between regional workforce development, economic development, education providers, and the region's business leaders. Based on past (often painful) experience, the project designers recognized that they could not simply say, "Let's Collaborate." This approach often generates a few early well-attended meetings, followed by a rapid loss of enthusiasm. Collaborations tend to be more successful when they are focused on a tangible set of goals that can be achieved in a relatively clear-cut time frame. For SEVA-PORT, the collaborative would focus on building these collaborations so that they could more effectively serve the target M&S and TWD sectors. They planned to develop new programming not for its own sake, but instead to meet the needs of these growing clusters.

As part of this strategy, SEVA-PORT planned to introduce new training tools for workers in these fields, to provide specialized entrepreneurial technical assistance for smaller firms in these clusters, and to build new research partnerships to assess how M&S tools can enhance the performance of TWD industry.

2) To Mitigate the Effects of Local Military Base and Industry Downsizing

The Southeastern Virginia region had been hit, and is continuing to suffer, from several major economic dislocations. The 2005 BRAC (Defense Base Realignment and Closure Commission) decisions affected thousands of local workers employed at the region's many military bases and defense-related facilities. Additional plant closures have occurred in local industries, such as automobile manufacturing, forestry, and wood products. Under the SEVA-PORT umbrella, new training programs for these displaced workers would be developed. These efforts would have special emphasis on assisting these workers to transition into new jobs in the M&S and TWD fields and to new opportunities at nearby Fort Lee, which is gaining jobs as part of the 2005 BRAC process.

3) To Expand the Collaborative and Support Regional Transformation

While the SEVA-PORT Collaborative would spend most of its time and resources on providing support and services to local employers and workers, it had a larger mission as well: to help spur regional transformation. As Rick Sciullo, Vice President at Opportunity Inc. remarked, "Our long-term goal was to move from collaborating on specific projects to where we were working together to create a new transformative regional strategy."

This goal of regional transformation lay at the heart of the SEVA-PORT project. Federal investments would seed the development of new programs, but the prospects for regional transformation were the real cause of local excitement. Federal recognition helped bring people to the table, hopefully sparking deeper conversations and collaborations.

From Planning to Practice: SEVA-PORT in Action

During SEVA-PORT's first year, the magnitude, diversity, and complexity of the project served as a major challenge. While economic and workforce development players in the Hampton Roads area had collaborated in the past, this effort was much larger than previous partnerships. It also involved significant actions that moved well beyond planning. The expansion of the region, to include partners from the Crater area, also added to the challenge.

In an effort to help jump start some local activities, SEVA-PORT made a number of initial investments in what could be called critical regional infrastructure. These investments were designed to help lay the foundation for future work by SEVA-PORT and its successor regional planning efforts. Among these early investments were funds to develop an asset map of the region's economic and workforce development initiatives, and support to a team led by Old Dominion University (ODU) to develop a new curriculum for teaching Modeling & Simulation and using case studies and examples from the TWD sector. SEVA-PORT also made initial investments for new industry training programs at the five local community colleges and to begin youth training programs in the Summer of 2008.

With these basic foundations in place and early investments beginning to pay off, the SEVA-PORT project's focus turned toward operational matters. At this point, the day-to-day work of the project revolved around two priorities: Building a Regional Talent Pipeline, and Regional Business Development.

Learning Business On-Line

Lots of local residents dream of starting their own businesses, but oftentimes, real life can get in the way. It's often tough to focus on starting a new venture, when a full-time job, a family, and other responsibilities demand your time and attention. SEVA-PORT partner, the Crater Planning District Commission, has designed a new on-line training program that is especially geared to the region's dreamers and aspiring entrepreneurs. The Element K online business course offers more than 100 different classes in areas such as marketing, negotiating, and business plan development. This new tool has been especially popular with the region's growing military retiree population. It allows students to log on 24hours a day, and walk through the business building process at their own pace.

Building a Regional Talent Pipeline

When it came to building a stronger regional technology talent pipeline, SEVA-PORT operated with very holistic and systematic mind-set. For many communities across the US, technology talent means one demographic: younger workers (typically aged 24-35) with a college degree or higher. In reality, the technology pipeline starts earlier—in elementary school or even earlier---when children first get exposed and hopefully get excited about science, technology, and mathematics. Moreover, the technology talent pipeline does not have a single end point, i.e. an engineer with a higher education. Careers in STEM-related fields can be found at all education levels and occupation categories. In fact, recent research suggests that the vast majority of new jobs in STEM-related fields will emerge in what are known as middle-skill occupations, i.e. jobs that require training beyond a high school degree, but do not require college completion.[6]

[6] For background, see Harry J. Holzer, "Reviving the Labor Market with Middle Skill Jobs," Progressive Policy Institute Policy Memo, April 14, 2010. Available at: http://www.progressivefix.com/wp-content/uploads/2010/04/Reviving-the-Labor-Market-with-Middle-Skill-Jobs.pdf

Youth Programs

Taking a broader look at the region's STEM pipeline, SEVA-PORT invested in new programs and curricula at all levels of the educational spectrum. Youth programming efforts were particularly effective, with more than 400 area youth participating in SEVA-PORT related programs. Technology summer camps were a leading youth initiative for SEVA-PORT. Beginning in 2008, the collaborative sponsored a series of summer camps in cooperation with Tidewater Community College, Old Dominion University, and the Urban League of Hampton Roads. The camps focused on numerous technology topics, with a heavy focus on M&S related skills. For example, the summer 2008 schedule included the DIGIPEN Project Fun Camp, held at Christopher Newport University, where campers learned how to create their own computer games. In 2009, camps exposed youth to fields like web design, marine-related modeling and simulation, seaport operations, and computer gaming.

Other youth activities were sponsored during the school year. A partnership with Junior Achievement and the Virginia Beach Public Schools helped high school students create their own company, Nuvo, which designed products that are environmentally-friendly. Their first design was Para-Solar, a solar beach umbrella that generates power. "Girls Rock It" was another exciting effort that exposes young girls to opportunities in STEM-related fields, especially those related to space and aviation. Finally, SEVA-PORT sponsored development of a model M&S curriculum for high-school students. This curriculum was tested and refined at Suffolk's Pruden Center for Industry and Technology.

SEVA-PORT also invested in programs to expose youth to career options in M&S and TWD. Numerous students participated in local internship programs, and students also made site visits to local businesses and research centers, such as the new Dollar Tree warehouse and distribution center in Chesapeake and ODU's Virginia Modeling and Simulation Center (VMASC). Additionally, dual enrollment programs that provided joint credits at Tidewater and Southside Virginia Community Colleges were also instituted.

Focusing on young people is one part of the equation in promoting youth interest in technology; teachers and guidance counselors must also get into the act. To address this issue, SEVA-PORT sponsored a regular series of industry tours for area educators with the purpose of exposing them to the many career opportunities for their students in technology-related fields, especially in M&S and TWD. A whole host of other teaching training programs were also put into place.

Community Colleges

Given the growing importance of middle-skill technology jobs, SEVA-PORT placed great emphasis on working with the region's five community colleges: Paul D. Camp, Thomas Nelson, Southside Virginia, Tidewater, and John Tyler. Community colleges were lead players in the youth programming discussed above, but they also developed new programs for their own students. At community colleges, SEVA-PORT investments supported creation of new curricula, internship initiatives, new certification programs, as well as equipping learning labs with state of the art teaching tools.

The development of new certification programs has proved to be a major accomplishment of the SEVA-PORT effort. At Paul D. Camp Community College, a certificate program in Warehousing and Distribution began enrolling students in early 2010. This curriculum, designed with support for local businesses such as Target, QVC, and SAFCO, introduces students to the main concepts of warehouse and distribution operations.

Other community colleges were also able to expand and refine their curricula thanks to SEVA-PORT investments. Tidewater Community College offered several M&S focused classes within its

Information Technology and Programming Department. Thomas Nelson Community College offered distance learning M&S Inventor courses, as well as onsite training in computer sciences and M&S. Southside Virginia Community College is now offering a Career Certificate in Gaming Technology. Finally, Southside and John Tyler were both able to use SEVA-PORT investments to expand capacity and enrollment in the high-demand area of truck driver training.

Four-Year Colleges and Universities

SEVA-PORT also built stronger regional connections with the many four-year colleges and universities located in Southeastern Virginia. One of the most significant investments backed a team from ODU and VMASC with the intention of developing new training curricula using M&S tools to address challenges facing the TWD sector. To date, this funding has produced a number of new innovations in M&S training, including:

- The Reverse Logistics Project: This project, which combines classroom teaching and hands-on laboratories, trains students on how to operate in a virtual environment where they use M&S tools to deal with supply chain and reverse logistics challenges.

- VisPort Project: A team of ODU researchers has developed a computer simulation that mimics operations at a typical port and warehouse/distribution facility. The simulation provides students with a deep virtual experience that helps them better understand key issues facing the TWD industry.

In addition to these training-related investments, SEVA-PORT also invested some limited funds in research designed to help the region better understand the target M&S and TWD clusters. William and Mary researchers James Bradley and Hector Guerrero developed a detailed analysis of the regional supply chain and future training needs in the TWD cluster.[7] They identified significant training shortfalls facing the TWD sector, and recommended development of several new programs to help create a more technologically-savvy local TWD workforce.

This research aligned with the results of a SEVA-PORT sponsored survey of members of the Virginia Maritime Association.[8] Respondents to the survey identified computer skills, truck driving certification, improved industry understanding, math skills, and skilled equipment operations as their primary unmet training needs. In general, surveyed firms were pessimistic about the region's short-term prospects for TWD-related growth, but expected more rapid growth over the long term. A large majority cited traffic congestion as the primary impediment to future growth of the regional TWD cluster.

A related research effort reviewed similar issues facing the M&S sector.[9] This analysis found that, while the region was producing a growing cadre of workers with M&S related skills, this supply was not keeping up with projected occupational demand. It identified the most significant gap as a shortage of computer science training opportunities at local four-year colleges and universities.

SEVA-PORT also sought to improve connections with the region's historically black colleges and universities (HBCUs). Both Virginia State and Norfolk State introduced new programs to encourage their students to consider careers in STEM-related fields. This important work is part of a nationwide effort to encourage more minority students to consider STEM-related careers. In fact, the Obama Administration

---

[7] James R. Bradley and Hector H. Guerrero, "Transportation, Warehousing, and Distribution: An In-Depth Study of the Supply Chains of Hampton Roads," White Paper Prepared for SEVA-PORT Project, May 28, 2009.

[8] Angle Technology Group, "The Hampton Roads Logistics Industry: A Survey," Report Prepared for the SEVA-PORT Project, May 2009.

[9] Mangum Economic Consulting LLC, "Analysis of the Educational Pipeline for Modeling and Simulation Graduates in the SEVA-PORT Area," White Paper Prepared for the SEVA-PORT Project, June 2009.

is currently pushing for creation of a new $103 million National Science Foundation program—the Comprehensive Broadening Participation of Undergraduates in STEM—to support efforts such as those underway thanks to SEVA-PORT.

The Regional Workforce

SEVA-PORT's activities targeted to the existing regional workforce built upon efforts already underway with the three regional WIBs. WIRED funds were used to increase training opportunities in the M&S and TWD fields through local one-stop centers. The centers also sponsored numerous regional job fairs and other outreach efforts. Through March 2010, 835 local residents received specialized training in these fields during the SEVA-PORT project.

Regional Business Development

While significant SEVA-PORT resources were invested in talent pipeline development, the Collaborative also recognized that a strong pipeline produces a dead end unless local businesses are creating new jobs and new career opportunities for this newly trained workforce. As such, SEVA-PORT also made a large commitment to helping to spur business and entrepreneurial development in the region. These investments in business development were closely tied into the region's long-term strategies of seeking to build new business anchors that would help diversify the regional economy away from a predominant focus on DoD-related business development. The recently completed regional Comprehensive Economic Development Strategy (CEDS) planning process, led by the Hampton Roads Partnership, has also identified entrepreneurial development as a core economic development strategy.[10] The Crater Planning District Commission's (CPDC) 2009 CEDS report also places priority emphasis on encouraging entrepreneurial start-ups and fostering further small business growth.[11]

In the area of business and entrepreneurial development, SEVA-PORT did not seek to "reinvent the wheel." Several promising regional initiatives were already underway, and SEVA-PORT sought to use its investments to help catalyze this work. The Crater Region proved to be a worthy test bed for this work. Beginning in late 2008, SEVA-PORT partnered with the Crater Planning District Commission (CPDC) and the Crater Small Business Development Center (SBDC) of Longwood University to introduce an on-line small business training module into the region.

Thanks to this investment, the Element K on-line business training module has been available for the region's aspiring entrepreneurs since 2009. These self-paced on-line courses cover a range of business topics, including negotiating, marketing, communication, and teamwork. In addition to upgrading their on-line offerings, the CPDC and the SBDC also expanded their marketing efforts, with special programs designed for Fort Lee personnel and the region's retirees. CPDC leaders project that more than 10,000 residents will utilize these new on-line tools.

A second set of SEVA-PORT investments was used to support William and Mary's Business Strategic Education Module Series (BSEMS). These workshops, targeted to existing businesses in both the M&S and TWD sectors, introduced local entrepreneurs to the latest industry trends, but also sought

[10] Hampton Roads Partnership, "Vision Hampton Roads: 2010 Comprehensive Economic Development Strategy," January 2010. Available at: http://visionhamptonroads.com.

[11] Crater Planning District Commission,"2009 Comprehensive Economic Development Strategy," Available at: http://www.craterpdc.state.va.us/pdf/CEDS_Report_2009_Final_Approved.pdf.

to build stronger business partnerships for firms in these two sectors. Sponsored seminars addressed key topics such as “Process Improvement through Lean,”“Sales & Marketing,” and “Essentials of Business Finance.” These seminars were designed to do more than simply provide new information and skills for local entrepreneurs; they were intended to seed the development of new entrepreneurial networks in the region. This effort aligns with a region-wide innovation and entrepreneurship action strategy led by the Hampton Roads Research Partnership.[12]

Achievements

The SEVA-PORT WIRED project helped build a new sense of momentum around the mission of building a more innovative and entrepreneurial region in Southeast Virginia. The bottom line impacts of the project have been impressive in their own right. Since beginning operations in late 2007, the SEVA-PORT team has generated the following critical economic development outcomes (as of March 2010):

- 835 local residents received specialized SEVA-PORT-backed training in M&S and TWD-related skills and technologies.
- Of this cohort, 132 received formal degrees or certifications and 92 obtained full-time employment in the target clusters thus far.
- 62 teachers received training in new curricula, teaching tools, and programs.
- 271 Guidance Counselors received specialized training related to new technology careers.
- 119 students were trained using new curricula.
- 148 students participated in SEVA-PORT sponsored internship and externship programs.
- 427 area youth attended technology-focused summer camps and after school programs.
- 634 local entrepreneurs participated in M&S and TWD related seminars and training programs.
- 52 local entrepreneurs were engaged in regional peer networking efforts.
- More than $583,000 in outside funds was invested in the region as direct leverage to support SEVA-PORT programs.

These numbers, while impressive, fail to tell the real story of the SEVA-PORT collaborative. From the outset, the project pursued a goal of regional transformation. While expanding local training and business development opportunities are important objectives, they are unlikely, on their own, to stimulate wider discussions about how to transform a region. These types of discussions and strategies emerged from other aspects of the project. In fact, the SEVA-PORT leadership has been nearly unanimous in its assessment that that the non-quantitative outcomes were the real achievement of this effort. Several prominent achievements stand out:

Putting STEM on the Map

For many SEVA-PORT partners, the project’s most important accomplishment involved public education---prompting the region’s business and education leaders to get serious about the region’s talent development efforts. In particular, SEVA-PORT “put STEM on the map”. It started a regional conversation about what Southeastern Virginia must do to become a national and global innovation hotspot. Patrick Konopnicki, Virginia Beach’s Career and Technical Education Director, put it well when he noted that SEVA-PORT was “an adrenaline shot to innovative thinking.”. In his view, the project served as an “energizer (that) helped accelerate things that needed to be done.”.

[12] See “Vision Hampton Roads,” pp. 45-48.

Thanks to SEVA-PORT, the region's leaders began placing strong emphasis on building a pipeline of STEM talent. The pipeline concept was new to the region. In the past, STEM support efforts had focused on four year colleges and graduate schools with the intention of generating new engineers, IT specialists, and Ph.D. researches. The SEVA-PORT project broadened this thinking. Today, the region's leaders recognize that STEM talent emerges from multiple channels---from K-12 systems, from community colleges, from four-year schools, and from the workforce itself.

SEVA-PORT investments supported capacity building in these underserved segments of the STEM pipeline. Before the project, specialized M&S and TWD training was available at local universities. After SEVA-PORT, students at high schools, community colleges, and those seeking workforce training also have access to these training tools. A real system is now in place. A local high school student can now decide to learn more about modeling and simulation and proceed all the way to a Ph.D. without having to leave the region. SEVA-PORT investments helped build this training and career pathway.

New Partnerships

SEVA-PORT helped nurture new and deeper partnerships across the region. For the first time in the region's history, multiple workforce and economic development organizations came together around a single core strategy. As we saw above, this effort helped stimulate lots of interesting outcomes, but it has a more important ripple effect, too. As Northrop-Grumman's Bob Leber noted, "We've been able to work together under WIRED. Now we can respond more rapidly to other challenges." The relationships built via SEVA-PORT have led to other partnerships and other collaborations.

The inclusion of the partners from the Crater region was perhaps one of the more important parts of this process. Previously, the Hampton Roads and Crater regions had rarely worked together—despite their shared focus on the TWD and military-related industry clusters. Today, a strong partnership has emerged. In fact, many of the Crater region's top economic development priorities are designed to deepen these connections. Major efforts are underway to improve rail and highway links to the Hampton Roads as part of a region-wide effort to strengthen the TWD cluster. At the same time, the SEVA-PORT partners are collaborating in support of the proposed Virginia Logistics Research Center. This R&D Center, to be located near Ft. Lee, would examine new directions in the TWD industry, and would serve as an important complement to the existing regional research capabilities at VMASC and elsewhere.

The deeper partnerships developed via SEVA-PORT have already begun to pay dividends. In late 2009, the region was rocked by the closure of a major International Paper facility, located in Franklin, VA. Faced with the loss of 1,100 direct jobs in a small community of only 8,800 residents, the SEVA-PORT partners have come together to develop a multi-pronged strategy that provides training supports to displaced workers, while also helping the community transition to new business opportunities in biomass energy and other industries that rely on wood products and forestry.

New Ways of Doing Business

In addition to fostering new partnerships, the SEVA-PORT Collaborative also experimented with new ways of doing business. Thanks to Federal WIRED funds, the partners were able to "walk the walk." In the past, partners had discussed interesting potential pilot projects, but funding shortfalls often prevented implementation. As Opportunity Inc.'s Rick Sciullo put it, the funds "allowed us to get out and actually get things done."

The use of "mini-grants" was an especially effective tool for the SEVA-PORT team. Instead of announcing large scale RFPs with large contracting opportunities, SEVA-PORT sponsored a series of mini-grants where local organizations could bid for small seed grant designed to test new programs or further develop interesting ideas and concepts. A number of interesting projects, such as the "Girls Rock It" program and the Junior Achievement partnership, emerged out of these mini-grants. They served as a low-cost, high impact way to seed local innovations.

Highlighting STEM Opportunities for Minority Youth and Young Women

As the SEVA-PORT Collaborative made the case for the importance of STEM education, its leaders also invested in the critical task of engaging young women and minority youth to consider careers in STEM-related fields. Southeastern Virginia is fast becoming a national leader in crafting effective strategies and programs focused on this important challenge. In addition to the work pioneered by SEVA-PORT, other local leaders are also engaged in this work. Earlier this year, Hampton University received a major National Science Foundation grant to train STEM educators working in economically distressed communities and to support the FORCE (Financially Oriented Research Calculus Experience) initiative, a new program that links financial literacy and calculus training for college students. As the home to several of the nation's most prominent HBCUs, along with major research centers operated by DoD, NASA, and other Federal agencies, Southeast Virginia will continue to be a national center for innovative ideas on how best to increase the pipeline of minority students into promising STEM careers.

In addition to sponsoring training, internships, summer camps and other activities, SEVA-PORT also built an important set of connections with the Urban League of Hampton Roads. In October 2009, the Urban League's annual Empowerment Summit promoted a STEM-focused theme, "Where Technology Meets Business." The summit, which included a keynote speech from Dr. Guy Bluford, the first African American astronaut aboard the Space Shuttle, involved more 300 local participants who engaged in entrepreneurial networking activities and in learning about STEM-related career and business opportunities.

Girls Rock It

SEVA-PORT has backed a number of programs to get young girls excited about science. Girls Rock It is one of the more popular. Sponsored by Paul D. Camp Community College, the program provides a host of fun learning activities for high school girls. The program's centerpiece is a sleepover at the Virginia Air and Space Center where the girls take in an IMAX movie, build their own rockets, and engage in a host of fun science based games.

A number of exciting success stories emerged from the SEVA-PORT project. These efforts, which are highlighted, throughout this report, have served to generate significant local enthusiasm about STEM careers and about the region's future prospects as a center for technology, innovation and entrepreneurship.

Work in Progress

While the SEVA-PORT Collaborative produced a number of important achievements, much work remains to be done. Federal investments in SEVA-PORT have supported only three years of work, and most investments have been in place for a shorter period. As such, the SEVA-PORT Collaborative is closing shop just as its work is gaining traction.

While Federal WIRED funds will no longer be available, the partnerships started by SEVA-PORT will continue to operate. They will continue to support on-going initiatives, such as expanding the use of newly designed curricula and supporting existing internship and training programs. They will also focus on some areas of unfinished business, where the SEVA-PORT Collaborative began work but was unable to generate significant short-term progress.

Four areas, ,which are detailed at the end of this report, have been flagged as top priorities for future work by the SEVA-PORT team:

- Build and Retain STEM Talent
- Nurture Entrepreneurs and Innovators
- Support Leading Clusters
- Maintain Regional Momentum

A Glance at the Numbers…

These future strategic action items have emerged as “works in progress” based on SEVA-PORT’s three years of activity, but they also emerge from an examination of regional trends in the areas first targeted by SEVA-PORT. In the next section, we present a new SEVA-PORT Innovation Index that examines recent data on how Southeastern Virginia performs, and is projected to perform, on key indicators related to STEM talent development, entrepreneurship and innovation, and the performance of key industry clusters.

SEVA-PORT INNOVATION INDEX

The SEVA-PORT Collaborative, composed of 25 cities and counties located in Southeastern Virginia, came together to advance two critical regional missions:

1) Transforming the local economy through the development of new tools that strengthened regional industry clusters with a special focus on modeling and simulation technologies and the port industries of transportation, warehousing and distribution.
2) Developing a skilled and prepared workforce to support and accelerate this regional growth and transformation

The SEVA-PORT Collaborative has pursued these goals for the past three years, and can point to some significant accomplishments. Many critical building blocks are in place. But, even the rosiest assessment of the SEVA-PORT experiment would acknowledge that the project is just the beginning of a longer journey. Regional transformation does not occur over night or just through effective education, economic development and workforce training programs. Regional transformation instead requires an evolutionary process where a whole host of small—and large scale—changes coalesce in a new economic landscape that is more entrepreneurial, innovative, and prosperous.

SEVA-PORT and a host of other regional leadership efforts are helping to accelerate this transformation process, but it is still a work in progress. As we pursue this mission, it is important that we track our progress. We will not know if we succeed if we fail to keep score. This first regional Innovation Index is a first cut at "scorekeeping." It provides an assessment of how our region is performing on key measures of talent development, innovation, and cluster prosperity. It provides baseline measures for how our region is presently performing. Regular updating will assess future progress.

This Index takes an admittedly narrow look at the issue of regional transformation. Our measures all focus on issues that first arose as part of the SEVA-PORT project. Thus, they examine the region's STEM talent development efforts, our ability to support new entrepreneurs and innovation-based businesses, and the growth prospects of the M&S and TWD clusters. These factors are not the only ones that matter for regional transformation, but they are essential components of the region's drive to become a national innovation leader.

Building Blocks for an Innovative Region

National and international experts advise that communities pursue several broad strategies as they seek to enhance their regional competitiveness. Simply thinking and acting like a region is job number 1. Four other general strategies can help build a stronger base for regional innovation and prosperity.

- Build and Retain Talent
- Network Knowledge Assets
- Energize the Entrepreneurial Economy
- Nurture Leading Clusters

All of these strategies have been at the core of the SEVA-PORT Collaborative's work, and they must continue to animate our future regional partnerships.

Build and Retain Talent

Most experts agree that talent will make the difference in how regions perform in the future economy. Places with the smartest, best-qualified workers, managers, and entrepreneurs are more likely to be the most prosperous and innovative regions, too. For many people, the right talent implies that a region has to have lots of scientists and engineers and other "techies." Yet, as the SEVA-PORT experience has shown, the "war for talent" is not just about who has the most PhDs. It is instead about how regions fare in terms of nurturing, retaining, and attracting a quality workforce that is appropriate for their current industries and desired future economic needs.

Southeastern Virginia's future is likely to be "STEM-Centric," in that future growth will emerge around industries that require a workforce with skills in science and technology. Some of these workers will need PhDs, but many of them will be employed in middle skill jobs, as technicians or other kinds of certified specialists. Southeastern Virginia needs to develop and groom its own base of STEM talent, and success in this critical mission requires that all levels of the education and training system from pre-school through graduate school work well. Business must continue to partner with workers to provide on-going opportunities for skills enhancementand life-long learning.

Network Knowledge Assets

Southeastern Virginia is home to many excellent workforce, economic development, education, and business support programs. Many of these programs work quite well, yet we still hear regularly from businesses and from local residents that it is too difficult and complicated to identify and access various support programs. One cause of this dissatisfaction is that our current organizations have not collaborated as well as they should. Each group performed it own core missions, but failed to understand how better collaboration would improve their bottom line performance. Partnerships energized through the SEVA-PORT initiative showed better regional outcomes when economic and workforce development organizations shared information, share services, and link regional efforts to state, national, and global support networks.

Energize the Entrepreneurial Economy

Successful regions stimulate the entrepreneurial spirit inherent in local residents, businesses, and communities. New and fast growing businesses generate the most new jobs and innovations. For Southeastern Virginia to become more innovative and prosperous in the future, it must do a better job of supporting local entrepreneurs today. Establishing a more entrepreneurial economy requires more than just helping local residents start businesses. We must help them turn these businesses into innovative, fast-growing ventures. With partners like the Crater Planning District Commission and William and Mary's Mason School of Business, SEVA-PORT helped jumpstart this work. The Hampton Roads Technology Council and the Hampton Road Research Partnership are also developing new entrepreneurial programs.

Nurture Leading Clusters

Regional growth and transformation often occur in tandem with the development of industry clusters, business sectors where a region has, or would like to have, some specialized competitive advantage. Southeastern Virginia's past growth has been built via strong clusters in defense-related fields, forestry, tourism, and other sectors. As the SEVA-PORT project noted, M&S and TWD are likely to be the region's future growth clusters. Clusters often emerge thanks to historical or natural advantages. For example, our region's military heritage results from our location near "the world's greatest harbor." But smart public policies and targeted support programs can also nurture clusters. These efforts might involve investments in critical infrastructure, such as VMASC research center, or workforce development efforts, such as those pioneered by SEVA-PORT. The growth of leading clusters creates new business and career opportunities, and, in the process, a strong virtuous cycle of innovation-based development will emerge.

The Purpose of this Index

This report is not designed to be a comprehensive report card on our region's economic performance. Instead, it is the beginning of what will hopefully become a regular benchmarking exercise where regional assessment occurs on a limited, but important, series of measures. We are seeking to assess how the region is achieving its objectives of becoming more innovative, more entrepreneurial, and more prosperous.

The report should not be viewed as a comprehensive assessment, as it does not tackle many important issues, such as public safety or various measures of quality of life. Other regional entities, such as Old Dominion University's Regional Studies Institute and the Hampton Roads Performs assessments, do produce excellent detailed annual guides of this sort. The data used in our report are more limited as we have only used measures where we can access information for each of the region's cities and counties, along with comparison measures for Virginia and for the entire US. While each county and many local cities produce data on their individual economic performance, this report is the first to review how the SEVA-PORT region performs as a combined economic entity.

As the SEVA-PORT project comes to close, we hope that this Index will serve as a conversation starter—to get people talking, and, more importantly, thinking about collaborative solutions to build a more prosperous and innovative region.

The Measures

The report assesses regional innovation performance on nineteen individual measures that cluster into three broad categories:

- **Science, Technology, Engineering, and Mathematics (STEM) Assets:** How is the region performing in terms of building a pipeline of STEM talent? Are the region's schools and training centers producing skilled and qualified workers?

- **Innovation Foundations:** Is the region generating new ideas and new, successful entrepreneurial ventures? Are local residents taking risks and starting new ventures? Are new technologies being developed and commercialized?

- **Performance of Key Clusters:** How are some of the region's emerging industry clusters—Modeling & Simulation (M&S), and Transportation, Warehousing Distribution (TWD)—performing? Are they growing or declining?

Each of these categories includes a series of individual data points that help illuminate our regional performance levels. Where possible, we provide a general report on regional performance in each category in relation to two benchmarks: the average across Virginia, and the national average. The regional data is an aggregation of county-level data for the eleven local counties[13] and fourteen cities.[14]

[13] Counties included in the metrics are: Chesterfield, Dinwiddie, Gloucester, Greensville, Isle of Wight, James City, Prince George, Southampton, Surry, Sussex, and York.

[14] Cities included in the metrics are: Chesapeake, Colonial Heights, Emporia, Franklin, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

Each individual performance measurement includes a description of the measure, why it is important and an analysis of the results.

This assessment does not provide a grade or ranking for each category. Instead, we seek to understand broad trends, and to identify areas of potential strength or weakness. As noted earlier, these findings are not the last word on how our economy is performing. They are instead designed to help regional leaders identify areas of relative strength or areas of weakness—primarily as they relate supporting regional innovation and technology-based economic development efforts. In areas of strength, we hope to further embolden the region with new collaborations that bolster our relatively strong performance. In areas of relative weakness, we should come together to devise effective solutions. In the concluding section, we identify these priority areas and provide a call to action for building on strengths and responding to pressing challenges.

STEM OCCUPATIONS AND ASSETS

SEVA-PORT's primary mission was to strengthen the region's talent pipeline, especially in STEM-related fields. Thanks to SEVA-PORT investments, a number of new programs, especially those targeting youth, have been put into place. Our results suggest these investments are needed, as most of our STEM-related benchmarks indicate that the SEVA-PORT region continues to lag the Commonwealth of Virginia and the US in many areas. For example, area high school students perform slightly below statewide averages in scores on the Virginia Standards of Learning (SOL) science and math tests. Similarly, the number of local university graduates in STEM-related fields has declined over the past five years, despite the fact that regional demand for these workers is growing.

While the region faces some challenges in this category, trends are moving in the right direction. On nearly every measure, the region has enjoyed steady improvement in performance. If these trends persist, the regional gap in performance should disappear.

Our index data regarding STEM-related programs may offer the greatest cause for optimism about the region's future prospects. A whole range of new STEM-focused training and education programs are in place and have begun to build a home-grown pipeline of technology talent. The young people who are participating in local science and technology programs at area K-12 schools are gaining critical knowledge while also getting excited about careers in technology-based fields. These budding scientists, researchers, and technology entrepreneurs will become the next generation of innovators and wealth builders in our region.

1A. STEM Occupations

What is It?

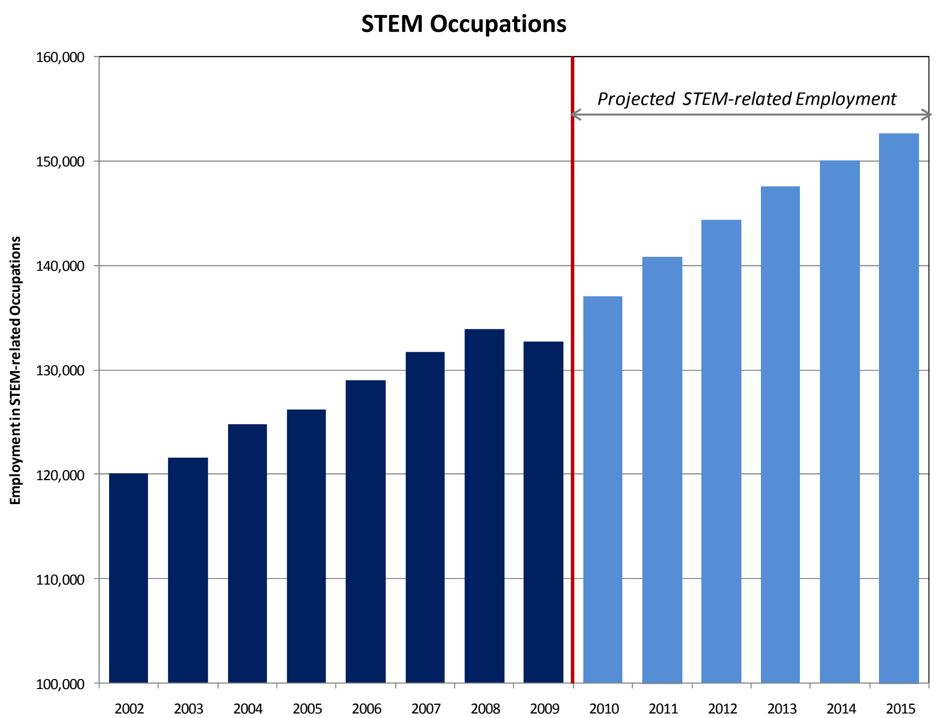
This measure tracks the number of local residents employed in STEM-related fields and projects their potential future employment growth.

Why Does It Matter?

STEM-related occupations tend to provide higher quality, higher paying jobs, while also impacting regional economic growth. At the foundation of technology-based economic development are the knowledge, skills, and abilities that individuals develop in the STEM disciplines. STEM occupations are found in industries throughout the economy, not just in high tech industries. However, a large and growing base of STEM-related jobs is a solid indicator of the region's technology strength and future innovation potential.

What Does It Mean?

Employment projections suggest that the region will continue to see increased demand for workers in STEM-related fields. Between 2009 and 2015, there are projected to be almost 20,000 more people in STEM-related occupations. This represents an annual growth rate of 2.4 percent. This annual growth rate is similar to Virginia's projected annual growth rate of 2.6 percent during the same period. It should also be noted that the region's annual growth rate for STEM-related occupations, outpaces the national growth rate of 1.6 percent annually between 2009 and 2015. Within these STEM occupations, those related to computer science, engineering, and environmental science are projected to grow the fastest and add the most net new jobs. These sub-groups are also expected to be responsible for most of the growth in STEM occupations at the state and national levels.



*Source: O*Net; EMSI*

STEM Occupations

SEVA-PORT

	2002	2003	2004	2005	2006	2007	2008	2009
ALL STEM OCCUPATIONS	*120,122*	*121,615*	*124,812*	*126,186*	*128,960*	*131,760*	*133,936*	*132,744*
Computer Science	46,994	47,488	48,335	47,887	49,423	50,972	52,031	53,129
Engineering	43,135	43,740	45,208	46,212	47,421	48,134	48,516	46,689
Life Sciences	16,304	16,229	16,269	16,309	16,289	16,381	16,555	16,497
Environmental Science	7,450	7,702	8,250	8,346	8,657	9,243	9,651	9,359
Chemistry	2,860	2,748	2,749	2,726	2,749	2,703	2,794	2,673
Mathematics	2,468	2,517	2,496	2,526	2,531	2,563	2,591	2,633
Physics/Astronomy	2,135	2,122	2,135	2,177	2,218	2,250	2,303	2,249
Geosciences	1,168	1,162	1,199	1,224	1,248	1,274	1,297	1,239
Total Employment	**1,176,135**	**1,191,934**	**1,220,242**	**1,240,247**	**1,257,667**	**1,277,596**	**1,285,682**	**1,264,742**

*Source: STEM Definitions from O*Net; Employment data from EMSI*

Virginia

	2002	2003	2004	2005	2006	2007	2008	2009
ALL STEM OCCUPATIONS	*617,127*	*625,069*	*650,337*	*664,320*	*682,660*	*700,624*	*714,516*	*712,916*
Computer Science	258,969	262,894	275,136	278,599	289,295	300,550	308,718	313,546
Engineering	173,829	177,047	185,436	192,118	197,979	200,942	203,661	198,913
Life Sciences	104,994	103,641	104,329	105,543	105,146	105,838	106,283	105,557
Environmental Science	39,297	40,937	43,474	44,167	45,774	48,235	50,238	49,362
Chemistry	11,645	11,676	11,954	12,400	12,518	12,620	12,636	12,411
Mathematics	11,776	12,007	12,374	12,840	12,985	13,249	13,480	13,695
Physics/Astronomy	10,023	10,170	10,590	11,157	11,311	11,440	11,624	11,590
Geosciences	6,594	6,697	7,044	7,496	7,652	7,750	7,876	7,842
Total Employment	**4,355,511**	**4,408,635**	**4,530,896**	**4,642,198**	**4,720,860**	**4,812,012**	**4,858,641**	**4,749,298**

*Source: STEM Definitions from O*Net; Employment data from EMSI*

Percent of Virginia's STEM Occupations in SEVA-PORT

	2002	2003	2004	2005	2006	2007	2008	2009
ALL STEM OCCUPATIONS	*19.5%*	*19.5%*	*19.2%*	*19.0%*	*18.9%*	*18.8%*	*18.7%*	*18.6%*
Computer Science	18.1%	18.1%	17.6%	17.2%	17.1%	17.0%	16.9%	16.9%
Engineering	24.8%	24.7%	24.4%	24.1%	24.0%	24.0%	23.8%	23.5%
Life Sciences	15.5%	15.7%	15.6%	15.5%	15.5%	15.5%	15.6%	15.6%
Environmental Science	19.0%	18.8%	19.0%	18.9%	18.9%	19.2%	19.2%	19.0%
Chemistry	24.6%	23.5%	23.0%	22.0%	22.0%	21.4%	22.1%	21.5%
Mathematics	21.0%	21.0%	20.2%	19.7%	19.5%	19.3%	19.2%	19.2%
Physics/Astronomy	21.3%	20.9%	20.2%	19.5%	19.6%	19.7%	19.8%	19.4%
Geosciences	17.7%	17.4%	17.0%	16.3%	16.3%	16.4%	16.5%	15.8%
Total Employment	**27.0%**	**27.0%**	**26.9%**	**26.7%**	**26.6%**	**26.6%**	**26.5%**	**26.6%**

*Source: O*Net; EMSI*

1B. High School Students Advanced Placement Courses

What is It?

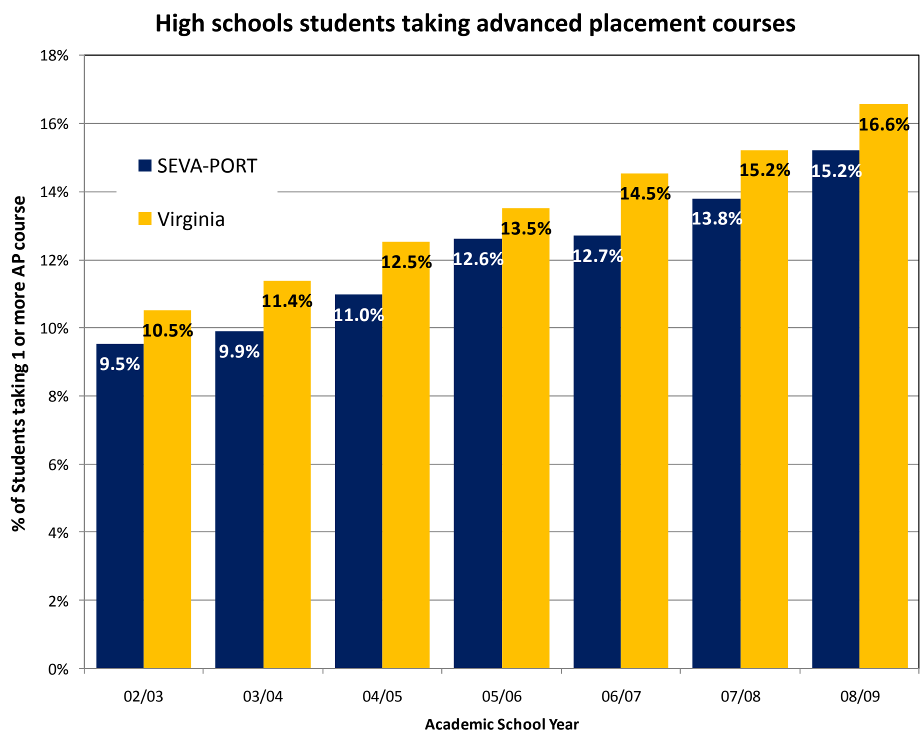
This metric measures the number of local high school students taking advanced placement of college level courses.

Why Does It Matter?

This metric is an important proxy measure of the ambition of local education leaders, parents, and students. To a certain extent, it indicates a school's academic rigor and commitment to scholastic excellence. It also provides some indication about the extent to which high school graduates are prepared to take college-level work. In fact, the widely publicized *Washington Post/Newsweek*[15] ranking of the best high schools in America is heavily based on this metric.

What Does It Mean?

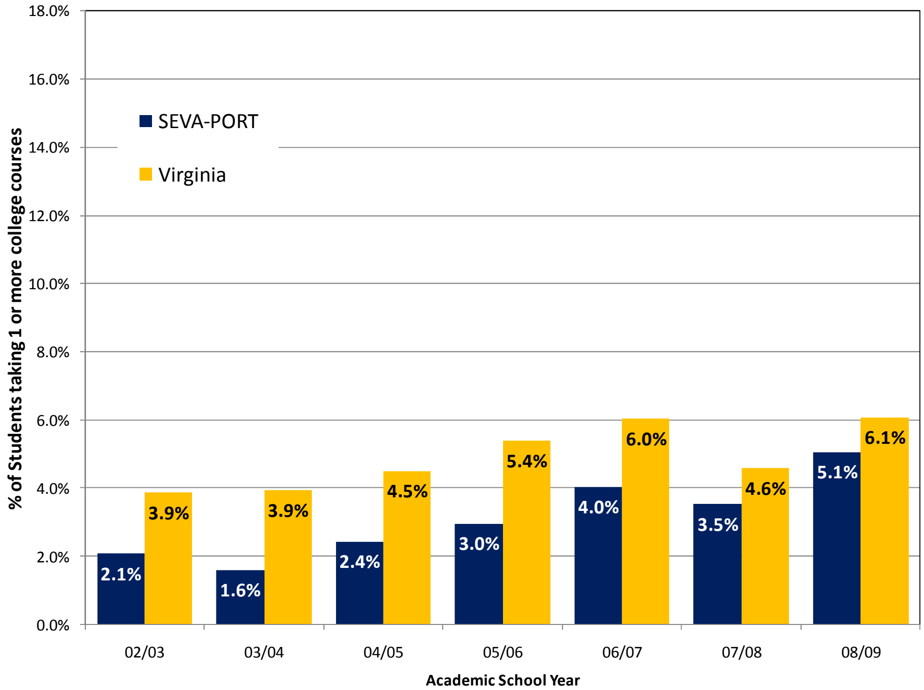
While the SEVA-PORT region lags Virginia in terms of the percentage of students enrolled in AP or College courses, the region has seen significant improvement on this measure since 2003. In the 2008-2009 school year, roughly two and half times as many students in the SEVA-PORT region were enrolled incollege courses than in the 2002-2003 school year. Similarly, over 70 percent more students were taking AP courses during that time. Consequently, the gap between the region and the state is narrowing.



Source: Virginia Department of Education

[15] http://www.newsweek.com/id/201160

High schools students taking college courses



Source: Virginia Department of Education

High schools students taking college courses

Academic Year	Students taking one or more College Courses	Students taking one or more AP Courses	% of students taking one or more college courses		% students taking one or more AP courses	
	SEVA-PORT	SEVA-PORT	SEVA-PORT	Virginia	SEVA-PORT	Virginia
02/03	2,120	9,755	2.1%	3.9%	9.5%	10.5%
03/04	1,694	10,503	1.6%	3.9%	9.9%	11.4%
04/05	2,643	11,922	2.4%	4.5%	11.0%	12.5%
05/06	3,303	14,056	3.0%	5.4%	12.6%	13.5%
06/07	4,463	14,034	4.0%	6.0%	12.7%	14.5%
07/08	3,923	15,363	3.5%	4.6%	13.8%	15.2%
08/09	5,583	16,783	5.1%	6.1%	15.2%	16.6%

Source: Virginia Department of Education

1C. Standards of Learning Passage Rates

What is it?

These figures track the performance of K-12 students on the Commonwealth of Virginia's Standards of Learning (SOL) standardized tests in the areas of math and science.

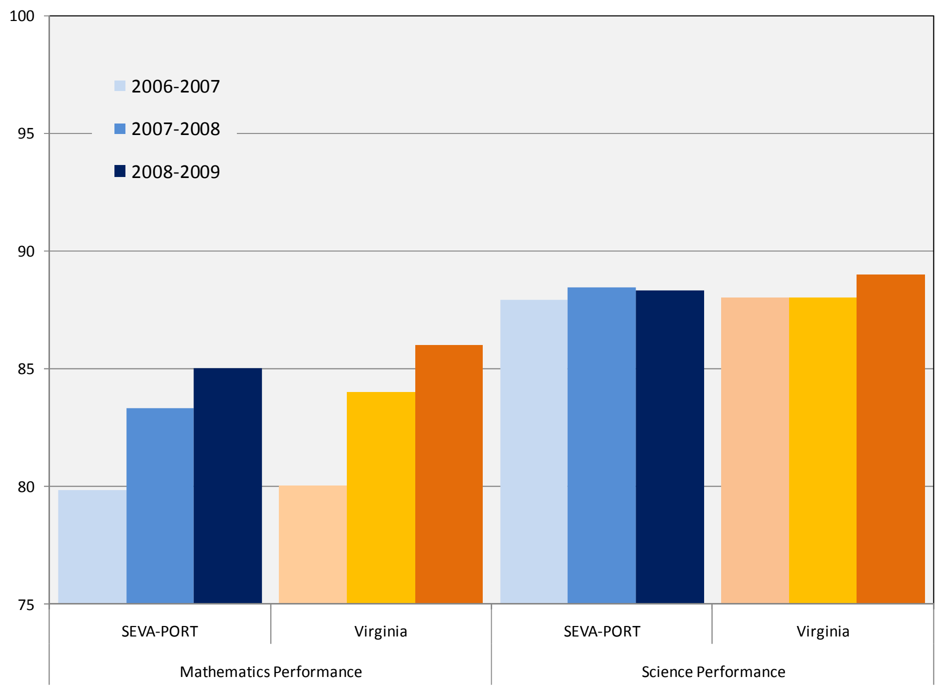
Why Does It Matter?

SOL results are an important measure of the region's talent base and the quality of its local schools. Schools that provide rigorous math and science training are also more likely to groom students who will continue with higher education and be more successful in subsequent careers.

What Does It Mean?

The SEVA-PORT region tracks closely to the statewide numbers. In both Math and Science, the pass rate in the SEVA-PORT region was within one percentage point of the statewide rate. These are promising trends, but regional education leaders should remain focused on continuing improvement with the goal of exceeding statewide performance levels.

Average number of students passing statewide math and science exams



Source: Virginia Department of Education

Average number of students passing statewide math and science exams

Subject	Area	% of Students Passing		
		2006-2007	2007-2008	2008-2009
Mathematics Performance	SEVA-PORT	79.8	83.3	85.0
	Virginia	80	84	86
Science Performance	SEVA-PORT	87.9	88.5	88.3
	Virginia	88	88	89

Source: Virginia Department of Education

1D. Post High School Intentions

What is It?

These figures show data collected by the Virginia Department of Education regarding the future career and training intentions of graduating public high school students.

Why Does It Matter?

The survey data provide some indication of how many graduating students are available to immediately enter the workforce, and how many plan to pursue some form of higher education. Given that educational attainment provides a strong indication of a person's future earning potential, student interest in higher education indicates a capacity to enter higher paying careers as well as the region's future capacity to support greater numbers of good-paying jobs.

What Does It Mean?

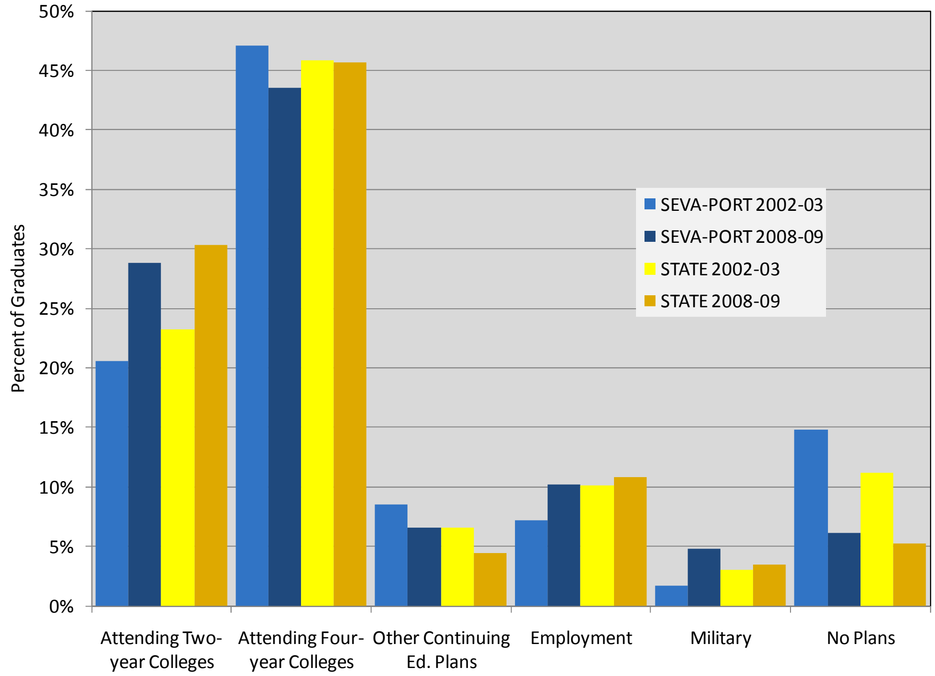
Students graduating in 2009 are making somewhat different choices than those who graduated in 2003. In 2003, over 67 percent of students planned to attend a 2- or 4-year college upon graduation. In 2009, this number rose to 72.4 percent. This overall growth rate masks a critical underlying trend. Interest in community colleges is growing, while interest in four-year colleges is showing a slight decline. Between 2003 and 2009, the percentage of students looking to enter 2-year schools increased from 20.6 to 28.8 percent. Conversely, the number of students planning to enter 4-year schools decreased from 47.1 percent to 43.5 percent. Cost issues are likely at work. As the costs of four-year schools rise, community colleges and technical schools become a more attractive option. These two year schools can offer a more affordable and flexible way to complete their first two years of college, which can lead directly to a career or the opportunity to transfer to a four-year institution where students complete their bachelor's degree. Regional trends differ from statewide patterns where interest in both 2-year schools (up 7 percent between 2003 and 2009), and 4-year schools (holding steady) remained strong.

College is not the only option. In 2009, over 10 percent of the SEVA-PORT region's students planned to enter the workforce directly. This represents an increase from 7 percent in 2003, and may be a consequence of the current recession where graduates may find employment a more pressing need. At the statewide level, interest in direct post-high school employment has remained steady at ten percent.

The SEVA-PORT region saw a big jump in interest in military careers between 2003 and 2009. In 2009, almost 5 percent of area high school students planned to enlist. Overall, one trend that that was common both in the region and throughout Virginia was that fewer students had no plans. Whereas 14.8 percent of the region's students had no post-high school plans in 2003, that number had declined to only 6.1 percent in 2009. A similar, but less dramatic, decline occurred throughout Virginia during the same period.

These trends may indicate that students are becoming more "realistic" about future career prospects. Growing interest in community college training is an important sign, and aligns with overall trends that show growth in occupations requiring some post high-school education. These patterns also suggest that the region's leaders must continue to invest and support improvements in the area's five community colleges.

Post High School Intentions



Source: Virginia Department of Education

Post High School Intentions

SEVA-PORT

Academic Year	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
2002-03	4,522	10,361	1,875	1,585	383	3,263
2003-04	4,626	9,904	2,813	2,321	668	1,801
2004-05	4,814	11,312	1,775	2,403	743	1,126
2005-06	5,147	11,602	1,541	2,561	906	1,180
2006-07	5,920	12,018	1,362	2,562	824	1,229
2007-08	6,589	11,110	1,601	2,535	902	2,061
2008-09	7,244	10,933	1,648	2,555	1,203	1,539

Source: Virginia Department of Education

SEVA-PORT - Percentage of Graduating Seniors

Academic Year	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Ed. Plans	Employment	Military	No Plans
2002-03	20.6%	47.1%	8.5%	7.2%	1.7%	14.8%
2003-04	20.9%	44.7%	12.7%	10.5%	3.0%	8.1%
2004-05	21.7%	51.0%	8.0%	10.8%	3.4%	5.1%
2005-06	22.4%	50.6%	6.7%	11.2%	3.9%	5.1%
2006-07	24.8%	50.3%	5.7%	10.7%	3.4%	5.1%
2007-08	26.6%	44.8%	6.5%	10.2%	3.6%	8.3%
2008-09	28.8%	43.5%	6.6%	10.2%	4.8%	6.1%

Source: Virginia Department of Education

Virginia - Percentage of Graduating Seniors

Academic Year	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Ed. Plans	Employment	Military	No Plans
2002-03	23.3%	45.8%	6.6%	10.1%	3.0%	11.2%
2003-04	23.4%	45.1%	6.8%	12.6%	3.1%	9.0%
2004-05	24.3%	49.3%	5.8%	12.3%	2.7%	5.5%
2005-06	25.4%	48.7%	5.1%	12.1%	2.8%	5.9%
2006-07	27.5%	49.3%	4.4%	11.7%	2.6%	4.6%
2007-08	28.8%	47.0%	4.6%	11.7%	2.9%	5.1%
2008-09	30.3%	45.7%	4.5%	10.8%	3.5%	5.2%

Source: Virginia Department of Education

1E. STEM-Related Programs

What is It?

The programs listed below are those that provide training and education opportunities in a variety of STEM-related disciplines as defined by the O*Net database. Unlike other measures, this indicator does not track progress over time. Instead, it provides an inventory of regional assets.

Why Does It Matter?

In the 21st century economy, the availability of local talent is a key factor in a region's ability to attract, retain, and grow businesses. Regions with strong local education and training capacity have an enhanced ability to develop skilled local talent, and to attract talented workers and entrepreneurs from elsewhere. In the world of STEM-education, the presence of world class programs will help build a local talent pool and attract new economic activity to our communities. There is no 'ideal' mix or number of programs required for future prosperity. However, successful regions have a diverse set of high quality education, training, and support programs.

What Does It Mean?

Critical training and education programs are available in the region across a wide variety of STEM-related disciplines. Health care and clinical sciences are areas of particular strength. These sectors offer the most diverse set of local programs and offerings. Education and training opportunities are available at a variety of levels ranging from certifications and associates degrees, all the way up to Master's and doctoral degrees. The largest share of offerings in the allied health professions require certifications or associate's degrees. For people pursuing professional or advanced degrees, Hampton University, Old Dominion University and Eastern Virginia Medical School are the primary education providers.

Computer and information sciences and support services also enjoy a wide array of offerings at many levels. Many of the region's community colleges and 4-year institutions have some kind of relevant program. For disciplines such as the construction trades, available programs tend to be offered through the community colleges and result in 2-year degrees or certifications.

Regional STEM-related Programs

Major	Degree/Certificate Level	Institution
Biological and biomedical sciences	Bachelor's degree	Christopher Newport University, College of William and Mary, Hampton University, Norfolk State University, Old Dominion University, Virginia State University, Virginia Wesleyan College
	Master's degree	College of William and Mary, Eastern Virginia Medical School, Hampton University, Old Dominion University, Virginia State University
	Doctor's degree	College of William and Mary, Old Dominion University
Communications technologies/technicians and support services	Bachelor's degree	ITT Technical Institute-Norfolk
Computer and information sciences and support services	Certificates below the baccalaureate total	ECPI College of Technology, Everest Institute-Chesapeake, Hyperlearning Technologies Inc, Tidewater Community College
	Associate's degree	Bryant and Stratton College-Virginia Beach, Centura College, ECPI College of Technology, ITT Technical Institute-Norfolk, John Tyler Community College, Thomas Nelson Community College, Tidewater Community College
	Bachelor's degree	Christopher Newport University, College of William and Mary, ECPI College of Technology, Hampton University, ITT Technical Institute-Norfolk, Norfolk State University, Virginia State University
	Master's degree	College of William and Mary, Hampton University, Norfolk State University, Virginia State University
	Doctor's degree	College of William and Mary
Construction trades	Certificates below the baccalaureate total	John Tyler Community College, Paul D Camp Community College, Tidewater Community College
	Associate's degree	Tidewater Community College
Engineering technologies/technicians	Certificates below the baccalaureate total	ECPI College of Technology, Paul D Camp Community College, Thomas Nelson Community College, Tidewater Community College
	Associate's degree	Centura College, ECPI College of Technology, ITT Technical Institute-Norfolk, John Tyler Community College, Norfolk State University, Paul D Camp Community College, Thomas Nelson Community College, Tidewater Community College
	Bachelor's degree	ITT Technical Institute-Norfolk, Norfolk State University, Old Dominion University, Virginia State University
Engineering	Associate's degree	Thomas Nelson Community College, Tidewater Community College
	Bachelor's degree	Christopher Newport University, Hampton University, Norfolk State University, Old Dominion University, Virginia State University
	Master's degree	Norfolk State University, Old Dominion University
	Doctor's degree	Norfolk State University, Old Dominion University

Source: The Integrated Postsecondary Education Data System

Regional STEM-related Programs

Major	Degree/Certificate Level	Institution
Health professions and related clinical sciences	Certificates below the baccalaureate total	Central School of Practical Nursing, Centura College, Eastern Virginia Medical School, ECPI College of Technology, Everest College-Newport News, Everest Institute-Chesapeake, John Tyler Community College, MedSpa Careers Institute, Paul D Camp Community College, Riverside School of Health Careers, Sentara School of Health Professions, Southside Regional Medical Center, Suffolk Public Schools-Sentara Obici Hospital School of Practical Nursing,Thomas Nelson Community College, Tidewater Community College, Virginia Beach City Public Schools School of Practical Nursing, Virginia Career Institute
	Associate's degree	Bryant and Stratton College-Virginia Beach, Centura College, ECPI College of Technology, John Tyler Community College, MedSpa Careers Institute, Norfolk State University, Paul D Camp Community College, Thomas Nelson Community College, Tidewater Community College, Virginia State University
	Bachelor's degree	Hampton University, Norfolk State University, Old Dominion University
	Certificates above the baccalaureate total	Virginia State University
	First-professional degree	Eastern Virginia Medical School, Hampton University
	Master's degree	Eastern Virginia Medical School, Hampton University, Old Dominion University
	Doctor's degree	Hampton University, Old Dominion University
Mathematics and statistics	Bachelor's degree	Christopher Newport University, College of William and Mary, Hampton University, Norfolk State University, Virginia State University, Virginia Wesleyan College, Old Dominion University
	Master's degree	Hampton University, Virginia State University, Old Dominion University
	Doctor's degree	Old Dominion University
Natural resources and conservation	Master's degree	Christopher Newport University
Physical sciences	Associate's degree	Richard Bland College of the College of William and Mary
	Bachelor's degree	Christopher Newport University, College of William and Mary, Hampton University, Norfolk State University, Old Dominion University, Virginia State University, Virginia Wesleyan College
	Master's degree	Christopher Newport University, College of William and Mary, Hampton University, Norfolk State University, Old Dominion University, Virginia State University
	Doctor's degree	College of William and Mary, Hampton University, Old Dominion University
Precision production	Certificates below the baccalaureate total	John Tyler Community College, Paul D Camp Community College, Tidewater Community College, Tidewater Tech-Trades
Science technologies/technicians	Certificates below the baccalaureate total	John Tyler Community College

Source: The Integrated Postsecondary Education Data System

1F. STEM Related College Graduates

What is It?

These figures track the number of graduates from local colleges and universities who complete school with degrees in STEM-related disciplines.

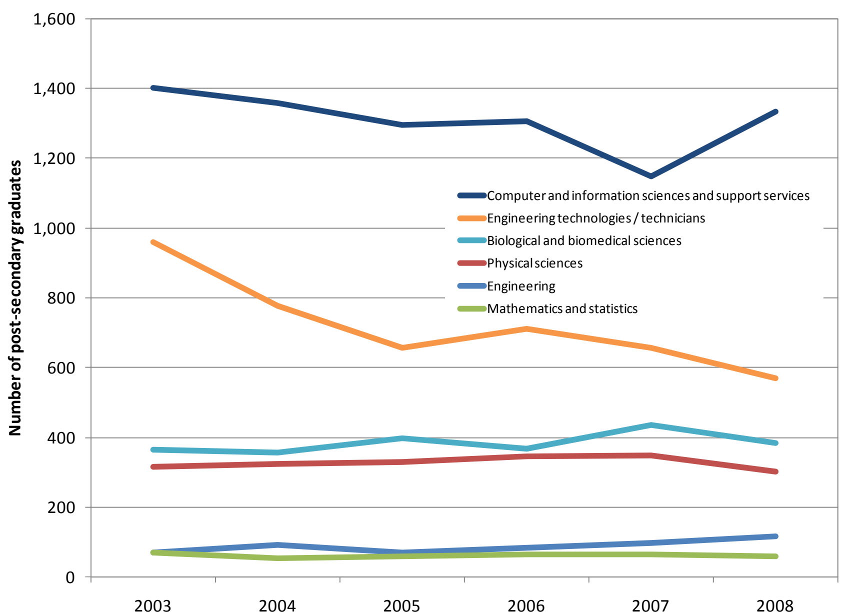
Why Does It Matter?

An innovative regional economy requires the presence of talented individuals with the skills to invent, design, and commercialize new technologies. Students with degrees in STEM-related fields are more likely to have the critical skills and talents needed to succeed in technology-related industries. Moreover, students who attend college in this area are likely to remain in the region, and consequently these graduates are an important local source of critical technical talent.

What Does It Mean?

The data show a decline in the number of graduates in key STEM-related disciplines over the past five years, particularly in engineering-related disciplines. The number of computer and information technology graduates spiked in 2007, but even this field saw a decline in graduates in earlier periods. These results are a potential cause for concern. If the region hopes to succeed with plans to support technology and innovation-related businesses, it will require a strong base of local technical talent. This requires a strong talent pipeline to continuously support the region's demand for technical talent. The inability to establish this strong pipeline may require many regional technology employers to recruit tech workers from outside the region. This, however, is an expensive and potentially unsustainable approach to meeting this need. A more cost-effective approach would build upon home-grown talent emerging from local colleges and universities.

STEM Related College Graduates



Source: The Integrated Postsecondary Education Data System

STEM Related College Graduates

STEM Discipline	2003	2004	2005	2006	2007	2008
Computer and information sciences and support services	1,402	1,357	1,296	1,305	1,147	1,333
Engineering technologies / technicians	960	777	656	712	658	569
Biological and biomedical sciences	366	357	399	369	435	385
Physical sciences	317	324	329	347	350	302
Engineering	72	92	70	85	98	117
Mathematics and statistics	72	55	61	64	64	60
Total STEM Graduates	***3,189***	***2,962***	***2,811***	***2,882***	***2,752***	***2,766***

Source: The Integrated Postsecondary Education Data System

INNOVATION FOUNDATIONS

In today's globalized technology economy, companies, communities, and individuals must embrace change. They need to be flexible and responsive to new ideas, concepts, products, and technologies. Regions that are able to adapt will prosper; those that fail to do so will stagnate or decline.

The category of Innovation Foundations includes measures that track the region's ability to adapt to a changing environment and its capacity to support future technology-based economic development. The metrics in this section track how the region generates new ideas that take root in the form of new companies. The creation of new companies is not the only measure of a region's dynamism. We know that innovation and entrepreneurship can occur within established firms, within public sector agencies, and among our thriving population of social entrepreneurs who work in non-profits and other social ventures.

The measures used in this section capture several aspects of the innovation process. Some of the metrics, such as self-employment rates, provide proxy measures of our region's dynamism. New and growing firms are the primary drivers of new job growth and new innovations in the American economy. Their existence is a sign of a healthy economy with the ability to rejuvenate itself for future prosperity.

Other measures—such as local R&D expenditures—track innovations that emerge from large firms or from local research institutions. Innovation can take many forms, such as new products, services, and processes. Yet, it often takes the form of new technologies that emerge from research and development efforts that are ultimately commercialized by high-technology based firms. A healthy innovation economy spawns new ideas and start-ups, but also supports prosperous businesses with the capacity to succeed in the global marketplace. For example, California's Silicon Valley is often hailed as a home of start-ups, but is also home to the some of the world's biggest technology firms, such as Intel, Google, and Oracle. Similarly, the SEVA-PORT region is home to many emerging technology start-ups, but also benefits from the presence of major technology players like Northrop Grumman, SAIC, and others.

Because of its historical dependence on defense-related business, SEVA-PORT region has always had a strong base of local technology-related firms. The measures detailed in this section suggest that the region is making good strides in terms of spawning new start-up activity and nurturing high-growth entrepreneurial ventures as well.

Going Solar

Our current crop of high school students is among the most entrepreneurial and environmentally conscious in recent history. Working with SEVA-PORT partners, Junior Achievement (JA), students at Landstown High School found a way to combine both of these interests. They banded together to start NUVO, a student-run business that creates renewable energy products. You may soon see their first product on your next trip to the beach. Para-Solar is a solar beach umbrella that generates power for use in personal electronic devices like cell phones and I-Pods. These student entrepreneurs were able to build a great business, while also learning about new technologies along the way.

2A. R&D Expenditures

What is It?

This measure tracks the total dollars invested in research and development efforts by the region's seven largest higher education institutions: Christopher Newport University, Norfolk State University, Virginia State University, Hampton University, Eastern Virginia Medical School, William and Mary, and Old Dominion University.

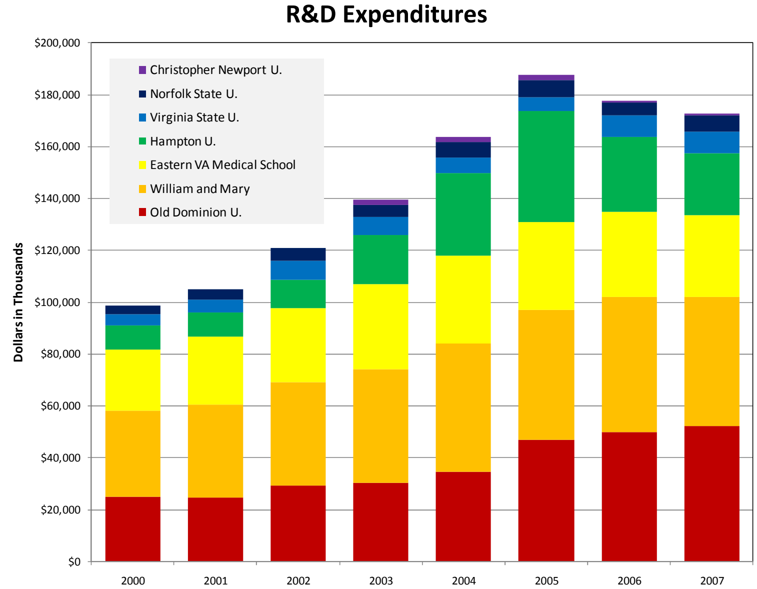
Why Does It Matter?

University R&D spending is an important indicator of a region's innovation foundations. These investments push the frontiers of knowledge, but they also provide high-quality jobs, promote technology transfer and commercialization, and serve as a magnet for top talent and innovative business development. These investments in many instances represent the seed-corn for the region's next generation of technology-based entrepreneurs.

What Does It Mean?

The data indicate that Old Dominion, William & Mary, and the Eastern Virginia Medical School are the dominant players in local university-based research and development. These three institutions accounted for 77 percent of the region's R&D expenditures in 2007. Hampton University has also increased its research profile, growing from 9.4 percent of the regional total in 2000, to as high as 22.9 percent of the regional total in 2005. All of the local schools play an important role in supporting our regional innovation ecosystem. Overall, these institutions invested nearly $173 million in R&D in 2007, which is the most recent year data are available. An additional positive sign relates to ongoing trends. With a few exceptions, nearly every school has supported a steady increase in R&D investments between 2000 and 2007.

R&D Expenditures



Source: National Science Foundation

R&D Expenditures

National Rank	Institution	2000	2001	2002	2003	2004	2005	2006	2007
167	Old Dominion U.	$ 25,058	$ 24,659	$ 29,223	$ 30,324	$ 34,819	$ 47,006	$ 49,966	$ 52,134
171	William and Mary	$ 33,299	$ 35,829	$ 39,858	$ 43,974	$ 49,420	$ 50,146	$ 52,025	$ 49,854
200	Eastern VA Medical School	$ 23,299	$ 26,250	$ 28,572	$ 32,801	$ 33,798	$ 33,721	$ 33,013	$ 31,453
221	Hampton U.	$ 9,323	$ 9,158	$ 11,067	$ 18,673	$ 31,645	$ 42,969	$ 28,705	$ 24,017
290	Virginia State U.	$ 4,422	$ 5,066	$ 7,144	$ 7,209	$ 5,953	$ 5,048	$ 8,189	$ 8,170
311	Norfolk State U.	$ 3,408	$ 3,984	$ 4,967	$ 4,532	$ 6,200	$ 6,758	$ 5,144	$ 6,491
540	Christopher Newport U.				$ 2,055	$ 2,029	$ 1,941	$ 789	$ 709
	SEVA-PORT Total	$ 98,809	$ 104,946	$ 120,831	$ 139,568	$ 163,864	$ 187,589	$ 177,831	$ 172,828
	National Total	$30,084,148	$32,823,937	$36,405,220	$40,100,324	$43,257,731	$45,792,673	$47,742,832	$49,430,767

Source: National Science Foundation

Dollars in thousands

2B. Self-Employed

What Is It?

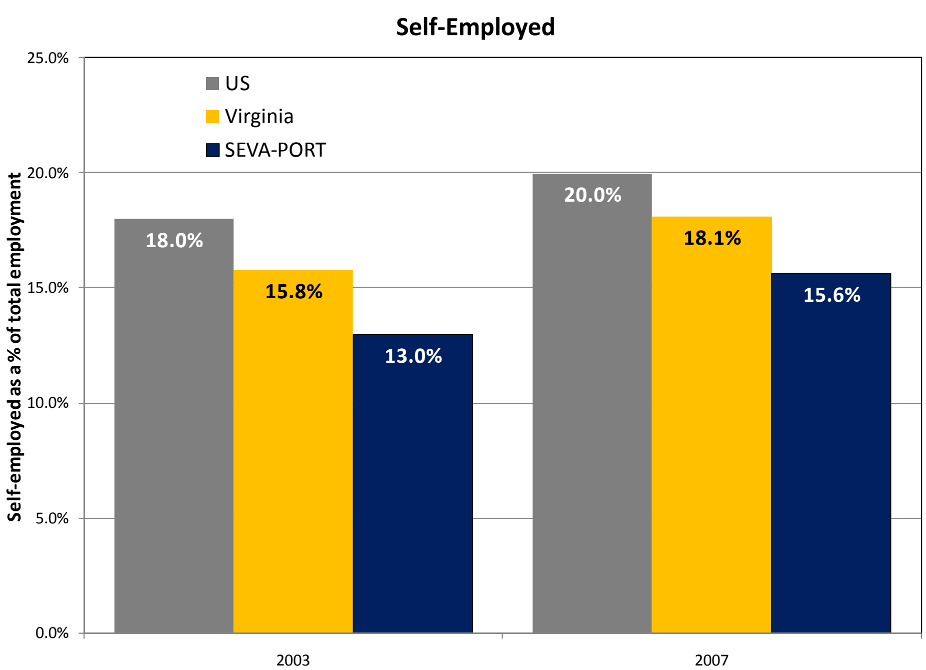
This measure tracks the portion of local residents who are sole proprietors and operate businesses, but do not have any other employees.

Why Does It Matter?

The self-employed are a huge, and misunderstood, part of our economic landscape. They account for the vast majority of US businesses. In fact, the latest Census Bureau figures show that, in 2007, the there were 21.7 million self-employment ventures with total annual receipts of more than $992 billion. This group represents twenty percent of the US workforce. Nearly all new businesses start as self-employment ventures, so these businesses can often be viewed as the “bench strength” for a community’s next generation of entrepreneurial companies. It also reflects the entrepreneurial capacity of the region’s workforce. Entrepreneurial behavior is also demanded by many employers, too.

What Does It Mean?

Self-employment data show that the SEVA-PORT region has significantly lower self-employment rates when compared to both the US and the Commonwealth of Virginia. These lower figures are likely attributable to the strong presence of Department of Defense facilities and related contractors in the region. On the positive side, growth in the region’s number of self-employed remains on pace with growth rates in both Virginia and across the US. The region's rural counties have some of the highest proportion of sole proprietors, but this is most likely due to the lack of employment opportunities, and the need for secondary sources of income. This often reflects an entrepreneurship emerging due to necessity, as opposed to entrepreneurship driven by local opportunities.



Self-Employed

	2003	2004	2005	2006	2007
SEVA-PORT	13.0%	13.8%	13.7%	14.5%	15.6%
Virginia	15.8%	16.4%	16.2%	17.0%	18.1%
US	18.0%	17.7%	19.1%	19.4%	20.0%

Source: Bureau of Economic Analysis

2C. Establishment Size

What is It?

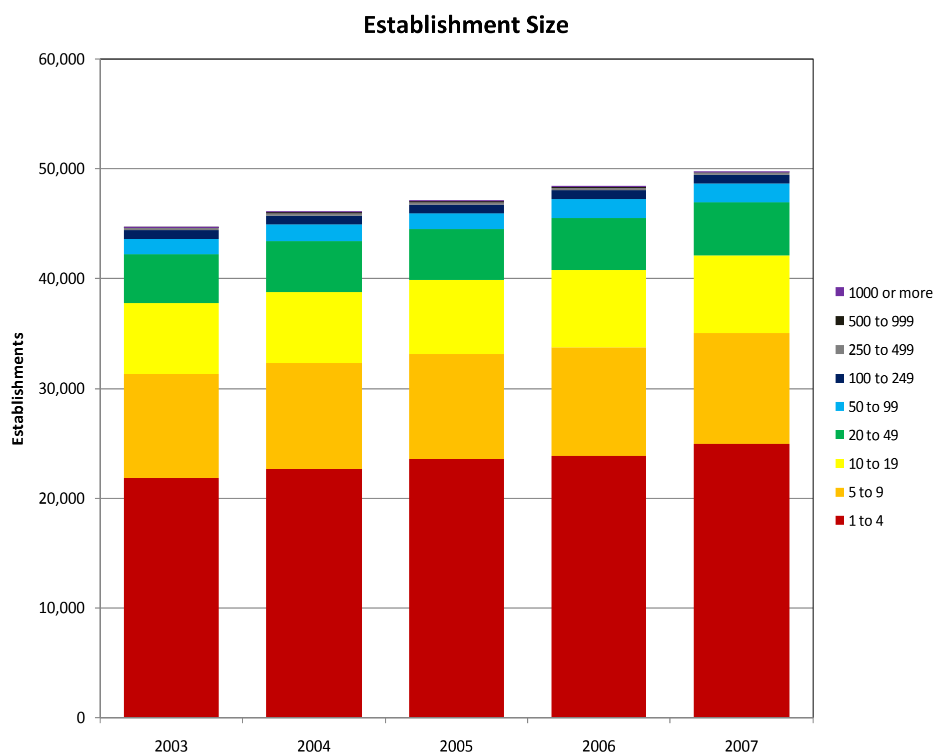
Establishment size provides indicators about the average size—based on number of employees—of firms, and the number of jobs created by firms at various size levels. While the formal US Small Business Administration definition of small businesses refers to firms with less than 500 employees, very few firms in the SEVA-PORT region, state, or nation meet that threshold. By this definition, 99 percent of all US businesses are small. However, the mix of employment impacts does differ. Small firms create the majority of new jobs and account for anywhere from 60 to 80 percent of new jobs. Large firms, which represent a small portion of total businesses, still have a big job creation impact as they generate about 20 percent of new jobs each year.

Why Does It Matter?

Data on the average size of regional firms provides an interesting snapshot of the region's industrial make-up. It does not directly measure the region's economic dynamism, but it does provide insights into the role of small businesses in the local economy. Data on job creation by firm size are important indicators of regional dynamism. New fast growing firms are a sign of regional innovative activity, and serve as key drivers of local job and wealth creation.

What Does It Mean?

Firms with fewer than 10 employees account for the majority of the region's total establishments. In 2007 (the most recent year of data availability), 70.4 percent of the region's firms had fewer than 10 employees. This is relatively consistent with statewide levels, as 72 percent of Virginia's firms had fewer than 10 employees.



Source: County Business Patterns

The SEVA-PORT region enjoys steady growth in the number of these small firms. Between 2003 and 2007, there were almost 3,700 net new firms with less than 10 employees in the region. Moreover, the total number of firms with 1 to 4 employees grew between 2003 and 2007 at a 2.7 percent annual growth. That was somewhat quicker than the rate for similarly sized firms throughout the State of Virginia, and will allow the region to keep pace with the rest of the state.

Establishment Size

Establishments by Employment Size-SEVA-PORT Region

Firm Size	2003	2004	2005	2006	2007
1 to 4	21,852	22,616	23,549	23,903	24,966
5 to 9	9,475	9,668	9,606	9,860	10,047
10 to 19	6,474	6,529	6,680	6,988	7,109
20 to 49	4,391	4,582	4,637	4,815	4,854
50 to 99	1,441	1,534	1,484	1,635	1,635
100 to 249	775	812	831	857	821
250 to 499	189	187	191	191	195
500 to 999	67	83	70	81	77
1000 or more	44	47	44	42	42
Total Establishments	***44,708***	***46,058***	***47,092***	***48,372***	***49,746***

Source: County Business Patterns

Percentage of Establishments by Employment Size-SEVA-PORT Region

Firm Size	2003	2004	2005	2006	2007
1 to 4	48.9%	49.1%	50.0%	49.4%	50.2%
5 to 9	21.2%	21.0%	20.4%	20.4%	20.2%
10 to 19	14.5%	14.2%	14.2%	14.4%	14.3%
20 to 49	9.8%	9.9%	9.8%	10.0%	9.8%
50 to 99	3.2%	3.3%	3.2%	3.4%	3.3%
100 to 249	1.7%	1.8%	1.8%	1.8%	1.7%
250 to 499	0.4%	0.4%	0.4%	0.4%	0.4%
500 to 999	0.1%	0.2%	0.1%	0.2%	0.2%
1000 or more	0.1%	0.1%	0.1%	0.1%	0.1%
Total Establishments	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

Source: County Business Patterns

Establishments by Employment Size-State of Virginia

Firm Size	2003	2004	2005	2006	2007
1 to 4	95,385	98,758	101,993	103,184	105,648
5 to 9	36,450	37,072	37,124	37,829	38,688
10 to 19	24,681	25,092	25,591	26,447	26,627
20 to 49	16,863	17,549	17,796	18,631	18,492
50 to 99	5,731	5,916	5,820	6,257	6,266
100 to 249	3,036	3,222	3,330	3,476	3,361
250 to 499	840	848	903	917	912
500 to 999	299	348	336	347	326
1000 or more	183	184	174	175	183
Total Establishments	***183,468***	***188,989***	***193,067***	***197,263***	***200,503***

Source: County Business Patterns

Percentage of Establishments by Employment Size-State of Virginia

Firm Size	2003	2004	2005	2006	2007
1 to 4	52.0%	52.3%	52.8%	52.3%	52.7%
5 to 9	19.9%	19.6%	19.2%	19.2%	19.3%
10 to 19	13.5%	13.3%	13.3%	13.4%	13.3%
20 to 49	9.2%	9.3%	9.2%	9.4%	9.2%
50 to 99	3.1%	3.1%	3.0%	3.2%	3.1%
100 to 249	1.7%	1.7%	1.7%	1.8%	1.7%
250 to 499	0.5%	0.4%	0.5%	0.5%	0.5%
500 to 999	0.2%	0.2%	0.2%	0.2%	0.2%
1000 or more	0.1%	0.1%	0.1%	0.1%	0.1%
Total Establishments	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

Source: County Business Patterns

2D. *Inc. 5000* Companies

What Is It?

The annual *Inc. 5000* is a new compilation from the publishers of *Inc.* Magazine. *Inc*. has long produced the *Inc. 500* list of the America's 500 fastest growing firms. In 2009 it also began producing the *Inc. 5000* in order to track a wider pool of fast growing companies.

Why Does It Matter?

Firms on the *Inc. 500* and 5000 lists are the best of America's entrepreneurs. Between 2006 and 2008, the average annual growth rate for these firms was 850 percent (for *Inc. 500* companies) and 126 percent (for *Inc. 5000* companies). These firms—often referred to as gazelle businesses—are the real engines of American prosperity. In fact, new research from the Kauffman Foundation finds that forty percent of all net new jobs are created by a small, select group that comprises only one percent of all young businesses.[16]

What Does It Mean?

The *Inc. 5000* list is a new data source so it does not yet provide an extensive time series. As a result, this current snapshot does not provide us with sufficient data to understand historical trends about the region's ability to support high-growth gazelle ventures. A longer time frame of data is needed. However, it does show that the region is home to many world-class businesses. Future editions of this research should pay close attention to this key metric as it a critical sign of the region's innovation potential.

Inc. 5000 Companies

	2007	2008
Inc. 5000 Companies	22	21
Employment	3,489	2,325
Total Revenue	$989.1 Million	$503.8 Million

Source: Inc. Magazine

[16] Dane Stangler, "High Growth Firms and the Future of the American Economy," Kauffman Foundation Research Series: Firm Formation and Economic Growth, March 2010.

2E. Stage II Companies

What is It?

This measure tracks the regional presence of Stage II companies, those who employ between 10 and 99 people, compared to US and Virginia averages.

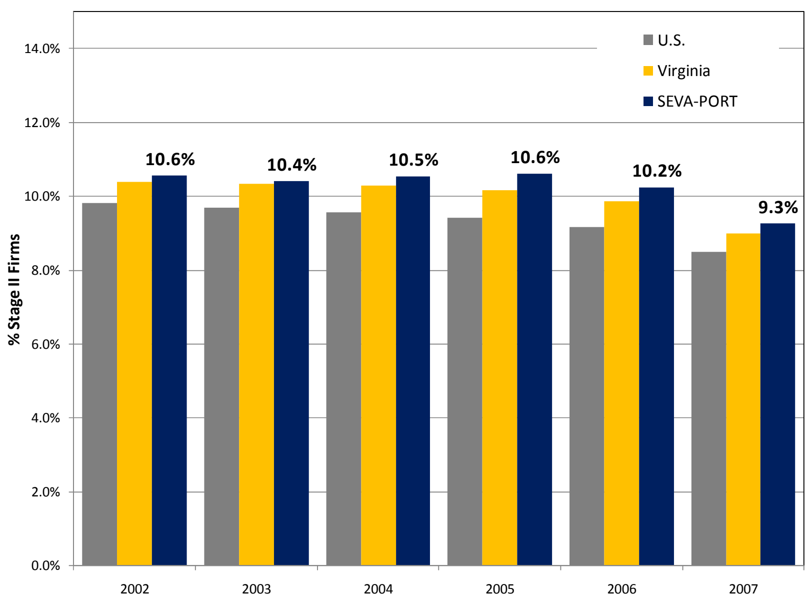
Why Does It Matter?

The concept of Stage II companies (firms with anywhere from 10 to 99 employees and roughly $1 million in total receipts) was pioneered by the Edward Lowe Foundation, a national leader in supporting entrepreneurship. These firms have reached a critical inflection point. They have succeeded in growing and reaching maturity, but, at this point, they are too large to be managed alone by the single founding entrepreneur and are in the process of creating a professional management team. Firms that succeed in traversing this difficult stage in the business lifecycle have a good opportunity to become a large and important local anchor company.

What Does It Mean?

The region outperforms both Virginia and the US in terms of the percentage of local firms that are in the second stage. This is a very positive sign that the region is able to grow and nurture strong businesses. The challenge ahead is to assist these firms as they grow beyond the second stage. One potential worrisome sign is the small decline in Stage II companies as a proportion of all companies in the region. Whereas these companies accounted for 10.6 percent of the region's companies in 2002, they were 9.3 percent of all companies in 2007. These trends have tracked closely to the trend in the state and the nation. Nevertheless, Stage II companies still represent a larger proportion of total companies in the region, than they do in the State or the US.

Stage II Companies



Source: Edward Lowe Foundation

Stage II Companies

Year	SEVA-PORT		Virginia		U.S.	
	Number	% of Total Firms	Number	% of Total Firms	Number	% of Total Firms
2002	9,503	10.6%	38,799	10.4%	1,612,629	9.8%
2003	9,631	10.4%	39,052	10.3%	1,609,386	9.7%
2004	9,853	10.5%	39,675	10.3%	1,612,941	9.6%
2005	10,242	10.6%	40,945	10.2%	1,652,338	9.4%
2006	10,371	10.2%	41,479	9.9%	1,667,741	9.2%
2007	10,321	9.3%	41,301	9.0%	1,653,128	8.5%

Source: Edward Lowe Foundation

2F. Small Business Innovation Research (SBIR) Grants

What Is It?

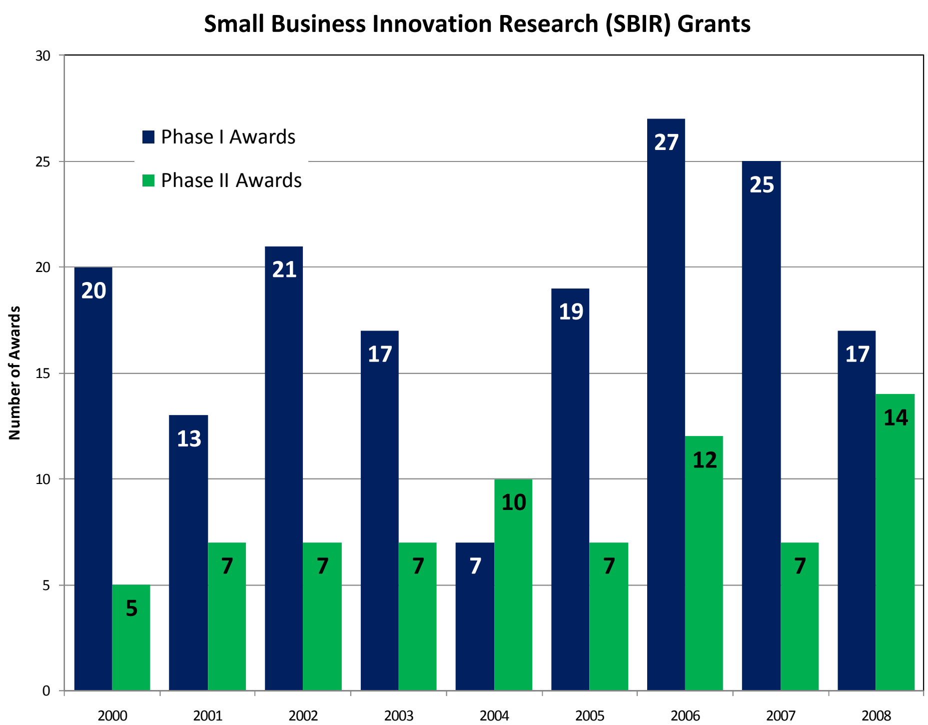
This measure tracks the ability of local businesses to attract funding from the Federal Small Business Innovation Research (SBIR) program. The SBIR program requires that two percent of all Federal research dollars be invested in small businesses. These grants help small firms develop research and technology that can meet the needs of key Federal agencies. The SBIR program has three primary phases. In Phase I, Federal funds (up to $100,000 per grant) are used for feasibility studies—to assess the scientific and technical merit of an idea. In Phase II, funding (up to $500,000) supports further development of Phase I research and results. Phase III, which is not supported by Federal funds, refers to final commercialization of the technology.

Why Does It Matter?

The ability to obtain SBIR grants is an indicator of a strong base of small businesses with extensive scientific and technical expertise. Small technology firms face significant challenges in accessing capital. They have limited collateral and short track records. As such, they are weak candidates for traditional bank financing. Thus, SBIR grants can be a critical lifeline to these firms as they seek to refine their technologies and ideas. If successful, these firms can become the region's future technology leaders.

What Does It Mean?

Phase I award numbers vary from year to year, ranging from 7 awards in the region to 27 in 2006. Between 2000 and 2008, the region has averaged 18.4 Phase I awards per year. However, since 2005, the number of local awards has climbed to an average of 22 awards per year. Phase II awards are more limited in number, and generally lag the total number of Phase I awards. Between 2000 and 2008, the region averaged 8.4 Phase II awards per year. In 2006 and 2008, the region's researchers were able



Source: Small Business Administration

to secure 12 and 14 Phase II awards, respectively. Even though these awards are smaller in number than the Phase II awards, they are larger in size and also have a better chance of moving innovative products toward commercialization.

In 2008 (the last year for complete data), firms in the SEVA-PORT region received 6.1 percent of statewide SBIR Phase I funds and 10.5 percent of statewide Phase II funds. Existing data do not appear to portray any consistent or longstanding trends. However, they do indicate that the region has strong base of small firms that can compete for and win SBIR Funds. Local economic and business development programs should continue to support these efforts.

Small Business Innovation Research (SBIR) Grants

SEVA-PORT

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Phase I Awards	20	13	21	17	7	19	27	25	17	7
Phase I Amount	$1,272,080	$780,411	$1,441,680	$1,560,802	$639,067	$1,797,178	$2,370,145	$3,065,543	$1,567,805	$740,789
Phase II Awards	5	7	7	7	10	7	12	7	14	2
Phase II Amount	$2,655,937	$4,651,766	$4,734,286	$4,586,353	$8,591,742	$4,038,917	$9,311,111	$4,323,949	$12,139,948	$1,089,248

Source: Small Business Administration

STATE

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Phase I Awards	215	265	303	333	280	288	263	299	254	85
Phase I Amount	$15,560,587	$18,894,751	$23,483,994	$26,236,100	$25,648,131	$26,141,082	$25,084,710	$31,710,199	$25,407,175	$8,334,606
Phase II Awards	78	97	109	116	133	115	125	103	160	31
Phase II Amount	$49,146,363	$59,059,740	$71,540,727	$77,424,698	$95,892,099	$78,696,269	$86,648,717	$75,037,016	$115,708,609	$19,598,091

Source: Small Business Administration

2G. Business Start-Ups

What Is It?

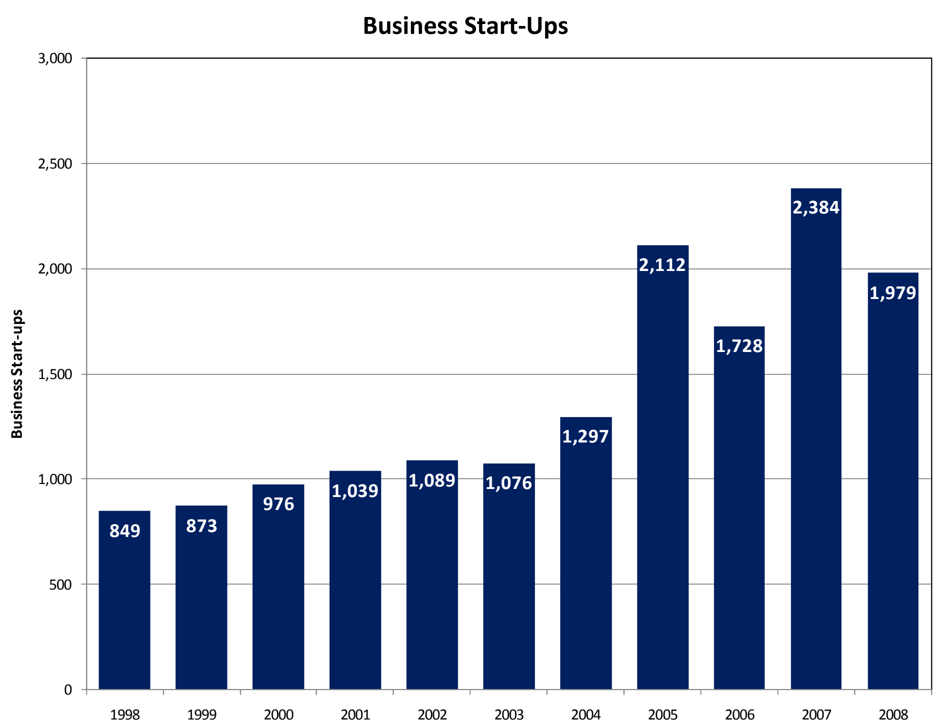
This metric tracks the creation of new businesses in the region. These firms have at least one employee, so this metric does not measure self-employment levels.

Why Does It Matter?

The pace and growth of new business start-ups is a sign of the region's economic dynamism. New, small firms make an out-sized contribution to the development of new jobs, new innovations, and new economic opportunities. As such, communities with higher rates of new business formation tend to be more prosperous and more successful.

What Does It Mean?

The region experienced steady growth in business start-ups between 1998 and 2003. This is a positive trend given that this growth occurred during the recession at the beginning of the decade. Between 2005 and 2008, more substantial growth in the annual number of start-ups has occurred, but this growth has been less steady and consistent. Not surprisingly, most of the region's start-ups hail from more urban locations. Virginia Beach had the most, followed by Chesterfield County, Chesapeake and Norfolk. In 2008, these four areas were responsible for 65.5 percent of the region's new businesses. New business start-ups in the SEVA-PORT region have accounted for 16 to 20 percent of the Virginia's start-ups. In 2008, which is the most recent year where these data are available, the region's start-ups constituted 17.6 percent of Virginia's start-ups. These patterns are a positive sign of the region's continued dynamism.



Source: Virginia Employment Commission

Business Start-Ups

County/City	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Chesterfield County	168	138	196	186	198	203	227	345	315	450	330
Dinwiddie County	7	6	9	14	4	5	13	9	9	30	12
Gloucester County	21	21	25	20	21	15	22	37	32	30	22
Isle of Wight County	12	10	19	10	15	13	18	33	20	31	33
James City County	28	46	29	44	31	47	48	87	75	82	60
Prince George County	9	9	11	11	8	11	16	14	12	13	25
Southampton County	4	6	4	4	6	4	5	10	8	9	12
Surry County	0	0	4	2	1	0	4	5	4	4	6
Sussex County	3	5	2	1	3	3	7	6	3	6	4
York County	17	29	27	37	24	31	53	78	46	56	67
Chesapeake city	76	67	94	115	129	115	122	255	221	282	266
Colonial Heights city	13	11	16	9	15	10	19	23	14	22	26
Emporia city	2	3	7	2	5	2	1	5	7	5	6
Franklin city	1	9	2	6	4	3	2	3	2	3	10
Hampton city	38	39	39	58	50	44	51	117	69	90	88
Hopewell city	8	15	3	3	15	10	8	14	13	20	24
Newport News city	38	54	58	56	54	55	104	147	120	136	107
Norfolk city	86	88	77	104	114	100	126	173	153	263	207
Petersburg city	18	21	16	12	8	18	18	20	17	33	27
Poquoson city	2	3	2	7	6	8	8	13	13	17	13
Portsmouth city	15	16	27	32	40	22	37	53	55	103	55
Suffolk city	17	22	18	23	26	25	37	68	62	70	62
Virginia Beach city	250	232	276	271	300	308	331	577	432	609	493
Williamsburg city	16	23	15	12	12	24	20	20	26	20	24
SEVA-PORT	**849**	**873**	**976**	**1,039**	**1,089**	**1,076**	**1,297**	**2,112**	**1,728**	**2,384**	**1,979**
STATE	**5,225**	**5,312**	**5,804**	**5,948**	**5,947**	**5,769**	**6,820**	**10,752**	**9,140**	**13,444**	**11,227**

Source: Virginia Employment Commission

2H. High Technology Employment

What Is It?

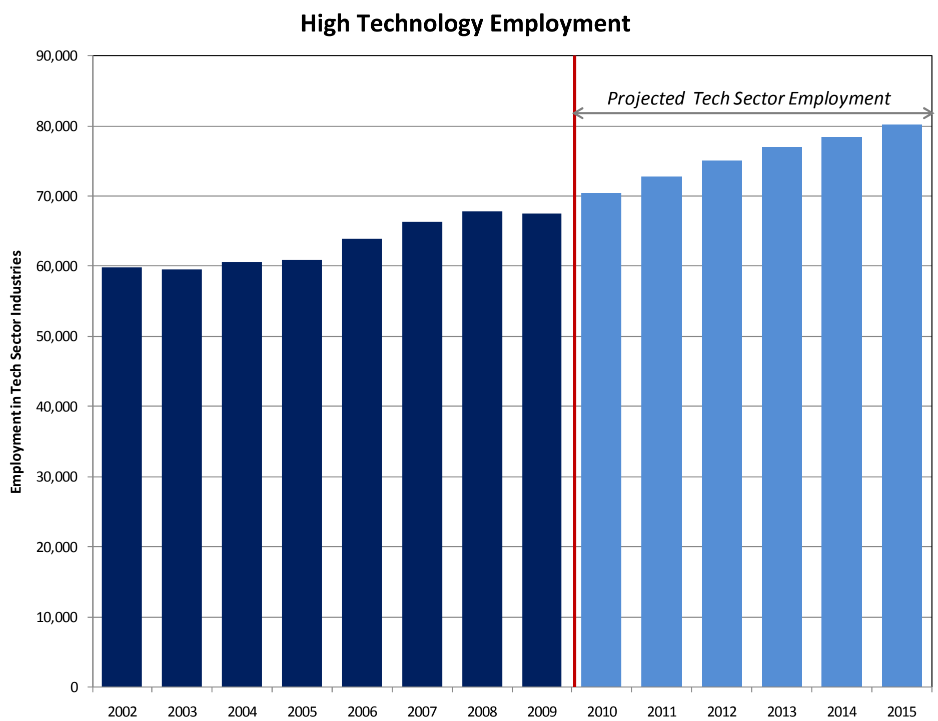
This measure tracks employment levels in key high-technology industry sectors.[17] High-technology industry sectors encompass the entire spectrum of the technology process—from basic scientific research all the way to the technology-related end products and services produced. They also incorporate key activities that support science and technology such as testing labs, data processing capacity, and education.

Why Does It Matter?

Levels of high technology employment are a strong indicator of the strength of the region's innovation foundations. These figures track all firms, and thus provide an indicator of regional technology strength among small, medium, and large firms. In addition to generating new technologies, products, and processes, technology firms also pay higher average wages. In fact, Virginia high-technology firms pay an average annual wage of nearly $90,000 per year.[18] These promising career opportunities also serve as a magnet to attract talent to region. Young tech-savvy workers want to live and work in regions with strong job opportunities. High technology firms provide these kinds of desirable career options.

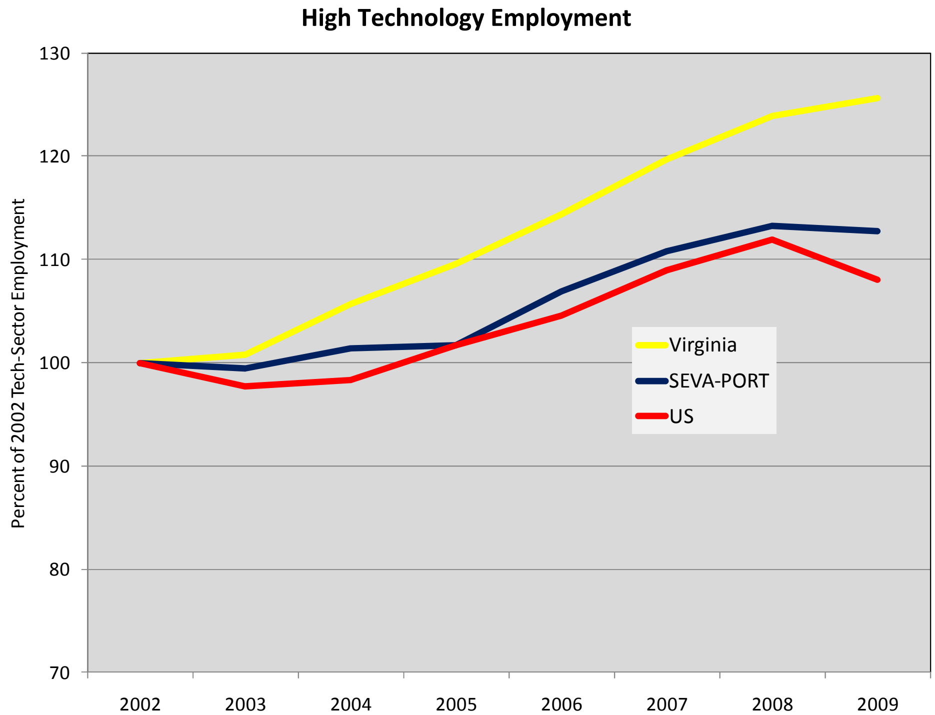
What Does It Mean?

In 2009, the SEVA-PORT region was home to over 67,000 jobs in industries considered to be high-technology industries. This represents a little over 5 percent of the region's total employment. By



Source: EMSI; High-tech definition based upon US Bureau of Labor Statistics High and Medium Content Technology Industries

[17] High-tech definition based upon US Bureau of Labor Statistics High and Medium Content Technology Industries. See Appendix I for more detail.
[18] http://www.techamerica.org/cyberstates-2009-virginia



Source: EMSI; High-tech definition based upon US Bureau of Labor Statistics High and Medium Content Technology Industries

comparison, these jobs accounted for almost 10 percent of Virginia's total employment and just over 6 percent of total US employment. While the proportion of jobs in high-tech industries has stayed relatively constant, the number of jobs has increased from almost 60,000 jobs in 2002. Even though high-tech industries are less concentrated in the region than they are nationwide, they are nevertheless growing faster in the region.

High Technology Employment

	2002	2003	2004	2005	2006	2007	2008	2009
All Tech Sector Industries	59,829	59,508	60,663	60,861	63,954	66,268	67,746	67,444
Tech Sector Employment as a % of total employment	5.1%	5.0%	5.0%	4.9%	5.1%	5.2%	5.3%	5.3%

Source: EMSI, High-tech definition based upon US Bureau of Labor Statistics High and Medium Content Technology Industries

Between 2002 and 2009, regional employment in high-tech industries grew 1.7 percent annually. The region has not kept pace with the State of Virginia, which grew 3.3 percent annually during the same period. Nevertheless, the region's growth rate still exceeded the overall US growth rate in high-technology industries which was 1.2 percent annually between 2002 and 2009. Moving forward, employment in high-tech industries is projected to grow. The SEVA-PORT region is projected to have 80,000 jobs in high-tech industries by 2015, which represents an additional 13,000 net new jobs since 2009. During that period, the region expects to add these jobs at a rate of 2.9 percent annually. This rate will still be lower than the state annual growth rate (3.5 percent annually), but the gap between the region and the state should close somewhat. Moreover, this rate will also be higher than the projected annual growth rate for the nation (1.9 percent).

2I. Broadband Access

What Is It?

Broadband penetration measures the number residential high-speed internet connections per 1,000 households. High-speed internet is defined as providing a minimum of 200 kilobits per second (kbs) compared to dial-up, which has a maximum speed of 56 kbs.[19]

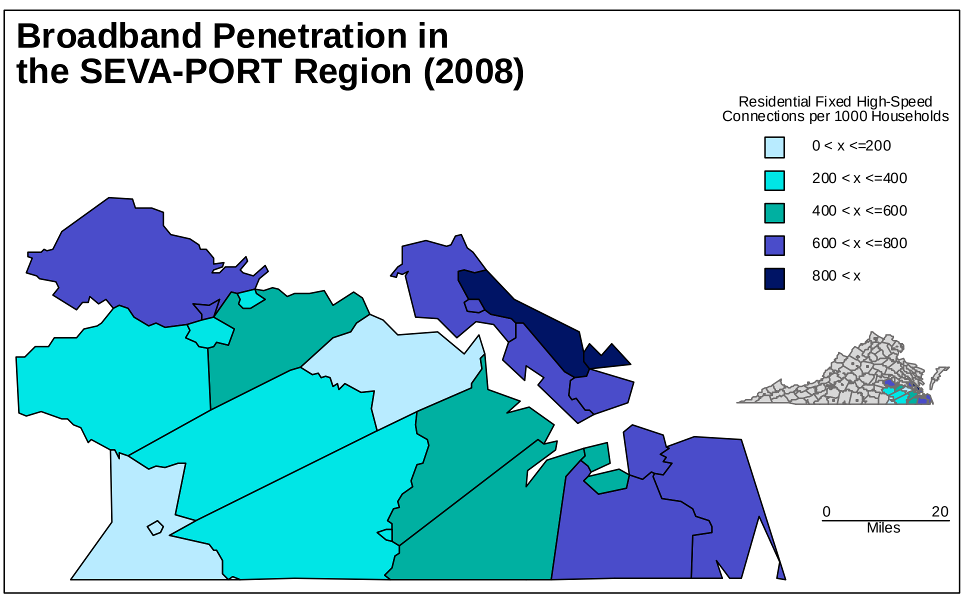
Why Does It Matter?

Broadband access enables businesses to increase efficiencies in existing commercial relationships, increase market presence by reducing the cost of reaching larger markets, and introduce new services. Specifically, internet-based applications, such as video conferencing, webinars, and remote-server access require broadband access to function properly. Studies have shown that increased broadband access has a positive effect on local economic development, particularly the development of technology-reliant industries.[20] In today's economy, broadband access is essential infrastructure.

What Does It Mean?

With over 800 residential high speed connections per 1,000 households, York and Poquoson Counties have the highest broadband penetration rates in the region. Other urban areas such as Newport News, Virginia Beach, Norfolk, and Chesterfield County also have high penetration of broadband internet access. On the other end of the spectrum, less than 20 percent of households in the more rural areas of Surry, Greensville and Emporia, have high-speed internet connections. These counties and others in the central part of the region also have lower average incomes and lower population densities than other parts of the region, which can hinder efforts to increase broadband access and usage. The lack of access to broadband puts these counties at a disadvantage to other counties for both attracting and developing companies, skilled workers, and entrepreneurs. However, if the region hopes to continue closer integration and collaboration, these disparities must be addressed.

Broadband Penetration



Source: Federal Communications Commission

[19] Peter Stenberg and Sarah Low, "Rural Broadband At A Glance: 2009 Edition," USDA Economic Research Service, February 2009

[20] Jed Kolko, "Does Broadband Boost Local Economic Development?," Public Policy Institute of California, January 2010.

KEY CLUSTERS

A region's economic health depends a lot on the health of its key industry sectors. Detroit's economic troubles result from a declining auto industry; Pittsburgh's decline in the 1980s coincided with the decline of the American steel industry. Just as declining industries can lead to declining regions, prosperous regions benefit from being the home of growing industry sectors or clusters. Current rapid growth in America's heartland is closely tied to the region's success in support clusters related to food and energy production. Similarly, the development of California's Silicon Valley goes hand in hand with the growth of American information technology industries.

A number of leading clusters play an important role in our region. Military contracting has long been a core activity, and will continue to account for a great deal of local economic activity. Health care is also an area of regional strength. The region also retains strong clusters in traditional areas of regional competitive advantage such as agriculture, energy, and forestry. With the development of new markets for sustainable agriculture and forestry, these "traditional" sectors may be able to prosper in important emerging markets. The SEVA-PORT projecttargeted two leading clusters: Modeling and Simulation, and Transportation, Warehousing, and Distribution (TWD). TWD has long been a regional strength, thanks to the region's world-class port facilities. M&S is a newer regional asset that builds upon the region's strong base of technology-based defense firms.

This section of our report assesses how these sectors are performing now and how they are expected to perform in the future. Both sectors provide good jobs and good career potential. Both offer average wages that exceed overall average regional wages. Moreover, until the recent economic downturn, these sectors had all been enjoying years of steady growth. Even better, both clusters appear poised for continued growth as the economy emerges from recession. In particular, the local M&S industry has enjoyed strong growth with continued positive prospects in future years.

Summer Camp: It's Not Just for Kids

SEVA-PORT has sponsored lots of technology summer camps for area youth, but teachers and guidance counselors can also get in on the action. Tidewater Community College has hosted a summer camp for guidance counselors that introduces educators to the world of modeling and simulation technology. Adult campers learn business applications of M&S technology, as well as career opportunities that are available to their students.

3A. Modeling and Simulation-Related Employment

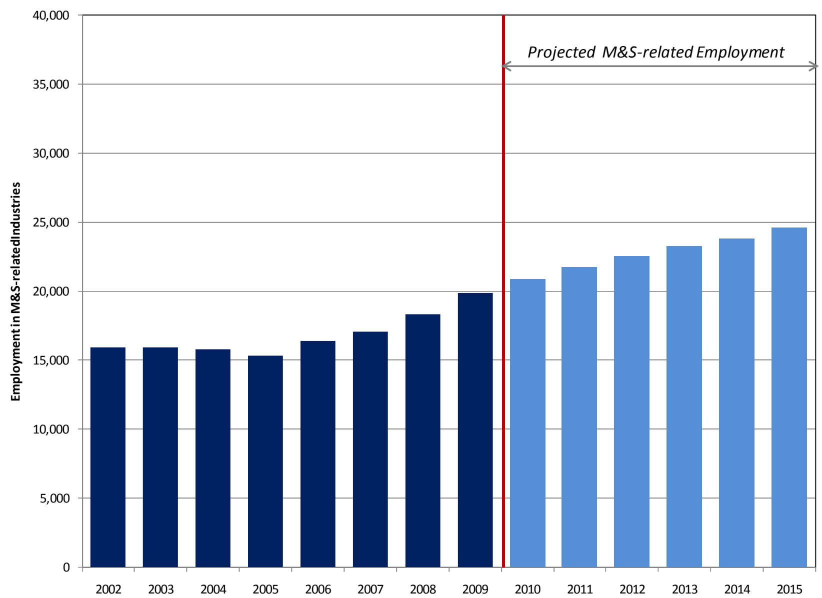
What Is It?

These figures track regional employment in the modeling and simulation sector and also present projections for expected future employment. Measuring M&S employment can prove difficult, because there is no specific NAICS (North American Industrial Classification System) definition for the M&S industry. A defined set of NAICS codes is required not only to provide historical trends, but also to project employment in the future. As a result, the definition used here to measure M&S is based on a proposal to add a NAICS code for M&S put forward by a number of groups nationwide including the Virginia Modeling, Analysis and Simulation Center (VMASC).[21] This definition includes a number of industries that are similar and related to M&S. These industries include: other commercial and service machinery manufacturing, custom computer programming services, computer systems design services, and physical, engineering and biological research. Obviously, many of the activities in these industries do include M&S, but they are industries that are most closely related to M&S. Consequently, the data presented here is more appropriately referred to as M&S-related employment.

Why Does It Matter?

Regional economic and workforce development leaders have identified modeling and simulation as a leading cluster where industry growth will help drive new job creation, spur new business development, and promote economic prosperity. As noted in the *M&S Strategy 2020*, developed by Old Dominion University's Virginia Modeling and Analysis Research Center (VMASC) and the Hampton Roads Partnership, our community is making significant investments in programs and research to support this cluster. According to VMASC, the industry now employs more than 5,000 people with an average annual salary of $83,000.

Modeling and Simulation Employment



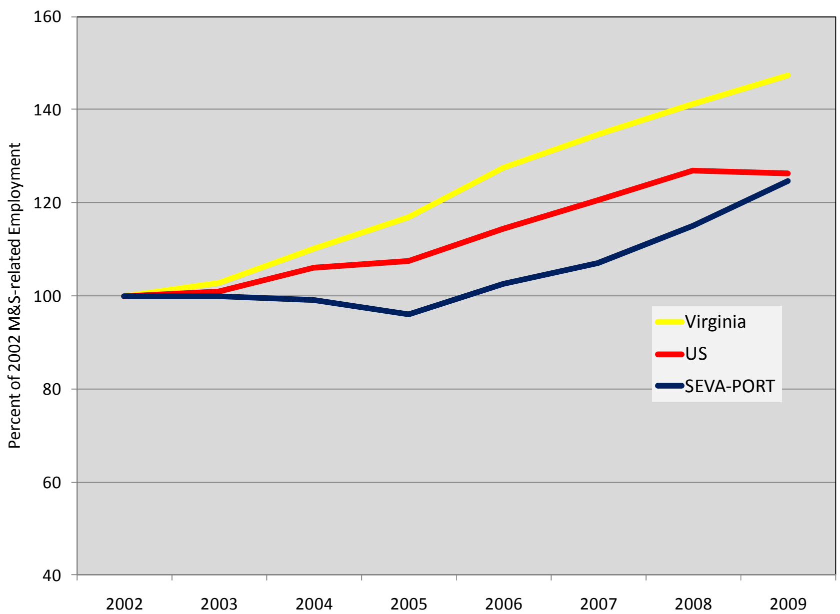
Source: EMSI

[21] The identification of M&S-related industries is based on a proposal to add a NAICS code for M&S put forward by a number of groups nationwide including: National Training and Simulation Association, Society for Modeling and Simulation International, Simulation Interoperability Standards Organization, National Center for Simulation, Alabama Modeling and Simulation Council, New England Modeling & Simulation Consortium, Mid-Atlantic Institute for Simulation and Analysis, and the Virginia Modeling, Analysis and Simulation Center (VMASC).

What Does It Mean?

The figures indicate a pattern of significant and steady job growth in modeling and simulation-related employment, even in the face of a major nationwide economic downturn. M&S-related industries accounted for almost 20,000 jobs in the SEVA-PORT region in 2009. These industries are approximately 17 percent more concentrated in the region than nationwide.[22] Between 2002 and 2009, this employment in the region accounted for anywhere from 11 to 14 percent of the state total.

Modeling and Simulation Employment



Source: EMSI

Employment in M&S-related industries has increased by almost 4,000 jobs since 2002, and between 2002 and 2009, these industries grew 3.2 percent annually. While this growth was more than three times faster than the region's overall growth rate (1.0 percent annually), it still trailed behind the statewide growth rate for M&S-related activities. Looking into the future, the employment projections show that growth in M&S-related industries is projected to increase, and these industries will grow at an annual rate of 3.6 percent between 2009 and 2015. Consequently, the region's growth rate during that period will exceed the US growth rate (3.0 percent annually), and more closely align with the state's projected annual growth rate of 3.9 percent.

Modeling and Simulation Employment

	2002	2003	2004	2005	2006	2007	2008	2009
All M&S-related Industries	*15,958*	*15,933*	*15,804*	*15,317*	*16,375*	*17,075*	*18,351*	*19,897*
Percent of VA's M&S-related employment in SEVA-PORT	*14.1%*	*13.7%*	*12.7%*	*11.6%*	*11.4%*	*11.2%*	*11.5%*	*12.0%*
Other commercial and service machinery mfg.	485	229	258	192	185	188	125	116
Custom computer programming services	5,603	5,905	6,151	4,744	4,568	4,380	4,227	4,814
Computer systems design services	6,760	6,742	7,201	7,332	8,480	9,148	10,442	11,473
Physical, engineering and biological research	3,110	3,057	2,194	3,049	3,142	3,359	3,557	3,494

Source: EMSI

[22] This figure is based on an analysis of these industries location quotients. "Location quotients," or LQs, are a measure of industry concentration in a region. LQs represent a ratio of each industry as a share of the region's employment compared with a similar ratio of that same industry's national employment total as a share of all U.S. employment. An LQ of 1 means the region has the same share of industry employment as the industry has nationally. LQs over 1 mean that the industry is more concentrated in the region than it is nationally, and LQs below 1 mean that the industry is relatively less concentrated than it is nationally.

3B. Key Modeling and Simulation Occupations/Demand

What Is It?

These tables identify key occupations in the Modeling and Simulation field and also provide projections on future employment demand. These occupations are derived from a national staffing pattern matrix of the occupations in the industries related to M&S.[23]

Why Does It Matter?

In some ways, it is misleading to speak of the M&S sector as a distinct industry or cluster. Instead, modeling and simulation are tools that help drive many industries. Occupational demand data confirm this finding. Most of the key M&S occupations are not unique to this sector, and thus require a wide range of skills and talents. Many of the leading occupations require a college degree and beyond. But, some the projected high-growth fields in M&S are located in what analysts call "middle skill jobs," i.e., positions that require a high school degree and some subsequent schooling or training. These workers will require access to specialized training at community colleges and other technical schools.

Modeling and Simulation Occupations

Occupation	2004 Jobs	2009 Jobs	Change 04-09	New & Repl. Jobs 04-09	Avg. Annual Job Demand	Median Earnings	Education Level
Computer software engineers, applications	1,772	2,370	598	911	182	$34.57	Bachelor's degree
Computer systems analysts	1,411	1,767	356	911	182	$31.60	Bachelor's degree
Computer software engineers, systems software	1,037	1,412	375	497	99	$37.54	Bachelor's degree
Computer programmers	1,085	1,228	143	294	59	$24.95	Bachelor's degree
Computer support specialists	883	1,160	277	780	156	$18.63	Associate's degree
Network systems & data communications analysts	567	754	187	586	117	$24.37	Bachelor's degree
Network & computer systems administrators	527	721	194	472	94	$28.05	Bachelor's degree
Office clerks, general	489	621	132	2,783	557	$12.00	Short-term OJT
Management analysts	463	582	119	2,938	588	$27.39	Degree plus work exp.
Customer service reps.	381	471	90	3,081	616	$12.81	Moderate-term OJT
Sales reps., services, all other	357	440	83	689	138	$18.51	Moderate-term OJT
Computer & information systems mgrs.	350	439	89	204	41	$46.17	Degree plus work exp.
Computer specialists, all other	282	326	44	353	71	$34.69	Associate's degree
Database administrators	211	279	68	156	31	$28.38	Bachelor's degree
Computer & information scientists, research	232	271	39	149	30	$30.21	Doctoral degree
Business operation specialists, all other	201	267	66	1,450	290	$29.05	Bachelor's degree
Managers, all other	216	246	30	2,014	403	$17.39	Work exp. in a related field
Accountants & auditors	173	235	62	2,028	406	$20.91	Bachelor's degree
Bookkeeping, accounting, & auditing clerks	175	219	44	1,213	243	$14.42	Moderate-term OJT
Computer, automated teller, & office machine repairers	169	196	27	112	22	$15.79	Postsecondary voc. award

Source: EMSI

What Does It Mean?

Computer software engineers (both for application and systems) and computer systems analysts are the largest occupations within M&S and also gained the most employment between 2004 and 2009. These occupations all require a bachelor's degree and have median earnings above $25 per hour. Other high demand occupations that require a postsecondary degree, and offer relatively high median earnings include computer programmers, network systems and data communications analysts, network and computer systems administrators, management analysts, and computer and information systems managers. Key occupations within M&S that are also growing but offer lower median earnings (and do

[23] Section 3A provides more information on the industries related to M&S activities.

not require a postsecondary degree) include office clerks, customer service representatives, sales representatives, and bookkeeping, auditing, and accounting clerks. While all of the occupations with M&S industries are found in other industries, gaining employment within M&S industries may require special skills or experience beyond the basic requirements for these occupations.

3C. Transportation, Warehousing and Distribution Employment

What Is It?

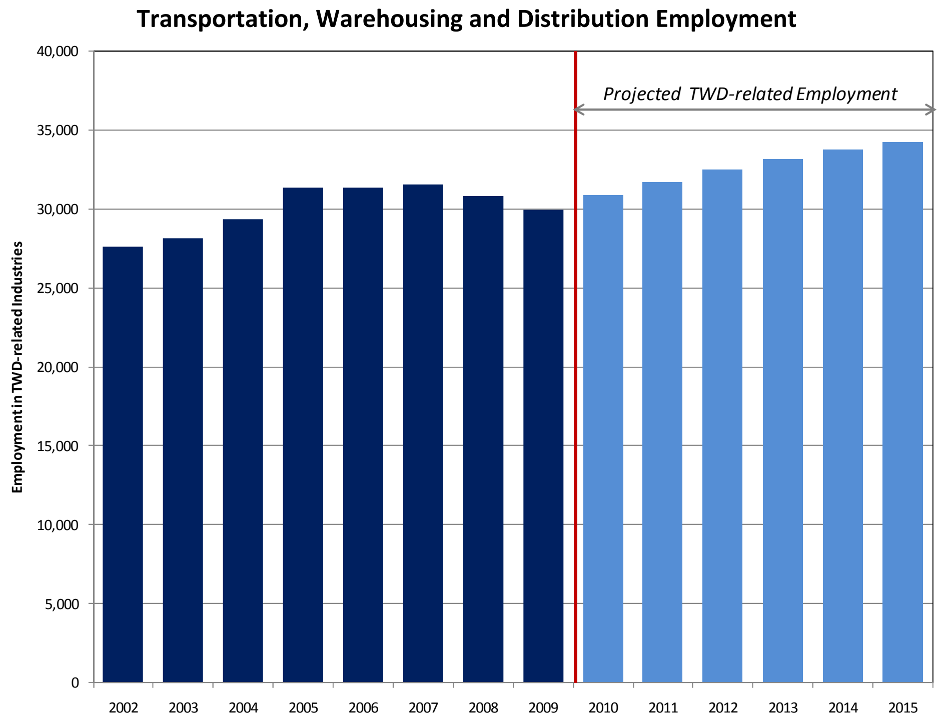
These figures track regional employment in the key industries related to Transportation, Warehousing, and Distribution activities and also present projections for expected future employment.

Why Does It Matter?

Because of our region's world class port facilities, transportation and logistics have been economic engines throughout our history. Recent data from researchers at William and Mary estimated that, in 2006, port-related business accounted for 100,000 jobs, with total compensation of approximately $4 billion. Local businesses capitalized on $12 billion in revenues generated by port-related activities.[24] While activity at the Port has slowed due to the current downturn, this most recent decline occurred after an extended period of growth, which is likely to resume as economic conditions improve.

What Does It Mean?

A 2009 SEVA-PORT survey of Virginia Maritime Association members[25] suggests that industry leaders have mixed views about future prospects. Survey respondents noted that the Port's future growth will depend in part on the region's ability to address major traffic congestion and its negative impacts on port operations. However, recent data suggest a more optimistic outlook. They highlight the impact of the recent economic downturn, but they also suggest significant improvements in the employment picture in coming years.

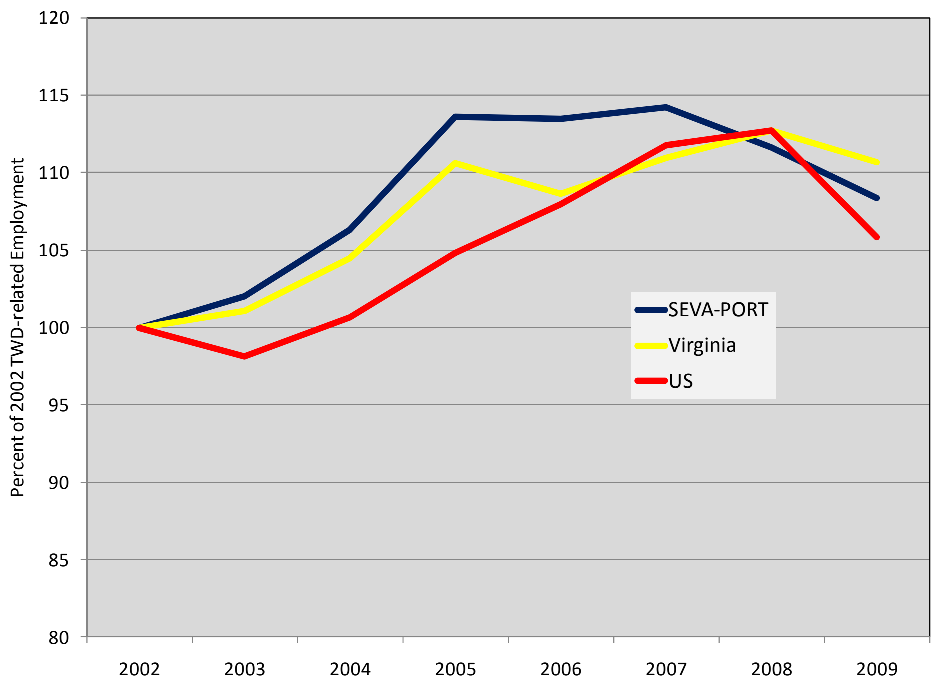


Source: EMSI

[24] James R. Bradley and Hector H. Guerrero, "Transportation, Warehousing and Distribution: An In-depth Study of the Supply Chains of Hampton Roads," White Paper Prepared for the SEVA-PORT Collaborative, May 28, 2009, p. 3.
[25] ANGLE Technology Group, "The Hampton Road Logistics Industry: A Survey," Report Prepared for SEVA-PORT Collaborative, ANGLE Technology Group, May 2009.

Overall these industries grew from 27,625 jobs in 2002 to almost 30,000 workers in 2009. Recent employment peaked in 2007 when these industries accounted for almost 31,500 jobs. Between 2002 and 2009, these employment gains represented an annual increase of 1.2 percent. The employment gains in these industries did not occur as quickly as they did in Virginia (1.5 percent annually), but it nevertheless represented an annual growth rate that was 50 percent faster than the US growth rate (0.8 percent annually). Among these industries, fast growth occurred in process and logistics consulting services and support activities for road transportation. Declines took place in air transportation and freight transportation arrangement. In the future, employment growth is projected to continue at an annual rate of 2.2 percent between 2009 and 2015. This estimated growth rate is somewhat slower than the state, but remains faster than the nation as a whole.

Transportation, Warehousing and Distribution Employment



Source: EMSI

Transportation, Warehousing and Distribution Employment

	2002	2003	2004	2005	2006	2007	2008	2009
All TWD-related Industries	*27,625*	*28,185*	*29,361*	*31,387*	*31,339*	*31,560*	*30,828*	*29,935*
Percent of VA's TWD-related employment in SEVA-PORT	*24.5%*	*24.7%*	*24.9%*	*25.2%*	*25.6%*	*25.2%*	*24.3%*	*24.0%*
Air transportation	1,406	1,011	838	853	827	840	775	722
Rail transportation	515	505	507	539	534	486	503	527
Water transportation	1,394	1,283	1,361	1,752	1,613	1,557	1,758	1,552
Truck transportation	9,496	9,453	9,923	10,618	11,082	11,091	10,772	10,178
Pipeline transportation	48	32	32	36	60	49	34	36
Support activities for air transportation	923	1,009	1,082	1,067	1,124	1,189	1,247	1,188
Support activities for rail transportation	60	31	10	51	38	40	52	48
Support activities for water transportation	4,792	4,899	4,977	4,756	4,678	4,293	4,178	4,117
Support activities for road transportation	432	584	710	829	897	1,116	1,080	1,023
Freight transportation arrangement	2,386	2,473	2,429	2,517	1,844	2,000	1,958	1,811
Warehousing and storage	5,674	6,244	6,402	6,782	7,067	7,228	6,855	6,908
Process and logistics consulting services	499	661	1,090	1,587	1,575	1,671	1,616	1,825

Source: EMSI

3D. Key TWD Occupations/Demand

What Is It?

These tables identify key occupations in the Transportation, Warehousing, and Distribution fields and also provide projections on future employment demand. These occupations are derived from a national staffing pattern matrix of TWD industries.[26]

Why Does It Matter?

The presence of the Port of Virginia creates a unique and distinctive compostion of TWD employment patterns for the SEVA-PORT region. When compared to other parts of the country, the region has much higher demand for workers in marine and port-related occupations. , It is important to understand the unique makeup of TWD-related occupations within the region to meet the occupational needs of the TWD industries.

What Does It Mean?

Between 2004 and 2009, occupations typically associated with truck transportation, such as truck drivers (both heavy tractor trailer and light and delivery) and drivers/sales workers experienced the most rapid growth. These occupations require short to moderate term on-the-job training and earn moderate median earnings of between $11.50 and $17 per hour. Management analysts also experienced significant growth between 2004 and 2009, when job numbers nearly doubled from 422 in 2004 to 798 in 2009. Management analysts require a postsecondary degree and work experience and have median hourly earnings of $27.39 per hour. Occupations that declined significantly within TWD include those typically associated with water transportation, such as sailors and marine oilers; captains, mates, and pilots of water vessels; and ship engineers, and those found across all TWD industries, including hand laborers, freight, stock and material movers and cargo and freight agents. With the exceptions of captain, mates, and pilots of water vessels and ship engineers, who earn over $25 per hour, these declining occupations earn a median earnings of less than $20 per hour.

Key TWD Occupations

Occupation	2004 Jobs	2009 Jobs	Change 04-09	New & Repl. Jobs 04-09	Avg. Annual Job Demand	Median Earnings	Education Level
Truck drivers, heavy & tractor-trailer	6,006	6,174	168	1,013	203	$16.57	Moderate-term OJT
Laborers & freight, stock, & material movers, hand	2,453	2,366	-87	2,200	440	$10.11	Short-term OJT
Sailors & marine oilers	2,112	1,834	-278	619	124	$17.96	Short-term OJT
Truck drivers, light or delivery services	1,379	1,553	174	891	178	$11.60	Short-term OJT
Industrial truck & tractor operators	1,427	1,439	12	685	137	$12.87	Short-term OJT
Captains, mates, & pilots of water vessels	1,426	1,274	-152	383	77	$29.95	Work exp. in a related field
Ship engineers	1,088	1,005	-83	370	74	$27.03	Postsecondary voc. award
Driver/sales workers	689	918	229	622	124	$11.74	Short-term OJT
Management analysts	422	798	376	2,938	588	$27.39	Degree plus work exp.
Cargo & freight agents	929	791	-138	106	21	$18.04	Moderate-term OJT
Stock clerks & order fillers	662	727	65	2,167	433	$9.69	Short-term OJT
Office clerks, general	712	690	-22	2,783	557	$12.00	Short-term OJT
Packers & packagers, hand	628	665	37	422	84	$8.62	Short-term OJT
Customer service representatives	459	461	2	3,081	616	$12.81	Moderate-term OJT
First-line spvrs/mgrs of trans. & material-moving machine & vehicle operators	478	434	-44	141	28	$23.30	Work exp. in a related field
Shipping, receiving, & traffic clerks	420	405	-15	494	99	$13.41	Short-term OJT
Dispatchers, except police, fire, & ambulance	364	334	-30	114	23	$14.58	Moderate-term OJT
First-line spvrs/mgrs of helpers, laborers, & material movers, hand	308	316	8	104	21	$19.09	Work exp. in a related field
Bus & truck mechanics & diesel engine specialists	313	295	-18	202	40	$18.50	Postsecondary voc. award
First-line spvrs/mgrs of office & admin support workers	300	283	-17	1,469	294	$19.83	Work exp. in a related field

Source: EMSI

[26] See Appendix I—Item 3C, for the selection of the key industries.

3E. Port Volume

What Is It?

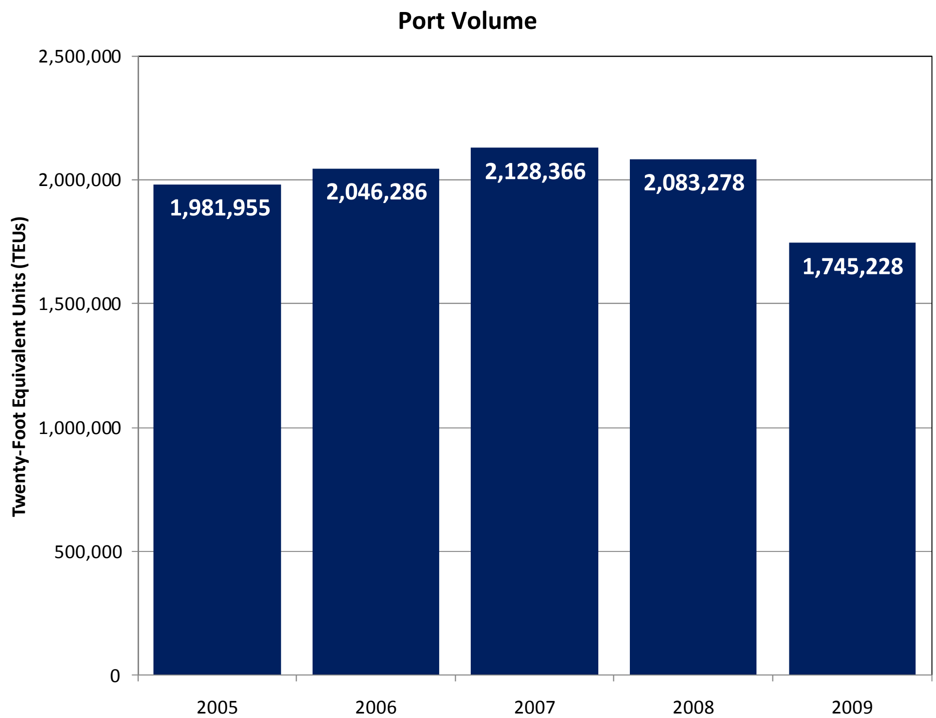
These data track the volume of cargo entering ports. These data are often recorded in Twenty-foot Equivalent Units (TEUs), which is roughly the length of intermodal containers which are used to ship cargo by ship, rail or on trucks.

Why Does It Matter?

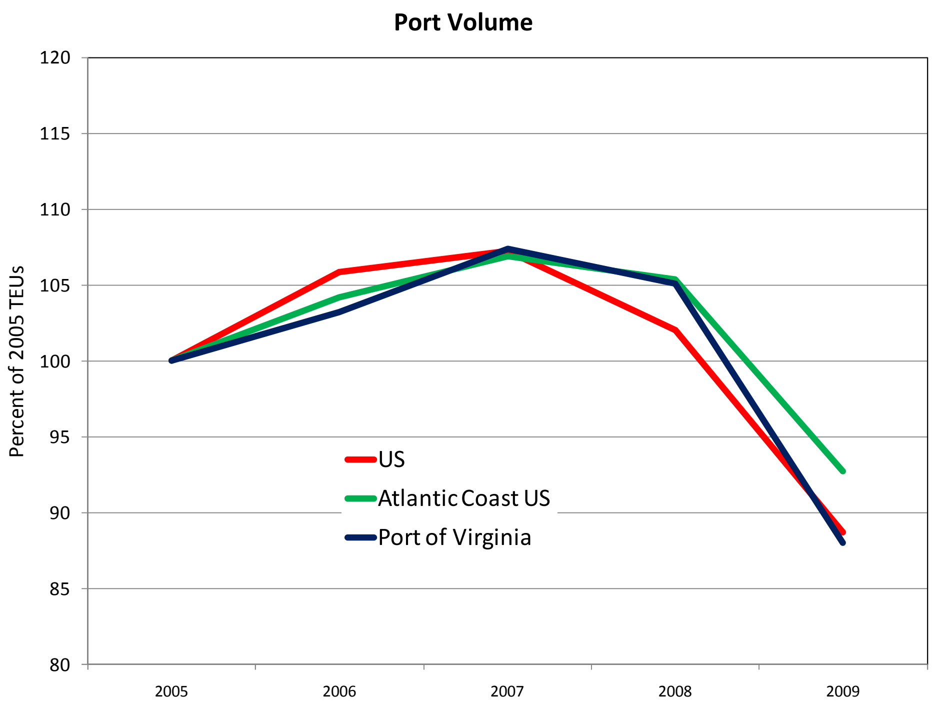
Greater flows of cargo through the Port of Virginia not only creates more work in the Port itself, but also for all of the businesses associated with other transportation, warehousing and distribution.

What Does It Mean?

The volume of cargo entering the Port of Virginia rose between 2005 and 2007, but then declined between 2007 and 2009. During this time, the relative volume of cargo tracked closely to the US and the Atlantic Coast. These trends mirrored the overall economy, as the biggest drop occurred between 2008 and 2009, when the current recession began. In 2008, the Port of Virginia's did not feel the effects of the recession as early as many other ports nationwide, but between 2007 and 2009 its trends have mirrored the US overall. While Atlantic US ports have declined during this period, the volume of cargo did not drop as quickly as it did in the region and nationwide.



Source: American Association of Port Authorities and the Port of Virginia



Source: American Association of Port Authorities and the Port of Virginia

Twenty-Foot Equivalent Units (TEUs)

	2005	2006	2007	2008	2009
Port of Virginia	1,981,955	2,046,286	2,128,366	2,083,278	1,745,228
Atlantic Coast US	16,783,183	17,490,972	17,942,603	17,685,066	15,566,205
US	41,968,412	44,413,012	45,008,019	42,827,594	37,222,709

Source: American Association of Port Authorities and the Port of Virginia

MOVING FORWARD: NEXT STEPS FOR SOUTHEASTERN VIRGINIA

The experience of the SEVA-PORT Collaborative, supported by data and research provided in the SEVA-PORT Innovation Index, suggest several important future directions for the region's business, education, workforce development, and economic development leaders. If the region seeks to build upon the important foundations started by the SEVA-PORT effort, it should pursue the following strategic directions:

- Build and Retain STEM Talent
- Nurture Entrepreneurs and Innovators
- Support Leading Clusters
- Maintain Regional Momentum

Build and Retain STEM Talent

The SEVA-PORT Collaborative was based on a recognition that Southeastern Virginia's future prosperity depends on its ability to build STEM talent today. One of the region's priority economic development goals is to build a diverse regional economy that is viewed as a national and global leader in supporting innovation-based industries. This goal cannot be achieved without significant investments in regional talent development.

Talent is the fuel of the innovation economy. The region will need to nurture and develop talent in multiple ways. It can attract talent from elsewhere and retain local talent by creating strong companies that provide good career opportunities, building world class education and research institutions, and by support a good quality of life. We can also grow our own local talent by providing a high quality education at all levels, from pre-school, through K-12, and on to various higher education institutions.

Hampton Roads has made great progress in building the physical and intellectual infrastructure required to support the growth of a strong base of STEM-savvy students, workers, managers, and entrepreneurs. To build on this progress, the region should:

1) Expand Current Youth Programs

Thanks to SEVA-PORT and other local initiatives, Southeastern Virginia is home to a host of interesting pilot and demonstration projects that introduce young people to career options in STEM-related fields. Local projects like Girls Rock It, the Zenith Challenge Project, and others, are bringing statewide and national recognition to the region. We must now build upon these promising starts, and ensure that STEM-related programs are available to students in <u>all</u> local K-12 systems.

2) Expand Minority/Women Participation in STEM Education and Careers

While interest in STEM careers is growing, the field is still hampered by a shortage of minority and women with an interest in STEM-related education and occupations. SEVA-PORT made some initial progress in highlighting this issue, but additional efforts are needed. In particular, the region's education leaders should capitalize on the local presence of several nationally recognized HBCUs. For example, Hampton, Norfolk State, and Virginia State University have developed successful STEM-related programs in partnership with the National Science Foundation.

3) Support World-Class Programming at Local Universities

As noted in the Index, the region's universities have sponsored a significant long-term increase in their investments in research and development activities. At the same time, local institutions are developing national and global reputations in critical fields such as Modeling and Simulation (ODU), life sciences (Eastern Virginia Medical School), and marine sciences (William and Mary). In addition to supporting ongoing research at these institutions, regional leaders should also continue to push for the creation of new research centers in the region. These include ongoing efforts to develop the Virginia Logistics Research Center near Ft. Lee and the National Center for Sensor Research at Norfolk State.

Nurture Entrepreneurs and Innovators

Data from the Index suggest that Southeastern Virginia is making slow strides in terms of building a more entrepreneur-friendly region. New and fast growing companies are becoming a more important part of the local landscape, but their concentration still lags in relation to other parts of state and the country. The following steps can help accelerate the development of entrepreneurs and innovators in our region.

1) Expand and Deepen Local Networks

Access to peer networks is critical key to success for today's entrepreneurs. They thrive on the ability to interact with, learn from, and do business with other local entrepreneurs. While these networks are critical to business success, they are not available to all entrepreneurs in our region. Groups like the Hampton Roads Technology Council do an outstanding job in their target markets of local technology firms. Yet entrepreneurs in other sectors and in other locations would also benefit from similar networks. Where possible, local business leaders should seek to build additional networks that can be independent or affiliated with HRTC or other local groups.

2) Improve Local Entrepreneur Support Services

In many regions, entrepreneurs face significant challenges in identifying and accessing needed support services. The marketplace for technical assistance and other consulting services is often too complex and too fractured, leading entrepreneurs to give up when they need outside support and assistance. Our region needs to do a better job of making these services available to all entrepreneurs---from new microenterprises to more sophisticated technology ventures. The Hampton Roads Research Partnership has been leading a local effort to improve marketing of these services and to enhance regional cooperation among various business service providers. This effort is designed to make it easier for local entrepreneurs to get the support they need when they need it. This collaboration is essential to making Southeastern Virginia an "entrepreneur-friendly" community.

3) Turn STEM into STEEM

The regional focus on STEM education has helped contribute to growing local interest in STEM-related careers and occupations. But, in today's rapidly growing economy, young people need more than technological skills. They also need to know how to apply them in the real world---as an employee or as an entrepreneur. Young people can access these other skills in a variety of ways, including entrepreneurship education and training. Youth entrepreneurship education introduces young people to a new way of thinking, where they learn how to identify opportunities in the marketplace and to build their own businesses. SEVA-PORT's partnership with Junior Achievement showed how youth entrepreneurship programs can empower young people and actively engage them in the education process. The region needs to support additional programming of this type, so that, in the future, our STEM training programs become STEEM (Science, Technology, Engineering, <u>Entrepreneurship</u>, and Mathematics) initiatives.

Support Leading Clusters

The SEVA-PORT effort highlighted the benefits of targeted investments and programming designed to support the region's leading industry clusters. This work should continue via the expansion of various cluster-focused training programs pioneered by SEVA-PORT. It should also focus on expanding the Virginia Modeling and Simulation Center and in formally establishing the new Virginia Logistics Research Center.

Maintain Regional Momentum

Our last set of recommendations is also the most clear cut: continue to support regionalism. While the SEVA PORT Collaborative will no longer operate in its current form, the partnership can and must continue. In particular, it is essential that regional leaders commit to maintaining two aspects of the SEVA-PORT partnership:

1) Workforce Development/Economic Development Linkages: As talent becomes the key differentiator for regional success, the need for close workforce and economic development linkages will increase. The region should continue to support any and all regional partnerships that deepen connections between the two sectors.

2) Wider Regional Linkages: One of SEVA-PORT's most important legacies was to introduce a wider concept of "the region," to include the Crater area near Petersburg. These connections have led to several promising projects, especially as they relate to small business development and support for the TWD cluster.

APPENDIX I: ABOUT THE SOURCES

1A. STEM Occupations

Definition: *O*NET Online*

Data: *Economic Modeling Specialists, Inc.*

O*Net OnLine lists the occupations that utilize science, technology, engineering, and math skills in their job functions. It should be noted that individual occupations are included in multiple STEM sub-groups. The historical levels and future projections for these occupations come from Economic Modeling Specialists, Inc. (EMSI). The EMSI model was developed to address the needs of community colleges, workforce development boards and economic development groups, using local economic data as a basis for more regionalized economic input-output analysis. This model incorporates data from sources such as the U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis and the U.S. Census Bureau.

Definition: http://online.onetcenter.org/find/stem?t=0&g=Go

Data: http://www.economicmodeling.com/

1B. High School Students Advanced Placement Courses

Virginia Department of Education

The Virginia Department of Education collects information annually on student participation in Advanced Placement Courses and college courses. These data are reported by school and have been collected since the 2001-2002 school year.

http://www.doe.virginia.gov/statistics_reports/advanced/index.shtml

1C. Standards of Learning Passage Rates

Virginia Department of Education

The Commonwealth of Virginia annually tests K-12 student knowledge using Standards of Learning (SOL) standardized tests in the areas of English, mathematics, history/social science and science. This assessment is used for school accreditation and also includes student performance on post-remediation retests.

http://www.doe.virginia.gov/statistics_reports/accreditation_ayp_reports/accreditation/index.shtml

1D. Post High School Intentions

Virginia Department of Education

School divisions submit data annually to the Virginia Department of Education regarding the post-high school plans of graduating seniors. These data are then aggregated to the division and state levels. Post graduation plans fall into one of six categories: four-year college, two-year college, other plans (including attending a trade/technical school or participating in an apprenticeship program), no plans, military, and employment.

http://www.doe.virginia.gov/statistics_reports/graduation_completion/hs_grads_completers/index.shtml

1E. STEM-related Programs

Definition: *U.S. Immigration and Customs Enforcement*

Data: *Integrated Postsecondary Education Data System*

For the purposes of determining foreign student visa extensions for additional training in STEM programs, U.S. Immigration and Customs Enforcement published a list of qualifying STEM disciplines. These disciplines were classified according to their National Center for Education Statistics (NCES) Classification of Instructional Programs (CIP) code. To determine the STEM programs available in SEVA-PORT and which postsecondary institutions in the region offer these programs, the most recent data available (2008) from NCES's Integrated Postsecondary Education Data System was utilized.

Definition: http://www.ice.gov/sevis/stemlist.htm
Data: http://nces.ed.gov/IPEDS/

1F. STEM Related College Grads

Definition: *U.S. Immigration and Customs Enforcement*
Data: *Integrated Postsecondary Education Data System*

Using the same definition and data used for 1E, this metric shows the number of graduates from STEM-related programs from SEVA-PORT institutions from 2003-2008.
Definition: http://www.ice.gov/sevis/stemlist.htm
Data: http://nces.ed.gov/IPEDS/

2A. R&D Expenditures

The National Science Foundation

The National Science Foundation conducts an annual survey of research and development expenditures at postsecondary institutions. These data include R&D utilized in science and engineering fields and do not include R&D for other disciplines (e.g. law, business, education, etc.). These data are available for 2000-2007 and only include institutions that offer a bachelor's degree or higher in science and engineering fields and who had at least $150,000 in science and engineering R&D expenditures.
http://www.nsf.gov/statistics/nsf09303/content.cfm?pub_id=3871&id=2

2B. Self-Employed

Bureau of Economic Analysis

Primarily using unemployment insurance records and federal income tax returns, the Bureau of Economic Analysis measures county-level employment and self-employment. These data include part-time employment and sole proprietorships that may not represent one's primary source of income. The data are provided annually approximately 18 months after the end of the calendar year.
http://bea.gov/regional/reis/

2C. Establishment Size

U.S. Census Bureau County Business Patterns

Using payroll records, County Business Patterns provide the employment size in ranges (Less than 5, 5-9, etc.) of businesses within a given county. If a business has multiple locations, each is counted as a separate establishment. The most recent data are for 2007.
http://www.census.gov/econ/cbp/index.html

2D. Inc. 5000 Companies

Inc. Magazine

Inc. Magazine annually recognizes the fastest growing small businesses in the country. Companies are ranked according to the percent change in revenue growth over the last four years. Additionally, revenue four years ago must have been at least $200,000 and must have been at least $2 million dollars in the most recent year. The magazine, which has traditionally published the list of Inc. 500 firms, began publishing the expanded list of Inc. 5000 firms in 2008.
http://www.inc.com/inc5000/2009/index.html

2E. Stage II Companies

Edward Lowe Foundation

The Edward Lowe Foundation tracks business establishment size using Dun & Bradstreet (D&B) Number (DUNS). Specifically, the employment size of establishments is tracked to determine which stage of growth an establishment can be categorized. Of particular interest are Stage II companies, firms with

anywhere from 10-99 employees and roughly $1 million in total receipts, because that these ventures are ripe for further significant growth.
http://youreconomy.org/

2F. Small Business Innovation Research (SBIR) Grants

Small Business Administration

This measure tracks the funding from the Federal Small Business Innovation Research (SBIR) program that is provided to small businesses in SEVA-PORT. There are three primary phases to the SBIR program. In Phase I, Federal funds (up to $100,000 per grant) are used for feasibility studies that assess the scientific and technical merit of an idea. In Phase II, additional funding (up to $500,000) supports further development of Phase I research and results. Phase III, which is not supported by Federal funds, refers to final commercialization of the technology.
http://web.sba.gov/tech-net/public/dsp_search.cfm

2G. Business Start-Ups

Virginia Employment Commission

Produced from the Quarterly Census of Employment and Wages (QCEW), this data set includes estimates for the number of startup firms for a geographic area and time period. The Virginia Employment Commission has tracked new business startups since 1997 using the QCEW. To be included in these data, the businesses must be privately owned, have a new Unemployment Insurance account number, and have less than 250 employees.
http://www.alex.vec.virginia.gov/lmi/data/

2H. High Technology Employment

Definition: *Bureau of Labor Statistics*

Data: *Economic Modeling Specialists, Inc.*

High technology industries are defined as being high technology by the Bureau of Labor Statistics "if employment in both research and development and in all technology- oriented occupations" is twice as concentrated as the average for all industries.[27] Employment data in these high technology industries were then analyzed using EMSI. For more information about EMSI, see its description in About the Sources: 1A.

Definition: http://www.bls.gov/opub/mlr/2005/07/art6full.pdf

Data: http://www.economicmodeling.com/

2I. Broadband Access

Federal Communications Commission

Based on FCC reports that broadband providers must file, this metric details the number of providers of residential high-speed internet access in a local area per 1,000 households. High speed internet access, often referred to as broadband access, is defined as providing a minimum of 200 kilobits per second (kbs) compared to dial-up, which has a maximum speed of 56 kbs.[28]
http://www.fcc.gov/wcb/iatd/comp.html

3A. Modeling and Simulation-Related Employment

Definition: *Proposal to Add a North American Industry Classification System (NAICS) Code for the Modeling and Simulation Industry* (see authors below)

Data: *Economic Modeling Specialists, Inc.*

---

[27] Hecker, D. 1999. High-technology employment: A broader view. Monthly Labor Review 122(6):18.

[28] Peter Stenberg and Sarah Low, "Rural Broadband At A Glance: 2009 Edition," USDA Economic Research Service, February 2009

The definition used here to measure M&S is based on a proposal to add a NAICS code for M&S put forward by a number of groups nationwide including: National Training and Simulation Association, Society for Modeling and Simulation International, Simulation Interoperability Standards Organization, National Center for Simulation, Alabama Modeling and Simulation Council, New England Modeling & Simulation Consortium, Mid-Atlantic Institute for Simulation and Analysis, and the Virginia Modeling, Analysis and Simulation Center (VMASC). This definition includes a number of industries that are similar and related to M&S. These industries include: other commercial and service machinery manufacturing, custom computer programming services, computer systems design services, and physical, engineering and biological research. Obviously, many of the activities in these industries do include M&S, but they are industries that are most closely related to M&S. Consequently, the data presented here is more appropriately referred to as M&S-related employment. Employment data in these M&S-related industries were then analyzed using EMSI. For more information about EMSI, see its description in About the Sources: 1A.
Definition: http://groups.google.com/group/amsc-council-news/msg/514c862cec0d57a7
Data: http://www.economicmodeling.com/

3B. Key Modeling and Simulation Occupations/Demand

Definition: *Proposal to Add a North American Industry Classification System (NAICS) Code for the Modeling and Simulation Industry*
Data: *Economic Modeling Specialists, Inc.*

The key occupations within M&S-related industries (see 3A above) were identified using the national staffing matrix provided by the Bureau of Labor Statistics. The staffing matrix allows users to identify the occupations with the most employment in each industry. However using this staffing matrix necessitates the assumption that the regional staffing patterns resemble the national staffing patterns. Employment data in these M&S-related occupations were then analyzed using EMSI. For more information about EMSI, see its description in About the Sources: 1A.
Definition: http://data.bls.gov:8080/oep/nioem/empiohm.jsp
Data: http://www.economicmodeling.com/

3C. Transportation, Warehousing and Distribution Employment

Definition: *CREC*
Data: *Economic Modeling Specialists, Inc.*

TWD-related employment was assembled by aggregating those industries deemed most relevant to TWD. Employment data in these TWD-related industries were then analyzed using EMSI. For more information about EMSI, see its description in About the Sources: 1A.
Definition: Developed by CREC
Data: http://www.economicmodeling.com/

3D. Key TWD Occupations/Demand

Definition: *CREC*
Data: *Economic Modeling Specialists, Inc.*

These data were compiled in a similar manner to the M&S-related employment described in 3B. TWD-related employment data were analyzed using the national staffing matrix to identify the largest occupations within TWD-related industries. Employment data in these TWD-related occupations were then analyzed using EMSI. For more information about EMSI, see its description in About the Sources: 1A.
Definition: http://data.bls.gov:8080/oep/nioem/empiohm.jsp
Data: http://www.economicmodeling.com/

3E. Port Volume

Data: *Port of Virginia; American Association of Port Authorities*

These data track the volume of cargo moving through North American ports. They are measured using the standard unit of the Twenty-foot Equivalent Unit (TEU). The Port of Virginia tracks the volume of cargo through its facilities and comparable port volume is made available through the American Association of Port Authorities.

Data: http://www.portofvirginia.com/development/port-stats.aspx
http://www.aapa-ports.org/Industry/content.cfm?ItemNumber=900&navItemNumber=551

APPENDIX II: PARTNERS

Education Partners

College of William and Mary (www.wm.edu)
Hampton Public Schools (www.sbo.hampton.k12.va.us)
John Tyler Community College (www.jtcc.edu/)
New Horizons Regional Education Center
(www.nhgs.tec.va.us/
Norfolk State University (www.nsu.edu)
Paul D. Camp Community College (www.pc.vccs.edu)
Petersburg Public Schools (www.petersburg.k12.va.us)
Pruden Career and Technical Center
(www.prudencenter.net)
Southside Virginia Community College
(www.sv.vccs.edu)
Tidewater Community College (www.tcc.edu)
Thomas Nelson Community College (www.tncc.edu)
Virginia Beach Public Schools (www.vbschools.com)
Virginia State University (www.vsu.edu)

Economic Development

Crater Regional **Partnership (ww**w.craterpdc.state.va.us)
Crater Regional Workforce Investment Group
(www.craterpdc.state.va.us)
Hampton Roads Economic Development Alliance
(www.hreda.com)
Hampton Roads Planning District Commission
(www.hrpdc.org)
Virginia Gateway Region (www.gatewayregion.com)

Business & Industry Representatives

D.D. Jones Transport (www.ddjones.com)
Northrop Grumman (www.northropgrumman.com)
Wal-Mart Distribution Center (www.walmart.com)
Virginia Maritime Association (www.vamaritime.com)
Virginia Port Authority (www.vaports.com)

Research Leaders

Hampton Roads Research Partnership
(www.hamptonroadsrp.org)
Old Dominion University, Virginia Modeling, Analysis and Simulation Center (www.vmasc.odu.edu)

Philanthropic Organizations

The Urban League of Hampton Roads (www.ulhr.org)

Participating Cities and Counties

Chesterfield County (www.co.chesterfield.va.us)
City of Chesapeake (www.chesapeake.va.us)
City of Emporia (www.ci.emporia.va.us)
City of Franklin (www.franklinva.com)
City of Hopewell (www.ci.hopewell.va.us)
City of Norfolk (www.norfolk.gov)
City of Petersburg (www.petersburg-va.org)
City of Poquoson (www.ci.poquoson.va.us)
City of Portsmouth (www.portsmouthva.gov)
City of Suffolk (www.suffolk.va.us)
City of Williamsburg (www.ci.williamsburg.va.us)
City of Virginia Beach (www.vbgov.com)
Colonial Heights (www.colonial-heights.com)
Dinwiddie (www.dinwiddieva.us)
Gloucester County (www.co.gloucester.va.us)
Greenville (www.greensvillecountyva.gov)
Isle of Wight County (www.co.isle-of-wight.va.us)
James City (www.jccegov.com)
Newport News (www.newport-news.va.us)
Prince George County (www.princegeorgeva.org)
Southampton County (www.southamptoncounty.org)
Surry County (www.surrycounty.govoffice2.com)
Sussex County (www.sussexcounty.govoffice.com)
York County (www.yorkcounty.gov)