
SoVaGO

GO Virginia Region 3 **Growth & Diversification Plan**

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GO Virginia Region 3 **Synopsis**

Growth & Diversification Investment Plan for SoVaGO Region 3 Synopsis

The Southern Virginia GO Virginia Region (“SoVaGO” or “Region 3”) is a region of monumental potential. To plan for a future that fully employs this potential, it is imperative that we remain focused on our greatest growth and diversification opportunities, and continually work to address our greatest gaps. **Our greatest opportunity is to align our workforce talent development with our economic development** in areas where we already have substantial activity and competitive advantage, transforming our existing success stories into region-wide advancement. **Our greatest gap is that we have an aging and shrinking population.** We must retain, train, and grow a sustainably sized, well-qualified workforce that meets the needs of our existing and future businesses, enabling our region to thrive.

The Growth & Diversification Investment Plan for Region 3 was completed by experts and practitioners in relevant fields, with input from local stakeholder groups. The approach to the development of the plan was designed and approved by the Region 3 Council. The plan begins with an explanation of intent and a summary of the “GO Virginia Southern Virginia Region 3 Regional Planning Data Analysis,” which is found in Appendix I and provides substantial demographic, socioeconomic, employment, business feedback and regional asset data.

The plan then delves into an analysis of three critical opportunities:

- 1) **Workforce talent development and recruitment**, including opportunities for sector partnerships, career pathways, work-based learning, talent recruitment, and broadband infrastructure development,
- 2) **Sectoral development in four target sectors**, including business services and IT data centers, advanced manufacturing and materials, high-value natural resource products, and health care, and
- 3) **Cyber infrastructure**, including novel approaches to regional collaboration in infrastructure development and opportunities to provide incentives for “middle mile” and “last mile” network completion.

The plan also includes opportunities for rejuvenated regional cohesion in:

- 1) **Entrepreneurial and small business development initiatives**,
- 2) **Quality of life and regional branding enhancement**,
- 3) **Pooling of resources for region-wide infrastructure improvement**, and
- 4) **More systematic focus on target employment sectors and career pathways**.

Throughout the development of this Growth & Diversification Investment Plan, there has been a consistent expression of hope and enthusiasm around ideas for boosting regional connectivity and learning opportunities, replicating successes, learning from mistakes, and leveraging our assets. We can revamp the image of Southern Virginia through intentional collaboration of local leaders, organizations, businesses, and citizens committed to crafting a positive regional brand. The intent of the Region 3 Growth and Diversification Investment Plan is to continue to build on these expressions of hope and “hunger,” by creating a sound framework for the Region 3 Council to use as it considers its investment opportunities.

GO Virginia Region 3 **Executive Summary**

Growth & Diversification Investment Plan

“SoVaGO”

Region 3 of the GO Virginia Initiative

Executive Summary

The Southern Virginia GO Virginia Region (“SoVaGO” or “Region 3”) is a region of monumental potential. To plan for a future that fully employs this potential, it is imperative that we remain focused on two key questions: what are the greatest growth and diversification opportunities for Region 3, and what are our greatest gaps? Our greatest opportunity is to align our workforce talent development with our economic development in areas where we already have substantial activity and competitive advantage, to translate our existing success stories into region-wide advancement. Our greatest gap is that we have an aging and shrinking population. We are losing our young and talented individuals to other areas, and our existing workforce is aging en masse towards retirement. We must retain, train, and grow a sustainably sized, well-qualified workforce that meets the needs of our existing and future businesses, and that enables our region to thrive.

What follows is the Growth & Diversification Investment Plan for Southern Virginia GO Virginia (SoVaGO) Region 3. The plan begins with an explanation of intent, and a summary of a much larger report, the “GO Virginia Southern Virginia Region 3 Regional Planning Data Analysis,” which is found in Appendix I. This larger report provides a detailed demographic and socioeconomic description of the region, an analysis of employment and workforce trends, documentation of business sentiment, and an exploration of Region 3 assets. Following that summary is an analysis of three critical opportunities:

- Workforce Talent Development and Recruitment — Making sure we develop and retain people that have the hard and soft skills our region needs to advance economic opportunity and the growth of higher wages;
- Sectoral Development — Given limited resources, what are the business sectors that have the greatest potential of growing the number of employees, the wage levels and the types of businesses in the region; and,
- Cyber Infrastructure — In the 19th Century it was railroads, in the 20th Century it was roads; going forward it will be areas with internet and broadband that will be more competitive; all of this region must be "connected" with this infrastructure in order to sustain a healthy economy.

Each section of this Growth & Diversification Investment Plan was completed by experts and practitioners in relevant fields, with input from local stakeholder groups. The approach to the development of the Plan was designed and approved by the Region 3 Council, which was also consistently engaged in the review and ultimate drafting of the document. The overlap in recommendations from the experts, practitioners, and local stakeholders across areas of expertise, despite no formal cross communication during the development process, is telling. Themes were consistent, and have informed the confident ultimate selection of critical opportunities. Recommendations for first steps that can result in the biggest impact for the region within these critical opportunities are outlined as follows:

Workforce Talent Development and Recruitment

The first overarching critical opportunity for Region 3 is the development, recruitment, and maintenance of workforce talent with the hard and soft skills the region needs to advance economic opportunity and growth of higher wages. This can be achieved through the following initiatives:

1. Sector Partnerships: Develop sector partnerships in up to three priority areas: information technology services, engineering and product design services, and healthcare services. These partnerships will include prominent employers, educators, and other key stakeholders for each of these sectors. The sector partnerships will facilitate the identification of unique challenges and opportunities for workforce development and recruitment in each sector, and will enable the building of networks for ongoing problem solving and collaboration.
2. Career Pathways: Utilize the sector partnerships, particularly employer and educator leadership, to design career pathways in each sector. The goals of the career pathways are to more effectively guide our budding talent to in-demand, high-wage career opportunities, and to attract private sector investment and economic development opportunities. These career pathways should be aligned with high school program redesign. We will use the existing Capstone Integrated Machining Technology Program (a partnership between Danville Community College and the Institute for Advanced Learning & Research – see Appendix III) as a model in this design.
3. Work-based Learning: Provide a work-based learning (WBL) experience to 100% of public high school students, with introductory experiences that begin in elementary school. This will help to ensure that our students are aware of and prepared for the in-demand career opportunities available to them in Region 3 and enable private-sector businesses to identify potential employees earlier in their career development.

4. Recruitment: Work with local government, economic developers, and other key stakeholders to create innovative incentives to recruit talent, entrepreneurs, and small business owners in the prioritized sectors.
5. Broadband: Utilize the competitive advantage that Mid-Atlantic Broadband provides to first, attract and grow businesses and industries of all sizes that rely upon this high-speed network access and second, support workforce talent recruitment and retention. Position and brand Region 3 as the most prominent rural “gig-speed region” in the United States, similar to what has been done in Chattanooga.

Sectoral Development

The second critical opportunity for Region 3 is the development of four priority or “target” sectors that have the greatest potential to grow the number of employees, wage levels, and types of businesses needed in the region. Only one out of every four employees in the region (25%) is currently employed in a position that creates or attracts wealth for the region. According to US Cluster Mapping, the national average for this metric is 36%, providing a benchmark to which the region can aspire. In this section of the report, four target sectors are identified as key sectors that Region 3 should be pursuing. These target sectors were selected because they represent the best opportunities for the region to increase its share of higher paying, in-demand occupations, leading to a corresponding increase in per capita income. There are many other historically important sectors, such as agriculture, that do not immediately meet the requirements of GO Virginia legislation as it relates to higher-income jobs. However, over time and with appropriately directed investment and leadership, there could be innovative development of higher-paying jobs in these sectors that are currently viewed as “traditional.” The target sectors, listed below, may impact and influence traditional sectors, and linkages between these should be encouraged and supported.

1. Business Services / IT Data Centers: Business Services is the #2 top-employing traded sector in the region, with over 4,750 employees, a ten year growth rate of 69%, and an average wage of \$48K. The sector consists of generally white-collar employment in corporate headquarter functions, and engineering, legal, consulting, and professional services. IT Data Centers are mammoth investments that provide the hardware and hosting backbone for Software as a Service (SaaS), cloud computing services, and applications. It is a \$144 Billion industry growing at nearly 25% per year with an average wage for a computer system analyst of nearly \$81K.
2. Advanced Manufacturing and Materials: Advanced Manufacturing is a sector comprised of both existing and emerging trade clusters, driven by technologically sophisticated industries. Examples of those industries include Aerospace Manufacturing

(Commercial and Defense), Production Technology and Lighting and Electrical Equipment.

Total employment in the Advanced Manufacturing cluster is approximately 1,528 in Region 3, with average wages around \$56K. The aerospace cluster benefits in the eastern United States from three new major assembly plants (Honda Jet in Greensboro, NC, Boeing in Charleston, SC and Airbus in Mobile, AL). The supply chains for these businesses, while global, currently depend heavily on West Coast facilities for supply. Given the concentration of manufacturing on the East Coast, these supply chains are likely to move east to reduce lead times and to improve supply chain responsiveness.

Materials is the largest current industrial cluster within Region 3. Typically, these businesses consist of process industries, which either through batch or continuous manufacturing produce an intermediate or finished industrial product. The majority of these industries are located along the 58 corridor. Examples include Rubber Product Manufacturing, Paint, Coating and Adhesive Manufacturing and Basic Chemical Manufacturing. The combined employment of these 68 firms across the region is estimated to be around 6,540 positions. Wages are in excess of \$60K per year.

3. High Value Natural Resource Products: This is a prioritized industry in Region 3 due to its employment concentration, growth, relatively high wages, and history in the area. The 2015 average wages in Natural Resources & Mining were \$36,667 in Region 3, which is 11% higher than the region's average wage. Forestry is one of the region's strongest industry clusters within the natural resources category. Forestry posted an average wage of \$54,000 in 2016, and has a location quotient of 15, which means that forestry employment in the region is about 15 times more concentrated than the national average. Employment in the forestry cluster grew 14% from 2006 - 2016, and is expected to grow an additional 15% from 2016-2026. Region 3 has had a long history of utilizing its hardwood forests for value-added new product development and engineering design, production and distribution. Continued growth in the wood products sector offer significant opportunities for Region 3 going forward.

4. Health Care: While not a traded cluster, health care is a stable and vital growth sector for the region. The sector employed 14,680 workers in 2016 in Region 3, at an average wage of \$47.6K. The cluster experienced employment growth of 8.5% from 2006 to 2016 (EMSI 2017.1).

Cyber Infrastructure

In the 19th Century it was railroad infrastructure that rendered a region competitive; in the 20th Century it was roads. Today, the development of cyber infrastructure and broadband access is critical to ensure that the region is “connected,” competitive, and able to sustain a healthy economy. Within this broad opportunity, there are three key ideas for Region 3 that represent a foundation for region-wide changes and improvement.

1. Regional Collaboration: A regional approach to cyber infrastructure (in lieu of a piecemeal approach by localities) will enable pooling of intellectual and financial resources and more efficient development of networks. This collaboration will also enable Region 3 to position itself more competitively to ISP vendors and to funders who may be able to provide federal and other grant opportunities to offset the high infrastructure costs of expanding rural broadband.
2. “Middle Mile” and “Last Mile” Opportunities: A broadband network only becomes truly effective when it extends from main fiber routes to reach “middle mile” and “last mile” end users. The region seeks to develop a project that improves broadband coverage by facilitating the action of “middle-mile” and “last mile” technology companies by creating region-wide tax-exempt statuses, fee waivers, and expedited easement access for such providers. Such a project will ultimately remove costs and time delays that currently present barriers to the development of a robust and cutting-edge fiber network in the region. Inducements to these companies will result in investments in the counties and towns that offer them, and will significantly improve quality of life, opportunity for businesses, and access to education in the region.

Opportunities for Improvement

The consensus view of those involved in developing this Growth & Diversification Investment Plan is that there is an impressive array of impactful and scalable initiatives already launched or launching in Region 3, that make the Region optimistic for its economic future. However, there are also under-leveraged opportunities for enhanced regional collaboration that must be addressed:

- The Region houses entities that provide strong focus on **entrepreneurship and small business development**, but in general, these initiatives operate locally rather than regionally. For example, multiple localities are striving to package resources to create an entrepreneurial map or “blueprint,” but because business footprints do not stop at jurisdictional boundaries, this might be more cost effective and valuable on a regional scale. In addition, there is room for greater emphasis on entrepreneurship topics

including availability of capital, incubators and accelerators, technical advising, and mentoring.

- Issues regarding **quality of life**, crucial for attracting and retaining talented, innovative individuals and businesses are currently addressed intermittently. Interviews with business leaders have highlighted the importance of investing in cultural amenities, lively downtowns, outdoor recreation, shopping, and other attractors. As a region, we have amenities, but we do not promote or brand them in a unified and assertive way, internally or externally. The regional collaboration inherent in this GO Virginia initiative presents the perfect opportunity for enhanced region-wide promotion efforts.
- The importance of **infrastructure**, especially **broadband** internet coverage, is frequently noted. However, there is a need for the economic development entities within Region 3 to pool their political influence and lobby for infrastructure improvements that will have the greatest collective regional impact. There also remains a need to more thoroughly discuss how to fund this much-needed expansion.
- There is occasional focus on promising **occupations**, such as healthcare occupations and skilled trades. However, there is opportunity to turn these discussions into action through the aforementioned region-wide initiatives to develop career pathways and target sector strategies.

Overall, the greatest need is to increase the economic health of the region by scaling up our existing successful or promising initiatives, and by promoting and expanding regionalism in all respects. Throughout the development of this Growth & Diversification Investment Plan, a consistent expression of hope and enthusiasm has emerged around ideas for connecting regional assets, leaders, and common counterparts. There is a “hunger” to boost regional connectivity and learning opportunities, to replicate successes, to learn from mistakes, and to leverage our assets. There is a belief that the image and brand of Southern Virginia, both internally and externally, can be improved through more intentional connection and interaction between elected leadership, local and regional organizations, businesses, and citizens. The intent of the Region 3 Growth & Diversification Investment Plan is to continue to build on these expressions of hope and “hunger,” by creating a framework for the Region 3 Council to use as it considers its investment opportunities.

GO Virginia Region 3 **Description of the Region**

Description of the Region

Key Factors: Economic structure, existing businesses, workforce, education, research and innovation assets, gaps to turn into opportunities, map of assets of the region related to GO Virginia. A more complete picture of the Region 3 can be found in Appendix I.

The newly created Region 3 includes 13 counties and two independent cities. With a population of about 372,000, it is the smallest of Virginia's nine regions in population but the largest in area.

i. Demographics:

Demographic data and trends point to some of the major challenges facing Region 3, compared to other areas of the Commonwealth, that includes:

- Declining population;
- Relatively older population;
- Lower educational attainment;
- Lower labor force participation; and
- Higher poverty.

ii. Employment Trends:

Region 3 was **heavily impacted by the Great Recession**, although trends in industry sector job losses were already evident before that time. The Manufacturing and Construction sectors experienced losses of 30% or more over the past 10 years. There have been significant gains in other sectors, notably in Healthcare and Professional, Scientific, and Technical Services. But overall, job losses have been greater than population decline since the year 2000. This results in significant **out-commuting** for work from Region 3, with a net out-commuting figure of around 30,000 workers.

The leading sectors for employment are **Government, Health Care and Social Assistance**, and **Manufacturing**. Despite major job reductions, Manufacturing still employs about 18% of the region's workers.

Projections suggest **modest job growth** through 2026. Growth is predicted in several STEM-related occupations that currently employ small numbers of workers. This includes jobs found in Computers and Mathematics, Architecture and Engineering, and Life, Physical, and Social Sciences. Still, **Healthcare** occupations will lead, and they provide the most opportunities for jobs in growing sectors that pay above-average wages.

Over the past five years, Region 3 has experienced an increasing percentage of total job creation coming from **smaller firms** (less than 20 employees), **newer firms** (five years old or less), and sole proprietorships.

iii. Workforce Trends:

Employment in Region 3 is characterized by a predominance of lower-wage jobs with low education requirements.

Job opening numbers are greater than the number of annual post-secondary education completions, but many available positions have no post-secondary education requirement.

In Region 3 people who completed their post-secondary education and received their bachelor's degrees were 33%; associate degrees 26%; master's degrees or doctorates 7%. The greatest number of degrees is awarded in Liberal Arts and Sciences, followed by Business Management.

Particular workforce gaps are seen in **production, transportation, maintenance, and repair** occupations. Greater emphasis on STEM-related education and training would benefit the workforce pipeline in a number of in-demand areas.

Current efforts to address workforce gaps include:

- **Streamlining education** offerings to focus on the most in-demand sectors;
- **Dual enrollment programs** for high school students focusing on robotics, engineering and advanced manufacturing;
- New **cyber security** occupation training; and,
- **A new grant program** to reduce students' costs of obtaining certifications.

Other potential needs identified in the analysis:

- Increased offerings to supply workers for two large **data centers** in Region 3, as well as other information technology positions.
- The need for students and parents (with assistance from guidance counselors) to be more **strategic with their education and training decisions**, as mere completion of a degree program does not guarantee a good income or career path. Data on in-demand sectors and appropriate paths should be more widely disseminated.

In general, all concerned parties in the region – businesses, education and training providers, students, and parents – need **greater and more frequent dialogue** to improve the relevance of workforce training offerings, improve student decision-making, and enhance the system’s responsiveness to changing employer and workplace needs.

iv. Business Sentiment:

Employers and workforce partners in the region see the “**legacy skills**” and “**applied knowledge**” of an experienced workforce, particularly in manufacturing-related occupations, as one of the greatest **strengths** of the workforce.

The lack of “**soft skills**” – such as understanding expectations in a work environment, communication, and dependability – are described as the major **weaknesses** of the workforce.

Technical skills for mid-level positions are another significant need.

Business leaders see the greatest future workforce demand in a variety of **healthcare** positions, in the **skilled trades**, and in replacing **technical workers** as many retire.

v. Assets

The Region contains many assets. Some of these are demonstrated in Appendix IV that maps the Region’s economic development entities and partners.

The Commonwealth of Virginia and Region 3 have a plethora of recent, relevant plans for strengthening the region’s economy, job opportunities, and workforce. The plans detail numerous programs and initiatives to achieve these goals. Best summing up the main thrust of all the efforts is this: “...**the fundamental challenge for the region is to expand job opportunities for residents.**”

These current plans and programs are generally of a high quality and share a number of strengths:

- Emphasis on **economic diversification**, while not ignoring long-term mainstays such as manufacturing, agriculture, and forestry;
- Soundly-reasoned **targeting of industry sectors**, including growth sectors for jobs such as information technology and healthcare;

- Appropriate stress on the critical role of **workforce development**, including K-12 schools, additional training with less than a college degree, and adult learning; and,
- Increasing emphasis on the wisdom of **regional collaboration**.

In addition to broader efforts – from regional economic development organizations, planning districts, and workforce boards – Southern Virginia is blessed with innovative entities specializing in a particular niche of economic, workforce, and community development, and/or in a particular geography. These include the Institute for Advanced Learning and Research (IALR), Southern Virginia Higher Education Center (SVHEC), New College Institute (NCI), The Launch Place, GENEDGE Alliance, foundations, and many others. Many of these target certain aspects of education and workforce training, such as promoting industry certifications and credentials, student workplace experiences, and entrepreneurship training.

There are locally based organizations like Mid-Atlantic Broadband addressing other key needs of the region, such as telecommunications infrastructure. And the unique asset of the Virginia Tobacco Commission, focused on providing resources to complement new investment in Southern and Southwest Virginia.

The consensus is that there is an impressive array of initiatives, enough to make the region optimistic for its economic future. But there are shortcomings:

- The region has some entities that provide strong focus on **entrepreneurship and small business development**. But in general, initiatives that focus on new and smaller businesses are not as fully realized. There is room for greater emphasis on important topics including availability of capital, incubators and accelerators, technical advising, and mentoring.
- Issues regarding **quality of life** – which is crucial for attracting and retaining talented, innovative individuals and businesses – are addressed intermittently. Interviews with business leaders highlighted the importance of providing cultural amenities, lively downtowns, outdoor recreation, shopping and other attractors.
- The importance of **infrastructure**, especially **broadband** internet coverage, is frequently noted, but there is not enough discussion of how to fund needed expansion.
- There is occasional focus on the most promising **occupations** (citing healthcare occupations and skilled trades). This could be improved through a more robust career pathways strategy.
- The **business community** is aware of resources, but confused by duplication of efforts and the narrow geographic focus of specialty programs. Business people are

mixed in their opinion of the relationship between the business community and workforce partners.

Their comments indicate confusion over which agency or entity to turn to, and frustration that a promising program in a neighboring county is not offered across the region. One respondent said that businesses must deal with “too many partners” and called for one “unified point of contact.”

Within these shortcomings, however, it is clear that the greatest need is to **increase regionalism by scaling up** the most successful or promising initiatives across a wider area.

For example:

- **Entrepreneurship** – Multiple areas are striving to package resources together and create an entrepreneurial map or “blueprint” but this might be more cost effective and valuable on a regional scale.
- **Infrastructure** – One plan calls for the economic development regions to pool their political influence and lobby for infrastructure improvements that will have the greatest regional impact.
- **Quality of Life and Amenities** – One strategy notes that by highlighting all of the amenities available in Region 3, rather than stopping at county lines, a joint marketing effort would create “a more compelling regional message.”

GO Virginia Region 3 **Purpose of the Plan**

Purpose of the Plan

GO Virginia (Virginia Initiative for Growth & Opportunity) is a bi-partisan business-led initiative authorized by the General Assembly in 2016 to help diversify the Commonwealth's economy and reflect variations in regional economies. With public and private support, GO Virginia requires each of the nine defined regions to develop a Growth & Diversification Plan (G&D). Each region shall articulate how it intends to invest state, regional and local resources to address three critical issues:

1. How the region will increase the number of higher paying jobs that will bring new investment;
2. How the region will enhance its economic competitiveness; and
3. How the region will diversify its economy to in turn support the growth of the Commonwealth's overall economy.

The G&D is not intended as a strategic plan for the region. Strategic plans appropriately belong to local and regional economic development and planning entities. G&D is intended as an investment plan to produce answers to the three questions above. For the plan to be successful, it will support innovation and be flexible to incorporate new ideas and opportunities that are identified by the Regional Council over time. Once the plan is approved, each region will move forward developing specific projects to be considered for funding.

In undertaking the development of the G&D plan, Region 3 faces several significant challenges. With 15 independent local units of government, Region 3 is geographically the largest of the regions in the Commonwealth (6,701 sq. miles or 17% of the land mass) and it has the lowest population of any region (373,530 people or 4% of the population). 13.5% of persons 25 years and older in the region has a bachelor's degree or better, while the same indicator for the Commonwealth is 36.3%. The median household income for the region is \$38,100 and for the Commonwealth, \$53,900.

Historically the largely rural region has been dominated by agriculture, specifically tobacco as well as low wage manufacturing jobs found in the furniture, textile and agricultural processing industries. Currently there are 493 manufacturing firms in the region employing 21,700 employees, but only 67 of these firms and 6,500 of the employees are in advanced sectors like advanced materials manufacturing. Additionally, 93% of advanced materials manufacturing jobs are concentrated in just four local units of government — Danville, Martinsville, Henry County and Halifax County. Thus, while certain parts of Region 3 are positioned for a strategy to build on existing clusters, much of the region is not. To ensure long-term impact across the entire region this plan will require highly innovative approaches and investments that definitively have



long-term impact and also meet the requirements outlined in the legislation creating GO Virginia.

For the implementation of this plan to succeed, it must make regional collaboration, rather than silo efforts, the new norm. This requires that all players change behaviors. In this plan we will focus on a few issues and go deep, rather than the usual “shallow and wide” approach.

Engagement and participation are the keys to success.

Over 300 individuals and organizations have participated in the development of this plan over the past several months. The planning process, including 13 focus groups has focused on those willing to engage and participate. In drafting the plan, the G&D Committee realizes it must be both sustainable and flexible; it will evolve as we learn new ways of investing strategically.

The goal of the effort is to increase the number of higher wage jobs in the region, diversify the economy and strengthen the for-profit base of the region, even as we learn new ways of working together.

GO Virginia Region 3 – Critical Opportunity #1
Talent Development & Recruitment

SoVaGo Virginia Region 3

Talent Development, Recruitment and Retention

SUMMARY OF RECOMMENDATIONS

We're in the middle of a fundamental economic transformation that is changing the way we live, work, and learn. Nobody is quite sure what is around the next corner for communities like those in the Region 3 area, but the trend lines for the region in areas like population, median household income, and others don't look good.

Ted Abernathy in [a presentation](#) for the Danville Region Foundation in 2015 said that "doing what you used to do, no matter how well you do it, will not be enough." This is in large part the point of this piece. Attracting and keeping talent in a region will be the key to this region's success and doing so the way region's like ours have always done it, will not be enough going forward.

What follows are 11 recommendations based on best practices and innovative programs we've seen around the country. If it was possible to implement all of these we recognize they all may not work. What would we recommend to have the highest probably of success and make the biggest impact over the short and long-term? Four things stood out – two in talent development and two in talent recruitment.

First, in Talent Development:

- Develop sector partnerships in up to three strategic areas – cyber security/coding; engineering and design; and healthcare. Utilize employer leadership to design career pathways in each sector aligned with high school redesign. Use the precision machining model (see Appendix III – Precision Machining Pipeline Overview) in pathway design with a goal to attract private sector investment and economic development.
- Provide a work-based learning (WBL) experience to 100% of high school students, with introductory experiences that begin in elementary school.
 1. Design a digital badge recognition system that validates skills acquired through WBL experiences.
 2. Focus on robust internship and apprenticeship programs.

Second, in Talent Recruitment:

- Consider innovative incentives like those mentioned to recruit talent to work in identified sectors and to recruit entrepreneurs and small business people. In particular consider these:

1. Build a platform for paying off student loans of needed talent in critical industry sectors. Partner with business and industry and others to build this pool. Imagine the difference if the region had 1,000 new talented college graduates living in the region and earning living wages.
 2. Recruit entrepreneurs – look particularly at Seed Fund programs like the Launch Place, at targeted entrepreneurship pitch contests and housing ventures like those in Paducah KY and the Fiber House in Kansas City.
- Make Region 3 the most prominent Rural “gig region” in the United States. The positive impact seen in Chattanooga has been impressive. Utilizing the competitive advantage that Mid-Atlantic Broadband offers to attract businesses and industry that need this high speed fiber could be equally impactful for our region.

SoVaGO Region 3

Talent Development, Recruitment and Retention

RECOMMENDATIONS

The region has a history of developing and executing training programs to address workforce challenges based on feedback from employers and interest from educational institutions. The historical approach has been reactive. The opportunity moving forward is to take a systems approach that is forward thinking and laser-focused on industry sectors with the highest potential for growth while continuing to respond to the needs of existing industries. Successful efforts will require *authentic* employer engagement as demonstrated through active participation in proposed opportunities and a willingness to improve internal practices. The structures are in place to assist employers if they come to the realization that they are the solution to voiced workforce challenges and that these solutions will require investment – time, expertise and yes, funding.

If talent is the leading determinant for economic growth, the region’s ability to develop and attract citizens with the requisite knowledge, skills and abilities will be paramount as we look to transform the regional economy. A dual focus on talent development and talent recruitment may work in the short-term based on programmatic initiatives but there must also be a focus on talent retention. We must create solutions that address these two questions:

3. What would make talented people want to come here?
4. What would make talented people want to stay here?

The recommendations below are based on current and emerging national best practices aimed at talent development, recruitment and retention. In addition to these practices, our region must expend energy in out-of-the-box solutions that will create competitive/comparative advantages.

Given that Region 3 is the largest by geography and smallest by population, it is imperative that:

- 1) development, recruitment and retention efforts are aligned to build a critical mass of talent in strategic sectors; and
- 2) solutions be based on systems building strategies that leverage resources.

TALENT DEVELOPMENT

Recommendation 1: Form regional sector partnerships in strategic sectors: advanced manufacturing, agriculture/wood products, engineering, healthcare, IT/cyber security, transportation/distribution/logistics, and entrepreneurship/business solutions.

Sector or industry partnerships are employer-driven partnerships of industry, education and training, and other stakeholders that focus on the workforce needs of key industries in a regional labor market. Sector partnerships are highly responsive by nature based on employer engagement and leadership. As opposed to program-oriented solutions tied to individual companies, sector partnerships:

- address the needs of employers by focusing intensively on the workforce needs of a specific industry sector over a sustained period;
- address the needs of workers by sustaining or increasing middle-class jobs, supporting career paths to good jobs and reducing barriers to employment;
- strengthen regional economic competitiveness by engaging economic development experts in workforce issues and aligning workforce development planning; and
- encourage systemic change by leveraging partnerships and resources.

Typically, sector partnerships rely on workforce intermediaries to engage employers and other key stakeholders to coordinate both information and resources. The region will need to identify sector intermediaries who can assist with the formation of the partnerships, understanding that the employers will need to take on the leadership role.

Example: Colorado's Sector Initiative (<http://www.sectorssummit.com/>)

Virginia is one of 21 states cited by The National Skills Coalition in their 2015 report on sector partnership policies (<http://www.nationalskillscoalition.org/documents/2015-08-Skills-in-the-States-Sector-Partnership-Policy.pdf>); Virginia's Governor's Competition for Talent Solutions was highlighted as the signature policy effort for the state. Unfortunately, the second round of funding was not awarded and the program was suspended in 2016. (<https://governor.virginia.gov/newsroom/newsarticle?articleId=15166>)

Recommendation 2: Develop and implement a robust career pathways strategy aligned with strategic sectors.

Nationally, Virginia is considered a leader in creating a career pathways system. In 2008, Governor Kaine created a task force to develop the system which included the following agencies: State Council of Higher Education for Virginia, Virginia Community College System, Virginia Department of Education, Virginia Department of Labor and Industry, Virginia Department of Social Services, Virginia Economic Development Partnership, Virginia Employment Commission, and Virginia Department for Aging and Rehabilitative Services. The initiative led to the creation of Middle College and PluggedIn programs, along with expanded

career coaching at OneStop Centers. To date, efforts have been driven at the state-level with local pilot projects.

Career pathways are effective because they are organized as a series of interconnected, stackable and credit-bearing steps that prepare and support individuals looking to attain higher levels of education and earn industry-recognized, post-secondary credentials that can lead to employment in high-demand occupations. Inherent to a career pathways system is the adoption of a lifelong learning philosophy as each step on a career pathway prepares an individual for his or her next level of education and employment.

The region will need to improve existing systems and scale efforts. A career pathways framework requires a systems approach and strong partnerships given the need to align K-12 and adult education programs, workforce training, and college courses while offering comprehensive student support services. The pathway initiatives must be developed in partnership with and supported by the sector partnerships.

Development of strategic pathways opens the door for aligned K-12 programs that can be delivered regionally. Examples include Project Lead the Way (engineering) and Junior Achievement (entrepreneurship). The region may be able to develop a single consortium to reduce implementation costs of strategic programs.

One example of this consortium model is the [Miami Valley Career Technology Center \(MVCTC\)](#) in Ohio, which offers 40 programs to over 1,700 students from five school districts at their main campus. They also operate 15 satellite locations covering 27 partner school districts. Students who choose to participate in MVCTC programs remain enrolled at their schools, can participate in extracurricular activities at their schools and receive a diploma from their high school. Since inception, over 99% of students at MVCTC are enrolled in dual enrollment classes, 96% of students graduate in four years, and over 92% of students were either employed, in an apprenticeship, joined the military, or are enrolled in post-secondary education or advanced training six months after leaving school.

Enhanced Career and Technical Education (CTE) Centers could support targeted career pathways strategies. These centers would be closely aligned with local business and industry and work together to create meaningful training and viable career pathways to regional opportunities starting in high school.

Region 3 has existing models for similar collaborations including the Governor's Schools and the Academy for Engineering and Technology. Building collaborative CTE partnerships in the target sectors of Region 3, tying these programs closely with dual enrollment and paid work experience models, could be transformational for talent development in the region.



Examples:

<http://www.elevatevirginia.org/about-the-virginia-board-of-workforce-development/career-pathways/>

http://www.doe.virginia.gov/instruction/career_technical/career_clusters/

<http://sbo.nn.k12.va.us/careerpathways/> (example of career pathways for Newport News Public Schools)

Recommendation 3: Prepare emerging workers to be **College and Career Ready** and measure progress through national assessments.

According to the U.S. Department of Education, about a third of American students require remedial education when they enter college and college attainment rates are not keeping pace with projected workforce needs. Also, the United States ranks 12th internationally in college completion rates for young adults. In Virginia, the Virginia Community College System (VCCS) reported that, prior to 2012, 37% of first time in college (FTIC) program-placed students enrolled in developmental math in their first semester (<http://cdn.vccs.edu/wp-content/uploads/2013/07/Dev-ed-redesign-initial-impact.pdf>). The percentage has declined since the VCCS redesigned the developmental courses, but one-third of FTIC students still require developmental math. If the region is going to be successful in developing a talent pool in the targeted sectors, we will need to make a concerted effort to **address mathematics** as a barrier to success.

There is promise of improvement through Virginia's [Profile of a Virginia Graduate](#) initiative, which is focused on high school redesign, identifying what skills students need in high school and aligning statewide graduation requirements to meet these expectations. This effort may stimulate conversation in Region 3 to define “product” expectations and identify measures of success.

Today, data to verify college and career readiness comes in the form of graduation rates and SOL test scores. Employers confirm that these measures of college and career readiness tell them little about the skills of our emerging talent pool. Currently, Virginia does not support a statewide system or funding stream to verify through third-party assessment that its high school graduates are college and career ready.

North Carolina, South Carolina, Kentucky, Illinois, and Michigan, among others, are testing 100% of their high school juniors to demonstrate that their students are college and career ready

via statewide testing using SAT/ACT (college ready) and the National Career Readiness Certificate (NCRC; career/work ready). Virginia, on paper, appears to do very well on college admissions testing. This is a product of only the top 30% of students taking the required assessments.

The Dan River Region Collaborative has led the effort to validate work readiness in six localities in southern Virginia through the Certified Work Ready Communities (CWRC) certification process. This is in response to employer concerns regarding foundational skills and economic development interests in promoting the availability of a skilled workforce. To become a Certified Work Ready Community, localities must have a certain number of individuals earn an NCRC and businesses must sign on in support of the initiative. To learn more about CWRC, visit <https://www.workreadycommunities.org/>.

As of June 2017, four localities in southern Virginia are Certified Work Ready. In addition, employers are supporting the effort through job profiling to match candidates to jobs and by requiring the NCRC as part of the pre-employment process.

By assessing college and career readiness at a regional level, we can market a critical mass of emerging workers who have the requisite knowledge, skills and abilities in the targeted sectors, benchmarking emerging talent against competing communities for economic development efforts. We can also address identified skill gaps in our talent pool.

As other Go Virginia regions adopt a similar priority, the region can advocate for state funds to cover the costs of the assessments.

Recommendation 4: Create a coordinated system to expand **work-based learning (WBL)** opportunities, with an emphasis on robust internship and apprenticeship programs.

Work-based learning is any opportunity that helps connect classroom learning to real-life work experiences. It can start in elementary school with guest speakers and field trips. As students progress through middle and high school, opportunities can include Career Expo experiences, interviews with employers, job shadowing, externships, internships, part-time jobs and apprenticeships. These ongoing experiences drive applied learning; creating relevance and helping students make the connection between school and work. WBL experiences help students understand workplace expectations and refine their technical skills.

By expanding WBL, employers will benefit from a pool of skilled and motivated future employees. Other benefits to employers include reduced recruitment and training costs, and improved employee retention. Increased human capacity can assist employers with the



development of new projects and provides a venue for engagement in the curriculum development process.

Most young adults learn workplace skills during their first job. Unfortunately, many young people are delaying their first work experience and often find it difficult to secure WBL opportunities, as employers prefer individuals with work experience. WBL, particularly paid experiences, may be a solution to address the deficiencies employers across sectors express with regard to work ethic and soft/essential skills. Given the number of regional job openings in retail, there may be an opportunity to develop strategies for a **Young Adult Retail Sector initiative** that includes WBL and customer service training.

We must also explore opportunities to engage high school students in sector-based WBL experiences where we have perception challenges – specifically manufacturing. Many manufacturing companies will not allow minors to enter their facilities. Because we are not able to begin recruitment until after students turn 18, it makes it challenging to hook these students in high schools and prepare them for these manufacturing careers. One opportunity is through expanding registered apprenticeships, which allow students less than 18 to be working in manufacturing facilities.

According to the Virginia Department of Labor and Industry [website](#), our region has comparatively few apprenticeship programs:

- Danville – 16 listings; 6 job titles
- Pittsylvania County – 3 listings; 3 job titles
- Henry County – 4 listings; 3 job titles
- Mecklenburg – 9 listings, 5 job titles
- Newport News – 105 listings; 39 job titles
- Loudoun County – 89 listings, 11 job titles

In order to meet some workforce needs, our region must develop apprenticeship programs to fill positions where transfer of organizational knowledge will be imperative as baby boomers retire. South Carolina experienced a 631% increase in registered apprenticeship programs and a 556% increase in the number of apprentices in the state since their program started in 2007 (<http://www.apprenticeshipcarolina.com/>). The youth apprenticeship program gives high school students an opportunity to continue with their classroom education while simultaneously gaining on-the-job training and an early start on wage progression. Employers who take on apprenticeships are awarded a \$1,000 tax credit per apprentice and are given access to complimentary apprenticeship consultants to guide them through the registered apprenticeship

development process. Guilford County, NC has modeled their efforts after South Carolina developing Guilford Apprenticeship Partners (<http://gapnc.org/>).

Recommendation 5: Develop a regional system to quantify and validate skill acquisition and transition employers to skill-based hiring systems.

*** also supports Recommendation 3.*

Virginia is focused on producing workers with certifications as a strategy to address the skills gap for middle skills jobs that require more than a high school diploma but less than a two-year degree. Governor McAuliffe's New Economy Plan calls for the awarding of 500,000 business driven certifications and licenses by 2030 with a short-term goal of 50,000 STEM-H credentials, certifications, licensures, apprenticeships and associate degrees to meet current and anticipated industry needs. These goals are supported by recent legislation that provides funding for short-term non-credit training that leads to industry certifications.

During the 2016 session, the General Assembly passed HB 66 establishing the New Economy Workforce Grant Program. This grant program provides a pay-for-performance model for funding noncredit workforce training that leads to a credential in a high demand field, including requirements for students to complete the program in order to avoid paying additional costs. This is a positive step for Virginia, which lags behind competing states, in particular North Carolina, in the amount of funds dedicated to noncredit training.

While these certifications validate specific skill acquisition, there has been little effort to work with employers to get their endorsement of certifications, specifically in the form of hiring preference or wage differential. Region 3 will need to expend effort through the sector partnerships in educating the business community about emerging certifications and their value in the marketplace.

Conversely, the region has an opportunity to create a singular system to assist jobseekers in documenting skill acquisition. There is potential to align the region's K-12 systems in selecting a digital portfolio or badge system to document the skills of our emerging talent pool. Aurora Public Schools (<https://sites.google.com/aurorak12.org/badge/>) offers students the opportunity to earn digital badges in core areas such as critical thinking, collaboration and information literacy. Earning badges unlocks work-based learning opportunities with partnering employers.

An aligned badge system would allow school divisions to document learning outside of the classroom and award credit. Similarly, it would give employers a tool to understand a student's value proposition if he/she is being considered for a WBL opportunity. Having a singular system

is imperative for the region if we want employers to be supportive and even issue badges; they will not learn eight different platforms.

Recommendation 6: Develop platforms to support lifelong learning and incumbent worker training.

According to the Bureau of Labor Statistics (BLS), the average worker currently holds 10 different jobs before age 40 and this number is projected to grow to between 12 and 15. In addition, the number of multiple jobholders hit an eight-year high in September 2016, up to 7.8 million (BLS) even as job growth overall has stalled.

How do we prepare a workforce for the changing job reality with the full admission that we do not understand what those changes will look like?

We will need to develop a lifelong learning system that accommodates working adults with flexible scheduling and online options. These flexible systems will also require that the region address tangential barriers to education – broadband access, computer literacy, childcare and transportation. Is there opportunity to offer a “flipped” higher education experience through the community colleges where training is offered at night or on the weekends? Is there an opportunity to form a consortium of the three community colleges to offer a flexible system where courses and enrollment funding are shared?

The region can explore and support new online technologies that target individualized training needs of employees through microlearning opportunities. Platforms such as [Axonify](#), [Amplifire](#), [udemy for Business](#) and [Degreed](#) could be utilized to support employers and incumbent workers. Development opportunities and potential to grow are cited as a top factor by 87% of Millennials when they consider a new job opportunity according to Manpower, Gallup, and Oracle.

TALENT RECRUITMENT

Within Ted Abernathy’s report on the Go Virginia region, there are a number of challenges mentioned that impact the supply, and perception, of talent in the region:

1. Population decline – the population has been in decline in Region 3 since 2006, some of which is attributed to people moving out of the area - 1,227 people having moved out from 2010-2014. In Region 3, the Cities of Danville and Martinsville have been particularly hard hit.
2. The region has 30,000 people who live in the region but leave the area to work daily.

3. The item ranked lowest in satisfaction by current business and industry was the availability of skilled labor.

Though these are clearly a challenge, these same laments can be heard in rural areas and small cities, across the Commonwealth and the nation. It creates an opportunity though for regions who create bold endeavors to face the challenge of recruiting talent head-on.

The process of recruiting talent to a region is not altogether different from recruiting business and industry to a region. Economic developers learned long ago in prospect recruitment that you cannot be all things to all people and compete on every front; places must focus on competitive advantages and where they can best compete.

Recommendation 1: Identify highly skilled job opportunities and develop a strategic plan for targeted recruitment.

Within the target sectors - advanced manufacturing, healthcare, IT (cyber security and data centers), and education - how many jobs are available, what are the qualifications, what are the salaries and benefit packages? What fields are the 30,000 people who leave the region every day employed in? Can the region do a better job of promoting these opportunities? There must be an honest appraisal of available opportunities compared to similar ones in similar parts of the country. If the strategy is to recruit companies by promoting a cheaper labor pool, recognize the impact when recruiting the labor pool.

One model is www.accessdubuquejobs.com led by the Greater Dubuque Development Corporation. Created initially to collect resumes from persons across the country who would be interested in applying and, if hired, moving to Dubuque to work for a major employer that Greater Dubuque Development Corporation was recruiting (IBM), the website is now a fully functional job board, funded by business and industry in the region with 749 jobs listed from 152 unique employers and a resume bank of 4,297 people.

Recommendation 2: Identify the types of people that would want to be here and go after them.

Begin with an honest appraisal of the quality of life in the region and the assets – rural, small city, abundant outdoor activities, within driving distance to many cultural amenities. Who is most likely to be attracted to these assets? What is an accurate cost of living indicator – housing, food, transportation - and how does that compare to where people are commuting to and places that currently thrive with industry sectors we are targeting.

Then narrow the focus. Where does this talent exist? Is it coming out of certain college campuses? Are the young people who are currently living and working in more urban areas unhappy? Are they high school graduates from Region 3 schools, or areas like Region 3, but looking for opportunities to return to similar places? When identified, just like successful

businesses across the country, start recruiting from these places. Develop a consortium of business and industry representatives to attend job fairs on college campuses, place ads in college newspapers, create a world-class targeted ad campaign promoting the region's assets and the opportunities to this more narrowly defined group.

Recommendation 3: Consider incentives to recruit highly skilled talent - especially within the strategic industry sectors.

Many places are now offering targeted cash incentives to recruit talent – places like Niagara Falls, NY and rural Kansas - by paying off student loans for people who choose to reside there. Other places like Harmony, MN are offering cash rebates for new home construction, and Detroit is offering incentives to renters and new homeowners.

(<http://www.kiplinger.com/slideshow/real-estate/T010-S001-7-places-that-pay-you-to-live-there/index.html>)

Other communities are offering special opportunities for residents hoping to recruit families. Kalamazoo, MI and Syracuse, NY are offering free college tuition to the children of residents. Northeast Mississippi localities and all of Tennessee offer free tuition to residents at their community colleges. According to a recent piece in *Time* magazine, there are at least 37 programs in 19 states that offer at least two years of free college tuition (<http://time.com/money/4830367/free-college-tuition-promise-programs/>).

In these programs, there appears to be mixed evidence on their overall effectiveness as a recruitment tool, and, without employment opportunities in the region tied to the programs, they could turn into an export strategy of educating youth for opportunities elsewhere. However, if an incentive program were tied directly to target sectors, it could be very important in recruiting high-skilled talent.

What would be the economic impact if the region were branded as offering unique tools to create and recruit talent? What would be the impact if any resident wanting to complete community college in one of the target sectors could do so free of charge if they agreed to stay in the region for a period of time or pay the money back? What if our region, where business and industry lament the inability to recruit the high-end talent they need in these same sectors, could offer \$5,000 a year for 5-years in student loan repayment, or in housing vouchers for people with the verifiable skills they need and want to hire?

If done well, this focus and these programs become a competitive advantage and attractor to industry. The regional economic development agencies can boast, through coordinating marketing, that if the prospect isn't getting the support they need elsewhere, consider moving the business to a region in Virginia that has a set of unique tools to develop and recruit talent.

Recommendation 4: Create sustained regional platforms for entrepreneurship and small businesses development and recruitment.

As the Abernathy report points out in its review of other Region 3 reports and strategic plans,

“Certain documents and entities provide strong focus on entrepreneurship and small business development. But in general, initiatives that focus on new and smaller businesses are not as fully realized. There is room for greater emphasis on important topics including availability of capital, incubators and accelerators, technical advising, and mentoring.”

Entrepreneurship and small business development and recruitment must become a larger piece of the region’s economic development portfolio. Since the early 1900s in the United States, we have developed job-training programs intended to lead to employment. Going forward, successful communities must build the capacity of their region and institutions to help residents start their own businesses and recruit entrepreneurs to the region.

The [Ewing Marion Kauffman Foundation](#) has been a leader in looking at entrepreneurship development for communities and they suggest a critical component is to:

“Connect entrepreneurs with resources.

- Entrepreneurs operate largely at the [local level](#), and regions are strengthened when entrepreneurs connect with one another. Programs created to help entrepreneurs should facilitate network formation, peer learning, and mentorships.
- Different types of entrepreneurs require different resources and cannot all be served by a one-stop shop. Policymakers should consider gaps in the local ecosystem and ways in which different programs can be connected to each other.”

Building this ecosystem where entrepreneurs are networking with each other and know the available resources is critical. Two of the more popular models are co-working spaces like the [CoLab in Roanoke, VA](#) and [Mojo Coworking](#) in Asheville, NC.

Analyzing the entrepreneurship ecosystem piece is equally important. A first priority is getting the Small Business Development Centers, the Chambers of Commerce, local institutions of higher education, and others to understand and ultimately appreciate each other’s work, developing a “no wrong door” policy, so would-be entrepreneurs are not being pushed in many different directions and are presented with the resources tailored to suit their needs.

[The Launch Place](#) in Danville provides traditional business consulting which is common in other areas but their operation of a seed fund is intended to help new and serial entrepreneurs raise capital. While common in larger cities, this is a model unique for smaller cities and rural places. Learning from their work could be an important part of the Region 3 effort. Many communities

now have events like the [Big Idea Challenge at the Patrick Henry Community Colleges Idea Center](#) and [IdeaFest in Danville](#), which are entrepreneurship pitch contests where would-be entrepreneurs present their ideas and business plans in search of funding and investments.

Some of these events do include an often-overlooked piece of the entrepreneurial ecosystem – the microbusiness/freelancer piece of the system. Who is working with the individual who wants to start and monetize a website or blog? Who is working with the hobbyist with a goal of moving their craft business to Etsy, Ebay, or the local farmers market? Considering seed funds and pitch contests for these smaller players can become important efforts to build the brand that this is a region ripe with opportunity and focused on supporting small business and entrepreneurship. A vibrant ecosystem doing this work, adds to the overall entrepreneurship culture in the region.

Recommendation 5: Create other incentives to recruit and assist would-be entrepreneurs and small business people.

What are the incentives that will lure people to an area to live and work?

One opportunity is housing. Since 2000, [Paducah, KY](#) has offered relocating artists homes for as low as \$1 and generous loan terms through Paducah Bank, which resulted in over \$30 million dollars in investments to transform a community and encourage a host of talented artists moving to the region in revitalized live and work spaces.

Another opportunity is high speed and low cost internet. Chattanooga has created a high-speed Internet access and entrepreneurship ecosystem and it's outlined in [Startups Boom in Gig City](#):

“The ‘startup-friendly’ culture that Cloud refers to can be traced back to the unique support infrastructure that Chattanooga business and tech leaders have been working to develop since the launch of EPB’s high-speed fiber network. With business incubator and accelerator programs like The Company Lab and Hamilton County’s INCubator, entrepreneurs can learn how to navigate through the somewhat chaotic startup process with the help of free or low-cost continuing education, mentoring, and creative space. Chattanooga startups also have access to a full line of developing local investors and angel funds that are committed to tech startups, women-owned businesses, and other specialty areas.”

One of the clear competitive advantages in Region 3 is Mid-Atlantic Broadband and the availability of high-speed fiber. If marketed aggressively, and last mile issues addressed, it presents a clear opportunity. While this broadband capability is referenced as a business recruitment asset, the ability of that resource to recruit and retain talent should not be overlooked. Another example, albeit in a larger city, is the [Homes for Hackers](#) program, which utilizes the Google Fiber program in Kansas City.

“Homes for Hackers attracts new startups to Kansas City with three months of free rent, utilities & Google Fiber in the heart of the [KC Startup Village](#).

What's the catch?

There's no catch, but you must be serious about moving your startup to Kansas City.”

As an incentive, it may not take many similar “Home for Hacker”-like startups in this region to dramatically change the number of talented people in our region’s IT/cyber sector. How do we market these assets to the thousands who are currently teleworking with the option to choose the community in which they live, work and play?

THE ELEPHANT IN THE ROOM

While these recommendations do not specifically address social issues or barriers that impact our workforce (personal health, drug use, transportation, poverty), there is the assumption that if we increase high-wage job opportunities and young people are motivated by a chosen career path, the social determinants that hinder success will be reduced/improved.

GO Virginia Region 3 – Critical Opportunity #2

Sectoral Development

Critical Opportunities for Region 3

Region 3 has determined that a collaborative approach is required to successfully compete in a fierce domestic and global marketplace. Using a cluster development mechanism, the alignment the region intends to create is portrayed in Figure 1.

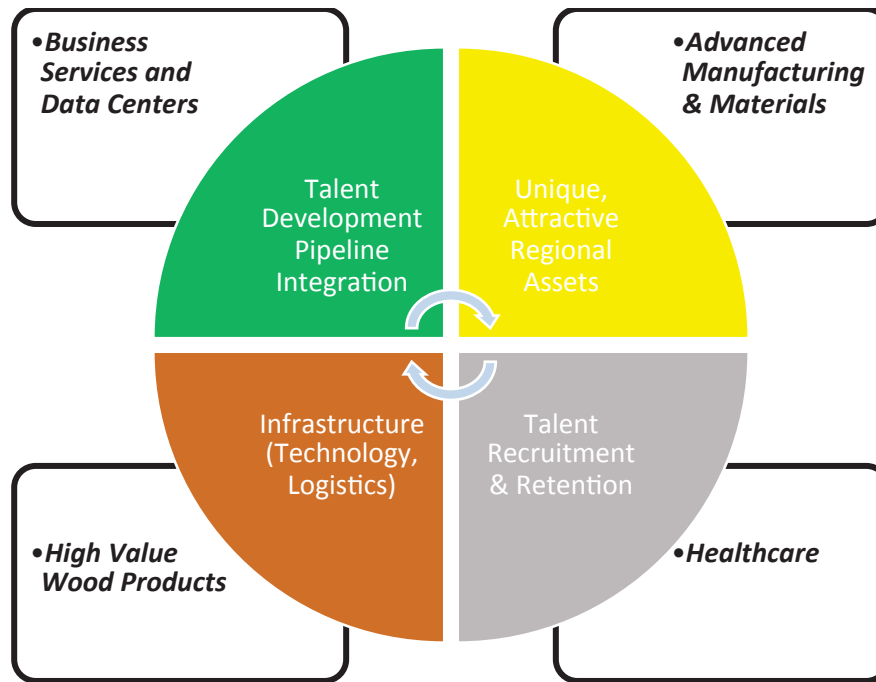


Figure 1 – Region 3 Growth Engine

The sectors for development have been identified based on the following set of criteria;

- 1) An assessment of the current state of industry clusters in the region
- 2) The projected market growth potential for those clusters
- 3) Regional ability to differentiate itself as a hub for growth in market share of those segments
- 4) Aspirational segment targets where current infrastructure and / or talent pipelines (IT Centers, Advanced Manufacturing) offer a compelling value proposition.

We portray this as a Growth Engine in that all sectors share and require the support of four critical “cylinders” which provide the horsepower and torque necessary to drive the region towards prosperity. Prosperity will be achieved through

- Development of higher wage jobs
- Reversal of the trend of outsourcing the region’s labor pool, and
- Increasing the wealth generation of the regional economy.

Target Sectors

For the region as a whole, the total traded cluster employment (source: EMSI 2017.1) is 31,528 positions which represents 25.5% of total regional employment (123,795 positions). Only 1 out of every 4 positions is employed in a position which creates or attracts wealth for the region. According to US Cluster Mapping, the national average is 36%, providing a benchmark for the region to aspire to. The Target sectors represent the best opportunities for the region to increase the share of jobs focused on expanding traded cluster employment, leading to growth in higher paying jobs, and a corresponding increase in per capita income.

1) Business Services / IT Data Centers

Business Services is the #2 top-employing traded sector in the region with over 4,750 employees and a 10 year growth rate of 69%. With an average wage of \$48K, the sector consists of generally white collar employment providing professional services, corporate HQ functions, engineering, legal and consulting services. These businesses tend to be smaller, require low capital for start-up, and require a diverse set of talents to successfully operate.

IT Data Centers are mammoth investments in computational centers that provide the hardware and hosting backbone for (SaaS) Software as a Service, cloud computing services and applications. It is a \$144 Billion industry growing at nearly 25% per year with an average wage for a computer system analyst of nearly \$81K (sources: IBISWorld 51821, Synergy Research Group). Figure 2 displays the 6 segments served and the market leaders for each.

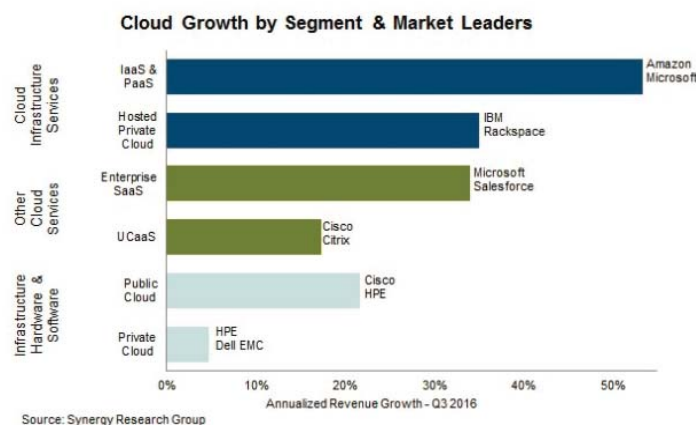


Figure 2 – Historical Revenue Growth in Cloud Services by Market

Northern Virginia continues to be the US and Global leader for installed capacity with a 32% national market share as measured by MW power consumed (source, JLL 2017) with the highest concentration in Ashburn.

The Mid-Atlantic Broadband fiber network has already contributed to two major data center investments in Mecklenburg County for HP and Microsoft. There is every opportunity to expand on these initial locations as a strategic alternative to other clusters concentrations such as is found in

Northern Virginia and Raleigh. Positioning to engage with the new MAREA undersea cable link to Europe, terminating in Virginia Beach is an emerging opportunity. MAREA will be the world's largest trans-continental capacity system upon completion in the fall of 2017. Of note, Danville Community College (DCC) was recently recognized by the governor for their new Cyber Security Certification Program.

2) Advanced Manufacturing and Materials

Advanced Manufacturing is a sector comprised of existing and aspirational trade clusters. Driven by technologically sophisticated industries, the current footprint includes the following traded clusters:

- Aerospace (commercial and defense)
- Production technology
- Lighting and electrical equipment
- Automotive / OTR Trucks
- Biopharmaceuticals.

Total employment in these clusters is appx. 1,528 positions with average wages around \$56K. Aerospace benefits in the eastern US from three new major assembly plants (Honda Jet in Greensboro NC, Boeing in Charleston SC and Airbus in Mobile AL). The supply chains for these businesses, while global, depend heavily on west coast facilities for supply (the exception is engines, which are produced in Ohio, Virginia, Connecticut and Massachusetts). These supply chains are likely to move east to reduce lead times and improve supply chain responsiveness. Figure 3 provides a representation of the type of opportunities from supporting advanced manufacturing serving the aerospace end market.

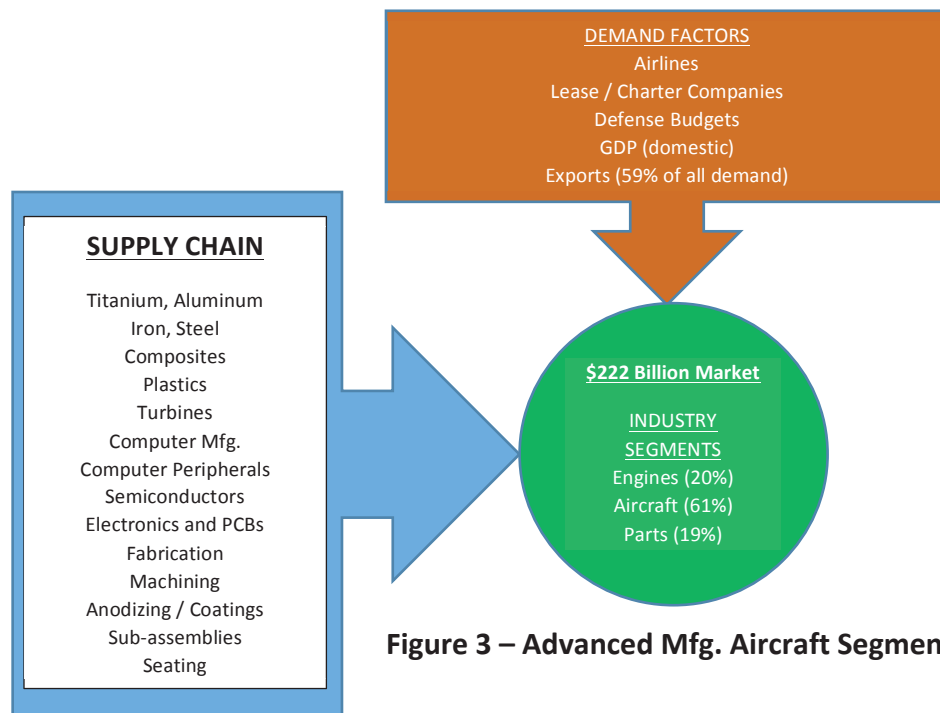


Figure 3 – Advanced Mfg. Aircraft Segment Value Chain

Growth opportunities for the region are in the Supply Chain portion of the graphic. The area benefits from world class programs in advanced machining and metrology at DCC and at the Institute for

Advanced Learning and Research (IALR) along with feeder programs from local High Schools (see Appendix III – Precision Machining Pipeline Overview). Similar new capabilities have been installed at Patrick Henry Community College (PHCC), the New College Institute (NCI), and the Southern Virginia Higher Education Center (SCHEV) in conjunction with Southside Virginia Community College (SVCC).

Materials is the largest current industrial cluster within the region. Typically, these business consist of process industries which either through batch or continuous manufacturing produce an intermediate or finished industrial product. The majority of these industries are located along the 58 corridor. Table 1 provides a summary of the NAICS codes that occupy the cluster.

NAICS CODE	Description
3133	Textile and Fabric Finishing and Fabric Coating Mills
3149	Other Textile Product Mills
3222	Converted Paper Product Manufacturing
3251	Basic Chemical Manufacturing
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing
3255	Paint, Coating and Adhesive Manufacturing
3259	Other Chemical Product and Preparation Manufacturing
3261	Plastic Product Manufacturing
3262	Rubber Product Manufacturing
3312	Steel Product Manufacturing from Purchased Steel
3314	Nonferrous Metal Rolling & Alloying
3321	Metal Stamping and Forging

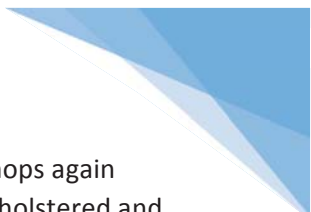
Source: North American Classification System, United States 2017

Table 1 – Advanced Materials Cluster Segments

The combined employment of these 68 (48 of which are HQ operations) firms across the region is estimated to be around 6,540 positions, or roughly 21% of the traded clusters employment. Wages are in excess of \$60K per year (Source; EMSI 2017.1). Growth in the aggregate is forecasted to be positive nationally through 2021 with the exception of textile finishing, converted paper and metal stamping / forging. Of note, NCI has supported Eastman with a custom training program for coating technicians, which according to the company has been very successful.

3) High Value Wood Products

High Value Wood Products begin with a supply chain of select hardwoods. Region 3 has a long history of utilizing its hardwood forests for value added design, production and distribution. The wood product and forestry sector is mostly small operations with 83% having less than 50 employees. Total employment in high value traded occupations is nearly 4,000 workers with an average wage of \$51K (source; EMSI 2017.1) making this the second largest mfg. cluster in the region. These include operations such as timber, saw mills, veneer operations, flooring including laminates and wood fuel pellet plants. Employment growth in Forestry is projected at 15%, and in wood products to be 4% through 2021 (source; EMSI 2017.1).



The furniture sector represents almost 11% of the region 3 manufacturers, with smaller shops again predominate at 76% under 50 employees. 51% are household furniture manufacturers (upholstered and other), 32% are kitchen cabinet manufacturers, 10% make institutional furniture and 7% are "Showcase, Partition, Shelving, and Locker Manufacturing" (source; Virginia Employment Commission). Employment growth through 2021 is forecast to be around 11% (source; EMSI 2017.1). This compares strongly for the region as the national average projected growth is only 1% (source, IBISWorld). SVHEC has developed excellent capabilities in design and high value wood products, including laminate solutions.

4) Health Care

Health Care, while not a traded cluster, is considered to be a vital growth sector for the region which requires ongoing attention. It employed 14,680 workers in 2016 at an average wage of \$47.6K. The cluster experienced employment growth of 8.5% from 2006 to 2016 (source, EMSI 2017.1). Strategically, it has several factors which weigh in when considering existing industry support. These include;

- **3 of the top 10 highest projected growth occupations** for Region 3 are healthcare through 2026
- Poverty rate of 19.6%, which has increased nearly 20% since 2006, driving up demand
- A workforce that on average is appx 41.6 years old, 4 years older than the average for Virginia
- A workforce participation rate of 54.6%, versus the VA (66.3%) and US (63.7%) averages (source; Go Virginia report)

Value Chain Support for Traded Cluster Expansion and Sustainment

In order to accelerate the profitable growth of Region 3 target sectors, the region will concentrate on expanding the capability, efficiency and effectiveness of four supporting “cylinders” of needed excellence. All of these cylinders require collaborative, well managed and executed “public – private partnerships” to enable the private sector high quality traded cluster job growth the region desires to achieve.

A) Talent Development Pipeline Integration

The talent development pipeline consists of 6 pillars of personal and professional growth which deliver

- **Future employees**
- **Existing employees**
- **Enhanced owners and leaders**



Figure 4 – Human Capital Development Pillars

As shown in Figure 4, the challenge for the educational and developmental assets in the region is to collaborate in order to fulfill the human capital needs of target clusters in the region. Without trained and capable human capital assets, the target segments and other industries in the region will not fulfill their maximum potentials in the markets they serve. Statistically, the terminal educational attainment levels in Region 3 are the lowest in VA. See Figure 5 below.

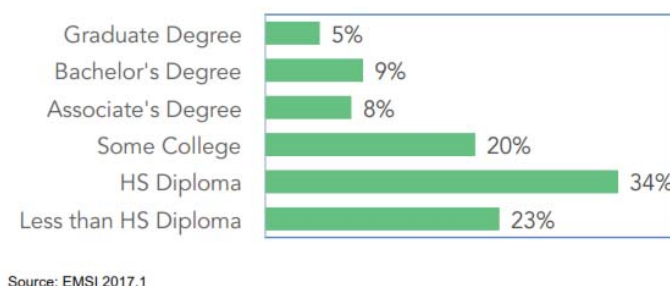


Figure 5 – Region 3 Terminal Education Achievement

Gaps versus needs exist in the following areas (source; Reg. 3 Economic Leadership LLC Report, 2017);

- ***Soft Skills required to be a dependable member of the workforce***
- ***Healthcare position preparation***
- ***Skilled, STEM based trades (1/2 do not require a 4 year degree)***
- ***Replacing technical workers (trades, engineering, IT, design, etc.) as they retire***
- ***Addressing the educational attainment gap of Region 3 versus the rest of VA***
- ***Lifelong learning opportunities***
- ***Region wide entrepreneurship and accelerator access***
- ***Scale up support for the most promising cluster opportunities***
- ***Improved capital access***
- ***A workforce that can close the ten-fold gap in Region 3 to the rest of VA (1.5% vs. 13.4%) for High Tech employment***
- ***Active business and industry involvement in aligning and supporting human capital pillars***

All in support of attaining target sector and regional growth. This will require out of the box thinking and actions for the area to optimize the assets already in place in support of private sector expansion.

B) Unique, Attractive Regional Assets

A major challenge for the region is in the development of high value added unique, attractive regional assets that can assist in the decision to stay in or move to Region 3. This issue is not unique to Region 3 or rural Virginia. It is occurring across the US and in foreign countries as metro regions are operating as centers of innovation and growth. The national population trend is shown in Figure 6. The ability for the region to provide a set of lifestyles that suit sectors of the population is a critical element in strengthening the regional ecosystem. In the region, we see benefits that University towns such as Farmville accrue to the surrounding communities. In Pittsylvania County / Danville, the River District, building off a proven model observed in Greenville, SC, is using the Dan River and legacy assets to build a highly attractive micro-urban setting predominantly through private capital. Clarkesville and Mecklenburg provides a solid example of a diversified recreational strategy built around Kerr Reservoir. The performing and cultural aspects of the Halifax / South Boston area provides a magnet for those who seek enrichment in the arts. Martinsville's Natural History Museum provides a regional hub for educating all.

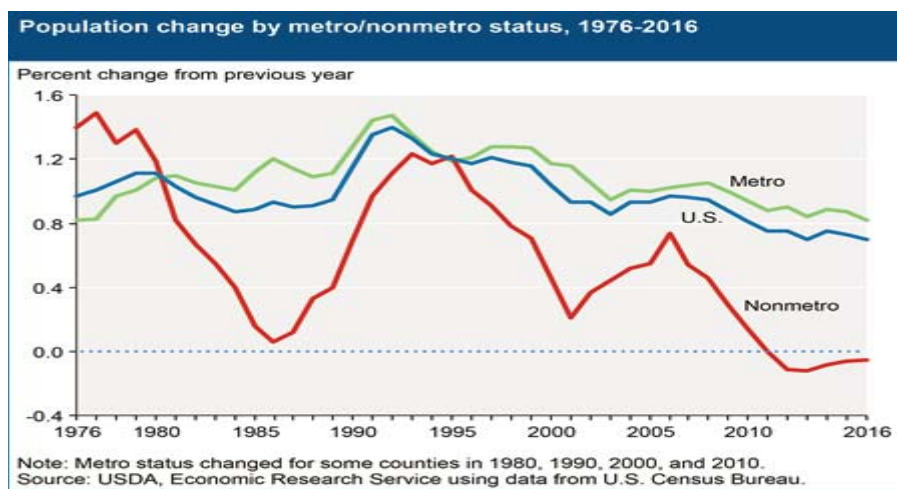


Figure 6 – Population Change by Metro / Non-metro Status

Given the poverty rate of the region, which is 19.6% vs. 11.2% for all of Virginia, as well as the per capita GRP of \$25,400 vs. \$52,400 for all of Virginia, the net out flow of workers commuting to metro centers for work is not surprising. The total outflow of workers is 27,734 persons – 22.4% of total employment (source, US Census Bureau, 2014). These commuters probably choose where they live but need to go outside the region to access a viable pool of job opportunities commensurate with their skills. As the cluster strategies develop, they should help create more opportunity pools for those targeted skill sets. This should incentivize those who value the lifestyle the region has to offer, but are located elsewhere due to the lack of jobs able to match their skills that are more available outside the region. We should note that recent positive trends in per capita GRP for the region need to continue. Expanding the availability and access to high quality lifestyle and recreational experiences requires regional planning, cooperation, vision, and investment. Success will contribute towards improving the attraction and retention of citizens in the region.



C) Talent Recruitment and Retention

Region 3 is challenged to recruit talent to the region which is necessary for economic prosperity. The region competes with the Triad and Raleigh – Durham along the southern tier, Roanoke in the northwest, and Richmond Metro in the northeast portion for bedroom community choices when talent is successfully recruited by industry. Statistics are readily available across the Internet to research and compare demographic data pertaining to standard of living conditions for the region. To better compete, the region needs to consider innovative mechanisms to address gaps in competitiveness. These include local crime, K – 12 school achievement, and access to notable undergraduate and graduate education choices (such as IT, Technical and Design) to improve and clarify the value proposition for recruiting and retaining needed talent, including families. Recent agreements between NCI and James Madison University may provide a model for the region to consider.

Region 3 strengths, which includes a relatively low cost of living, as well as quality micro-urban, suburban, resort and rural lifestyles provide a basis to build from. Expanding upon regional assets and infrastructure can contribute strongly to improving the attraction and retention of talent to the region. As mentioned above, the creation of cluster specific opportunities through targeted scale up of existing industries can create pools of opportunities, providing more security for those looking to relocate for these lifestyle advantages.

Finally, marketing the region through the development and management of a strong Brand is another mechanism to solidify the value proposition for Region 3, regardless of the locality. Targeting this marketing to build awareness of the opportunities, particularly within clusters of skills, can provide support for recruitment and retention of highly skilled employees.

D) Infrastructure Development (IT, Logistics)

Infrastructure in the region is a tremendous opportunity for Region 3 to accelerate growth. The ability to efficiently and rapidly transport 1) information, 2) goods and 3) services is currently reserved for metro areas. It is a fundamental differentiator for metro areas ability to compete. Why not Region 3?

Fiber Speed Internet Access to the Home / Office

With a significant broadband network available within the region (see Figure 7), a huge opportunity exists to provide high speed internet access to all areas, including cities, towns and rural areas. The world-wide web provides for a level of inclusiveness and community regardless of distance through ever evolving social media, file sharing, direct connectivity and cloud based application services. This is an area where the region could truly become distinct from the competitive set of other areas which Region 3 competes with. This not only can contribute towards personal well-being, but can catalyze the growth of the clusters targeted such as Healthcare (remote medicine), Business services, and Advanced Manufacturing, as well assist existing legacy clusters such as Agriculture utilize information to better inform market based decisions.



Figure 7 Mid-Atlantic Broadband Network

Logistics Infrastructure

Successful rural regions need industries to export at a greater degree than large metro areas (source; Brookings Institute). Region 3 lacks three major infrastructure pipelines for exporting;

- ***An International Airport***
- ***Interstate Highway Network (only I-85 on the eastern boundary)***
- ***A Port***

Efforts to build I-73 to create a western connector for North – South shipping needs continued support from the state, in cooperation with North Carolina. Route 29 is no longer a practical alternative for the area as congestion north of Charlottesville continues to build at a rapid pace. A significant bypass is required through to I-66.

Route 58 continues to be piecemealed together and does not provide a quality interstate alternative. The region could greatly benefit from an east – west superhighway, especially in combination with access to natural gas (critical for Materials businesses) as pipelines are expanded in the region by Dominion and others. This would provide excellent access to the Port of Virginia, and could provide for easy access from I-58 corridor industrial parks and the proposed Pittsylvania County Inland Port. These steps would improve the ability to attract high quality tenants. Better access to the Ports of Richmond / Norfolk could also be provided along the 360 corridor, south of Amelia, linking communities along the 460 corridor better to international trade opportunities.

Unfortunately, there is not a good option for airfreight at this time. However, think what could be done through the coupling of innovative regional pick up zones served by Unmanned Aerial Systems that then clear customs at Richmond or Norfolk International Airports.

Opportunities for Cross Region Collaboration

Cluster Scale-up Opportunities

Where similar clusters exist in other regions, the creation of a super cluster and support for scale up across the supply and value chains in a coordinated manner should be considered and supported as such

by local, regional and state economic development units (VEDP, SOVA etc.), as well as management and technical assistance centers (SBDC, GENEDGE, University centers, etc.).

100% Fiber Speed Internet Access to the Home / Office

Region 3, 2 and Region 1 would all benefit from the expansion of Fiber speed internet access to the home and business in rural settings. A planning grant to provide for the assessment of technology, cost and the business model to employ should be considered. The TRRC can then be considered for seed capital as part of a public works infrastructure project to allow both regions to differentiate themselves versus other challenged rural areas. A typical FTTP deployment is outlined in Figure 8.

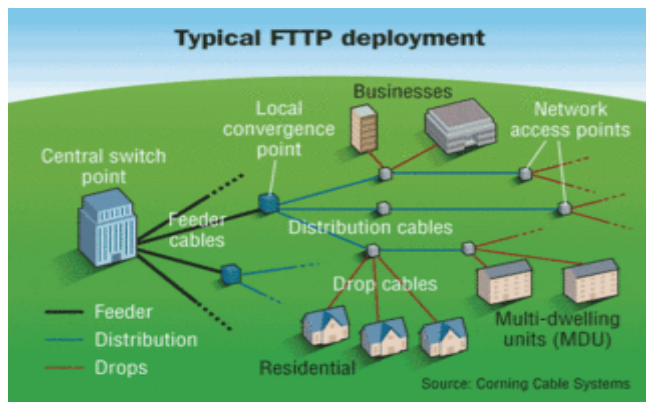


Figure 8 – Typical Fiber to the Home / Business Deployment

Port of Virginia Expansion

Region 3 should consider teaming with Region 5 and Region 4 to support expanding the Ports of Richmond and Virginia. Region 3 could position itself as a growing industrial cluster in need of port services in the future with a master plan that includes interstate quality roads providing 58 corridor, 460 corridor and 360 corridor access to the Norfolk – Richmond ports. Figure 9 provides a schematic view.



Figure 9 – Integrated Port Expansion with Region 3



Near Term Collaboration Focus

In the near term, there seem to be more opportunities for focused collaboration in information services and IT infrastructure. Increasingly these jobs are able to be accomplished remotely using technology. With the existing strengths in Business Services and Data Centers, the availability of broadband infrastructure and developing strengths in workforce development and education in these areas there is an opportunity to develop value chains of support that allow workers to access higher paying jobs while taking advantage of the quality of life that the region can provide.

GO Virginia Region 3 – Critical Opportunity #3
Cyber Infrastructure

1 Technology Infrastructure

In our modern interconnected world, broadband access has become a necessity. Government, industry, education, and even recreation all depend on ready access to the internet and all the capabilities it provides. For a region in any state to hope to attract business, that region is going to have to provide a robust infrastructure that can support the ever-increasing demands of technology and the internet traffic that it runs on.

2004 was a landmark year for Region 3. It's the year Mid-Atlantic Broadband Cooperative (MBC) was formed to build the fiber backbone that now supports this part of the Commonwealth. Formed as a cooperative and using funding from the Virginia Tobacco Commission (VTC), MBC embarked on a continuing effort to provide a world class "middle-mile" to Southern Virginia. This effort has been so successful, it is not only self-sustaining from generated revenue, it continues to build the fiber network to further support the region it serves.

This effort has reaped rewards. Microsoft now operates a large data center in Region 3 and it continues to expand. The region supports another federal government specific data center and houses the only Cray supercomputer in the US not owned by the Federal Government. Through grants, MBC connected all schools in the region to the MBC fiber backbone to provide K-12 students the same access at school as their urban and suburban counterparts.

As technology and its use of internet capacity will only continue to increase, it's important to understand how Region 3 has been set up to handle this type of growth. This is especially important as we move towards the world described as the Internet of Things with billions of interconnected devices all communicating through the same networks we use today.

1.1 Regional Capabilities

The fiber network built into Region 3 is designed with significant capacity to support all the existing major users such as data centers, business parks, manufacturing centers, secondary schools, and colleges. Network consists of 1800 miles of fiber that not only connects the region together, but also connects the region to other industrial and high-tech areas like Richmond, the Washington Metro area, and Coastal Virginia. These long-haul fiber lines ensure Region 3's fiber network has the access and capacity to continue to support technology growth in the region.

These MBC has made some unique and innovative decisions to not only extend the reach of their own fiber-based broadband, but also the reach of wireless carriers. Dozens of cell towers are connected using MBC's fiber network, extending the coverage of national wireless carriers further into the region. These efforts continue to make Region 3's expanding internet infrastructure an attractive offering for businesses that do locate in the area. By supporting the extension of wireless carrier networks through these strategic partnerships, MBC is positioning Region 3 to become part of the 5G wireless expansion as carriers upgrade their networks to this high-speed wireless standard.

These efforts have positioned Region 3 to have the necessary capacity and sustainable growth capabilities to continue to expand and support ever expanding internet traffic needs, including being positioned to take advantage of the changes the IoT are set to bring. MBC's business model is designed to provide a sound infrastructure with revenue used to operate and expand the network to meet these expanding needs.

In 2012, MBC changed from a cooperative to a non-profit corporation to ensure that they continue to re-invest everything into the mission of building and improving their fiber network. This change has

provided benefits for MBC in operating cost savings as well as opening opportunities to participate in grants and other means to gain capital to expand their network.

One key benefit they currently do not have is recognition from all the counties in Region 3 as a tax-exempt organization. Attaining this designation will enable MBC to further invest in fiber in these higher cost regions.

1.2 Supporting "The Last Mile"

Last Mile is defined as the network infrastructure built by ISPs to provide connectivity from the larger mid-mile internet infrastructure to the individual and business consumers of internet services. MBC supports large scale fiber that travels distance and provides large scale bandwidth to support these ISPs. MBC uses long distance right of ways and can often piggyback off distribution paths already developed by roadways and electricity and gas providers. This symbiotic relationship works well as these industries are also consumers of internet services.

As a middle-mile provider, MBC does not handle the "last-mile" connections used by most businesses and consumers. Instead, MBC supports these vendors by providing a vendor agnostic approach to connecting these ISPs. Everyone has equal access opportunities when building networks that connect to MBC's fiber. This provides an even playing field to any vendor willing to provide broadband service to Region 3.

These last mile providers must build the infrastructure to reach all the individual homes and businesses. These networks require significant capital to cover labor, equipment, fees, and taxes. ISP providers recoup these costs over time with subscriber fees. Rural areas with smaller concentrations of people, installation costs exceed what providers can recouped. This explains the significant broadband coverage gap in areas like Region 3. On their own, ISPs cannot financially justify spending on infrastructure that revenue can never recoup.

There are other solutions to help solve the last mile problem for Region 3 that do not require nearly as much cable infrastructure. While they are viable alternatives, the higher cost to consumers puts them out of reach to the area's less financially capable residents. Cellular WIFI, Satellite, and Fixed Wire¹ connections can each provide broadband access, but are not only more expensive than traditional broadband, they have more issues with signal interruption and data limits. While these methods to deliver broadband to more remote regions, they do not address the economic concerns of Region 3.

The conversation around supporting the last mile in Region 3 must address the significance of broadband access to as much of the region as possible. IoT presents a significant opportunity for Region 3 to tap into and all the sensors, phones, and devices that are expected to make IoT a reality rely on these last mile connections to work. These types of connections are dependent upon strong widely-available connectivity and bandwidth that is only available through cabled and cellular networks.

There are steps Region 3 can take to not only enable more last mile construction, but to also enable more cellular coverage for these more remote parts of the region. So far, these expansions have been tackled in local efforts with both small and large providers. Danville also brought in outside expertise and has been building a fiber network and specifically targeting economically disadvantaged areas of the town to provide needed broadband access to families that would otherwise not have that access and

¹¹ Fixed Wire broadband is actually station-to-station beam technology using unregulated radio spectrum.

certainly not at the speeds available with to-home fiber. While these efforts have extended coverage, they still cannot put broadband into areas where it's just not cost effective.

Region 3 has an opportunity to band together to address the broadband gaps as a single problem for all instead of a series of local problems to solve locally. By banding together, local governments can universally remove and reduce the government approval overhead, costs, and easement restrictions that present logistic and financial barriers for providers to overcome before they spend a single dollar on actual infrastructure expansion. This is essentially trading fees and taxes for opportunities for the future. Significantly reducing time and cost barriers make broadband expansion more financially viable. Combining government efforts with multiple ISPs in partnership allows the most cost-effective expansion for all players with concrete and viable plans. These plans in turn make it much easier for Region 3 to apply for and receive grants and funds that have been specifically targeted to help extend broadband coverage in areas like Region 3. With external funds to pay for implementation costs, ISPs would have a much better business model for recouping their investments in expansion.

For localities to consider waiving fees and changing tax and access rules, they will need a return on investment. This investment in the infrastructure can reap the rewards for the region's governments, businesses, and citizens.

1.2.1 The Last Mile and Education

Education is key to helping propel Region 3 into the future and broadband access is necessary for education in today's world. As noted above, MBC has ensured that schools have access to high speed broadband to allow schools in rural Region 3 to have the same education opportunities as metropolitan areas. Region 3 now needs to empower students to have the same access at home.

While region looks to build out a complete high-speed broadband network offering wired connections to all homes, this effort is expensive will take time. Several localities have found unique ways to cover this gap and provide access to students that otherwise would not have it.

Fauquier Counter, Virginia teamed with wireless provider Kajeet to provide WIFI hotspots for students to check out at school so they can have internet access at home. These devices connect through Kajeet's secure and filtered environment to monitor data consumption and restrict access to inappropriate content². The county wants to expand the program. Fauquier also has a refurbished equipment program to provide laptops to students who qualify for free and reduced lunch.

Huntsville Independent School District in Texas covers 650 square miles and some students are bused as long as 90 minutes. They outfitted buses with WIFI so students can make constructive use of that long commute time. Liberty County in Georgia also outfitted buses with WIFI and are now parking those buses near apartments and fire and police stations to provide after-school WIFI in impoverished areas³.

1.3 The Internet of Things

The term Internet of Things brings thoughts of urban areas, suburban homes, high technology, and concentrations of people and devices. It certainly does not bring up images of the vast open and

² Laura Ascione, eSchool News, 02/08/2017, [Why are rural schools still struggling with high-speed internet access?](#)

³ Laura Ascione, eSchool News, 02/08/2017, [Why are rural schools still struggling with high-speed internet access?](#)

sparingly populated areas of Southern Virginia and Region 3. The reality is that the counties and towns that make up Region 3 are a perfect area to reap the benefits of this cutting edge technological revolution.

1.3.1 What is IoT?

The Global Standards Initiative on Internet of Things (IoT-GSI) has defined IoT as:

A global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies⁴.

This definition describes any kind of device connected to the internet and communicating with other devices on the internet that can use the information shared. This simple statement has a far-reaching meaning and is actually a very complex technology infrastructure that properly applied, provides huge benefits.

1.3.2 What Does IoT Really Mean?

A simple and common example of IoT is something everyone is becoming more familiar with: Home Automation. Someone with a smartphone and even a simple home automation system can monitor and control any connected devices within their home network. Thermostats, security systems, remote cameras, and even common kitchen appliances. Every device like a thermostat or camera can be considered a "smart device" or sensor that provides valuable data on the status of the home to the homeowner while they are away. They can access their internal home network and this array of "sensors" using their portable smartphone. These systems can even monitor and maintain the home environment without any intervention from the homeowner.

The common theme for IoT and all these devices is that they are connected on a private or public network that allows these devices to communicate with each other and any central device or system that makes use of the data collected from them. Every home with an internet connection and a WIFI router enabling connections to the internet is a private network and really a local extension of the broader public network. While in most cases, these devices themselves contain a combination of hardware and software that makes them much more than something like a simple thermostat. The real power of these devices comes from the ability to connect and communicate status, share data, provide alerts, and even self-manage based on data or commands returned as responses.

The applications of this kind of capability extend far beyond individual homes. IoT when properly and smartly applied can provide the benefits technology has promised.

IoT and broadband are set to revolutionize how governments function and how they interact with their citizens. GovLoop published a report discussing IoT, its affects in business, and how some cities have used it to make significant improvements in how it interacts with citizens and how these cities have even saved their downtown districts⁵. Kansas City, Missouri uses sensors to trigger lighting and count people to better align city services like police and trash pickup based on how crowded an area is. They even use the data for city planning by understanding pedestrian traffic in areas and comparing it to the

⁴ International Telecommunication Union (ITU), [Internet of Things Global Standards Initiative](#)

⁵ Catherine Andrews, Francesca El-Attrash, Sonia Chakrabarty, GovLoop, [The Internet of Things in Government](#)

types businesses in the area and identify that an area with high foot traffic does not have enough restaurants.

Government Technology Magazine published an article about how IoT can and does increase safety and add value. The Lower Colorado River Authority has deployed sensors on the Colorado River to warn of flooding, providing the region a way to know when lives and property are in danger. Caltech built a system of sensors for detecting tremors in the Los Angeles area. They currently use it to visualize a quake in progress. This is just step as the goal is to use this system of sensor to send phone alerts to citizens in the area when a quake hits, adding precious seconds to the amount of time people have to get to safety. The common thread the article details is governments must tread carefully. IoT for the sake of technology will not add value. It's only when IoT is cost effectively and smartly applied to valid government business or safety needs that it will make sense to use it.

1.4 Applications

To better discuss the potential applications for IoT in Region 3, these applications are broken into three topics Government, Business, and Consumers. While very similar technology is applicable across any combination of all three topics, the value of the application does vary based on the topic.

1.4.1 Government

Government operations have a lot to gain from the interconnected world of IoT. Cities, towns, and counties all have some form of operations. Vehicles, equipment, buildings, water, sewer, city owned power companies, park systems, building campuses, courts, police, fire, rescue, and street lights are all operations and components of the government enterprise can benefit from IoT.

Government physical infrastructure like buildings, grounds, storage facilities, and street lights and all benefit from IoT. Energy costs are a huge part of every budget and involve heating, cooling, and lighting. Governments light streets, parks, campus grounds, and buildings.

“Smart Cities” such as Bellevue, Washington are using their fiber infrastructure to manage their operational infrastructure⁶, even remotely. Street lighting can sensor controlled instead of by timer and only light when necessary instead of all night. The same lighting sensors can be used across all government property and even work directly with security systems to alert police if sensors trigger lights after hours. Instead of police spending time surveying property on shifts, they can focus on public safety and respond when needed. Parks with sensor-based lighting and security can function in the same manner. Building systems can be outfitted with sensors to only heat, cool, and light based on actual occupancy. This entire government infrastructure can be monitored remotely at a single location in the county, town, or three counties over because all the sensors, systems, and cameras can be connected to a network and monitored from anywhere. Governments from around Region 3 can band together and create significant savings for their entire region that can in turn get invested back into making their communities even better. As noted in a study by McKinsey & Company, major cities can see a 50% reduction in energy consumption and an 80% improvement in water usage⁷. Smaller towns and less populated counties may not see that same level of savings, but those savings are real and pay governments back for the investment.

⁶ Geof Wheelwright, Geek Wire, 03/21/2017, [Big cities see early benefits from the Internet of Things, and grapple with ongoing challenges](#)

⁷ Wim Elfrink, McKinsey&Company, October 2012, [The smart-city solution](#)

Bellevue also uses IoT and sensor technology to monitor the health of their water system. Sensors along the pipes monitor water pressure and even chlorine levels. Water breaks and chlorine level drops are alerted to staff, allowing them to dispatch repair crews, identify and correct water treatment issues, and even issue targeted water boil alerts to only affected people. Their use of IoT sensors help increase public safety, decrease maintenance costs, and even prevent extended damage costs from failures. By outfitting infrastructure with the same IoT technology, Region 3 can protect their non-IT infrastructure and improve safety.

Kansas City, MO has gone a step further than just managing their city infrastructure⁸. Along with a network of sensors managing part of their downtown district, Kansas City uses their network to provide free WIFI access to people in the area and using their smartphones. City planners get insight into how the area is used by people and can better manage city services like police coverage and even trash pickup. Smaller towns and counties can also benefit. The costs of providing services over larger more sparsely populated areas will be increasingly expensive and using technology to provide only the services needed when they are needed will be key to controlling those costs.

As noted earlier, Region 3 houses a major private data center. As IoT begins to make inroads into the region, there will be a need to manage all the data that will be generated from the sensors and devices. Region 3 could use incentives to attract and build smaller-scale data centers for commercial use. Local government IT applications could provide the anchor to justify investment with more businesses signing on as they are attracted to the area⁹.

1.4.2 Business

Businesses can use the building and property sensors to manage their facilities to save operating costs. If the region can attract smaller commercial use data centers, local businesses will be able to take advantage of those opportunities. Many applications and businesses are moving to the cloud. Having the cloud contribute to the same local region is an added benefit.

Local traditional and advanced manufacturing both stand to gain from IoT technology. Automated factories

Because of the existing fiber infrastructure in Region 3, business can take advantage of IoT in a way that the local governments cannot. They can take advantage of the growing opportunities the region provides to create businesses based on IoT. While there are still challenges, investment already exists and the higher education system is changing to provide people capable of working within the advanced manufacturing environment needed for internet capable devices.

The Launch Place is a seed fund and idea and start-up incubation center located in Danville, VA. They aren't looking at just any opportunity, but opportunities that will provide smart and sustainable growth for the region and this includes IoT. They have currently invested in several IoT start-ups that show promise. These start-up offerings cover home automation, automobile maintenance, and equipment preventative maintenance. Every investment The Launch Place makes requires investment in the region, including providing jobs in the area. An advanced manufacturer in the region has already begun investigating the use of the preventative maintenance sensor technology. With advanced manufacturers like Rolls Royce Aerospace and the potential for its Tier 1 through Tier 3 suppliers also

⁸ Catherine Andrews, Francesca El-Attrash, Sonia Chakrabarty, GovLoop, [The Internet of Things in Government](#)

⁹ MBC, 2017, Economic Development the opportunity to participate in the Internet of Things (IoT)

locating in the region, the potential for IoT seeded and developed in the area and in turn used in the area is very real. Region 3 has a history of manufacturing and is moving into advanced manufacturing. These local successes can lead to increased IoT development and eventual manufacturing in Region 3 that can be implemented outside the region, further extending the regions manufacturing export economy.

Energy technology and generation are taking hold in the area, including the concept of microgrids in the form of local small-scale power generation supporting local power needs. Power generation with plants, transformers, and cabling can all be managed and monitored using IoT devices and sensors. Smart meters on homes as IoT devices could provide usage and data to power companies to help them better generate power as needed. These smart power networks could even identify outages, voltage leaks, and fluctuations.

The business of agriculture has not missed out. In 2012, John Deere released a five-minute video called “Farm Forward” that presented how IoT would transform agriculture¹⁰. They have turned this into reality with their Precision Ag Technology program¹¹. They have built an entire IoT environment of interconnected farm equipment, with data management, sensors, and remote management devices to manage all aspects of farm agriculture. They also have the data to show it saves money, time and resources. Region 3’s agricultural industry could incorporate John Deere’s already developed IoT for Agriculture.

1.4.3 Consumers

For consumers, the equivalent to the sensors and devices that can support government and business is home automation. IoT for the home is interconnected devices to monitor security, control heating and cooling, lighting, and even window shades. Quite a few companies have begun including digital technology in devices to help consumers better manage their homes while both there and away. As smartphones have become the norm, more people are adding these smart devices to their home networks.

More importantly, when it comes to IoT and Technology Infrastructure, for consumers this means connectivity and access on an almost universal level. High speed broadband built to support government and business and their implementations of IoT means consumers can live in Region 3 and work for a company based in Los Angeles or even Hong Kong. If local governments embrace IoT, people living in the region will benefit through better services, safer communities, and a better maintained infrastructure.

1.5 Short Term Opportunities for Region 3 (One to Two Years)

Region 3 has come a long way in building a technology infrastructure to pave the way for the coming century and have begun to transform the region. While broadband coverage has expanded significantly, there are still major gaps in both wired and wireless coverage for the last mile and without further investment the region risks not fully profiting from IoT and the coming wave of 5G wireless.

The following are opportunities and recommendations that Region 3 could complete in the next one to two years to position the region for expanded broadband coverage and to plan for how to use IoT to enhance the region’s governments, businesses, and quality of life.

¹⁰ John Deere, August 2012, [Farm Forward](#)

¹¹ John Deere, [Precision Ag Technology](#)

1.5.1 Create a Region 3 Broadband Expansion Focus Group

This group would have representatives from all localities, key foundations, and MBC with the sole purpose of reviewing the remaining needed broadband coverage at the regional level instead of the local level. The group would be able to build a plan based on the gaps in the region and not the gaps in each locality. Last mile vendors could then be engaged based on cost, opportunity, and capability, with efforts possibly involving multiple ISP vendors to cover a gap. Local representatives from the localities would also provide benefits in working with the localities to work through the permitting and easement requirements for their specific localities, possibly expediting the process. A group or foundation whose sole purpose is to expand Region 3's broadband may also be able to get grants and other funding that a for-profit ISP company could not.

1.5.2 Consider Region-wide Tax-Exempt Status for MBC

MBC is now a non-profit corporation. Their mission is to maintain and expand the middle mile fiber coverage of Southern Virginia. They continually re-invest into providing a world-class information superhighway. Tax savings will enable MBC to provide more funding to further middle mile expansion. This expansion will have benefits for every part of the region MBC expands into.

1.5.3 Encourage localities to provide tax incentives, expedited access to easements and rights of way, and fee waivers for last mile expansion providers

In tandem with the first recommendation, providers need help making broadband expansion cost effective in more rural areas. Grants and external funds can help, but companies will still have to invest in the infrastructure and then operate and maintain that infrastructure. Tax and fee savings reduce the costs to expand. Quick access to easements and rights of way speed installation and expansion, allowing providers to begin recouping costs sooner. With technology and IoT being considered part of the path to success for Region 3, enabling investment in last mile broadband expansion is an investment in the future of the region.

1.5.4 Provide incentives to broadband providers for reduced or subsidized home broadband for low income families with school-aged children

Broadband in schools has helped transform education in the region, but many children go home to limited or no broadband access. Providing high speed broadband in homes that otherwise cannot afford it is another investment to improve education and quality of life in the region.

1.5.5 Commission a study to evaluate wireless alternatives for disadvantaged school children

This report identified school districts that have found unique and effective ways to provide wireless internet access free to students who many not otherwise have it. Free loaner cellular WIFI devices and even WIFI equipped school buses used as mobile hotspots provide safe and secure access to students without home access so they can keep up with their better equipped fellow students. A detailed study could evaluate these and discover more ways for Region 3 to extend broadband use to its next generation of residents.

1.5.6 Commission a Detailed Study into IoT for Government Infrastructure and Services

Cities and smaller towns in the US and Canada have made the move to apply IoT to their operations and greatly improved because of it. As Region 3 succeeds in attracting more business and people to the

region, it is imperative the localities prepare themselves for the need for increased services and infrastructures. Advances from IoT that save money, save, time, and improve safety can be put in place better enable those increased needs.

1.5.7 Commission a Study on Innovative Methods for Expanding Wireless Coverage

Wireless carriers have the same problem expanding in rural areas as wired carriers. They cannot recoup infrastructure costs in sparsely populated areas. MBC has taken an innovative approach in building towers and leasing space to carriers to help wireless carriers expand further into the region. These towers are connected to MBC's fiber to provide carriers access to the wireless signals. Region 3 in cooperation with MBC and last mile providers could potentially further expand wireless coverage, enabling the region to capitalize on the benefits of 5G wireless networks and the further expansion of IoT it represents.

1.5.8 Commission a Study on Applications of Available IoT Technology for Region 3

This report section has described ideas around Region 3, its technology infrastructure, and IoT. Region 3 needs to commission a detailed study to fully investigate available IoT technologies, what has worked for other regions, and what ideas can be applied to this region. This study should evaluate not only IoT to make government work better, but also IoT that can encourage business growth and development and improvements in the quality of life of the region's inhabitants.

1.6 Near Term Opportunities for Region 3 (Two to Four Years)

Region 3 has come a long way in building a technology infrastructure to pave the way for the coming century and have begun to transform the region. While broadband coverage has expanded significantly, there are still major gaps in both wired and wireless coverage for the last mile and without further investment the region risks not fully profiting from IoT and the coming wave of 5G wireless.

The following are opportunities and recommendations that Region 3 could complete in the next one to two years to position the region for expanded broadband coverage and to plan for how to use IoT to enhance the region's governments, businesses, and quality of life.

1.6.1 Develop and Implement regional broadband expansion plans

The expansion plans would be the output of the broadband expansion focus group and would need to be developed in cooperation with all affected localities, MBC, and the key ISP vendors that would be involved with the expansion. Concrete plans would better enable grants and other funding to assist. These plans should also consider expanding wireless as well as cable-based broadband. MBC's innovated tower expansion model could provide a self-sustaining revenue stream for expansion. The plans should concentrate on areas with the most "bang for the buck" to provide the greatest short and near-term impact. The actual expansion can begin once funding is secured.

Key to making this process better is completing the short-term recommendations for tax and fee waivers as well as expedited easement access across all localities in Region 3. Universal acceptance of these changes would help keep localities from being left at the table when plans are executed.

1.6.2 Create a plan and act on conclusions from the wireless alternatives for disadvantaged school children study

Even with expanded broadband service, some residents of Region 3 will still not be able to take advantage of wired broadband services. Once the study is complete and concrete ideas are established, the region can begin rolling them out.

1.6.3 Pilot IoT for Government Infrastructure and Services based on study findings

Once the IoT for Government study is complete and viable options are defined, a pilot should be commissioned for a locality to implement the options to verify the return on investment before further roll-out.

1.7 Executive Summary

This report has covered the technology infrastructure that supports Region 3, described ways that IoT can be used to help the region, and presented a series of recommendations to help Region 3 better position to take advantage of the opportunities that IoT represent. There are four key ideas for Region 3 that are worth noting. These ideas represent a foundation of regional changes that can enable expansion of broadband access for Region 3.

- Through MBC, Region 3 has a fiber superhighway that has attracted several significant technology companies to the region and has positioned the region to capitalize on the future of IoT.
- A Region 3 and MBC partnership can further improve broadband coverage by providing MBC region-wide tax-exempt status, fee waivers, and expedited easement access. MBC is a mission-driven non-profit devoted to improving and expanding broadband access to empower citizens and enable business in Southern Virginia. Removing costs and costly delays will help them continue to build the fiber network that can make IoT in Region 3 possible.
- All localities in Region 3 need to pool resources and treat the broadband gap as a regional issue instead of individual locality issues. This region-level focus group would be able to address the problem on a larger scale, have a better position with ISP vendors, and have a better opportunity to get larger federal and other grant allotments to offset the high infrastructure costs of building out rural broadband.
- A Region 3 can further enable ISP vendor's ability to expand broadband coverage by providing tax breaks, tax incentives, fee waivers, and expedited easement access. Cost and time reductions enable these vendors to invest more project money in the infrastructure quicker, allowing them to begin generating revenue faster. These breaks to companies amount to investments in the counties and towns that extend them and improve opportunities for business, people, and especially education.

1.8 Next Steps

The recommendations in this report are all designed to be actionable in the next four years. In the case of broadband expansion, the actionable portion of building the plans, obtaining funding, and engaging vendors would be attainable but infrastructure build-out would extend further into the future as not all expansion projects could be realistically managed within a four-year timeframe. The following is a numerically ordered list of the recommendations setting a priority that reflects creating the environment for regional expansion before beginning any expansion efforts or engaging in any studies. This approach will allow the broadband expansion focus group to assemble and become more cohesive before expanding the workload.

Activity Number	Action
1	Commission the Broadband Expansion Focus Group. A focus group could be formed and defined within 2 months.
1a	Define the group mission and specific goals.
1b	Define the results required before the group completes its mission and is dissolved.
2	Define and document the concessions localities would be asked to offer expansion vendors. These concessions should be universal recommendations for all towns and counties. With focus and proper locality representation, a detailed list of concessions could be documented within a month.
2a	MBC tax-exempt status.
2b	Broadband expansion ISP vendor tax concessions.
2c	Application fee waivers.
2d	Expedited permits and access to easements and rights of way, and easement restrictions to ease the costs of expansion.
3	Engage localities for acceptance, sign-off on, and implementation of concessions. The duration of this effort will depend upon resistance and locality business cycle requirements.
4	Review broadband expansion needs across the region. This effort will take between 4 and six months and can run concurrently with the wireless expansion study.
4a	Document boundaries of all areas lacking any coverage.
4b	Document boundaries of all areas lacking 25 Mbps coverage.
4c	Document boundaries of all areas lacking any wireless carrier coverage.
4d	Document available ISP vendors along all documented boundaries.
4e	Evaluate population density of these defined areas, viability of available vendors to engage in expansion, and the need for long distance cabling to reach areas with population.
5	Commission wireless broadband expansion study. This effort can run concurrently with the remaining tasks.
5a	Engage MBC on their current wireless tower expansion model.
5b	Evaluate feasibility on partnership with MBC to expand wireless tower coverage.
5c	Evaluate feasibility of partnering with one or more ISP vendors to expand wireless tower coverage.
5d	Evaluate a “go it alone” approach to building out wireless tower coverage.
5e	Incorporate study results in the broadband expansion plans from Activity 4.
6	Engage MBC and ISP vendors to further define expansion plans and seek funding to pay for infrastructure. This process will take a year or more depending on grant application schedules, number of plans, and availability of vendor time to engage with Region 3 for discussion.
6a	Document available fund sources for rural broadband expansion to understand targeted purpose, valid use, and monetary limits.
6b	Research government and other loan sources for further financing.
6c	Engage MBC and the list of viable ISP vendors for plan assessment, effort

Activity Number	Action
	and cost estimates, and potential project implementation schedules.
6d	Apply for grants and funding to implement appropriate and most advantageous expansion plans.
7	Engage with regional ISP vendors to develop and implement incentives for providing broadband to low-income families across the region. This effort can run concurrently with the remaining tasks and could take from 6 to 12 months to complete across the entire region.
7a	Engage with corresponding localities and school systems for participation in programs to provide broadband to low-income families.
7b	Work with school systems to identify children of low-income families living in areas with broadband coverage.
7c	Identify possible incentives for vendor participation.
7d	Engage ISP vendors.
8	Commission the study to provide wireless broadband alternatives to families with school-aged children. This effort can run concurrently with the remaining tasks. This study should be completed within 4 months.
8a	Evaluate existing programs in Fauquier County, Virginia, Huntsville Independent School District, Texas, and Liberty County, Georgia.
8b	Research additional alternatives.
8c	Document local viability, associated costs, and success rates for each alternative.
8d	Assess potential of most viable alternatives.
8e	Create a plan for a pilot for viable technologies.
9	As broadband expansion plans are prioritized and completed, seek funding sources to offset infrastructure costs. Project priorities may be driven by the kinds of funding available. The length of time for this effort will solely depend on funding application and award cycles.
9a	The timing of this activity will need adjust based on funding source requirements, application deadlines, and response timeframes. Base the timing of this effort on what is learned in Activities 6a and 6b.
10	Execute on expansion plans as they are defined, funded, and vendors are engaged. These efforts can run concurrently with the remaining tasks. The duration effort of this activity will span years as multiple projects are started, executed, and completed.
11	Execute the pilot identified for the wireless broadband alternatives for families with school-aged children. A valid pilot will execute over at least a school semester.
11a	Identify and engage supporting vendors.
11b	Fully develop supporting program.
11c	Obtain necessary equipment for pilot.
11d	Initiate the pilot program, monitoring and evaluating success levels.
11e	Adjust program as gaps and inefficiencies are identified.
11f	Expand as success level warrants and when additional funding and vendor support allows.
12	Commission the IoT for Region 3 studies. These efforts can run concurrently

Activity Number	Action
	with the remaining tasks. This in-depth study would require 4 to 6 months to complete.
12a	Evaluate IoT programs in known success regions: Bellevue, Washington, Kansas City, Missouri, Columbus, Ohio, and Chattanooga, Tennessee.
12b	Engage with The Launch Place for insight into their IoT recruitment efforts.
12c	Research additional available IoT technologies.
12d	Evaluate each alternative for implementation cost, feasibility, return on investment, and practicality. Alternatives should help solve real-world problems, save operation and maintenance costs, or increase safety when applied to Region 3.
12e	Rank and prioritize viable alternatives.
12f	Define a pilot program based on priority and pilot funding.
13	Execute a pilot project based on the results of the IoT studies. This pilot should have 6 months of data once implemented to fully evaluate the results.
13a	Identify and engage supporting vendors.
13b	Fully develop supporting program.
13c	Obtain necessary equipment for pilot.
13d	Initiate the pilot program, monitoring and evaluating success levels.
13e	Adjust program as gaps and inefficiencies are identified.
13f	Expand as success level warrants and when additional funding and vendor support allows.

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GO Virginia Region 3 – Appendix I **Regional Planning Data Analysis**



GO Virginia

Southern Virginia Region 3

Regional Planning Data Analysis

July 2017

Prepared for:

Southern Virginia GO Region 3 Council
Danville Regional Foundation

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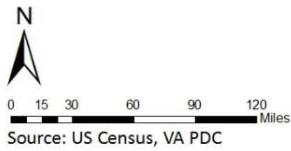
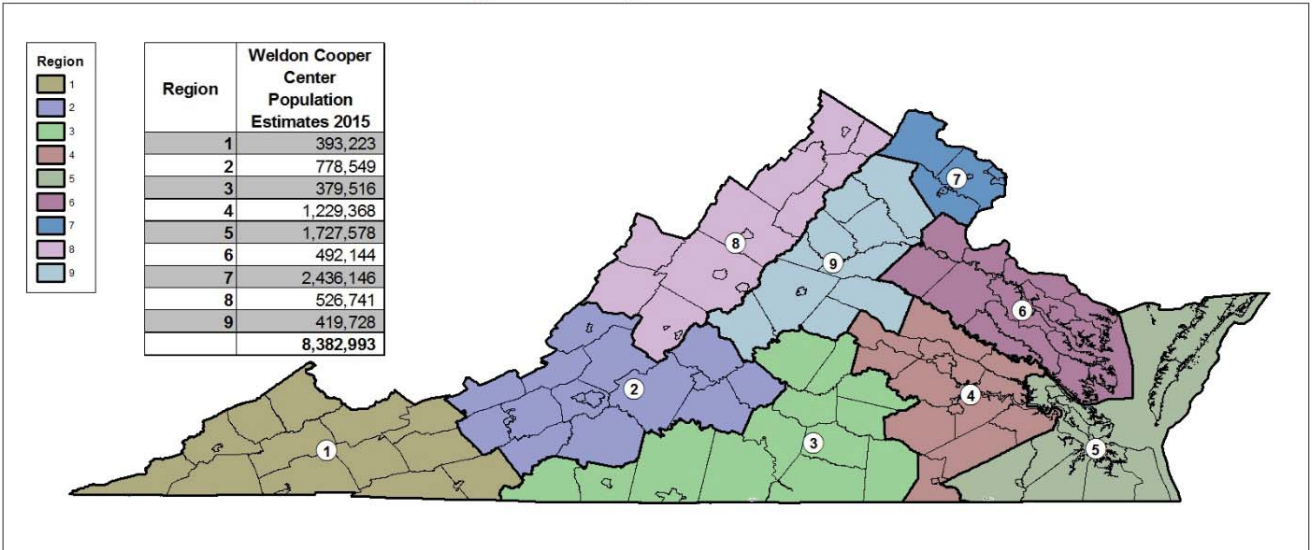
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GO Virginia Regional Boundaries



EXECUTIVE SUMMARY

This Regional Planning Data Analysis is provided for the Southern Virginia Region 3 Council as part of the GO Virginia initiative, and for the Danville Regional Foundation. The information presented here is intended to help the Regional Council with development of an economic growth and diversification plan that identifies the region's best opportunities to diversify the economy, increase business investment, and add higher-paying jobs.

PART I: REVIEW OF EXISTING DOCUMENTS, PLANS, AND STRATEGIES

Main Recommendations from Existing Plans:

1. Focus on **K-12 education and post-secondary workforce training**. The most frequently cited components for improving education and training are:

- Business input into – in some cases, even business control over – curricula
- Student work experiences
- Career pathways for students and existing workers
- Credentials recognized by industries
- Teacher and counselor exposure to local industries

Southern Virginia appears to understand the value of post-secondary education with less than a four-year degree. Multiple planning documents state that an associate degree or work credentials carry similar value to a four-year degree in the region. Annual wages for individuals 10 years after graduation are \$18,000 higher for those with an associate degree compared to a high school diploma.

2. Focus on any industry sector in the region with **strong employment** and showing some **growth potential**. These include mature or old-line sectors such as Agriculture, Forestry and Wood Products; a higher-tech sector like Advanced Manufacturing; a leading employer such as Distribution and Electronic Commerce; and a non-exporting but vital sector like Healthcare.

3. Focus on **mid-level jobs** and the **mid-skill training** to match them. Southern Virginia manufacturers report that the greatest number of job openings fall into that middle level. Part of this need is greater emphasis on continual learning for adult workers throughout their careers, on the job and at community colleges.

4. Continue to improve infrastructure, particularly **last-mile broadband** service. Southern Virginia has been the setting for some innovative public/private/non-profit partnerships to expand service.

5. Work to **strengthen and grow businesses of all sizes**. A sound economic development strategy will include retention and expansion efforts for small and mid-sized firms, as well as small business creation. Strategies include:

- Building up industry clusters by recruiting and retaining smaller suppliers of large companies in the region;
- Putting together regional programs of training, mentoring, and financing for entrepreneurs.

PART II: ECONOMIC AND WORKFORCE BASE GROWTH ANALYSIS

The newly-created Southern Virginia Region 3 includes 13 counties and two independent cities. With a population of about 372,000 it is the smallest of Virginia's nine regions in population but the largest in area.

Demographics:

Demographic data and trends point to some of the major challenges facing Region 3.

- Declining population
- Relatively older population
- Lower educational attainment
- Lower labor force participation
- Higher poverty

Employment Trends:

➤ Region 3 was **heavily impacted by the Great Recession**, although trends in industry sector job losses were already evident before then. The Manufacturing and Construction sectors experienced losses of 30% or more over the past 10 years. There have been significant gains in other sectors, notably in Healthcare and Professional, Scientific, and Technical Services. But overall, job losses have been greater than population decline since the year 2000. This results in significant **out-commuting** for work from Region 3, with a net out-commuting figure of around 30,000 workers.

➤ The leading sectors for employment are **Government, Health Care** and Social Assistance, and **Manufacturing**. Despite major job reductions, Manufacturing still employs about 18% of the region's workers.

➤ Projections call for **modest job growth** through 2026. Growth is predicted in several STEM-related occupations that currently employ small numbers. This includes jobs in Computers and Mathematics, Architecture and Engineering, and Life, Physical, and Social Sciences. Still, **healthcare** occupations will lead, and they provide the most

opportunities for jobs in growing sectors that pay above-average wages.

➤ Over the past five years, Region 3 has experienced an increasing percentage of total job creation coming from **smaller firms** (less than 20 employees), **newer firms** (five years old or less), and sole proprietorships.

Business Sentiment:

- Employers and workforce partners in the region see the “**legacy skills**” and “applied knowledge” of an experienced workforce, particularly in manufacturing-related occupations, as one of the greatest **strengths** of the workforce.
- The lack of “**soft skills**” - such as understanding expectations in a work environment, communication, and dependability - are described as the major **weaknesses** of the workforce. Technical skills for mid-level positions is another significant need.

Business leaders see the greatest future workforce demand in a variety of **healthcare** positions, in **skilled trades**, and in replacing **technical workers** as many retire.

PART III: ECONOMIC AND WORKFORCE BASE GAP ANALYSIS

Employment in Region 3 is characterized by a predominance of lower-wage jobs with low education requirements.

➤ Job opening numbers are greater than the number of annual post-secondary education completions, but many available positions have no post-secondary education requirement.

➤ Education completions by type in Region 3 include bachelor’s degrees 33%; associate degrees 26%; master’s or doctorate 7%. The greatest number of degrees are awarded in Liberal Arts and Sciences, followed by Business Management.

Particular workforce gaps are seen in **production, transportation, maintenance, and repair** occupations. Greater emphasis on STEM-related education and training would benefit the workforce pipeline in a number of in-demand areas.

Current efforts to address workforce gaps include:

- **Streamlining** education offerings to focus on the most in-demand sectors;
- **Dual enrollment** programs for high school students focusing on **robotics, engineering, and advanced manufacturing**;
- New **cybersecurity** occupation training;
- A new grant program to reduce students’ **costs of obtaining certifications**.

Other potential needs identified in the analysis:

- Increased offerings to supply workers for two large **data centers** in Region 3, as well as other information technology positions.
- The need for students and parents (with assistance from guidance counselors) to be more **strategic with their education and training decisions**, as mere completion of a degree program does not guarantee a good income or career path. Data on in-demand sectors and appropriate paths should be more widely disseminated.
- In general, all concerned parties in the region – businesses, education and training providers, students, and parents – need **greater and more frequent dialogue** to improve the relevance of workforce training offerings, improve student decision-making, and enhance the system's responsiveness to changing employer and workplace needs.

PART IV:

EXISTING EFFORTS TO DIVERSIFY AND GROW HIGHER-PAYING JOBS

The Commonwealth of Virginia and Southern Virginia Region 3 have a plethora of recent, relevant plans for strengthening the region's economy, job opportunities, and workforce. The plans detail numerous programs and initiatives to achieve these goals. Best summing up the main thrust of all efforts is this: "...**the fundamental challenge for the region is to expand job opportunities for residents.**"

These current plans and programs are generally of a high quality and share a number of strengths:

- Emphasis on **economic diversification**, while not ignoring long-term mainstays such as manufacturing, agriculture, and forestry;
- Soundly-reasoned **targeting of industry sectors**, including growth sectors for jobs such as information technology and healthcare;
- Appropriate stress on the critical role of **workforce development**, including K-12 schools, additional training with less than a college degree, and adult learning;
- Increasing emphasis on the wisdom of **regional collaboration**.

In addition to broader efforts – from regional economic development organizations, planning districts, and workforce boards - Southern Virginia is blessed with innovative entities specializing in a particular niche of economic, workforce, and community development, and/or in a particular geography. These include the Institute for Advanced Learning and Research (IALR), Southern Virginia Higher Education Center (SVHEC), The Launch Place, GENEDGE Alliance, community foundations, and many others. Many of these target certain aspects of education and workforce training, such as promoting industry certifications and credentials, student workplace experiences, and entrepreneurship training.

There are locally-based organizations like Mid-Atlantic Broadband addressing other key

needs of the region, such as telecommunications infrastructure. And the unique asset of the Virginia Tobacco Commission, focused on providing resources to complement new investment in Southern and Southwest Virginia.

The consensus is that there is an impressive array of initiatives, enough to make the region optimistic for its economic future. But there are shortcomings:

- Certain documents and entities provide strong focus on **entrepreneurship and small business development**. But in general, initiatives that focus on new and smaller businesses are not as fully realized. There is room for greater emphasis on important topics including availability of capital, incubators and accelerators, technical advising, and mentoring.
- Issues regarding **quality of life** – crucial for attracting and retaining talented, innovative individuals and businesses – are addressed intermittently. Interviews with business leaders highlighted the importance of providing cultural amenities, lively downtowns, outdoor recreation, shopping and other attractors.
- The importance of **infrastructure**, especially **broadband** internet coverage, is frequently noted, but there is not enough discussion of how to fund needed expansion.
- There is occasional focus on the most promising **occupations** (citing healthcare occupations and skilled trades). This could be improved through a more robust career pathways strategy.

Overall, the greatest need is to **increase regionalism by scaling up** the most successful or promising initiatives across a wider area.

The business community is aware of resources, but confused by duplication of efforts and the narrow geographic focus of specialty programs. Business people are mixed in their opinion of the relationship between the business community and workforce partners. Their comments indicate confusion over which agency or entity to turn to, and frustration that a promising program in a neighboring county is not offered across the region. One respondent said that businesses must deal with “too many partners” and called for one “unified point of contact.”

The potential benefits of greater regional collaboration are pointed to in other areas:

- **Entrepreneurship** – multiple areas are striving to package resources together and create an entrepreneurial map or “blueprint”, but this might be more cost-effective and valuable on a regional scale.
- **Infrastructure** – one plan calls for the economic development regions to pool their political influence and lobby for infrastructure improvements that will have the greatest regional impact.
- **Quality of Life** and Amenities – one strategy notes that by highlighting all of the amenities available in Region 3, rather than stopping at county lines, a joint marketing effort would create “a more compelling regional message.”

PART V: BUSINESS CLUSTER ANALYSIS

Clusters are groups of exporting or “traded” industries that bring in revenue from outside of a region. Focusing on business clusters – either strong existing clusters or promising new ones – can be a more efficient way to allocate economic and workforce development resources. In some instances, growing industry clusters within a region is so successful that the region becomes internationally known for the concentration of a particular group of businesses. Examples include computer technology and software in Silicon Valley, and biotech in Boston and San Diego.

Current data on business clusters in Region 3:

- The region has more than 32,200 jobs in traded clusters.
- Employment in traded clusters fell by 19% from 2006 – 2016, but is projected to increase by 10% from 2017 – 2026.
- On average, jobs in Region 3 traded clusters pay \$9,000 more than jobs in local or non-traded clusters.

Strongest Clusters in Region 3

(most concentrated and showing some employment growth)

- Forestry
- Vulcanized and Fired Materials
- Plastics
- Lighting and Electrical Equipment

Second-Tier Clusters in Region 3 (weaker concentration)

- Food Processing and Manufacturing
- Business Services (a leading employer)
- Distribution and Electronic Commerce (though this cluster had modest job losses over the past 10 years)

Potential Emerging Clusters

- Aerospace
- Production Technology

Input from business leaders echoed most of these results from the data analysis, frequently mentioning Forestry and bio-based applications using forest or agricultural materials. They also pointed to any clusters taking advantage of the Advanced Manufacturing skills of the Region 3 workforce, with possible applications for Aerospace, Automotive, and other manufacturing supply chains.

PART VI:

CLUSTERS IN SURROUNDING METRO AREAS

In addition to analyzing business clusters within Region 3, Economic Leadership evaluated clusters in the seven surrounding metro areas: Richmond, Norfolk, the Triangle, the Triad, Roanoke, Lynchburg, and Charlottesville. This was done to identify any potential synergy between strong industry clusters within and nearby Region 3, and to see which strong clusters outside the region might be candidates for attracting supply-chain businesses to Region 3.

The following clusters exhibited employment concentration and recent job growth both inside Region 3 and in one or more neighboring metro areas:

- Plastics
- Lighting and Electrical Equipment
- Forestry
- Vulcanized and Fired Materials
- Business Services

And these industry clusters show enough strength in surrounding metros to consider a strategy of attracting supply-chain and other supporting businesses in Region 3:

- Metalworking Technology
- Distribution and Electronic Commerce
- Construction Products and Services
- Aerospace
- Medical Devices
- Downstream Chemical Products
- Food Processing and Manufacturing

PART I: REVIEW OF EXISTING PLANS, STRATEGIES, AND RELATED DOCUMENTS

SUMMARY

The first step in the Regional Planning Data Analysis is to review the many previously-released plans, strategies, data reports, and other documents related to economic and workforce performance in the state and Region 3. This summary will highlight those themes that have the greatest convergence; themes that are divergent or disconnected between documents; important areas where recommendations might be lacking; and the most prominent recommendations.

Convergent Themes:

- The greatest consensus is around the need for greater **economic diversity** and more **private-sector job opportunities**. This is true at the state level – where Virginia’s heavy economic reliance on government and government contracting is well-documented – and in Region 3, which relies on non-exporting sectors such as healthcare and government, and where the lack of jobs overall leads to significant out-commuting.
- The other area of clear, uniform agreement is a focus on **education and workforce training** issues. Many facets to workforce development are discussed throughout the relevant documents, including:
 - Teaching workforce preparedness in K-12 schools through college, and offering more work experiences for students;
 - The need for better **basic work skills** and “soft skills”;
 - Attempts to develop **career pathways** for in-demand occupations;
 - The need for workers to access education and training opportunities **throughout their careers**;
 - Job demand and the skills required for **middle-skill** jobs, which require post-secondary education but not a four-year college degree;
 - Much greater emphasis on industry **credentials and certifications**;
 - The need to engage business people to make education and training more responsive to workplace requirements.
- The wisdom of focusing economic development and workforce resources in the most promising **targeted sectors**, including Advanced Manufacturing; Agriculture and Forestry/Wood Products; Information Technology; and Distribution and Logistics. The next group of sectors mentioned most often are Healthcare, Life Sciences, and Energy.
- Support for **entrepreneurs** in the form of training, mentoring, and small business financing. Data shows that Region 3 has a relatively prominent small business sector.
- Calls to pool resources and **act regionally** to strengthen the economy.

- Demand for **skilled trades**, and a potential shortage of workers entering these fields.
- **Infrastructure** needs, with **broadband**/telecommunications, natural gas, rail for freight movement, and roads mentioned most prominently.
- **Rural transit** needs.

Areas of Disconnect:

The plan review reveals several key areas of divergence or disconnect between the documents:

- Virginia as a whole has moved from a goods-producing economy to one led by **high-tech services**, but Region 3 has not followed suit or benefitted accordingly. Virginia leads the nation in percentage of high-tech jobs, and now ranks low in percentage of manufacturing jobs, while manufacturing remains a large part of Southern Virginia's economy and the region ranks lowest in the Commonwealth for high-tech employment.
- **Manufacturing** is a targeted sector in Southern Virginia, and a recent manufacturer survey indicates continued plans for hiring, but data projections suggest that manufacturing employment will continue to decline in the region.
- **Healthcare** is the most robust sector in the region, and dominates lists of good-paying, in-demand occupations, but it is not usually a "traded" or exporting sector that brings investment and wealth from outside the region.
- Is the **broadband infrastructure** a strength or weakness? One state-level document indicates that 91% of Virginians have access to quality broadband service, but another states that coverage in rural areas is estimated at less than 25%. An accurate assessment probably includes both data points – broadband coverage is generally good, but "last-mile" coverage is lacking in rural areas.
- **Cooperating and acting regionally** is stressed in many plans, but the plans do not address that political strength is found at the local and state levels, and regionalism is more of a concept than a concrete reality. Where is the support for continued funding of regional efforts?
- There is much discussion about the importance of **K-12 education**, but little mention of teacher pay or retaining good teachers in rural areas, and limited discussion about the emphasis on traditional testing in K-12 classrooms as opposed to emphasis on work and career skills.
- Many of the state-level plans stress taking advantage of **university research and commercialization**, but Southern Virginia Region 3 lacks a large, four-year research university.
- The prominence of **quality of life strategies, tourism, recreation, and downtown vitality** varies greatly among documents.

- A few plans stress targeting **specific occupations** (such as nursing and skilled trades) as an economic development strategy, but most focus on industry sectors rather than occupations.
- Some state-level economic development policies are focused on capturing **large projects** (such as a minimum new investment of \$25,000,000 and 200 new jobs that pay 25% above the average wage). In rural areas with low population density and low concentrations of skilled workers, projects of this scale seem less realistic.

Topics Worthy of Further Consideration:

Certain topics mentioned in the plans are deserving of greater attention.

- *Revamping K-12 Education* – this topic might seem overwhelming and beyond the scope of workforce development and economic development planning. But key issues, such as attracting and retaining high-quality teachers and administrators in rural areas, are crucial to the economic future of many regions.
- *Technical Instruction in K-12 Schools* – public schools have a difficult time competing with the private sector for instructors in technical fields. Ideas for addressing this issue include “loaning” instructors from private industry, and “job sharing” for teachers between community colleges and K-12 schools. This will require greater flexibility from school districts.
- *Rural transit* – how to improve access to jobs, schools, and childcare in low-density areas, given the limited funds of most rural and small city transportation agencies.
- *Career pathways* – everyone wants to establish promising career pathways for students, but in today’s economy forecasting any specific occupational trend into the future is difficult.
- *Regional action* – how to put “teeth” into regional policies and actions. Should regional jurisdictions be empowered with something greater than the current push for local governments to collaborate?

Main Recommendations:

1. Focus on **K-12 education and post-secondary workforce training**. Regarding quality education and training systems, the implicit message seems to be, “If you build it, we’re not sure they will come. But if you don’t build it, we’re sure they won’t come!” The most frequently cited components for improving education and training are:

- Business input into – in some cases, even business control over – curricula
- Student work experiences
- Teacher and counselor exposure to local industries
- Career pathways (adjusted frequently as warranted)
- Credentials recognized by industries

Southern Virginia Region 3 appears to understand the value of post-secondary education with less than a four-year degree. Multiple planning documents state that an associate degree or work credentials carry similar value to a four-year degree in the region. The ***Virginia Plan for Higher Education*** notes that wages for individuals 10 years after graduation are \$18,000 higher for those with an associate degree compared to a high school diploma (\$25,000 higher with a bachelor's degree). Also, 59% of associate degree students graduate with no debt, compared to 37% of bachelor's degree students.

2. Focus on any industry sector in the region with **strong employment** and showing some **growth potential**. These include mature or old-line sectors such as Agriculture, Forestry and Wood Products; a higher-tech sector like Advanced Manufacturing; a leading employer such as Distribution and Electronic Commerce; and a non-exporting but vital sector like Healthcare.

3. Focus on **mid-level jobs** and the **mid-skill training** to match them. Southern Virginia manufacturers report that the greatest number of job openings fall into that middle level. The ***Virginia Plan for Higher Education*** cites a national statistic that 99% of all new jobs created since the Great Recession require more than a high school education. Part of this need is greater emphasis on continual learning for adult workers throughout their careers, on the job and at community colleges.

4. Continue to improve infrastructure, particularly **last-mile broadband** service. Business owners, farmers, workers and school students all need quality internet service to function in today's economy. Southern Virginia has been the setting for some innovative public/private/non-profit partnerships to expand service.

5. Work to **strengthen and grow businesses of all sizes**, not just "big game hunting" for major employers. One regional plan notes that most people work at establishments with less than 100 employees. A sound economic development strategy will include retention and expansion efforts for small and mid-sized firms, as well as small business creation. Strategies include:

- Building up industry clusters by recruiting and retaining smaller suppliers of large companies in the region;
- Putting together programs of training, mentoring, and financing for entrepreneurs.

STATE-LEVEL PLANS

The New Virginia Economy:

Governor Terry McAuliffe's strategic plan, ***The New Virginia Economy***, was released in December 2014. The plan noted that Virginia's greatest economic risk was its heavy reliance on jobs in the public sector, defense, and contractors. At the time this document was written, 13 of Virginia's 20 largest employers were public sector or contractors largely dependent on government work. The top employer, the U.S. Department of Defense, employed more people than the second and third largest employers combined. As a result, the Commonwealth's greatest challenge is to **diversify** by adding more private sector jobs.

The New Virginia Economy lists five main priorities:

- A. Project Ready Infrastructure
- B. Diversified High-Growth Industries
- C. Preeminent Business Culture
- D. Innovation and Entrepreneurs
- E. "Credentials to Careers" Workforce

Of particular interest to Region 3 are the following topics and strategies:

Broadband – the plan notes that most rural parts of the state are estimated to have less than 25% coverage; "research tax exemption for fiber providers expanding network;" "consider new long-term financing mechanisms."

Site Development – support site improvement through a potential state infrastructure loan program, and more grants to localities for site development.

Target Industry Sectors – targeted sectors include Agriculture & Forestry, Advanced Manufacturing, Healthcare, Data Centers, Information Technology, Cyber Security, and Tourism. Strategies within agriculture and forestry include establishing a Virginia Agricultural Biotechnology Initiative, and expanded exports of Virginia agriculture and forest products.

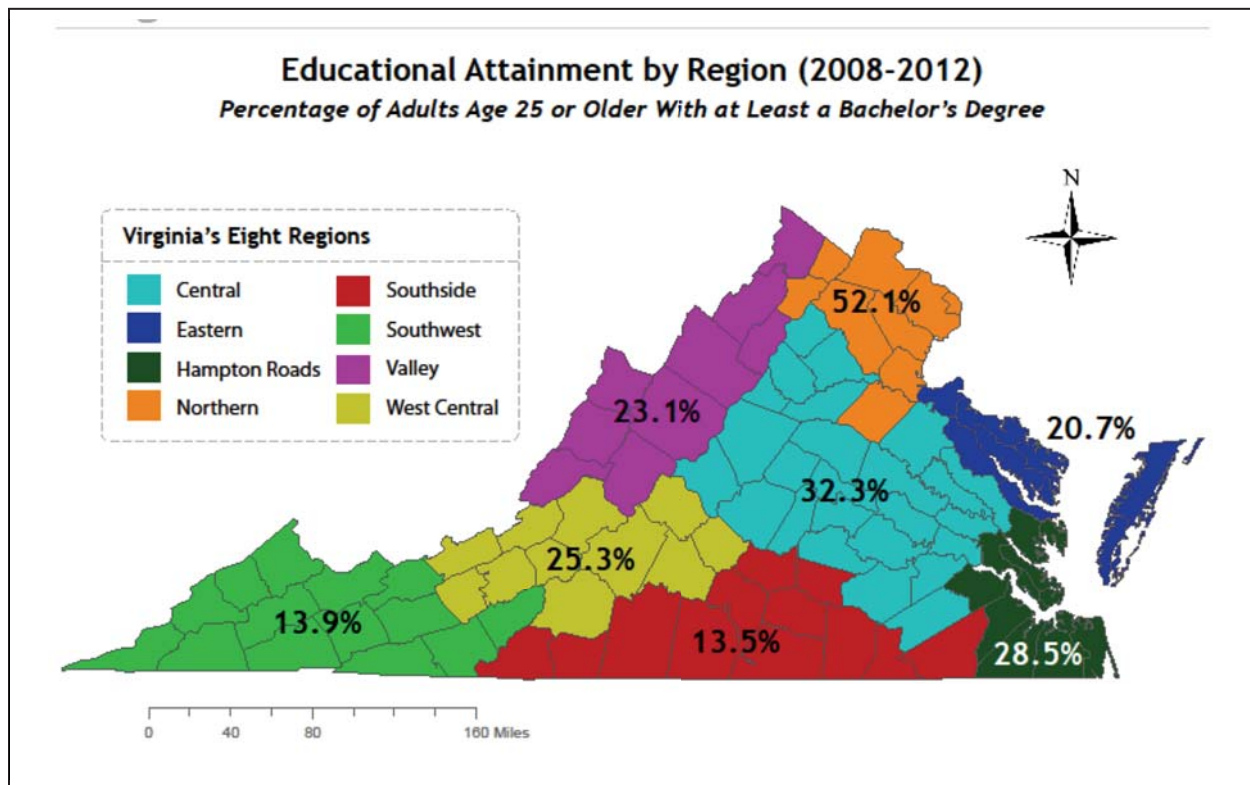
Business Culture – calls for reforming the Virginia Tobacco Commission to maximize return on investments and create a long term, sustainable funding model.

Innovation – promote entrepreneurship as a "life skill" in K-12 and higher education curricula; create more accelerators and small business development centers in rural areas.

Workforce – "drive stackable workforce credentials by community colleges by career pathways;" produce 50,000 STEM-H credentials, certifications, licensures, apprenticeships and associate degrees; keep students in Virginia after graduation by increasing internships, community recruiting, and regional support for young professionals.

A critical challenge for Region 3 is shown in ***The New Virginia Economy*** by a map of

educational attainment. More than 52% of adults in Northern Virginia have a bachelor's degree, compared with 13.5% of adults in the area containing most of Region 3.



Source: Virginia Performs, Council for Virginia's Future

Virginia Chamber of Commerce:

Blueprint Virginia:

"A Business Plan for the Commonwealth," **Blueprint Virginia** was released by the Virginia Chamber of Commerce in 2014. An updated plan will be produced at the end of 2017. Among the many sections of the plan relevant to Region 3 are these:

Education:

- The plan notes that half of well-paying STEM jobs do not require a four-year degree.
- Calls for including "**soft skills**" and "financial literacy" in a "well-rounded education."
- Be willing to revise all aspects of the education system, "from compensation to the calendar."
- Strengthen linkages between the classroom, workplace, and business community.
- Recognize that workers will need to **re-enter the education system** throughout their careers.
- Better link K-12 accountability measures "with long-term post-secondary and **workplace success.**"

- Prioritize STEM-H education and career readiness, including **industry certification and licensure** for high-demand, high-skill jobs.

Workforce:

- The plan states that the Commonwealth will need 2,000,000 new workers over the next 10 years.
- Engage the private sector in **realigning regional workforce resources**.
- Learn from businesses with “robust **in-house training** programs.”
- Support **public-private training centers** for in-demand fields, such as the Advanced Manufacturing Apprenticeship Academy.
- Promote K-12 student internships.
- Involve the private sector in redesigning curricula and training programs in technical and soft skills education.
- Fund new equipment and training in high-demand technical sectors such as advanced manufacturing, analytics, bioscience, and I.T.
- Emphasize **career pathways** using industry certifications and credentials.
- Ensure that workforce solutions meet the needs of **key regional industries**, especially for **mid-skill workers**.

Business Climate and Economic Development:

- Support investment and incentives that spur **economic development in rural Virginia**.
- Develop incubators; encourage more **small business financing** and venture capital.
- Better align economic development and workforce development organizations.
- Expand opportunities in **agriculture and forestry**.

Transportation:

- Focus on “corridors of **regional significance**.”
- Complete I-73 between Roanoke and the North Carolina border.
- Improve **transit in rural areas**.

Technology, Innovation, and Startups:

- Promote creation of **regional private investment funds**.
- Support industry-specific **accelerators**.
- Strengthen the environment for entrepreneurship.
- More **experiential STEM opportunities** for students.

- Improve recruitment and retention of **STEM teachers**.
- Expand **broadband coverage**.
- Promote public-private partnerships to expand broadband in areas where expansion is not economically feasible.

Manufacturing:

- Grow advanced manufacturing throughout the state.
- Better export assistance for small and medium manufacturers.

Virginia Board of Workforce Development (VBWD):

Skills for Jobs and Business Growth: Powering the New Virginia Economy:

This document is the 2015 – 2017 strategic plan from the VBWD. Part of the VBWD mission statement is to create a more business-driven system. For the Regional Planning Data Analysis, the most relevant strategies are found in two of the plan's priority objectives:

1. Identify current and future workforce needs of Virginia businesses, and identify related training and credentialing requirements.
 - Identify “**High Priority Demand Occupations**” that are in demand, strategic to Virginia’s economic development objectives, and pay a **self-sustaining wage**.
 - Deliver state and regional Labor Supply and Demand Dashboards to improve decision-making.
 - Use surveys, focus groups and other means to gather primary data on firms’ workforce needs.
2. Recommend strategies to better prepare and match trained workers with available and emerging jobs.
 - Track a core set of **workforce credentials**, related to work readiness, industry readiness, and occupation-specific job readiness.
 - Expand **sector strategies in workforce regions**.
 - Improve web-based tools for more robust **job matching**.

Strategic plan **metrics** include business engagement, credential attainment, in-demand jobs in growing industries, wages, and return on public investment.

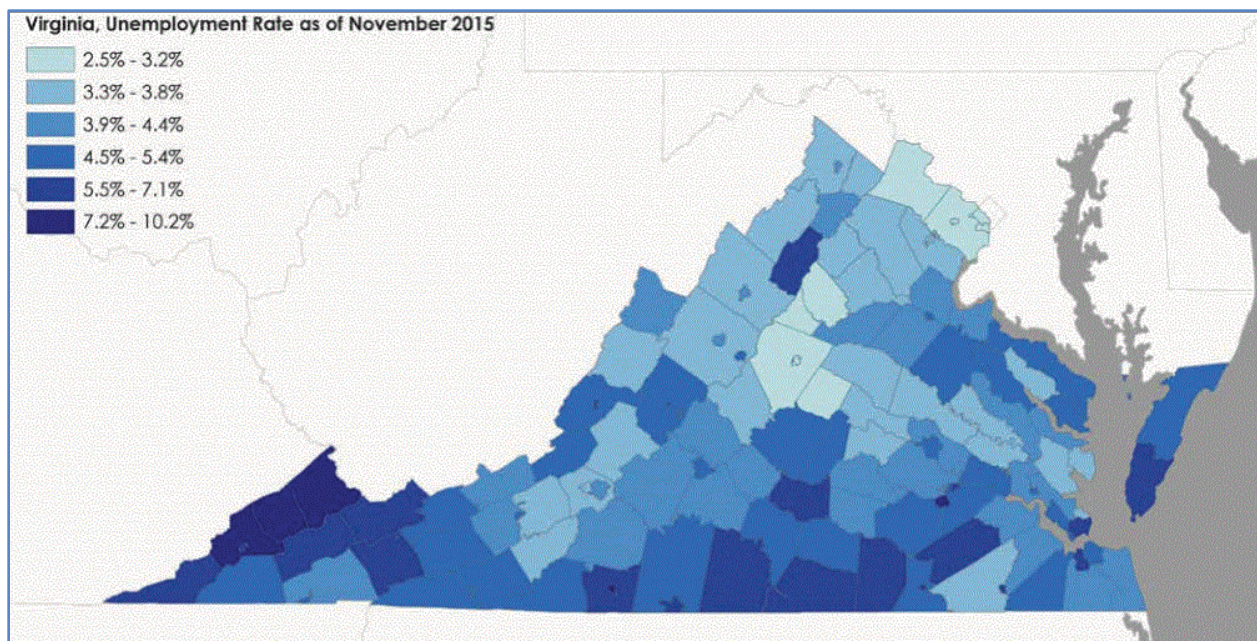
Virginia WIOA Combined State Plan:

The Commonwealth’s 2017 Workforce Innovation and Opportunity Act (WIOA) Combined State Plan is built around five priority goals. Four of these are most relevant

to this analysis:

- A. Increase **business engagement** and deliver value to our business customers.
- B. Achieve **measurable skills development** in our job seeking customers in the form of workforce credentials that matter to business.
 - Credentials need to be “**regionally relevant**”.
- C. Fill jobs in demand occupations that show promise to long-term growth in industries that are strategic to Virginia’s economy and strengthen Virginia’s regions.
 - Annual dissemination of a list of high-demand occupations in target sectors at the state and regional level.
- D. Help individuals gain access to the **middle class** and demonstrate **career progression**.
 - Design and deliver a **career pathways “map” tool**, aligned with priority occupations/sectors, that is specific to Virginia and each local workforce area.

A statewide unemployment map in Virginia’s WIOA plan (*see below*) shows that the greatest concentrations of high unemployment are in the south-central and southwest areas of the Commonwealth.



Virginia Economic Development Partnership FY2017 Operating Plan:

VEDP’s 2017 Operating Plan lists five goals to raise the standard of living in Virginia through business recruitment, expansion assistance, and trade development.

1. Outperforming Competitors

2. Working as One

- Coordinating activity throughout the state.

3. Advancing Business Competitiveness

- Understand views of company executives in all targeted sectors.
- Develop a program to address the needs of second-stage and existing businesses.

4. Meeting Market Demand

5. Accessing World Markets

The VEDP plan then details the deliverables that the Partnership will provide to help the Commonwealth attain each of the five priorities in Governor McAuliffe's ***New Virginia Economy*** strategic plan. Those most relevant to Virginia's regions are:

- Build up capacities in targeted geographic markets.
- Benchmark Virginia's **regional industry strengths** against global competitors.
- Develop the first statewide sustained **high-growth firm strategy** in the nation.
- Leverage and champion higher education partners in creating **credentials that count for business**. VEDP's Business Expansion Division to partner closely with the University-Based Economic Development Team.

Other VEDP goals, objectives, and strategies relevant to the state's regions and localities:

- Share expertise of staff with local and regional partners, resulting in improved positioning of the regional/local assets.
- Identify and **leverage state resources in each region**, particularly in higher education, to assist with positioning each region.
- Introduce the Virginia **Business Ready Sites** Program in FY2017.
- Conduct ongoing community property and demographic profile visits in all regions.
- Improve use of the **Local Return on Investment Model**.

State Council of Higher Education for Virginia (SCHEV):

The Virginia Plan for Higher Education:

SCHEV adopted the framework of the ***Virginia Plan for Higher Education*** in the fall of 2014. The overall objective is for Virginia to become the best-educated state in the nation by 2030. Below are key goals and strategies of the plan for higher education.

Goal: Affordable Access

- Cultivate affordable post-secondary education **pathways for traditional, non-traditional, and returning students**.
- Align resources so that students have broader access to post-secondary opportunities regardless of their ability to pay.

Goal: Optimize Student Success for Work and Life

- Ensure that graduates are prepared with the **competencies necessary for employment** and civic engagement.
- Focus on student **persistence and completion**.
- Engage adults and veterans in certificate and degree completion and **lifelong learning**.

Goal: Advance the Economic & Cultural Prosperity of the Commonwealth & its Regions

- Build a competitive, future-ready **workforce for all regions**.
- Become a catalyst for **entrepreneurship** and a model for **business incubation**.
- Demonstrate the impact of higher education on state and **regional economic development**.

Measures and Targets:

Initial targets of ***The Virginia Plan for Higher Education*** include awarding of **1.5 million degrees and workforce credentials by 2030**, and more Virginians graduating with “**high quality credentials without excessive debt**.” The 1.5 million total awards should include “those that **close the gap in unfilled jobs in high-demand occupations**.” The plan also established a wage target that 75% of graduates earn **sustainable wages** three years after graduation. Sustainable wages are defined as those at the low end of the middle-income range.

2016 Initiatives:

As part of the plan, the Council identified priority initiatives for 2016 including:

- Align resources from PreK-12, colleges, and universities to ensure affordable, efficient, and effective pathways for students in all parts of the state.
- Measure the quality of undergraduate education, including **relevance to demand occupations across regions of the state**.
- Promote economic development by implementing a long-term plan that supports recruitment and retention of **research faculty**, provides matches to federal and private research grants, and **enhances commercialization** of higher education research.

2016 Report Highlights:

A 2016 report reviewed the first year of implementation of the ***Virginia Plan for Higher Education***. Some highlights:

National Trends:

- **99% of the 11.5 million new jobs created since the Great Recession required some post-secondary education.**
- The U.S. has “shifted to a service economy in which the pathway to a good job no longer ends with high school but does not necessarily require a degree.”

Best-Educated State:

- Estimates show Virginia ranking 6th in educational attainment, with **51% of working-age population having a workforce credential or degree**. To become 1st by 2030, it is estimated that 70% of the population will need a credential or degree.

Educational Attainment Gaps:

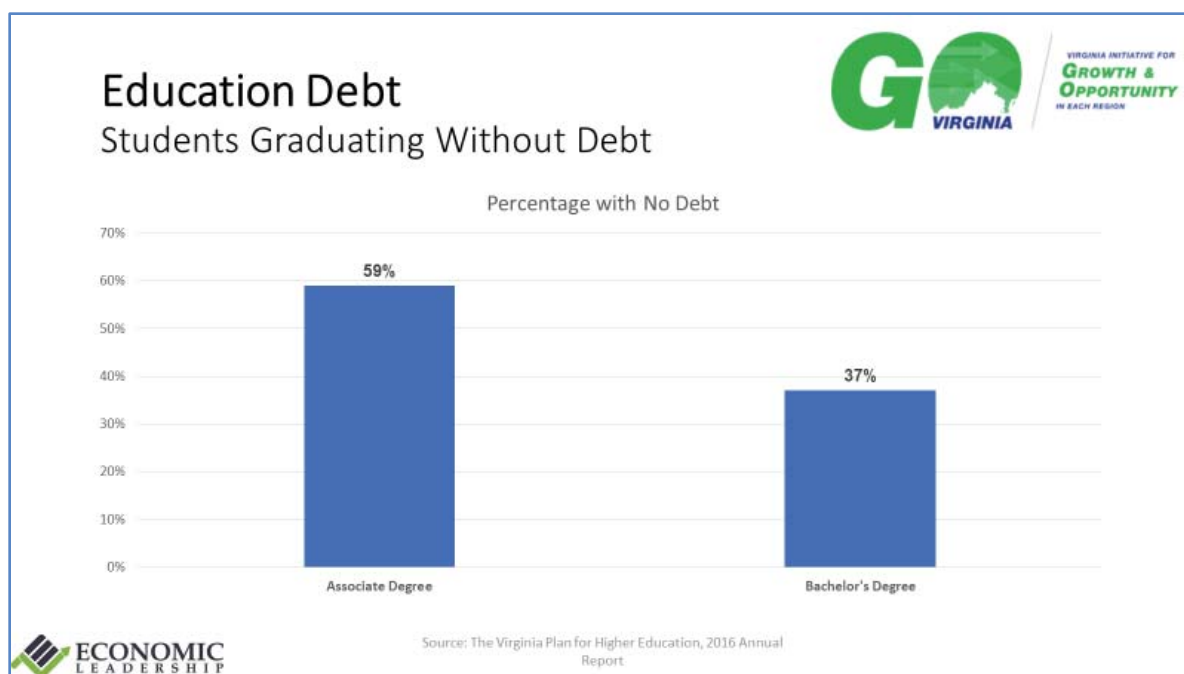
- Educational attainment in urban parts of the Commonwealth is **20 percentage points higher than in rural areas**.

Wages:

- Ten years after graduation, median **wages for those with an associate degree are \$18,000 higher than those with a high school diploma**. Those with a bachelor's degree have wages \$25,000 higher than those with a high school diploma.
- Workers with an industry certification or state licensure earn \$1,007 per week, compared with \$747 per week for those without.

Education Debt:

- **59% of associate degree students graduate with no debt**, compared with 37% of bachelor's degree students.
- Median education debt in Virginia is \$14,354 for associate degree students and \$26,974 for bachelor's degree students.



New Economy Workforce Credential Grant:

The Virginia General Assembly established a New Economy Workforce Grant Program in 2016. The program uses a pay-for-performance model to fund non-credit workforce training that leads to a credential in a high-demand field. Students must complete the program to avoid paying additional costs. The State Council of Higher Education for Virginia (SCHEV) administers the program. Community colleges and the Southern Virginia Higher Education Center offer these programs.

The training programs align with a list of high-demand fields created by the Virginia Board for Workforce Development. The Demand Occupations List uses these criteria:

- *Strategic to Virginia's Economy* – initially includes 11 major occupation groups covering healthcare, computing, engineering, science, education, construction, production, transportation and material moving, maintenance and repair, and administrative support.
- *Skills* – occupations are limited to those requiring some post-secondary education but less than a Master's degree.
- *Projected Demand* – limited to those occupations projected to have more than 50 annual openings statewide.

Students pay one-third of the cost of the program. If they fail to complete the program, they are required to pay another third.

Affordable Pathways Partnership Grants:

Another new initiative administered by SCHEV is the Affordable Pathways Partnership Grants program, funded during the 2016 General Assembly session. The goal is to stimulate collaboration between public school divisions, community colleges and universities to **create and expand affordable student pathway programs**.

SCHEV defines affordable student pathways as “sequential academic courses or learning experiences with connected support services designed to result in cost savings to the student while in the pursuit of a degree and/or workforce credential.”

Funding was provided for an initial two rounds of grants.

Virginia Research Investment Fund (VRIF) and Virginia Research Investment Committee (VRIC):

In 2016, the General Assembly and Governor McAuliffe created a new **Virginia Research Investment Fund (VRIF)** and a **Virginia Research Investment Committee (VRIC)** to make awards from the fund. SCHEV is charged with establishing guidelines, procedures, and criteria for making awards.

Legislation provides that VRIF funds be used (as grants or loans) for:

- Promoting excellence in research and development.
- Fostering innovative and collaborative R&D and commercialization efforts in projects with a high potential for economic development and job creation.
- Positioning Virginia as a national leader in science and technology-based R&D and commercialization.
- Recruiting and retaining eminent researchers at public universities.
- Encouraging collaboration between research universities and the private sector for activities that foster economic development and job creation.

Focus areas are those identified in the **Commonwealth Research and Technology Strategic Roadmap**, including biosciences, personalized medicine, cybersecurity, and data analytics.

Award criteria should take into account the potential for commercializing research, creating spin-off tech companies, and “significant capital investment and job creation.”

Center for Innovative Technology (CIT):

Commonwealth Research and Technology (R&T) Strategic Roadmap:

In 2011, the General Assembly directed Virginia’s CIT to create a **Research and Technology (R&T) Strategic Roadmap** to help guide legislators in relevant funding

decisions. The first Roadmap was submitted in late 2011, and was updated by CIT in November 2014. The Roadmap was created by a team including Virginia's private sector, universities, federal labs, and economic development officials.

Virginia uses an innovation dashboard called the *Innovation and Entrepreneurship Measurement System (IEMS)* to track the performance of the Commonwealth's innovation economy. Key IEMS data points include:

- Virginia ranked 22nd in industry investment in R&D in 2014, down from 15th in 2012.
- Ranked 18th in patents in 2014, unchanged from 2012.
- Ranked 19th in venture capital in 2014, down from 7th in 2012.
- Ranked 15th in academic R&D expenditures in 2012, unchanged from 2009.
- Ranked 23rd in business establishment "churn" (births and deaths) in 2014.

The updated Roadmap identified the following priority R&T sectors as the strongest and most promising for future growth:

- Advanced Manufacturing – including advanced materials and robotics
- Aerospace
- Communications – including next-generation broadband networks and wireless telecommunications
- Cyber Security
- Energy – including biofuels
- Environment
- Information Technology – particularly data analytics
- Life Sciences
- Modeling and Simulation
- Nuclear Physics
- Transportation

Regional Priorities:

The Roadmap also includes R&T industry priorities for each region. The **Southern Piedmont region**, which includes most of Region 3, features these priority industries and niche opportunities:

Industry:

Advanced Manufacturing

Niche Opportunities:

Advanced fuel cell research & manufacturing
Custom manufacturing
Robotics and unmanned systems
Nano solar cells to make hydrogen for fuel cells
Energy-efficient coatings

Energy

Plug-in hybrid electric conversion
Energy storage platforms
Vehicle performance
Energy-related mining and equipment technology

Information Technology

Health I.T.
Data analytics
Data imaging and forms processing
Information security
Modeling and simulation

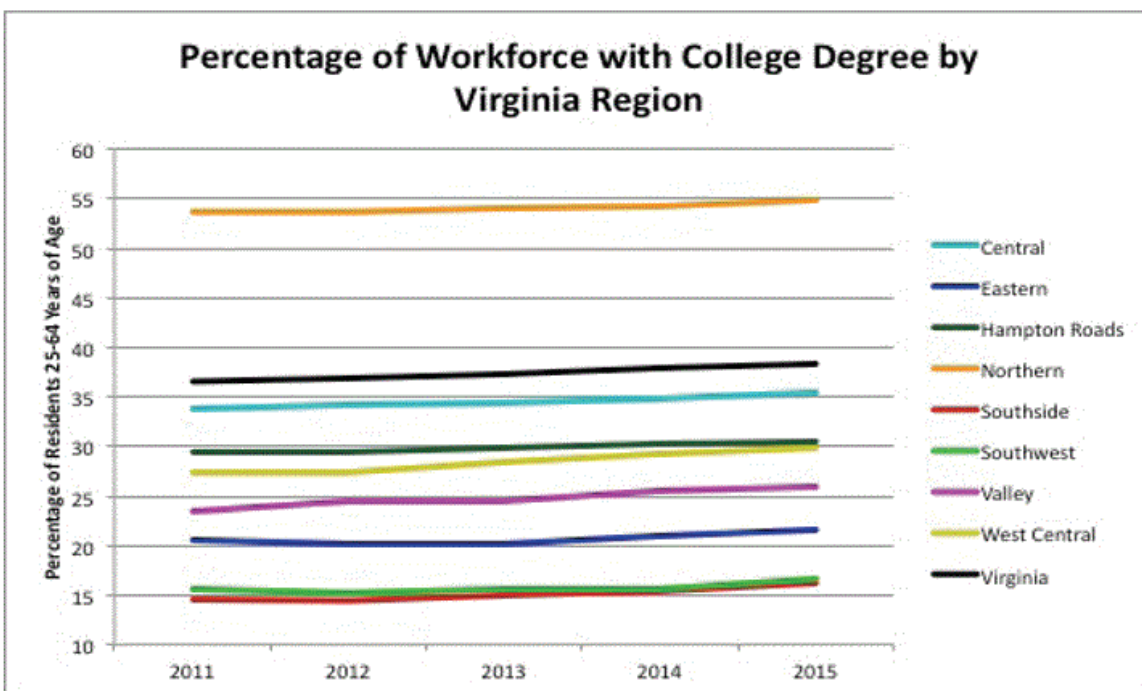
Life Sciences and Agriculture

Biopolymers
Micro propagation

Regional Data from the *Innovation and Entrepreneurship Measurement System*:

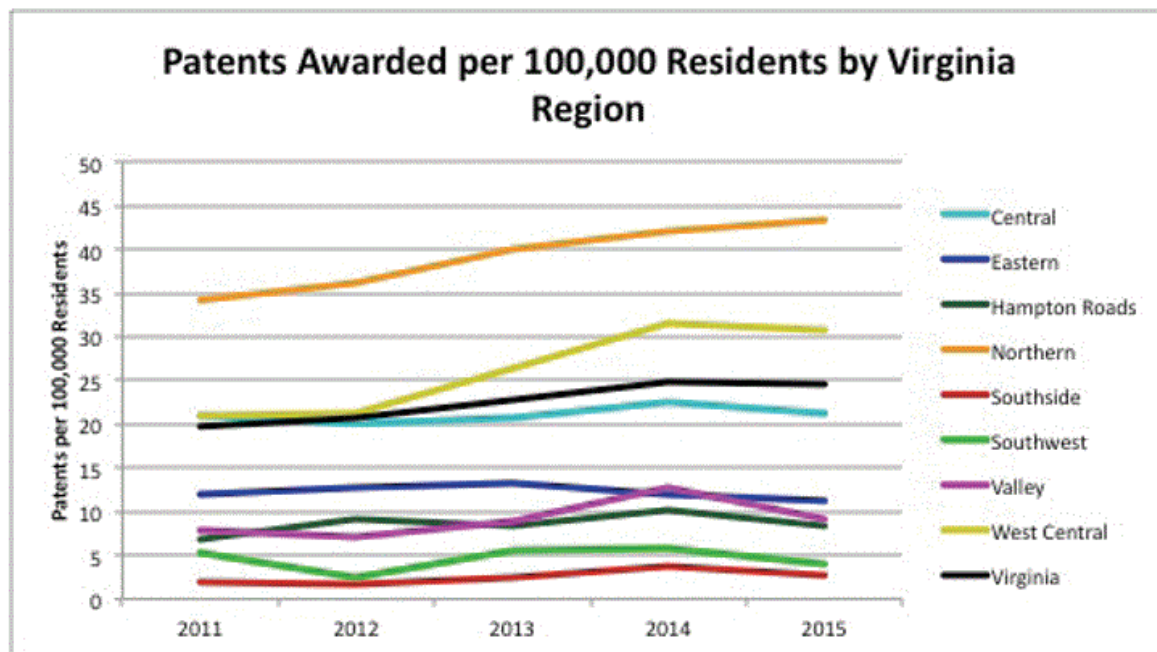
In February 2017, a new round of *IEMS* benchmarking data for Virginia and each of its regions was released. Data pointing out the challenges for Region 3 (similar to but not exactly the same as the Southside region used by *IEMS*) in an innovation economy are summarized below.

Workforce with College Degrees – The Southside region is essentially tied with the Southwest region for the lowest percentage of the workforce holding a college degree.

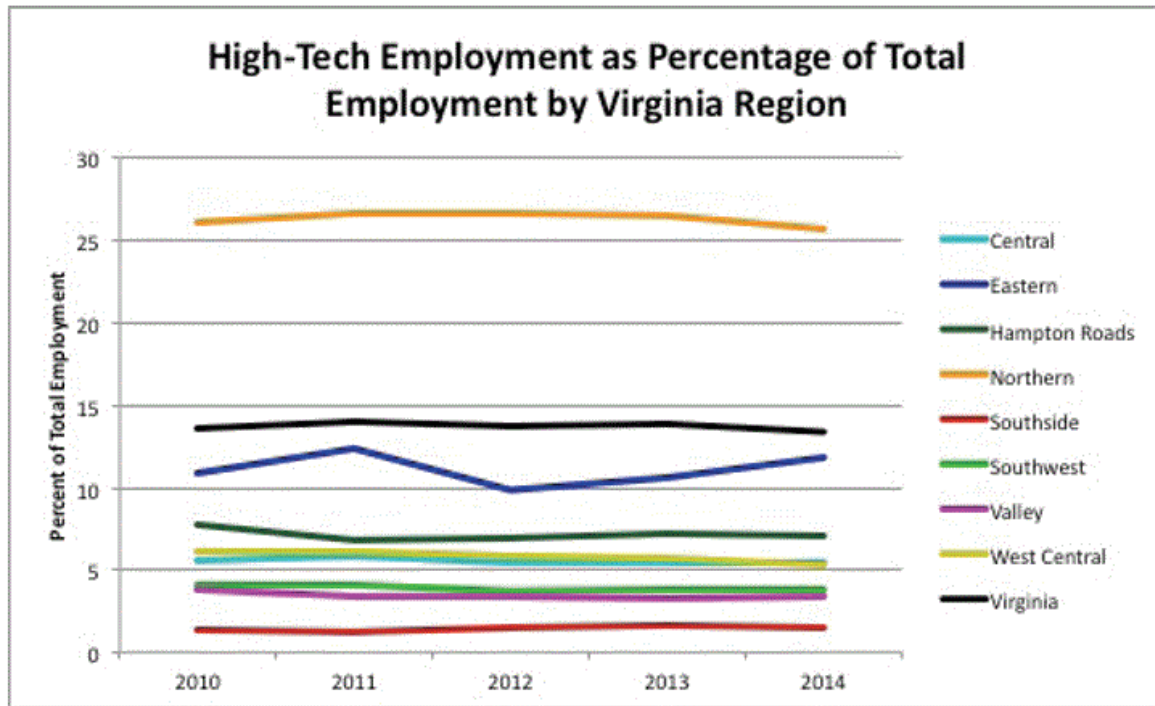


Patents – Southside Virginia has the lowest rate of patents per 100,000 residents. To

illustrate the variation within Virginia, the Northern region has more than 43 patents per 100,000 people, while Southside has about 3 patents per 100,000 residents.



High-Tech Employment – While Virginia leads the nation in high-tech employment and high-tech payroll as a percentage of a state’s total employment and payroll, the Southside region is last in the state in both categories. 13.4% of all Virginia workers are in high-tech industries, but in the Southside region the figure is 1.5%.



Virginia Manufacturers Association (VMA):

Virginia Industrial Innovation Strategy:

The VMA released its *Virginia Industrial Innovation Strategy* in January 2015. It promotes five priorities for strengthening manufacturing in the Commonwealth, including “Increasing skills credential attainment.”

Under this workforce development priority, the VMA urges creation of a “world-class pipeline of competitive employees at the ‘technician’ level....” It also discusses the need to upgrade the image of manufacturing careers among community leaders, parents, and young people.

Virginia’s Economic Future: Bright Ideas for Manufacturing Competitiveness:

Also in 2015, VMA produced this summary of Virginia’s strengths and weaknesses in manufacturing, and ideas for improving the Commonwealth’s competitiveness.

Virginia Strengths:

Education - #1 rank among southern states in 8th grade science proficiency, and tied for #1 in 8th grade math proficiency.

Industry Sector Diversification – “A” grade by the 2015 Manufacturing & Logistics Report Card. “B” grade in Productivity & Innovation.

Virginia Weaknesses:

Overall Strength of Manufacturing – Among southern states, Virginia had the 3rd lowest share of manufacturing as a percentage of total gross state product. Overall “D” grades for strength of the manufacturing industry and global reach of exports.

Infrastructure – Overall “C-” grade in the ASCE 2015 Infrastructure Report Card, including “D” for roads and “D+” for wastewater.

Ideas to Increase Competitiveness:

A. Close the Skills & Career Planning Gaps by 2020

- Expand industry credential attainment.
- Incentivize regional K-12 adjunct faculty.
- Expand K-12 Workplace Readiness Skills attainment.
- Expand National Career Readiness Certification attainment.
- Expand K-12 dual enrollment.

B. Expand Manufacturing Exports 50% by 2025

- Create an independent state agency to assist Virginia businesses expand exports.

C. Invest in Productive Infrastructure

- Upgrade K-14 facilities’ broadband speed.
- Upgrade wastewater treatment and stormwater infrastructure.
- Improve multi-modal freight capacity and efficiency.

Virginia Collaborative Economic Development Act:

Passed by the General Assembly in April 2016, the **Collaborative Economic Development Act** establishes a grant fund for two or more localities that work together and adopt a collaborative economic development plan. The localities will be eligible for grants over a period of six years if the collaboration results in the location or expansion of a company meeting the following criteria:

- Creates at least **200 new jobs**;
- Those new jobs having average **salaries at least 25% above** the average wage; and
- New capital investment of at least **\$25,000,000**.

Virginia Performs:

The Council for Virginia’s Future, created in 2003, is comprised of government leaders from the legislature and executive branch as well as private industry leaders. A key initiative of the Council is **Virginia Performs**, a performance leadership and accountability system offering scorecards and other assessment tools to benchmark Virginia’s progress on long-term goals.

Virginia Report 2016:

Focusing on Virginia's economy, a key theme from the **Virginia Performs** 2016 update report is the state's reliance on federal spending. It cites a 2014 Joint Legislative Audit & Review Committee (JLARC) study that federal government spending accounts for about 20% of Virginia's economy, with defense spending contributing 44% of that total.

Reductions in federal spending have contributed to a weakening in Virginia's relative economic strength since the Great Recession. Statewide employment, GDP growth, and per capita personal income have all lagged national trends in recent years. Defense and Homeland Security spending in Virginia fell by more than 67% from 2010 to 2015, a decline of almost \$50 billion.

Other key indicators in the 2016 update:

- Industry certifications for high school students continue to rise significantly.
- Bachelor's and associate degree awards have flattened and even turned downward, with rising costs cited as a main factor. However, STEM-H degree awards are improving.

Southside Virginia 2016 indicators (an area including most of Region 3):

- Total population has dropped 3% since 2010.
- Job growth in 2015 was positive for the first time in 16 years.
- Southside Virginia is a consistent leader in the number of students earning associate degrees.
- The percentage of residents with access to broadband rose from 77% in 2010 to 99% in 2014.

Economic Diversity:

Virginia Performs added Economic Diversity to its scorecard in 2016. Using the Hachman Index of industrial employment diversity, Virginia ranked 38th nationally in 2014. **Virginia Performs** notes that "one way of promoting economic diversity is by developing new industrial clusters."

The Council studied dynamic industry clusters – those traded clusters with high and increasing levels of geographic concentration, and which are growing nationally. Virginia has 3.6% of its total employment in dynamic industry clusters, ranking 41st nationally.

Within the Southside Virginia region, the top three **dynamic traded clusters** are:

- Distribution and Electronic Commerce (2014 employment of 5,338)
- Plastics (1,604 employed)

- Forestry (845 employed)

The Economic Diversity report also noted that Virginia ranks 43rd nationally in exports, with Southside Virginia's per capita export figure slightly lower than the state average. In attracting foreign direct investment (FDI), Virginia does slightly better than the national average.

State Role in Industrial Diversification and Competitiveness:

The Economic Diversity study concludes that “since industrial clusters are often formed at the **regional rather than the state level**, local and metropolitan cooperation and collaboration toward building and sustaining shared resources is critical.” The Council believes that the state can play a role to “build the capacity of collaborative organizations and further incentivizing regional cooperation.” It points to the **GO Virginia** initiative as an example, using “seed” money to “encourage private-sector growth and job creation via a nexus of business, education, and government interests in each region....”

REGIONAL PLANS

***Virginia Tobacco Region Revitalization Commission:
Strategic Plan, May 2016:***

The Virginia Tobacco Commission (VTC), as it is known, seeks to “accelerate regional transformation, giving citizens expansive opportunities for education and employment, and providing communities the benefits of economic stability, diversification, and enhanced prosperity.” VTC is active in Southside Virginia (including all of GO Virginia Region 3) and Southwest Virginia.

A fundamental goal of the VTC is to “support projects that advance the ability of the region to **attract and retain businesses that support bringing in capital from outside**” of the region. “In general, **directly productive industries**, and the workforce training and development which supports them, do more to further this goal and should be **favored over an increase in service industries** primarily serving local markets.”

Key Funding Priorities:

A. Education and Workforce Development

- Training for high-demand occupations leading to industry certified credentials, including STEM opportunities.

- Retain and retrain existing employees, and recruit new employees and their spouses into the region.
- Training for K-12 educators that increase their knowledge regarding career training and opportunities within the region.
- Work-based education.
- Training and support for small businesses and entrepreneurs.

B. Economic Development and Entrepreneurship

- Capital for startup and expansion.
- Agribusiness companies and programs that diversify agricultural outputs and increase profitability.
- Technical assistance to small businesses.
- Support for innovative R&D companies that pledge to commercialize their products within the region. (*Examples: biomedical, healthcare, chemicals, materials, energy, environmental, I.T.*)
- Industrial clusters that leverage unique regional assets.

C. Infrastructure

- Broadband including “last mile” funding, and telecommunications pilot projects.
- Industrial park development.
- Access to public utilities including water, natural gas, sewer, and alternative energy resources for economic development purposes.

D. Healthcare

- Mobile health services and tele-health capabilities.

E. Community Assets

- Cultural tourism.
- Outdoor recreation opportunities and related adventure tourism businesses.
- Repurposing obsolete buildings with economic development potential.

F. Leadership and Community Capacity

- Increased regional long-range planning, commitment, and collaboration through collaborative projects.

Funding priority is given to projects that are “**regional** in their implementation and impacts.”

Virginia's Growth Alliance:

Strengthening Our Economy Together (SET Plan):

Virginia's Growth Alliance covers an area containing six counties and one independent city, Emporia. Four of the counties – Charlotte, Lunenburg, Mecklenburg, and Nottoway – are within Region 3. The Growth Alliance produced a **Strengthening Our Economy Together**, or SET Plan, in September 2013. The SET plan used the model of the *Stronger Economies Together* program established nationally by USDA Rural Development.

Vision:

To build a region that “nurtures **innovation and entrepreneurship**; promotes a **diverse**, integrated economy by cultivating **advanced technologies**; preserving its natural resources; and celebrating its rural lifestyle, history, and culture.”

Goals and Strategies:

1. Attract targeted industries to the region and expand/retain existing industries.

- Market the region to target industries, and to **suppliers** of existing companies.
- Train workers in the skills required by the **predominant occupations** in the target industries.
- Provide a favorable, low-cost business environment.
- Implement an active **existing business** and industry program.
- Increase **regional economic development collaboration**.

2. Create an entrepreneurial atmosphere that cultivates, supports, and expands small businesses.

- Counseling, mentoring, education and training for entrepreneurs.
- Create an “**entrepreneurial blueprint**” of **services**. Research other rural models for this.
- Increase **business financing** options.

3. Develop a workforce with 21st Century competencies for our current and future employers.

- Align K-12, post-secondary, and workforce development programs to the industry competencies projected for the future.
- Communicate to all parents and citizens the **benefits of technical careers**, and education and training opportunities for them.
- Better **communicate company workforce needs** to education and training providers.

4. Increase awareness of tourism and quality of life in the region through promotion, education, and connectivity while maintaining authenticity.

- Develop research-based markers for gauging **return on investment** of tourism.
- Develop our **small towns** as tourism destinations.
- Develop additional tourism product (venues, activities, etc.).

Industry Targets:

- Advanced Manufacturing
- I.T.
- Wood Products
- Healthcare
- Distribution/Logistics

Data:

- Jobs in the region declined by **6%** from 2001 – 2011.
- Compared with Virginia as a whole, the region is **over-represented** in: Government; Manufacturing; Agriculture and Forestry jobs.
- The region is relatively **under-represented** in: Professional and Business Services; Financial Activities.
- Employment by sector (2nd Quarter 2012):
Government 27.1%; Health Care & Social Assistance 13.3%; Manufacturing 12.9%; Retail Trade 10.6%.

Potential Regional Efforts:

- Regional branding and website
- Joint marketing to industry targets
- Develop **guidelines for collaboration/competition** in economic development
- Regional education and training initiative
- **Regional entrepreneurship program.**

An Economic and Workforce Evaluation of Targeted Industry Sectors in the Virginia Growth Alliance:

This report was prepared for VGA in April 2013 by Mangum Economic Consulting, looking at the five targeted industry sectors of Advanced Manufacturing; Forestry and Wood Products; Information Technology; Logistics and Distribution; and Tourism.

Economic trends since the Great Recession:

- The Growth Alliance region was hit harder by the recession than Virginia as a whole, and “has yet to truly emerge from it.”

- Recent positive employment trends in Professional and Technical Services, and I.T.; continuing large job losses in Manufacturing; Retail Trade; Construction; Transportation and Warehousing.

Employment in targeted industry subsectors:

- Food Services and Drinking Places – 2,493 jobs
- Wood Product Manufacturing – 994 jobs
- Truck Transportation – 679 jobs
- Warehousing and Storage – 553 jobs
- Forestry and Logging – 425 jobs

Highest performing subsectors (recent and projected growth in establishments, employment, and wages):

- Support Activities for Agriculture and Forestry
- Forestry and Logging
- Plastics and Rubber Products Manufacturing
- Textile Mills
- Wood Products Manufacturing
- Amusement, Gambling, and Recreation Industries

Workforce pipeline gaps:

- Largest gaps tend to be in **middle-skill occupations**, requiring some training beyond high school but less than a bachelor's degree.
- Specific gaps for these occupations: Auto Service Technician; Carpenter; Electrician; Industrial Machinery Mechanic; Maintenance and Repair Worker.
- Should the Commonwealth Center for Advanced Manufacturing (near Petersburg) meet projected targets for future employment growth, there could be increasing need for programs feeding these occupations: Computer Controlled Machine Tool Operators; Machinists; Machinery Maintenance Workers; Mobile Heavy Equipment Mechanics; Numerical Tool and Process Control Programmers; Welders.

Virginia's Growth Alliance:

Entrepreneurship Assessment and Recommendations:

This entrepreneurship assessment was produced for the Growth Alliance by the Longwood University Small Business Development Center in March 2013.

Recommendations:

A. Develop an "Entrepreneurial Pipeline."

- Information on entrepreneurial programs and assistance (including traditional and non-traditional sources of capital) is not sufficiently coordinated or marketed.

- Create a guide or portal of regionally available resources, online and in print.
- Put information in flow chart fashion, so entrepreneurs can plug into the system as whatever point is appropriate for them.

B. Identify businesses poised for growth and provide resources to encourage growth.

- Need to nurture existing businesses with at least two employees and potential for scalability and job creation.
- Work with economic developers to create a target list.
- Focus on VGA target industry sectors.

C. Work with community banks as an advisory group and roundtable.

- **Capital access identified as #1 concern** in this project.
- Bankers interested in working together on common (non-competitive) issues.
- Possible loan pool for small business loans too risky for one bank to handle.
- Potential for sharing one specialist in SBA loans.

D. Investigate implementation of wireless broadband.

- **Broadband access a top concern** for business development and growth.

E. Determine feasibility of an Angel Fund.

- Some informal investor networks, but not well known.
- More formal network could be started through VGA or broader area of Southern Virginia.

F. Continue to leverage the input of those participating in this project.

G. Encourage entrepreneurial training and basic business skill development in local schools.

Southern Virginia Regional Alliance (SVRA):

Strategic Plan 2017 – 2020 and 2017 Operations Plan:

The Southern Virginia Regional Alliance (SVRA) includes the counties of Halifax, Pittsylvania, Henry, and Patrick, and the independent cities of Danville and Martinsville, all of which are in GO Virginia Region 3.

Mission:

Collaborate to create a strong economy to benefit the citizens of the Southern Virginia Region.

Goals:

1. Maintain a catalog of SVRA resources as well as existing and potential stakeholders.

- Identify key industry sectors of existing localities and determine regional clusters to drive economies of scale.
- Develop a list of supporting services for key industries.

2. Identify development needs for existing industry, and economic opportunities for the region.

- Identify and address resource gaps for existing industry.
- Convene cluster meetings.
- Conduct outreach to Tobacco Commission staff and commissioners, and support regional projects as appropriate.
- Work with the CCAM Economic Developer to ensure the SVRA footprint is represented to prospects.

3. Enhance the visibility of the Southern Virginia Region globally and within the region.

- Develop a framework to launch a public relations and marketing approach to ensure a concise, consistent, professional message to stakeholders and prospects, depicting the strengths of the collaborating localities.

4. Identify qualified economic development leads for the region.

- Utilize existing industry to seek out needed service providers, suppliers, or vertical integration potential.
- Develop strong leads from trade shows, targeted listings like defense contractors or SBIR winners, or venture funded phase II-III level companies.
- Make existing industry a key ally in the SVRA plan with visitation plan and inclusion in meetings and visits.

SVRA Targeted Industry Sectors:

- High-Performance Manufacturing
- Advanced Materials
- I.T. and Professional Services
- Environmental and Life Sciences

Employment by Sector (3rd Q 2016):

Manufacturing 18.0%; Government 15.8%; Health Care and Social Assistance 15.3%; Retail Trade 13.2%.

**West Piedmont Works (West Piedmont Workforce Development Board):
Local Workforce Area Development Plan (WIOA Plan), 2016 – 2020:**

The West Piedmont Workforce Development Board covers Patrick, Henry, and Pittsylvania counties, and the cities of Martinsville and Danville.

Selected Goals and Strategies of the Plan:

- Have employers recognize West Piedmont Works as a valued partner in addressing talent needs, as evidenced by an increase in employers using OJT, incumbent worker training, and transitional worker services.
 - **Sector strategies** will be important. Focus on these in-demand sectors: Advanced Manufacturing; Healthcare; I.T.; Retail and Customer Service; Transportation, Logistics, Distribution, Warehousing; and Construction/Building Trades.
- Leverage resources through expanded partnerships.
- Decrease turnover in one-stop operators, and improve overall consistency of operations.
- Increase job seeker awareness of workforce services (especially through social media).
 - Retail will be a career pathway stepping-stone for upward movement into middle-skill occupations in various industries.
- Build capacity to meet the needs of employers by using **certified curricula** associated with work readiness, workplace essentials, and career intelligence.

Highlights from Workforce Demand Analysis:

- **Goodyear** is the largest employer in the region, but four of the top five employers are **governmental**.
- **Top-employing industries:** Government; Manufacturing; Health Care and Social Assistance; Retail Trade, Food Service and Accommodation.
- Highest employee turnover in: Administrative and Support; Food Service and Accommodation; and Professional, Scientific, and Technical Services.
- **Highest weekly wages:** Utilities; Management; Transportation and Warehousing; Federal Government; Manufacturing.
- Greatest **projected employment growth** 2014 – 2024: Health Care and Social Assistance; Professional, Scientific, and Technical Services; Construction; Administrative and Support.
- Industries **projected to lose jobs** 2014 – 2024: Manufacturing; Information.
- Among occupations that are projected to grow from 2014 – 2024 and pay over \$40,000 annually, five of the top seven are in physical or mental **Healthcare**. The

other two occupations are Market Research Analysts and Marketing Specialists; and Paralegals and Legal Assistants.

- 57% of employees work at establishments with less than 100 employees.
- Employers from in-demand sectors indicate that their #1 need from West Piedmont Works is “skilled workers.”
- **Job skills** listed most often in 2016 advertisements in the region: Customer service ▪ decision making ▪ flexibility ▪ crisis intervention ▪ program evaluation ▪ problem solving ▪ interpersonal ▪ financial management ▪ time management ▪ positive attitude ▪ mentoring ▪ system integration.

Highlights from Workforce Supply Analysis:

- Unemployment in the region moderately higher than Virginia and the U.S.
- 41% of the population is 50 or older. 23% is between 20 and 50 years old.
- Population projected to be flat through 2020, then growing about 1.5% annually through 2030 and 2040.
- 37% of workers commute outside the region. Net out-commuting of 7,950 workers.
- Education attainment: 46% of adults (18 and over) have some college, compared with 62% statewide and 59% in the U.S. 48% of white residents have some college, 39% of African-Americans and 25% of Hispanics.

South Central Workforce Development Board

Local Plan, March 2017:

The South Central WDB serves the 10 counties of Amelia, Brunswick, Buckingham, Charlotte, Cumberland, Halifax, Lunenburg, Mecklenburg, Nottoway, and Prince Edward. The plan’s vision is to have workforce services connected for businesses and job seekers, and tailored to meet the needs of the regional economy.

Strategic Priorities through June 2020:

- A system that is recognized for quality by a majority of businesses and job seekers.
- **Engage businesses** in partnerships.
- **Simplify** the service delivery system.
- **Lead alignment efforts** among workforce development, secondary and post-secondary education, and economic development entities across the region.

Selected Goals and Strategies:

1. Build awareness of workforce opportunities and supports across the region.

- **Inform school employees** about what businesses need, and opportunities for students to learn about the world of work and skills development.
- Promote **externships for Career Technical Education (CTE) teachers** to experience workplaces.

- Expands workforce initiatives in schools, such as **dual enrollment**.

2. Improve methods to engage businesses.

- Collaborate with economic developers to attract and sustain new businesses.
- Develop a forum for businesses to provide input to elected officials.
- Further engage businesses by providing increased work-based learning opportunities for youth and adults.

3. Lead stakeholders in the design and implementation of a regional system that is aligned to ensure ease of customer access, resulting in employment and economic growth.

- Provide **entrepreneurship programs** that combine general business startup training with training in specific trades.
- **Map leading industries and occupations** in the region and provide appropriate training.

4. Collaborate across political boundaries in the region to establish a common vision for workforce development, and work together to target resources.

- Participate in regional initiatives (such as transportation and infrastructure) related to workforce development.

Highlights from Workforce Demand Analysis:

- **Healthcare** is currently and is predicted to continue to be the largest, in-demand industry sector in the region.
- Education Services and Retail Trade are next in employment size, but growth is predicted to be slow.
- **Manufacturing** employs a large number, but employment is projected to decline over the next 10 years.

Projected Employment Change by Industry, 2014 – 2024:

Healthcare +24.5%; Professional Scientific and Technical Services +15.0%;
Administrative and Support +13.2%; Construction +11.0%; Education Services + 8.9%;
Transportation and Warehousing +7.1%; Finance and Insurance +6.9%; Agriculture and Forestry +6.7%.
Manufacturing -9.2%.

Projected Employment Change by Occupation Category, 2014 – 2024:

Largest percentage increases:

Healthcare Support +29.4%; Personal Care and Service +25.1%; Healthcare Practitioners + 19.1%; Community and Social Service +14.2%; Legal +13.0%;

Computer and Mathematical +12.2%; Life, Physical, and Social Science +11.3%;
Business and Financial Operations +10.8%; Education, Training and Library +10.4%

➤ Of specific occupations that are projected to grow and pay over \$40,000 annually, all of the top five are Healthcare-related.

Highlights from Workforce Supply Analysis:

- Regional population increased 3.1% from 2000 – 2015, and is projected to increase 1.6% through 2020.
- Net out-commuting of 22,666 workers. Leading destinations outside the region are Chesterfield County, City of Richmond, and Henrico County.
- Unemployment is moderately higher than in Virginia and the United States.

Assessment of the Living Wage and Job Availability for Working Families in the Dan River Region, Virginia:

Chmura Economics & Analytics prepared this study for the Dan River Region Collaborative in March 2017. Key findings:

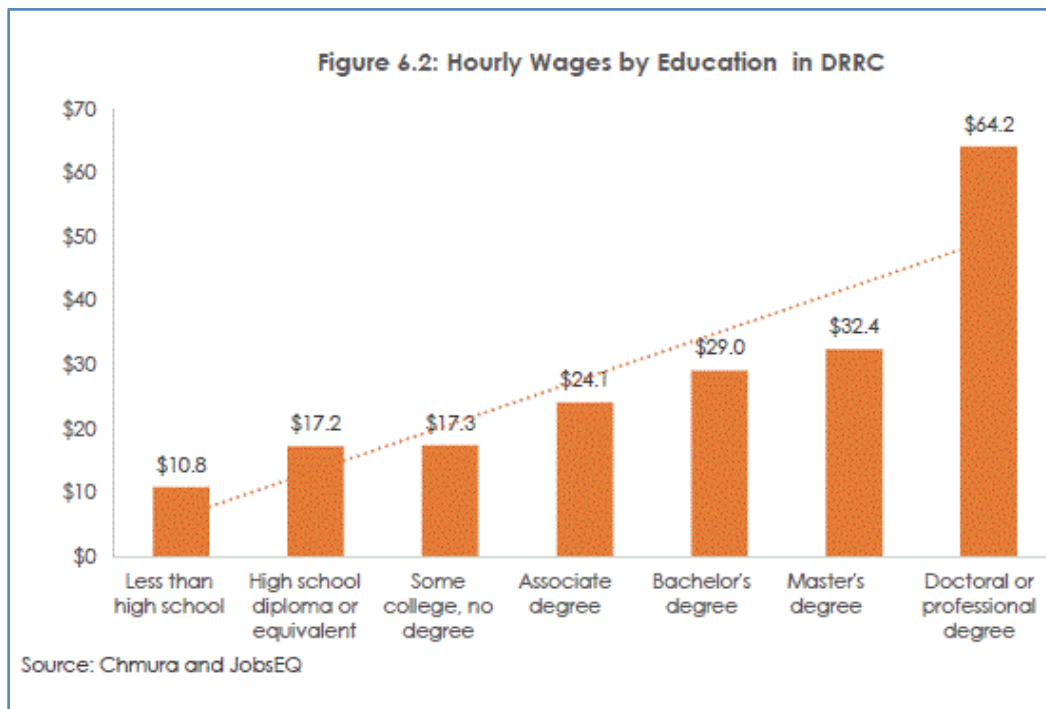
Estimated Living Wage:

The average living wage across the region is **\$10.68** per hour. The estimated living wage varies greatly by family type.

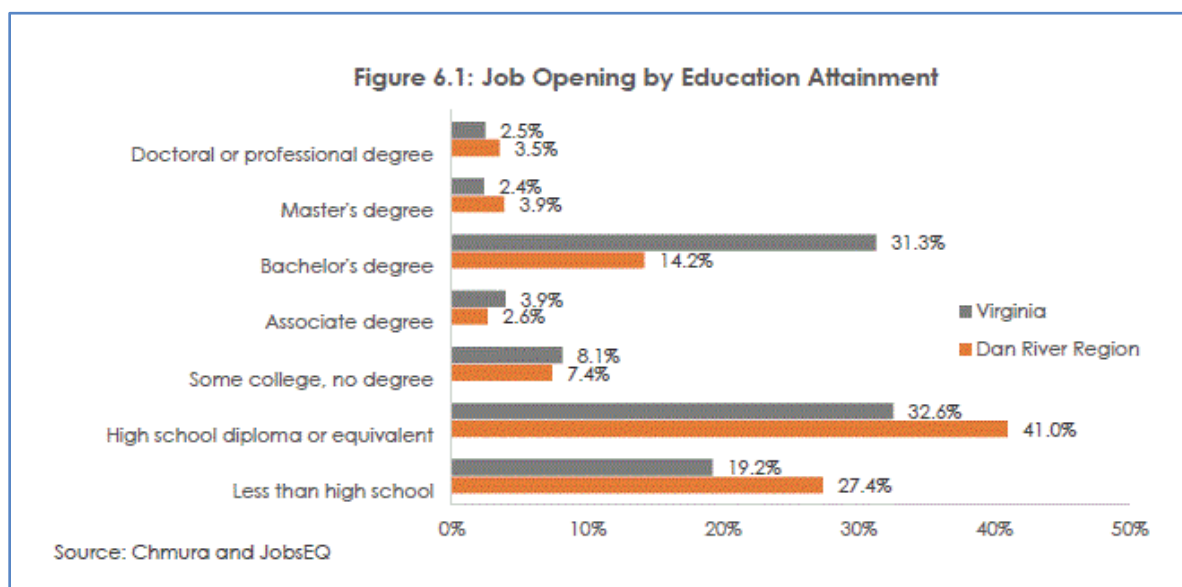
One adult, no children:	\$ 8.64 per hour
One adult, two children:	\$18.73 per hour
Two adults (one working), two children:	\$16.50 per hour
Two adults (two working), two children:	\$11.50 per hour

Job Openings, January 2017:

- Of the 3,314 job openings in the region, 39% were in the retail sector, followed by healthcare at 20% and manufacturing at 7%. Of the employers with the most openings, five are in retail, three in healthcare, and two in government.
- “Healthcare is the fastest-growing industry in the region, and there are adequate job opportunities in this industry.” Occupations with the most openings include registered nurses, mental health counselors, nurse practitioners, and occupational therapists.
- Openings in the region are “skewed toward low-wage jobs.” 36% of open positions pay less than \$9.00 per hour. Many of these are in the retail sector. Occupations such as home health aides, food prep and service workers, and customer service representatives usually fall into this range as well.
- About 20% of available jobs pay between \$11.00 and \$12.99 per hour.
- In the Dan River Region, 8.5% of available jobs pay between \$20.00 and \$39.99 per hour. In Virginia statewide, 29.7% of available jobs are in this pay range.



- Half of the available jobs pay over the regional living wage. “Families with children have a difficult time meeting their basic needs,” based on available jobs.
- 68% of job openings do not require any post-secondary education, compared with 52% statewide. This indicates that “job openings in the Dan River Region tend to be low-skilled positions that do not require college or higher degrees.”



Summary:

“...The fundamental challenge for the region is to expand job opportunities for residents.”

- The Dan River Region has an available workforce estimated at 7,212 with 3,314 job openings, indicating that available workers far exceed available positions.
- For example, there is an estimated supply of 1,518 available production workers and only 105 production job openings.
- A few occupation groups in the region – such as healthcare practitioners and technical workers - do not have enough available workers.

Southside PDC:

CEDS Plan Update, April 2016:

The Southside PDC’s most recent update of its Comprehensive Economic Development Strategy (CEDS) promotes the vision of “a sustainable, diverse economy that promotes a skilled workforce for 21st Century employment sectors including **advanced manufacturing, modern agriculture, healthcare, and entrepreneurs** while celebrating its natural heritage through **tourism**.”

The plan promotes investments in **Land** (natural resources and infrastructure), **People** (skilled workforce and superior public education), and **Capital** (gap financing and public/private partnerships).

Economic Development Priorities:

- Development/improvement of workforce training programs.
 - Workforce education has similar value to a college degree in the region.
- Infrastructure improvements.
 - Natural gas, rail, water, sewer.
 - Increased freight rail service.
- Expand broadband networks.
- Effectively promote the region.

Implementation Highlights:

1. Recruitment and Retention

- Target businesses that fit with identified workforce strengths, clusters, and gaps. Major employers are in healthcare, manufacturing, food service, and technology.
- Make K-12 schools a **positive rather than a challenge** to recruiting new businesses, especially those requiring higher skills.
- Produce a **unified message to market the entire region**, including the neighboring Southern Virginia Regional Alliance area.
- Identify **occupations to be targeted** – professional (nurses, engineers) and skilled labor (electricians, welders).

- Partner with private companies that have ties outside the region.
- Use incentives to target and provide infrastructure for key industries.
- Grow supply chains in region to strengthen clusters.

2. Training

- Expand programs in selected **technical training areas**: nurses, accountants, machinists, mechanical engineers, welders, fabricators.

3. Investing

- Strengthen **cooperation between VGA and SVRA** to leverage public/private funding for critical infrastructure or facility needs.

Stressing the Need for Regional Cooperation:

- Partner in order to have a “larger footprint and more compelling regional message.”
- “Collaboration is the new competition, and the key to innovation and success.”
- Stakeholder comment: “You are competing with the nation.”

Additional Stakeholder Comments:

- There’s a real need to “diversify the economy.”
- “Our biggest challenge is a trained workforce.”

Regional Strengths:

- Industrial sites
- Low cost of doing business and living
- High-speed broadband
- Community college system
- Recreation opportunities

Regional Weaknesses:

- Aging workforce
- Skills gap
- Perceived weakness of K-12 public schools
- Aging infrastructure
- Last-mile broadband
- Vitality of downtowns

Background Demographic and Economic Data:

- Population has been flat since 1980.
- Median household income is about one-half of Virginia’s and two-thirds of the United States’.
- 23.7% of all housing units are mobile homes.

- About 17,000 people living and working in the region, about the same number as out-commuters.
- Growing industry sectors: Education and Health Services.
- Region has 12.7% of workforce in Financial and Management Services, compared with 26.1% statewide.
- 2013 business survey: manufacturers say that regional **high school grads lack math and logic skills**, and the public **school system is the #1 deterrent to recruiting talent** from outside the area.

2013 Cluster Analysis:

Mature Industries:

Apparel & Textiles ▪ Chemicals & Chemical-Based Products ▪ Energy
▪ Forest & Wood Products ▪ Glass & Ceramics

Emerging Industries:

I.T. & Telecommunications ▪ Manufacturing Supercluster ▪ Printing & Publishing
▪ Fabricated Metal Product Manufacturing

Stars:

Biomedical/Biotechnical (Life Sciences) ▪ Transportation & Logistics
▪ Electrical Equipment, Appliance, & Component Manufacturing

West Piedmont PDC:

CEDS Plan Update, March 2016:

The following are key elements of the vision described in West Piedmont PDC's 2016 CEDS plan update:

- **Image** – emphasize three key attributes: 1) proximity to industrial hubs in Virginia, North Carolina and beyond; 2) availability of land and capital for industries; 3) quality of life, highlighting people, sense of place, and natural resources.
- **Regional approach to cooperation**
- **Public/private financial partnerships**
- **Attract new jobs and advance expansion** – goal of diversifying the economy.
- **Infrastructure improvements and amenities as a business incentive** – new business sites served by utilities and state-of-the-art telecommunications; presence of regional business incubators.
- **Education and training centers working closely with businesses**
- **Tourism efforts**

Selected District Goals and Strategies:

1. Enhance regional identity, vision, and collaboration.

- Dialogue between economic development organizations and businesses.

- Pipeline of emerging leaders, new leadership programs.
- Regional marketing and branding.
- Align regional goals and strategies in government, workforce, and higher education.
- Cooperation regarding industrial land and infrastructure.
- Regional approach to workforce development.

2. Retain and expand existing industries and businesses.

- Encourage industry suppliers to relocate; incubate them in industrial parks.
- More programs for small businesses and startups, entrepreneurs.

3. Advocate regional economic diversity and attract new businesses.

- Promote redevelopment of CBDs and small towns.
- Support industry clustering.
- Promote creative clusters in the arts and cultural programs (such as the “Crooked Road.”)

4. Provide land development infrastructure.

- Shell building program.
- Rehab of vacant or under-utilized buildings.
- Explore regional revenue-sharing opportunities.

5. Increase educational opportunities, especially related to technology and STEAM-H.

- Advocate more flexible programs including online curricula/degrees.
- More dual enrollment and advanced placement offerings.
- Advocate for creation of a **medical school**.
- Promote regional technology centers such as the Institute for Advanced Learning & Research, Regional Center for Advanced Technology & Training, New College Institute.

6. Strengthen connection between workforce skills and training programs.

- Promote experiential learning.
- Certified Work Ready Communities.

7. Develop small and minority businesses.

- Expand venture capital.
- Support existing incubators.

8. Improve overall quality of life.

- Expand trail and blueway access and connections.

9. Create modern telecommunications infrastructure.

- Increase cell towers and last-mile broadband connectivity.

10. Preserve agricultural base, and promote modern agricultural enterprises.

- Promote biotech and alternative energy research.
- Look for agricultural diversification opportunities.
- Promote agribusiness programs in K-12 and higher education CTE programs.
- Attract agribusinesses that complement existing enterprises.

Strengths:

Fiber optic network ▪ Highway system ▪ Unique workforce training programs
▪ Natural resources and scenic beauty

Weaknesses:

No interstate ▪ Lack of cell tower coverage ▪ Last-mile broadband connectivity
▪ Lack of economic diversity ▪ Low-skilled job seekers ▪ Deteriorating housing

Opportunities:

Industry clustering ▪ Seed capital and venture funding ▪ Entrepreneur mentoring
▪ Student work experiences ▪ Regional tourism & marketing efforts

Threats:

U.S. and global competition ▪ Aging infrastructure ▪ Population decline

Background Demographic and Economic Data:

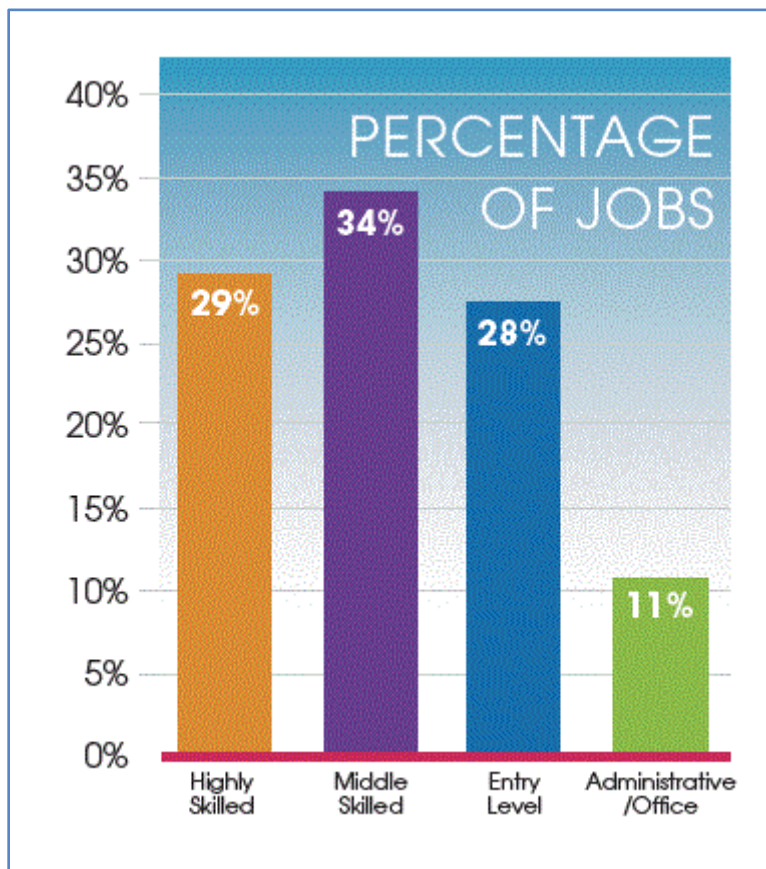
- Slight population decline since 2000. Danville and Martinsville have had significant declines since 1990. Projections are for small population increases across region through 2040.
- Median age 44.7 vs. 37.6 in Virginia.
- Education attainment: 22.9% with at least an associate degree vs. 39.4% in Virginia.
- Minority population 27% in region; over 50% in Martinsville and Danville.
- Poverty 18.2% vs. 11.5% across Virginia and 15.6% in the United States.
- Employment by industry sector – nearly 50% in Services, 18% Manufacturing, 13% Retail.
- Number of start-up businesses increasing since 2012.
- Number of farms increased slightly 1992 – 2012; farm acreage down slightly.

2016 Survey of Southern Virginia Manufacturing Workforce Needs:

This survey was conducted for the Southern Virginia Manufacturing Partnership of the Dan River Region Collaborative. The survey was distributed to 124 manufacturers in

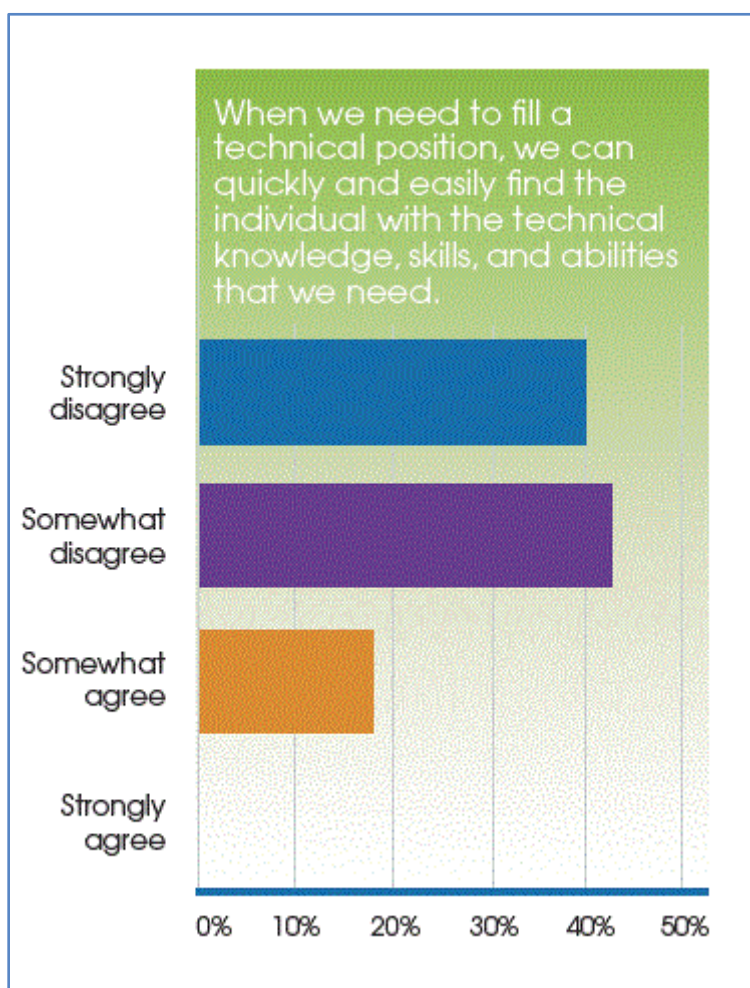
four counties (Halifax, Henry, Patrick, Pittsylvania) and two cities (Danville and Martinsville). Forty-five completed the survey.

- Manufacturing accounts for 18% of employment in the region, with jobs in the sector paying 41% more than the average wage (\$877 per week vs. \$622 average).
- During 2015, 64% of respondents increased employment, 34% stayed the same, and 2% decreased employment. 74% planned to increase hiring in 2016, and none planned to decrease hiring.
- The greatest number of manufacturing jobs (34%) fall into the **middle-skill** range.



- 36% indicated that they had unfilled jobs at the time of the survey, due to a **lack of candidates with the required skills**.
- Looking out over the next five years, manufacturers estimate they will need to replace 462 workers due to retirements, and add 758 new positions due to company growth, for a total of 1,220 positions needing to be filled.
- The jobs that will need to be filled are predominantly entry level and middle-skilled. Machine Operators make up 39% of the total and Production Technicians 19%.
- Best sources for finding job candidates:
1) employee referrals 2) word of mouth 3) community college 4) staffing/temp agencies 5) Virginia Workforce Center/Virginia Employment Commission.

- Of respondents that use skill assessments in hiring, the greatest number (39%) use the National Career Readiness Certificate/WorkKeys.
- For entry-level positions, 67.5% of employers require a high school diploma or equivalent.
- Most employers require or give preference for specific credentials or certifications.
- Skills and attributes: across all skill levels, Attendance, Following Directions, and Teamwork rank highest. In higher-level positions, Critical Thinking, Verbal and Written Communications also rank high.
- Considering future hiring concerns, Work Ethic ranked as the #1 concern, followed by Drug/Substance Abuse Issues, Employee Retention, and Teamwork Skills.
- Only 31% of employees are “fully qualified” in the position for which they are hired.
- About 70% responded that significant additional training is needed “very frequently” or “somewhat frequently.”
- Less than 20% agree that they can “quickly and easily” find individuals with the knowledge, skills, and abilities needed for technical positions.



- 95% of manufacturers use on-the-job training.
- The most-used external training provider is community colleges.

Southern Virginia Higher Education Center (SVHEC)

Strategic Plan 2014 – 2016:

SVHEC in South Boston provides more than 100,000 square feet of space with equipment, technology, and support services to allow higher education partners to offer more than 125 programs to a historically underserved, rural population.

SVHEC's Vision:

By enabling the citizens of Southern Virginia to achieve “educational victories” via for-credit credentials including degrees, certificates, and diplomas, and industry-recognized certifications, SVHEC is contributing to the long-term economic strength of the region.

Customers:

Public and private 2-year and 4-year higher learning institutions ▪ Regional employers (offering workforce assessment, consulting, and customized programming) ▪ Students
▪ Regional organizations

Goals:

1. Accessible, affordable, and relevant **post-secondary education and training** for all citizens of Southern Virginia.
2. Elevate education and **skills preparedness levels** of the work force in order to enhance economic development.
3. **Strengthen pathways** from PreK-12 education and workforce training, especially in science, technology, engineering, math, and healthcare (**STEM-H**).
4. Advance the competitive capabilities of industry through **technology transfer** in the form of applied research results and innovative manufacturing techniques.

2016 Annual Report Highlights:

- New I.T. academy opens.
- Grant obtained to address the region's **nursing** shortage.
- Provided specialized training to help Presto Products expand in South Boston, through the **Retention of Manufacturing** in Southern Virginia initiative.
- 15 certified welders in initial cohort of new welding program.
- Working to make SVHEC a Center of Manufacturing Excellence. Focus on **welding, precision machining, and industrial maintenance/mechatronics**.
- Progress on regional transportation project, potential new fixed-route bus service.
- R&D division wins grant that could impact area wineries and brewers.

The Institute for Advanced Learning and Research (IALR)

Strategic Plan for FY 2017:

IALR is affiliated with Virginia Tech and located in Danville. The mission statement calls for IALR to serve “as a regional catalyst for economic transformation” through “applied research, advanced learning, workforce and economic development.”

Selected Goals, Objectives, and Strategies:

1. Forge effective public and private partnerships with a focus on research, workforce development, and economic development.

Applied Research:

- Maximize use of expertise through IALR’s partnership with Virginia Tech.
- Collaborate with commercial and academic users of **polymers** to expand knowledge and improve processes.
- **Agriculture** - Improve understanding of key crops, plants, and soils to develop **commercialization** opportunities. Expand partnerships with farmers.

Business Recruitment & Development:

- Obtain agreements with existing industries for **contract research** at IALR.
- Assist economic developers with **recruiting** new businesses.
- Strengthen and support **entrepreneurs** (at Launch Place and elsewhere).
- Support niche research organizations such as SoVA Motion/National Tire Research Center.

Workforce Preparation:

- Assist the Dan River Region Collaborative by supporting **Certified Work Ready Community** efforts and use of the **National Career Readiness Certificate**.
- Support the Capstone program and the Academy of Engineering & Technology.
- Partner with SVHEC and New College Institute.

2. Build the region’s STEM capacity.

- Develop a regional “career expo.”
- Increase work-based STEM learning/training programs.
- Collaborate with businesses to provide **opportunities for teachers to gain on-the-job experience**.
- Help develop **career pathways** aligned with the identified industry sectors and STEM-H opportunities.

3. Secure local, regional, and national exposure.

- Increase the number of site selection consultants as well as existing and prospective industries visiting IALR.

Mid-Atlantic Broadband (MBC):

Economic Development Potential of the MAREA and BRUSA Undersea Fiber Optic Cables:

This report was prepared for MBC by Mangum Economics in January 2017. It deals with two international undersea fiber optic cables landing in Virginia Beach, potentially operational by late 2017 or early 2018. The MAREA cable will link Virginia Beach with Bilbao, Spain. The BRUSA cable will connect Virginia Beach with Puerto Rico and Brazil. Investors in the two projects include Microsoft, Facebook, and Telefonica.

The report notes the potential for MBC's fiber network in Southern Virginia to "increase in value to overseas users and facilitate regional economic development."

Opportunities:

- Foreign and domestic **data centers** choosing to locate near the new cable landing.
- U.S. businesses that depend on internet traffic with Southern Europe or Brazil.
- Southern European businesses that depend on internet traffic with the U.S. or Brazil.
- **High-Tech Service Industry Cluster** companies will most likely be attracted by the new connections. Industries in the cluster include:
Architectural & Engineering Services ▪ Telephone call centers & Business service centers ▪ Computer Systems Design ▪ Data Processing & Hosting ▪ Electronic Shopping & Mail-Order ▪ Telecommunications.
- "European firms doing research in pharmaceuticals and automobile technology have already made major investments in facilities in the U.S. and may be interested in establishing a presence in Southern Virginia."
- Opportunities "need not be restricted to the cable landing site" and can include localities that are "some distance" from the site.

Caveats:

- Economic development "will not occur spontaneously" because of the cables.
- Experience in other places shows that "undersea internet cables do not in and of themselves create high-tech economies with high-tech jobs."
- Undersea internet cables from Florida to Latin America "have offered little economic development opportunities" in Florida.
- Targeted efforts by economic development agencies will be necessary to maximize opportunities.

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PART II: ECONOMIC AND WORKFORCE BASE GROWTH ANALYSIS

INTRODUCTION

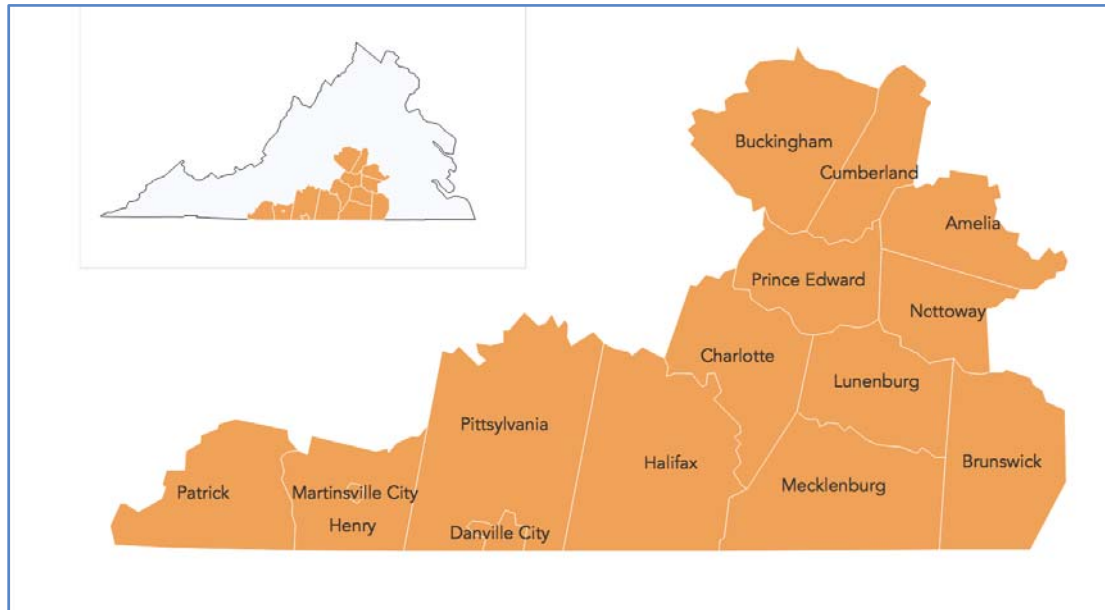
This section of the report reviews the quantitative growth trends of Region 3's workforce and economy, as well as input from business leaders and workforce partners on workforce strengths and weaknesses.

The majority of this data was collected using the subscription-based Economic Modeling Specialists International's (EMSI) Analyst tool. Unlike publicly available government data, EMSI data can drill down to 5-digit Standard Occupational Classification (SOC) system occupation codes and 6-digit North American Industry Classification System (NAICS) codes to see detailed trends without encountering the non-disclosure barriers of public data. Using a nationwide data aggregator such as EMSI allows more standardized comparisons among regions and states, and is the type of tool frequently used by businesses when evaluating locations.

EMSI data is based heavily on the Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) and is consistent with this dataset. EMSI models also predict employment up to the year 2026 by taking an average of 5-year, 10-year, and 15-year trends. Economic Leadership then analyzed this data specifically for Region 3 and compared its growth trends with other GO VA regions in the state.

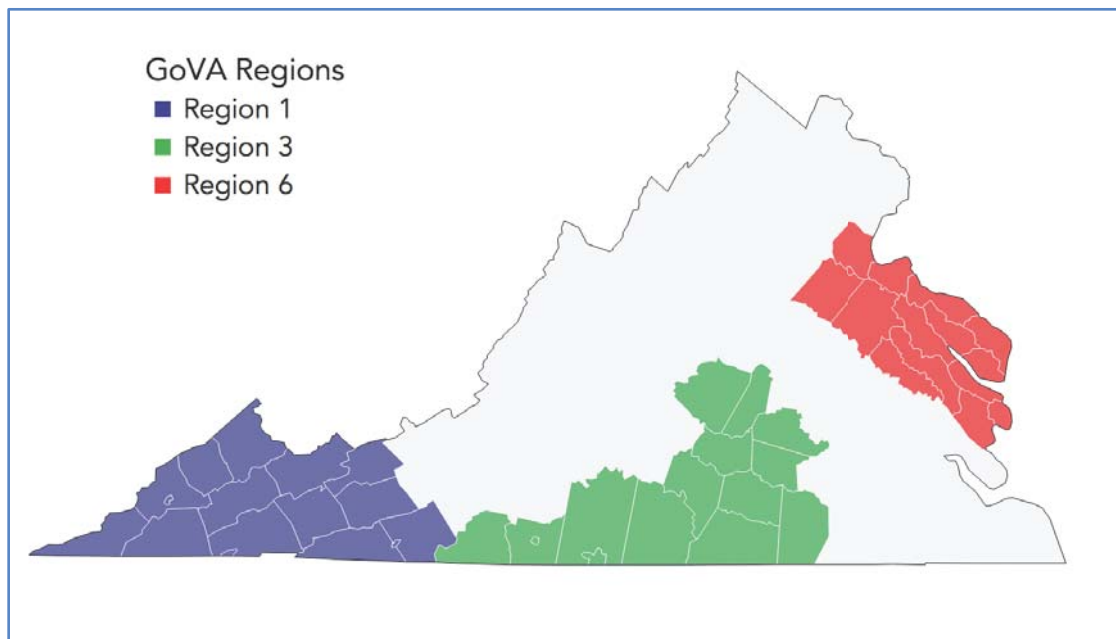
Region 3 includes the portion of the state traditionally known as "Southside Virginia." The region includes 13 counties and 2 independent cities. Most of the region lies close to the North Carolina border. Much of the population of the region is centered around the independent cities of Martinsville and Danville.

GO VA Region 3 – Southside Map



To understand the context of Region 3's economic and workforce trends, it was compared against two other GO VA regions as well as state and national trends. The two comparison GO VA regions are Region 1, which encompasses the mountainous Southwest Virginia, and Region 6, which includes the Northern Neck and the Middle Peninsula. Region 6 also includes the independent city of Fredericksburg.

Map of Comparison Regions



DEMOGRAPHICS

In 2016, the population of Region 3 was 371,700 inhabitants. Region 3 and Region 1 are comparable in population size, while Region 6 has over 100,000 more people within its borders. Region 3 represents about 4.4 percent of the state population.

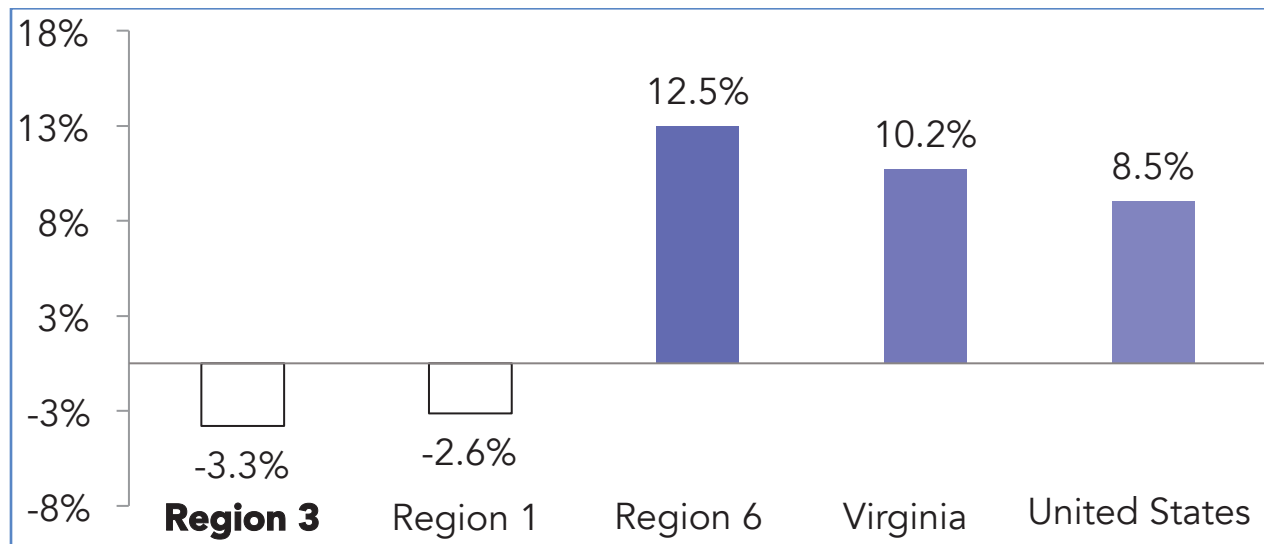
Population, 2016

Region	Population
Region 3	371,700
Region 1	389,080
Region 6	502,810

Source: EMSI 2017.1

The population of Region 3 has been in decline since 2006, falling by 3.3 percent. This population decline ranked Region 3 last among its peer regions as well as below the Commonwealth of Virginia and the national average. Region 6 saw 12.5 percent population growth in the last ten years, a rate higher than both the state and the nation. Region 1 saw a population decline of 2.6 percent.

Population Growth, 2006-2016



Source: EMSI 2017.1

According to county migration data from the US Census Bureau, some of the population decline can be attributed to residents moving out of the region. From 2010 to 2014,

Region 3 saw more individuals move out of the region than those who moved into the region, creating a net migration of -1,227 people.

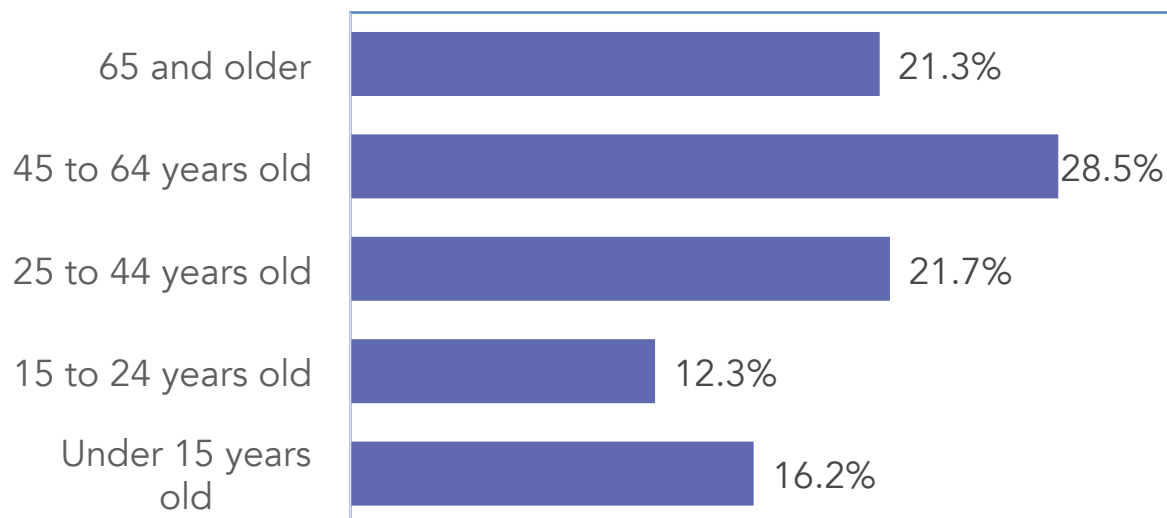
Migration Patterns 2010-2014

Region	New Migrants	Moved Away	Net Migration
Region 1	12,487	13,640	-1,153
Region 3	15,171	16,398	-1,227
Region 6	31,293	24,571	6,722

Source: EL calculations based on US Census Bureau (2016)

Region 3 has a relatively older population. About half of the population is 45 years old or older. For comparison, 41 percent of all Virginia residents are 45 or older. As seasoned professionals aged 45 to 64 move towards retirement, there will be fewer young people in the workforce to support them. The population aged 25 to 44 is a segment that can boost economic growth by starting a business, investing in new ventures, etc. This age group currently makes up about 22 percent of the population in Region 3. Throughout Virginia, this demographic accounts for 27 percent of the overall population. Over the past ten years, the population of this age group living in Region 3 has declined by 13 percent. Strategies to attract and retain millennial talent in the region are critical to boosting this segment of the population.

Age Demographics of Region 3, 2016



Source: EL calculations based on EMSI 2017.1

The average age of the population in Region 3 was 41.6 in 2016. This is an increase from an average age of 39.6 in 2006. The average age of Region 3 is about four years older than Virginia and the United States.

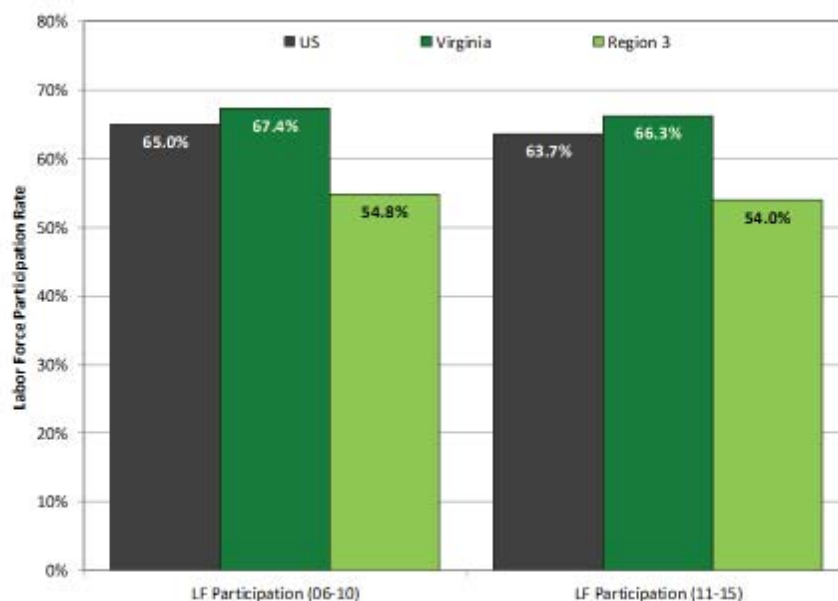
Average Age by Region

Region	2006	2016
Region 3	39.6	41.6
Region 1	39.7	41.6
Region 6	35.9	38.0
Virginia	36.1	37.7
United States	36.1	37.8

Source: EL calculations based on EMSI 2017.1

Perhaps impacted by the higher average age of the population, and dislocation of workers in traditional industries, labor force participation in Region 3 is significantly lower than in Virginia overall and the United States.

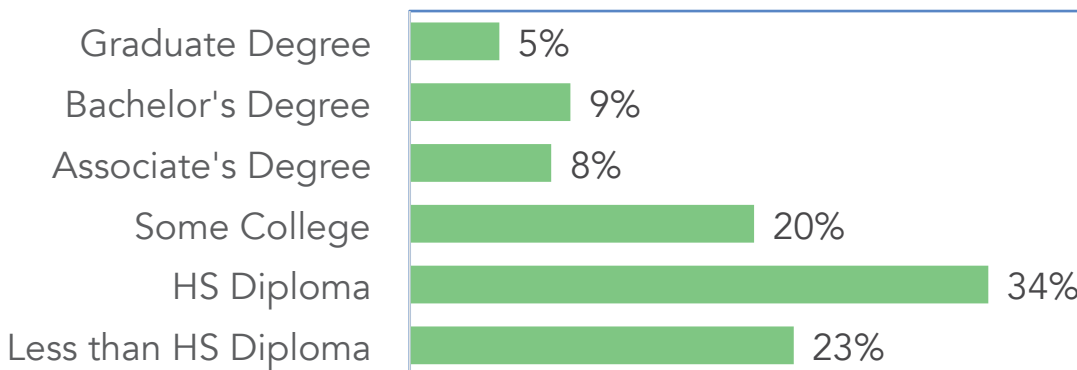
Labor Force Participation



Source: US Census Bureau, 2006-2010 and 2011-2015 American Community Surveys

Approximately 42 percent of the population in Region 3 has had some level of post-secondary education. About 23 percent of the population over the age of 25 years old has a post-secondary degree. Compared to the peer regions in Virginia, Region 3 has the lowest percentage of individuals with a high school education or higher at 77 percent. Across the country, about 29 percent of the population has a bachelor's degree or higher; in Region 3 and Region 1 that level is almost half of the national rate at 15 percent.

Educational Attainment of Population Age 25 and Older in Region 3, 2016



Source: EMSI 2017.1

However, Region 3's populace is trending upward in terms of education attainment over the past ten years. In 2006, 74 percent of adults had a high school diploma or higher. By 2016, that value increased by three percentage points. The percentage of people with a bachelor's degree or higher also rose by two percentage points from 2006 to 2016.

Educational Attainment by Region, 2016

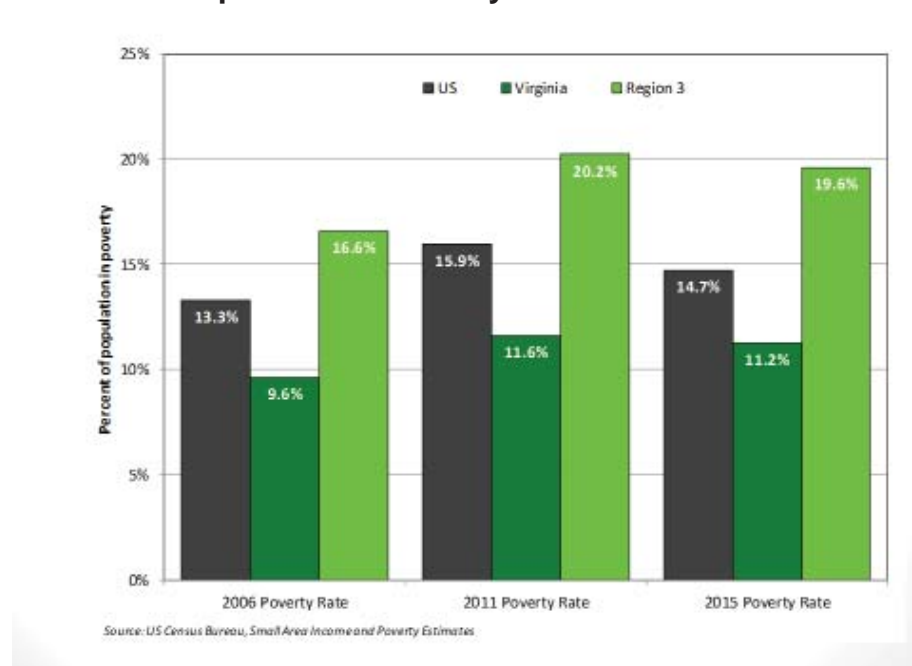
Region	HS Diploma or Higher	Bachelor's Degree or Higher
Region 3	77%	15%
Region 1	78%	15%
Region 6	89%	30%
Virginia	87%	36%
United States	86%	29%

Source: EL calculations based on EMSI 2017.1

The racial make-up of the region is mostly white, with white alone accounting for 61 percent of the population. Black people are the predominant minority group within the region accounting for about 33 percent of the total population. The Hispanic community accounts for two percent of the region's population. Compared with the Commonwealth of Virginia, Region 3 is slightly less white and Hispanic, and has a larger black population by proportion.

Poverty rates in Region 3 have been consistently higher than in Virginia and the United States as a whole. The most recent poverty figure for the region is about 33% higher than the national rate, and 75% higher than Virginia's overall poverty rate.

Percent of Population in Poverty



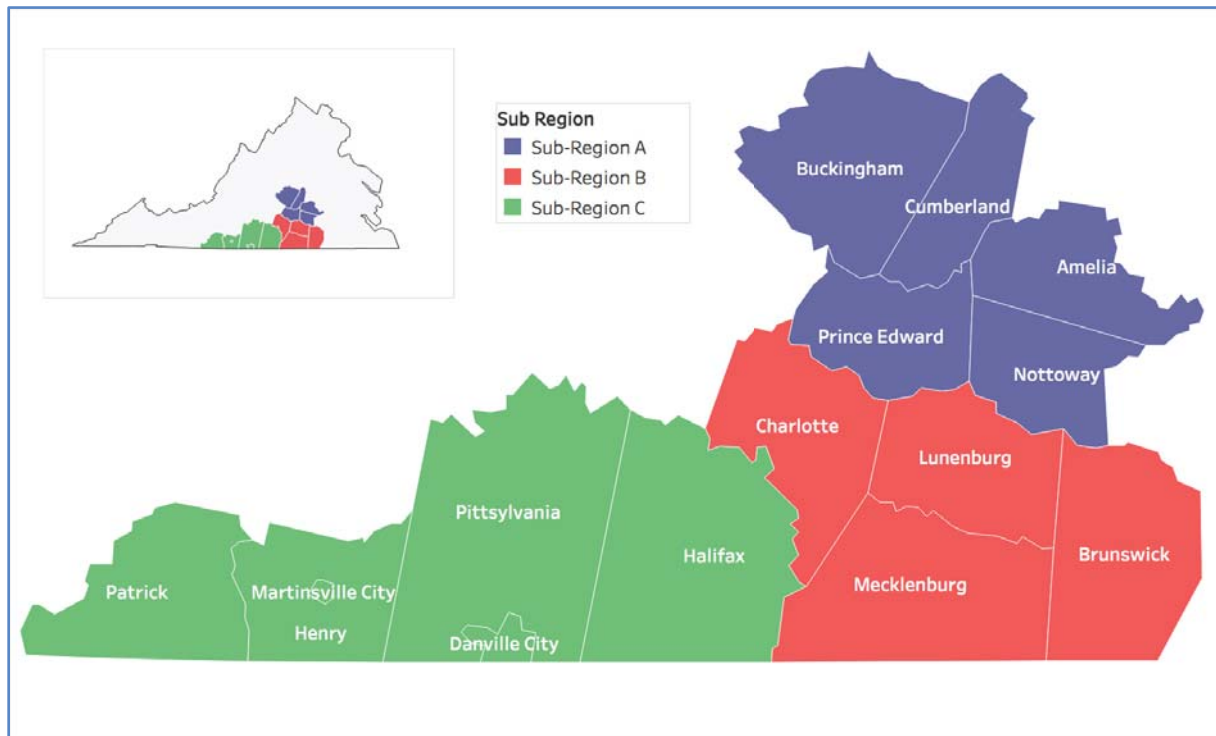
Commuting data for Region 3 presents a current picture of too few local jobs resulting in large out-commuting across the region. Overall, Region 3 sees net out-commuting of about 30,000 workers a day.

Sub-Regional Demographics

To explore what demographic differences there might be within Region 3, we divided the area into three sub-regions, labeled Sub-Regions A, B, and C:

- Sub-Region A is comprised of Amelia, Buckingham, Cumberland, Nottoway, and Prince Edward counties;
- Sub-Region B includes Brunswick, Charlotte, Lunenburg, and Mecklenburg counties;

- Sub-Region C is comprised of Halifax, Henry, Patrick, and Pittsylvania counties, and the independent cities of Danville and Martinsville.

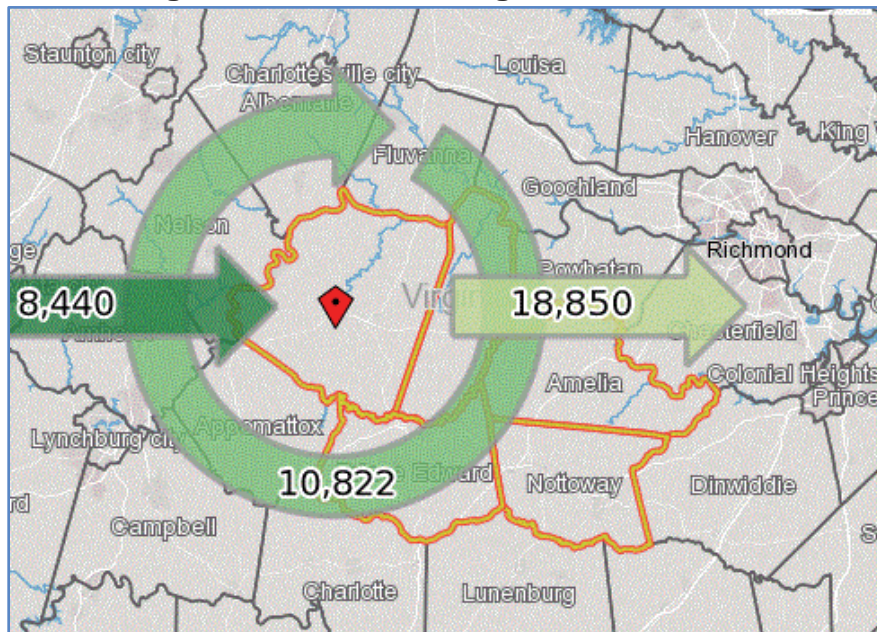


Metric	Sub-Region A	Sub-Region B	Sub-Region C
Population (2016)	78,194	71,664	221,839
Population Change (2006-2016)	3.1%	-6.3%	-4.4%
Average Age (2016)	39.6	42.5	42.0
Poverty Rate (2015)	19.5%	20.7%	19.4%
Bachelor's Degree or Higher (2016)	16.6%	15.3%	14.0%
Labor Force Participation Rate	52.4%	51.2%	55.4%
Unemployment Rate (2016)	4.7%	5.4%	5.4%
Employment Change (2006-2016)	-5.0%	-9.7%	-7.0%

Commuting Patterns by Sub-Region

Sub-Region A has 10,822 residents staying in the area to work, and 18,850 residents commuting out. The Richmond area is the greatest destination with 21.3% of workers commuting there. Smaller numbers commute to Albemarle County and Lynchburg. The graphic below illustrates those commuting into the area (8,440); both living and working in the area (10,822); and commuting out of the area (18,850). The arrows do not indicate the geographical direction of commuters.

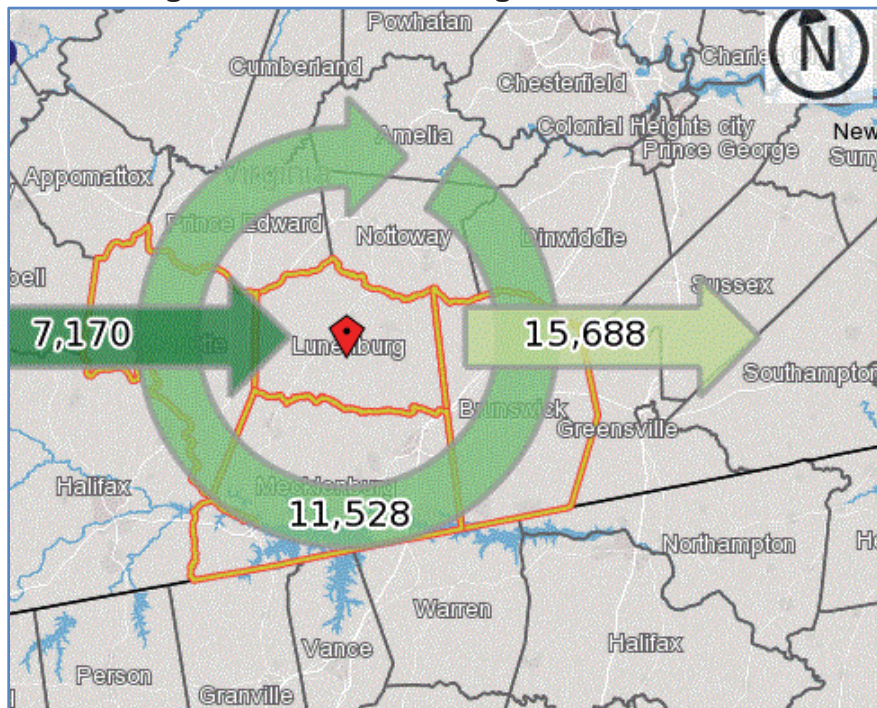
Commuting Patterns for Sub-Region A



Source: U.S. Census Bureau, On the Map Application, 2014 data

Sub-Region B has 11,528 workers remaining in the area and 15,688 workers commuting out. Ten percent of out-commuters go to the Richmond area, with smaller numbers working in Nottoway, Halifax, and Prince Edward counties. A staggering 36% of workers report that they commute more than 50 miles each way.

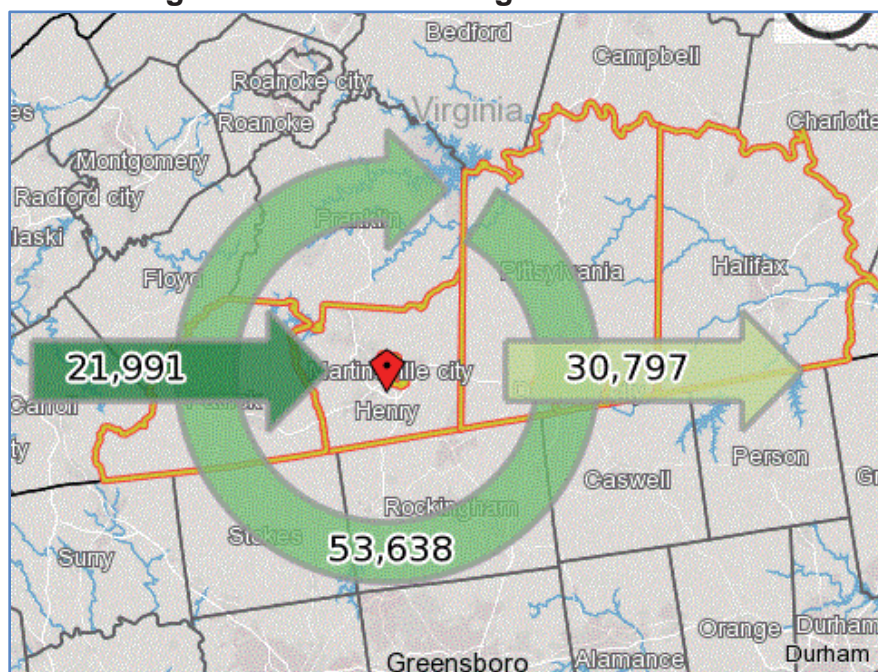
Commuting Patterns for Sub-Region B



Source: U.S. Census Bureau, On the Map Application, 2014 data

Sub-Region C retains the greatest percentage of residents for work. 53,638 residents stay within the area for work while 30,797 commute outside the area. Leading destinations are Roanoke, Lynchburg, and Campbell County in Virginia; and Rockingham County, North Carolina. Workers here face shorter overall commutes, with 43% reporting a distance of less than 10 miles and 20% a distance of greater than 50 miles.

Commuting Patterns for Sub-Region C



Source: U.S. Census Bureau, On the Map Application, 2014 data

ECONOMY & WORKFORCE

The economy of Region 3 has struggled in the last decade. The Great Recession only exacerbated the negative regional and global trends affecting these predominantly rural communities. Nevertheless, the region is showing recent signs of growth. This is best demonstrated by comparing the region to its peer, Region 1 in Southwest Virginia. Before the Great Recession, Region 1 was outperforming Region 3 on almost every metric. In the past five years, Region 3's growth has surpassed Region 1. The region still has challenges ahead, as EMSI models predict that at current rates the region will not return to 2006 employment levels until 2026.

Unemployment by Region, 2016

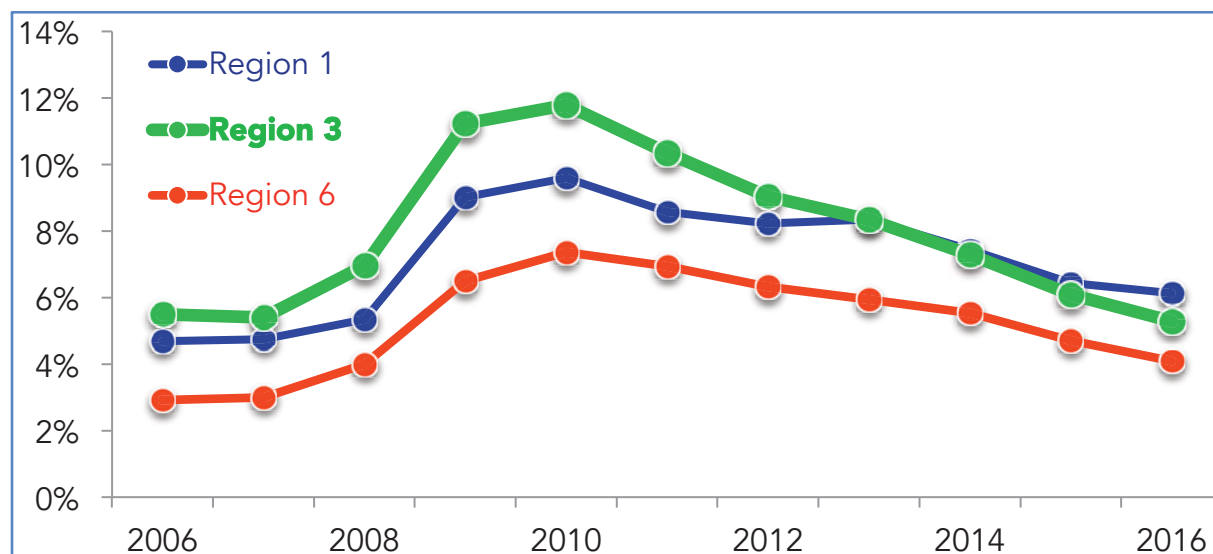
Region	Unemployment Rate
Region 3	5.3%
Region 1	6.1%
Region 6	4.1%
VA	4.0%
United States	4.9%

Source: Bureau of Labor Statistics (2017)

The unemployment rate of Region 3 was 5.3 percent in 2016. The region has shown stronger recovery from the recession in the last few years. Unemployment rates in Region 3 are more than one percentage point higher than the state average but not as far above the national average.

None of the data or plans reviewed details the issue of **underemployment** in Region 3. However, there are some measures of underemployment at the state and national levels. In addition to the most-cited unemployment percentages, a separate calculation includes discouraged workers, “marginally attached” workers, and those working part-time for “economic reasons” rather than by choice. Using that definition, Virginia’s unemployment rate of 4.0%, shown above, becomes 8.6%. Thus, measures of underemployment add a significant number of people working at less than desired levels.

Unemployment Rate Over Time, 2006-2016



Source: Bureau of Labor Statistics (2017)

Unemployment by Industry

In October 2016, about 8,500 workers were unemployed in Region 3. The highest number of unemployed workers were those who had previously worked in the government sector. This portion of the unemployed was 24 percent or about 2,000 workers. The next highest group of unemployed workers were those with no previous work experience at 18 percent. The manufacturing sector the 3rd highest group of unemployed workers with 12 percent. About 1,000 workers with manufacturing experience are unemployed in Region 3. These trends are consistent across the other GO VA regions, except that Region 6 has far fewer unemployed workers with manufacturing experience.

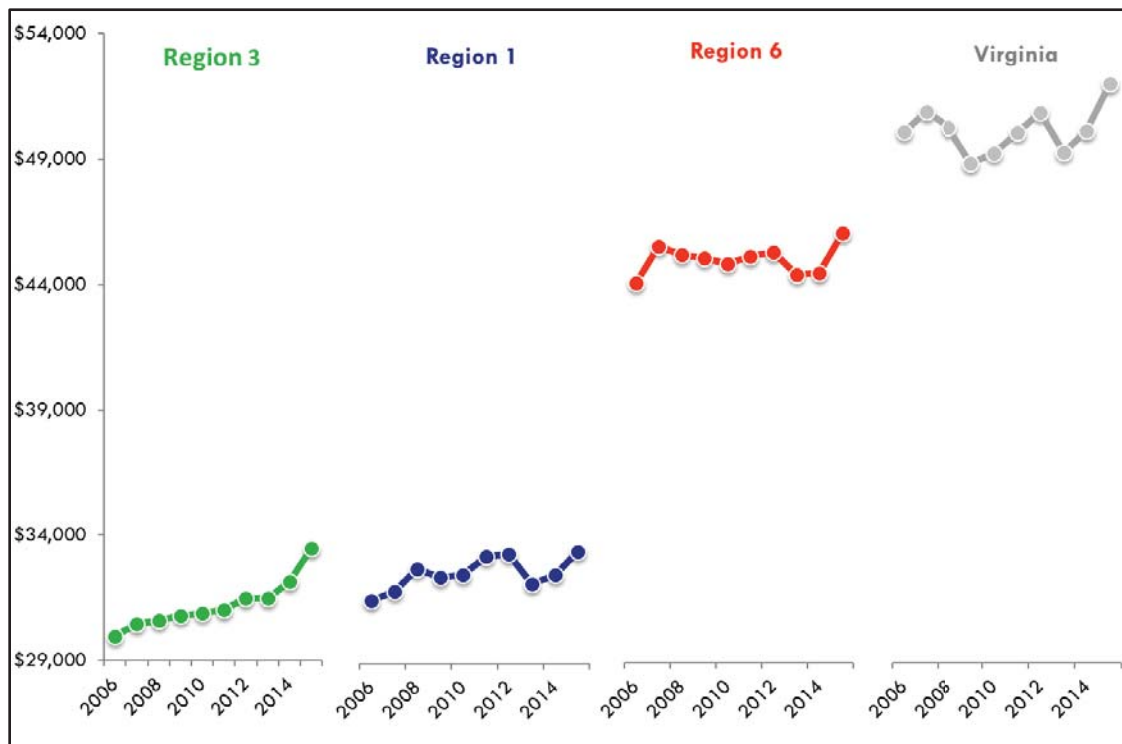
Gross Regional Product, 2016

Region	GRP (billions)	GRP Per Capita
Region 3	\$9	\$25,400
Region 1	\$11	\$27,300
Region 6	\$16	\$31,200
Virginia	\$441	\$52,100
United States	\$16,702	\$51,600

Source: EL calculations based on EMSI 2017.1

Measures of wealth and economic activity such as Gross Regional Product and Personal Income Per Capita show that Region 3 lags behind all the comparison regions, but recent growth is encouraging. The region has a Gross Regional Product per capita of \$25,400, about \$9 billion in total economic activity in 2016. These values are close in comparison to the other peer regions in Virginia, but are about half of state and national levels. The chart below shows the performance of personal income per capita adjusted for inflation from 2006 to 2015. While levels in 2006 were the lowest out of the group, Region 3 has seen consistent growth whereas the other regions have seen fluctuations. The Region 3 also surpassed Region 1 in personal income per capita by 2015.

Real Personal Income Per Capita Trends

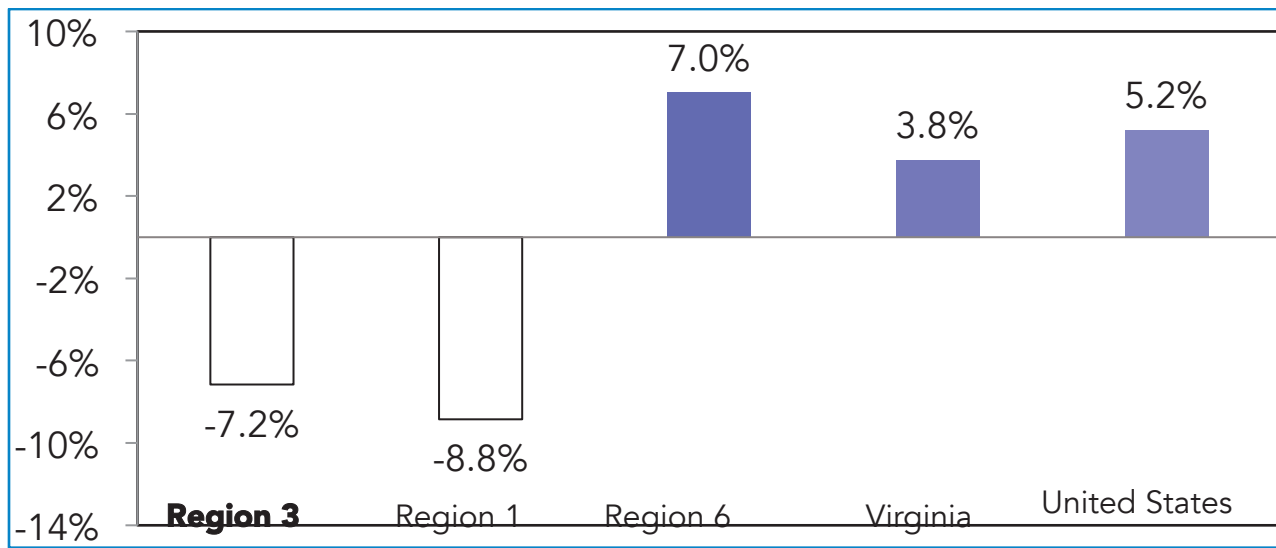


Source: EL calculations based on Bureau of Economic Analysis (2017) and Bureau of Labor Statistics (2017)

Employment

Region 3 employs almost 124,000 workers. Since 2006, employment in the region has declined by 7.2 percent. Region 1 experienced a more acute decline during this timeframe at 8.8 percent. Meanwhile, Region 6, the state, and the nation have been experiencing employment growth. The lower growth rate in Virginia compared with the nation can largely be attributed to the impact of sequestration of federal funding.

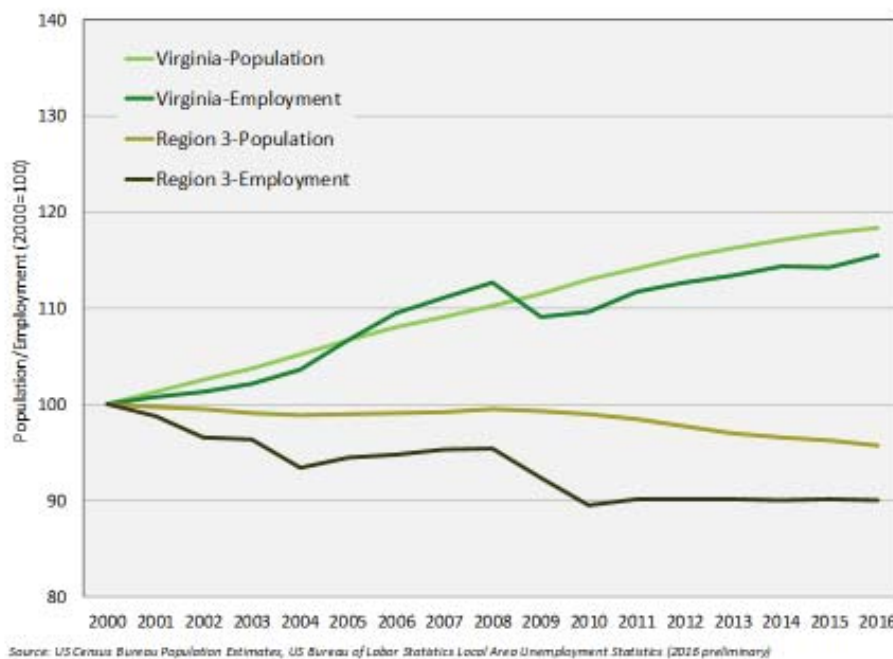
Total Employment Growth Rate, 2006-2016



Source: EMSI 2017.1

Looking at annual employment growth in Region 3 shows that the region was suffering from falling employment before the Great Recession truly took effect and did not return to positive growth until 2016. A long-term look at population and employment shows that employment levels in Region 3 have fallen further than population levels.

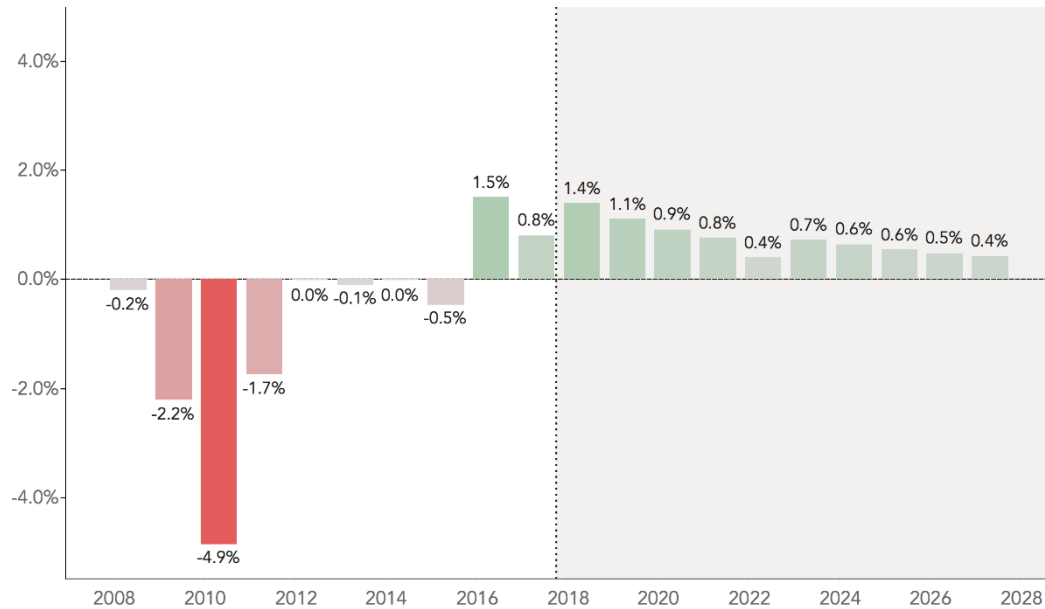
Total Employment and Population



Forecasting models predict that the region will likely experience slight yearly job growth

for the next ten years. While the state, nation, and Region 6 are growing consistently, Region 3 and Region 1 are struggling to tread water in the current economic landscape.

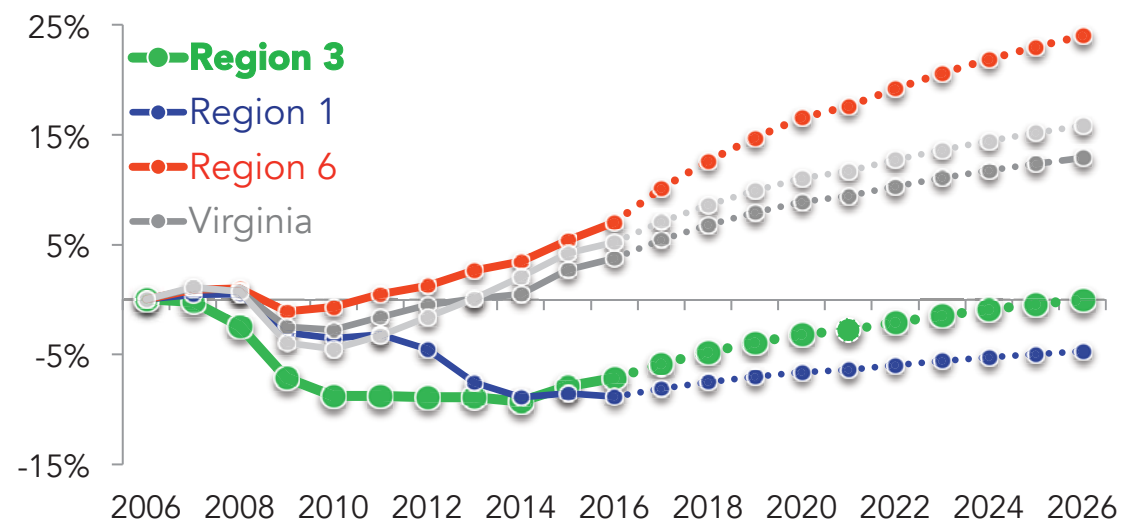
Total Employment Year to Year Growth in Region 3, 2006-2026



Source: EMSI 2017.1

Regional Employment Trends

Employment Growth Post 2006

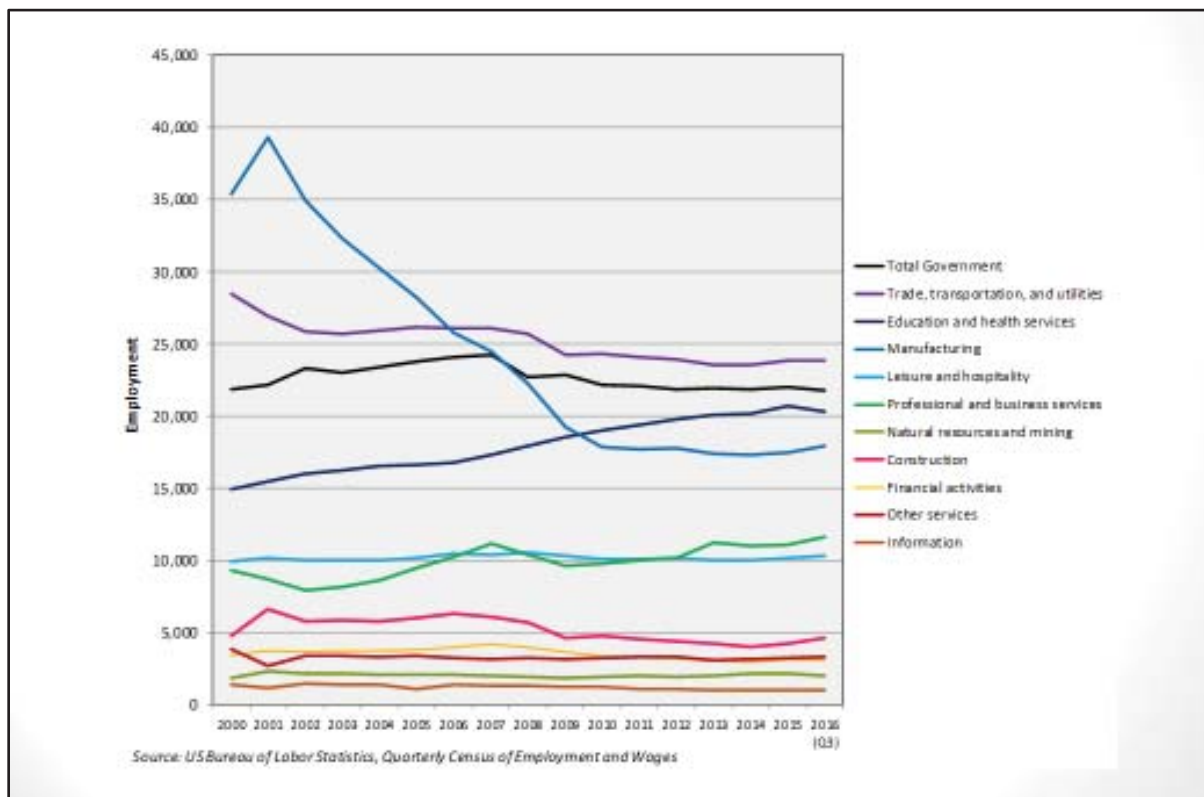


Source: EMSI 2017.1

Since the year 2000, employment has declined most dramatically in Region 3 in the manufacturing sector. This is consistent with – but even more pronounced than – manufacturing employment trends nationally. Across the United States, manufacturing employment has declined more than 28% since 2000, and more than 36% since manufacturing’s peak employment year of 1979 (*U.S. Bureau of Labor Statistics*).

Sectors gaining employment include education and health services, and professional and business services.

Region 3 Employment Trends by Industry Sector



The median wage for a worker in Region 3 is \$16.62 an hour, translating roughly to \$35,000 a year. These wages are lower than Region 6, the state, and the nation. However, the relatively low cost of living likely reduces this discrepancy.

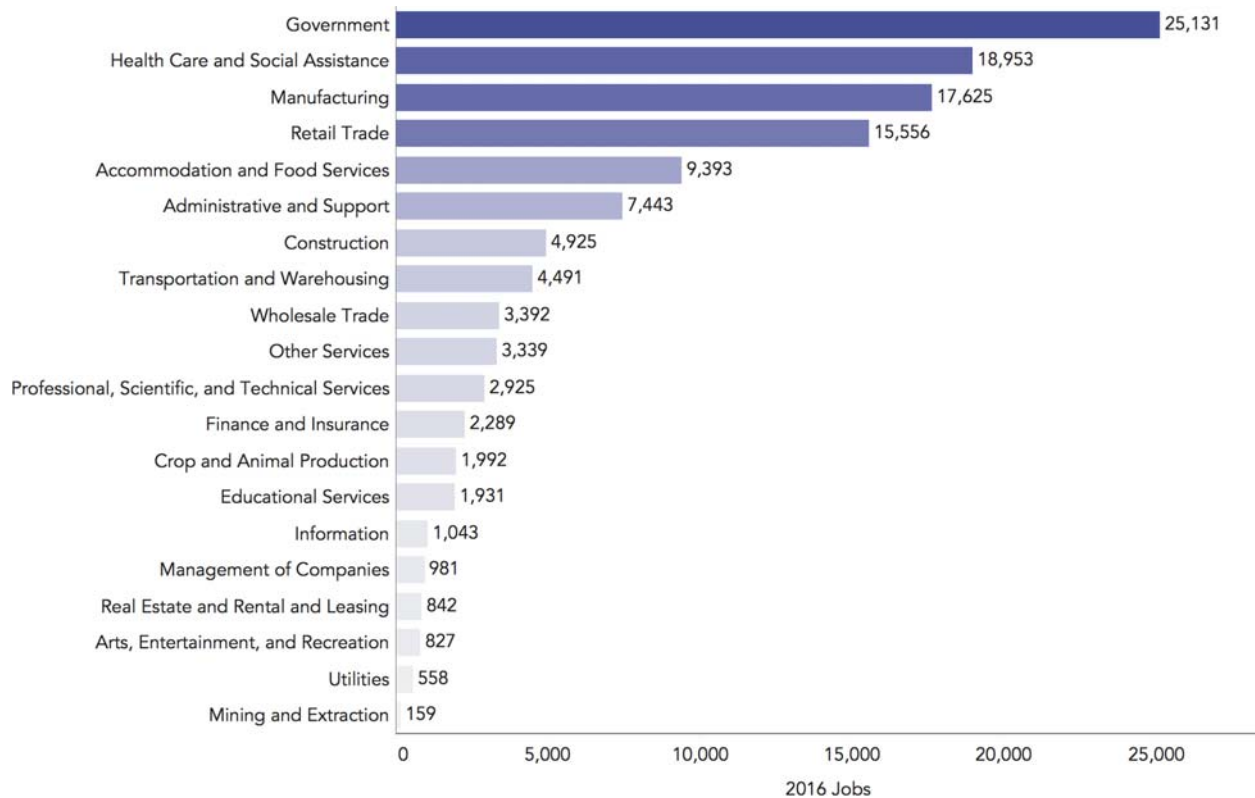
Median Wages

Region	Median Hourly Earnings
Region 3	\$16.62
Region 1	\$16.91
Region 6	\$22.80
Virginia	\$23.86
United States	\$21.74

Source: EMSI 2017.1

Healthcare and manufacturing have a strong presence in Region 3's economy, ranking 2nd and 3rd in terms of employment. The government sector, including local public schools, employs the highest number of Region 3 workers at over 25,100 employees. Locally traded sectors such as retail trade and food services round out the top five industries.

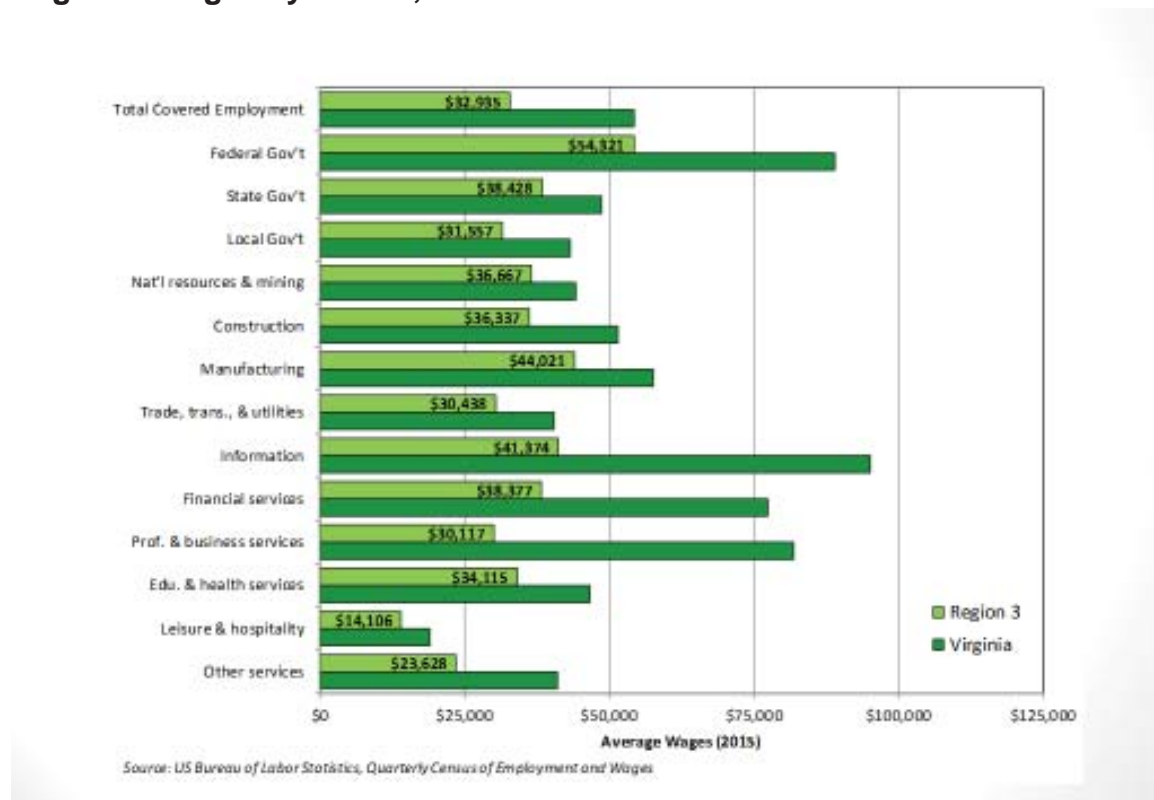
Region 3 Employment by Industry, 2016



Source: EMSI 2017.1

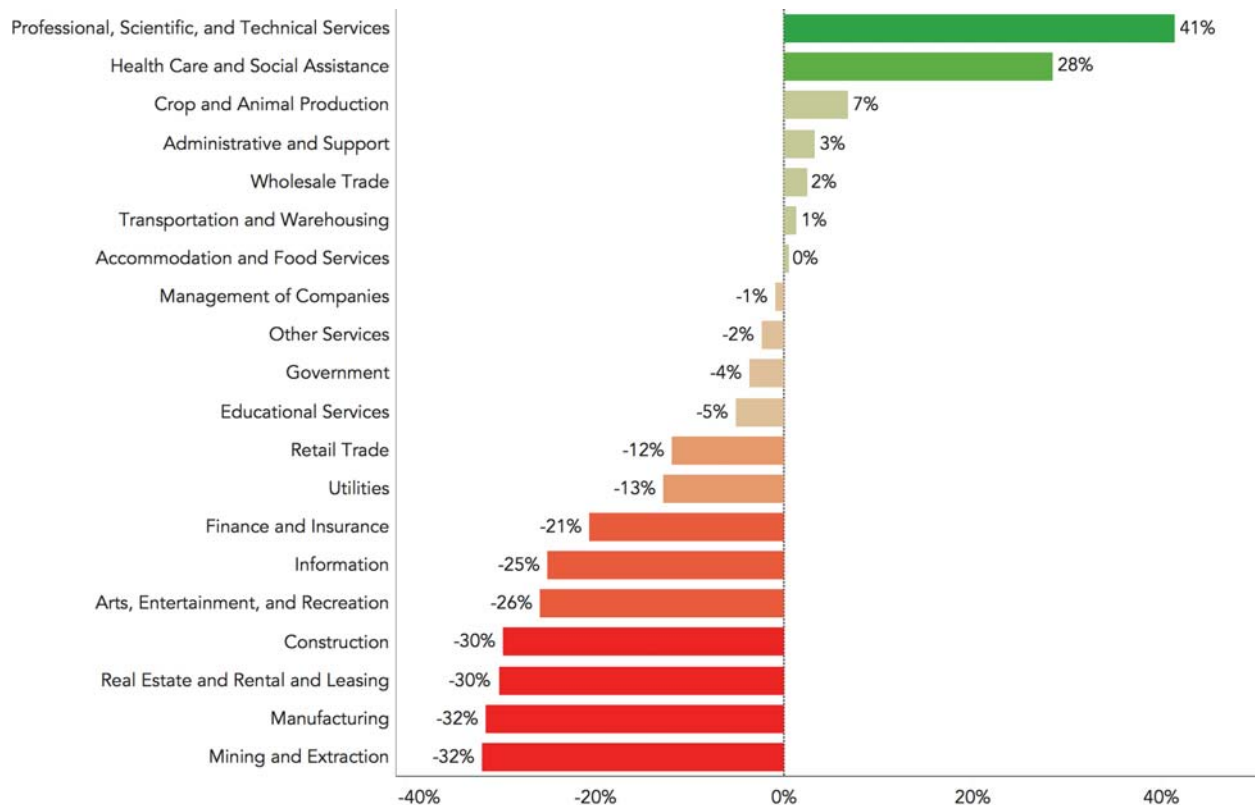
The following chart details average wages in Region 3 by sector.

Region 3 Wages by Sector, 2015



When evaluating the growth of industries over the past ten years, professional and technical services and healthcare services have seen remarkable growth at rates of 41 and 28 percent respectively. Crop and animal production has also witnessed strong growth at a rate of seven percent, higher than the state average of four percent. Other sector trends are alarming. Manufacturing is a large portion of the region's employment but it has faced a 32 percent decline. That rate compares with a 19 percent decline at the state level. Manufacturing is struggling across the country, but particularly threaten areas like Region 3 that rely heavily on its employment share.

Region 3 Industry Employment Growth Rates, 2006-2016



Source: EMSI 2017.1

Decline in productive industries like manufacturing, extraction, and finance is a major concern. These industries are more likely to contribute to the overall regional economy. These industries employ many workers, pay higher than average wages, and export their goods. As a result, these 'traded industries' are more likely to require supply chain inputs from the region and stimulate the economy through increased consumer spending. This economic principle is referred to as the multiplier effect. Certain industries, like manufacturing, generate higher rates of economic activity in a regional economy than other 'locally traded' industries, such as retail.

One measurement of the multiplier effect is the job multiplier. This is calculated by taking the total number of new jobs created in one regional economy and dividing that number by the change in jobs in one industry. In Region 3 the jobs multiplier for the manufacturing industry is 1.71. This means that if a new manufacturing plant opened and added 175 jobs to the region, there would be 125 additional jobs created outside the manufacturing plant to support the new economic activity. In total, 300 new jobs would have been created in the region. The chart below compares job multipliers for healthcare, finance, professional services, and manufacturing. Healthcare and professional services tend to have lower multiplier effects than manufacturing.

Job Multiplier Effect by Region and Industry

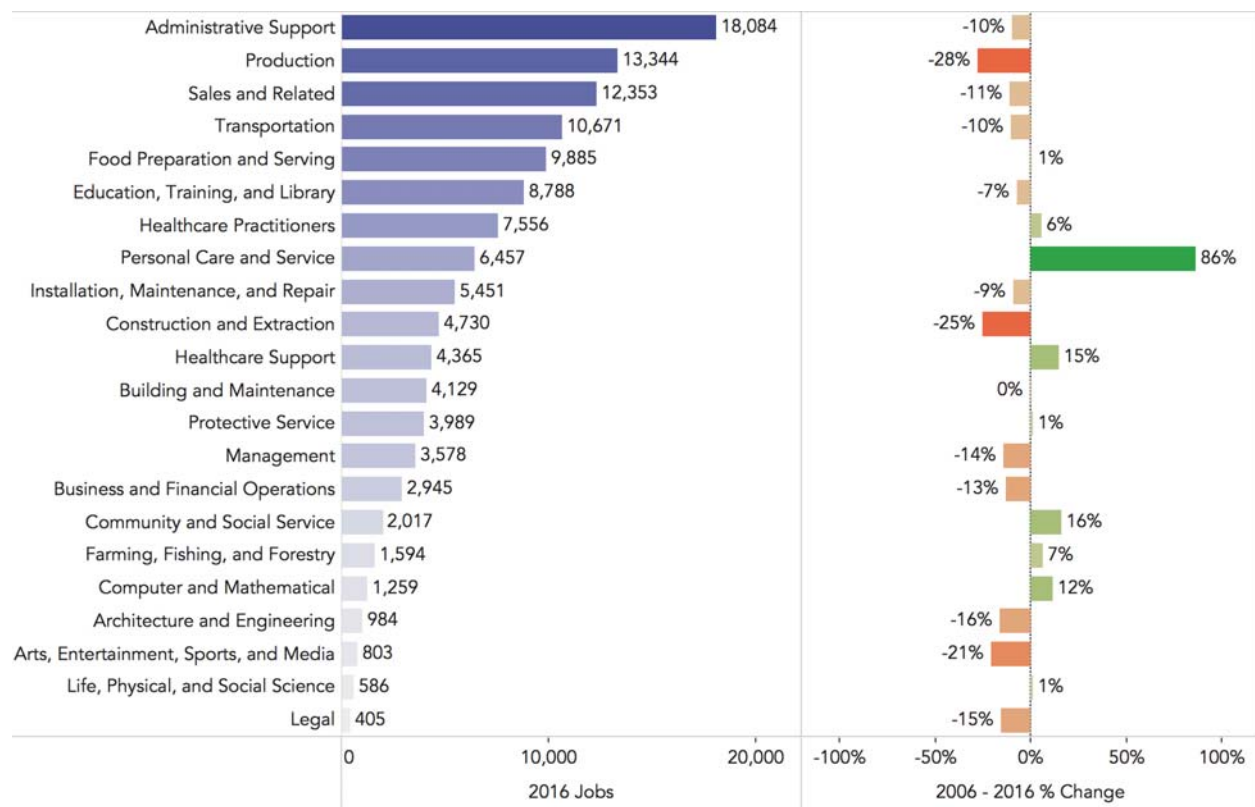
Industry	Region 3	Region 1	Region 6
Manufacturing	1.71	1.63	1.77
Finance	1.44	2.04	1.55
Healthcare	1.36	1.34	1.43
Professional Services	1.30	1.30	1.40

Source: EMSI 2017.1

From 2006 to 2016, Region 3 lost over 8,180 manufacturing jobs. Based upon the job multiplier, all things equal, the region should have expected to lose a total of 14,000 total jobs during that timeframe. Instead, the region only lost 9,560 jobs, including the manufacturing job losses, a job multiplier of 1.17. This means the region did not experience the full force of the manufacturing sectors decline, likely due to added jobs in healthcare and the professional services sector and their multiplier effects. However, continued declines in high multiplier industries will hurt all sectors of the regional economy.

Looking specifically at the types of occupations that are growing in the region, healthcare, farming, and STEM careers lead the way. Occupation data differs from industry data as occupations can exist across industries. For example, a software developer can work for a banking company. In the industry data, that worker is counted under the banking industry. In the occupation data, the worker is counted as a computer occupation. Four out the top five occupation groups experienced job declines at rates of 10 percent or higher from 2006 to 2016. To fight the tide of employment loss, Region 3 will need to nurture its knowledge economy talent while finding a way to halt losses in the production jobs that employ so many of its workers.

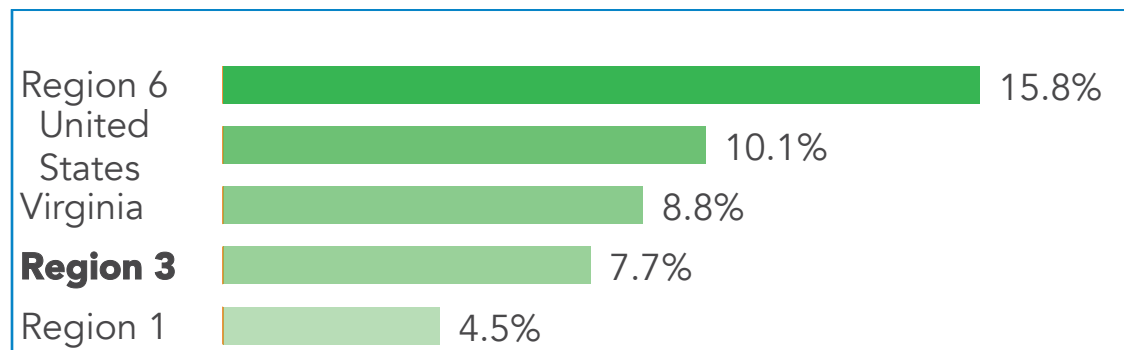
Region 3 Employment and Growth by Occupation, 2016



Source: EMSI 2017.1

Looking out at the next ten years, given the stabilization of the national economy and the region's recent growth trends, EMSI forecasting models predict moderate job growth for Region 3 at a ten-year growth rate of 7.7 percent. Contrasted against the other GO VA regions this growth is sturdier than Region 1 but less than the other benchmarks.

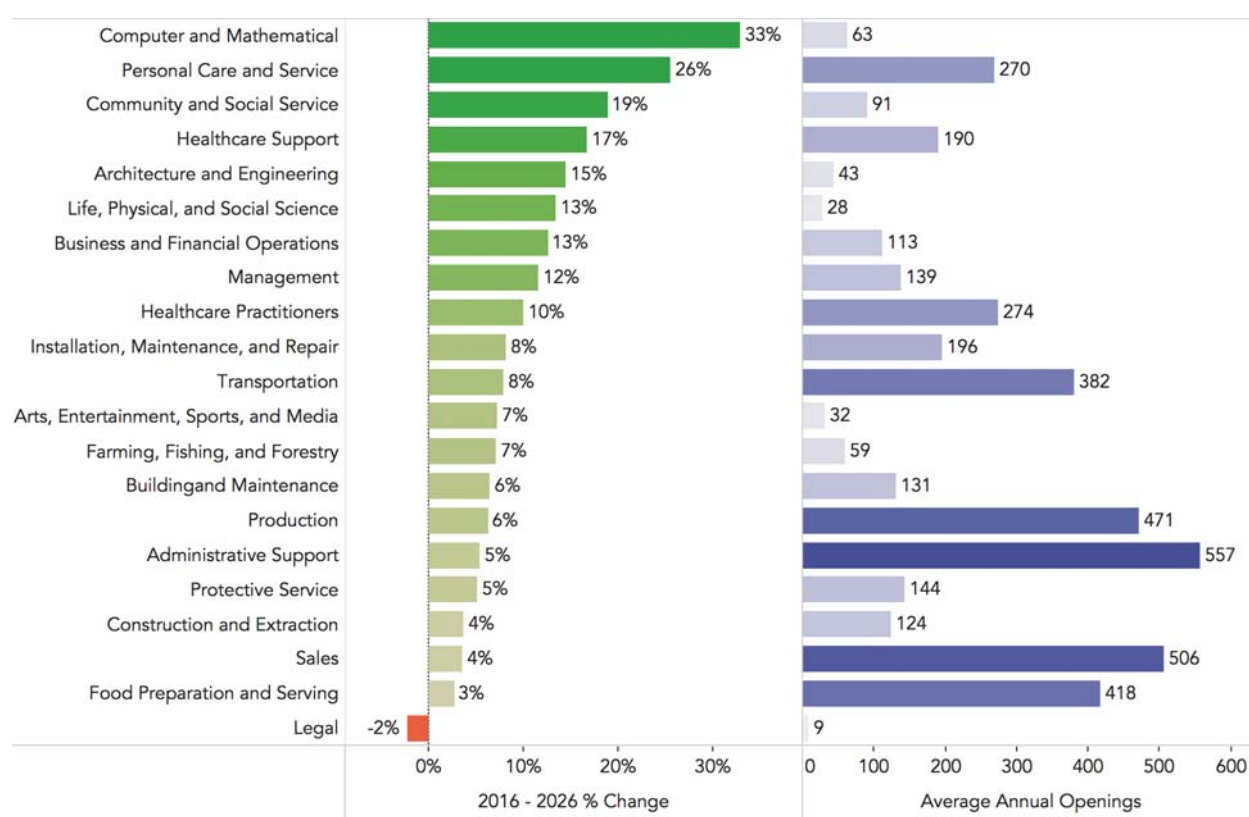
Predicted Total Employment Growth, 2016-2026



Source: EMSI 2017.1

Job growth is expected to see dramatic gains in a few occupations and modest growth throughout the rest of the economy. The biggest gains will come from **healthcare** and **personal care support** and **STEM** occupations. High-growing STEM occupations only employ small portions of the region's workforce as witnessed by the average annual openings in jobs. The average annual openings metric is calculated by the number of workers that will be needed each year to replace retirement and accommodate expected growth. **Production, transportation, and administrative jobs** are still large employers and will have the greatest number of openings. In the future, the workforce of Region 3 will need to be trained to expand the talent base in growing and emerging sectors like healthcare and professional trades.

Region 3 Predicted Occupation Growth, 2016-2026



Source: EMSI 2017.1

Healthcare occupations are growing rapidly nationwide and in Region 3. According to data from the region's two workforce boards, West Piedmont Works and the South Central Workforce Development Board, healthcare positions dominate lists of occupations that are projected to grow in Region 3 over the coming years and that pay at least \$40,000 annually. These types of jobs include:

- Physical and occupational therapists;
- Nurse practitioners;

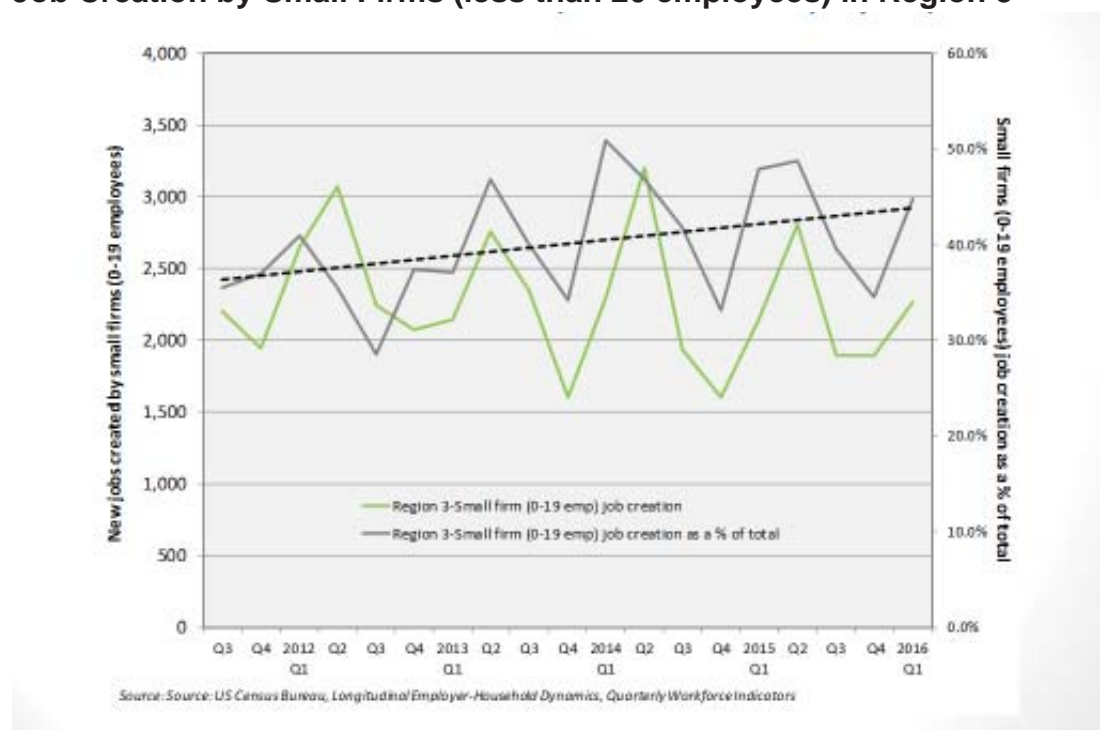
- Mental health counselors;
- Speech-language pathologists;
- Medical/health service managers.

Non-medical occupations projected by the region's workforce boards to grow and pay \$40,000 or more include Market Research Analysts and Legal Assistants.

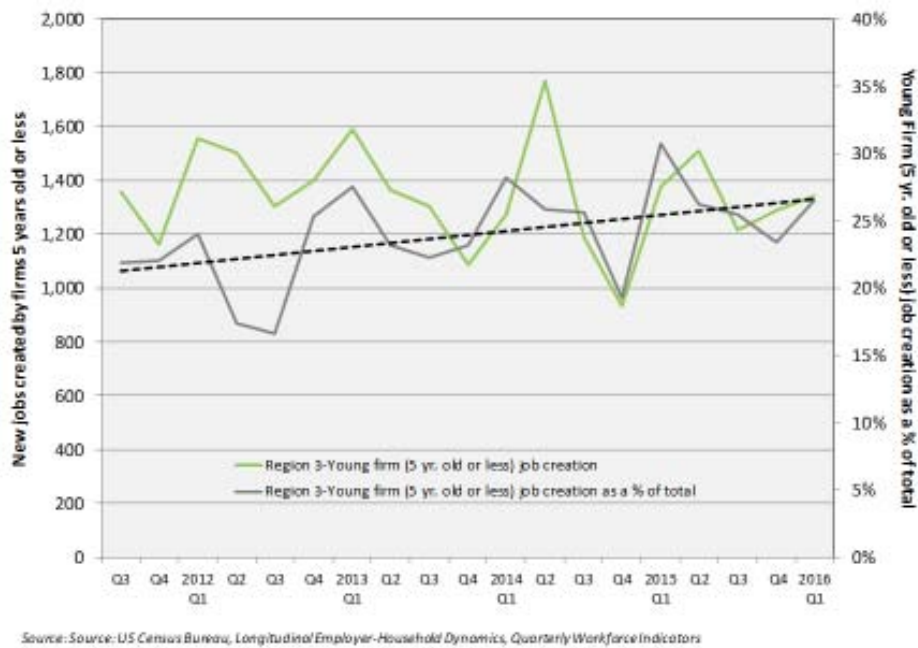
SMALL BUSINESS EMPLOYMENT

A positive trend for growing new businesses and jobs in Region 3 is the increasing share of job creation provided by small firms (with less than 20 employees); new firms (five years old or less); and sole proprietorships. The following three charts illustrate that small firms and newer firms are gaining in the percentage of regional job creation since 2011, and that sole proprietorships account for a larger percentage of total employment in Region 3 than in Virginia as a whole. Some of this relative success is due to slowing job creation by larger and older companies.

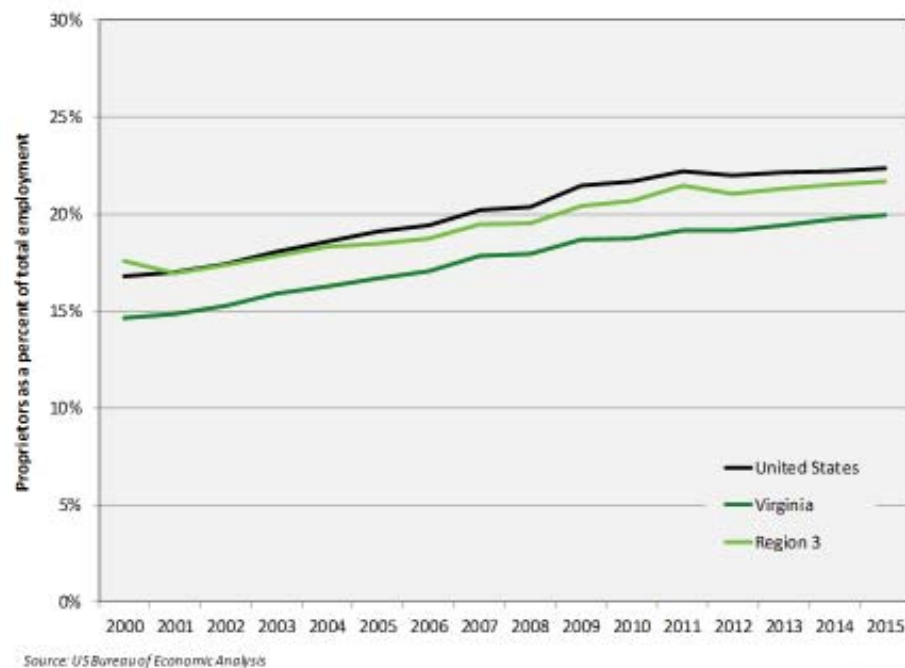
Job Creation by Small Firms (less than 20 employees) in Region 3



Job Creation by Newer Firms (five years old or less) in Region 3



Sole Proprietorships as a Percent of Total Employment



BUSINESS SENTIMENT REGARDING THE REGION 3 WORKFORCE

Input from the business community was gathered through personal interviews, surveys, and attending workforce development roundtables and other meetings. We also collected input from business service and workforce development providers such as chambers of commerce and community college staff.

Workforce Strengths

Business people describe the regional workforce's greatest strength as being the **"legacy skills"** of many technical and production workers, particularly in the manufacturing sector. This is also termed **"applied knowledge,"** referring to the know-how developed by experienced workers over decades and even generations. Some suggest that this inclination for hands-on analysis and problem solving developed from the agricultural base of the population.

A concern in the business community is that fewer young people are inheriting or learning these "legacy skills," and that K-12 schools are not placing enough emphasis on career and technical education.

Workforce Weaknesses

As one speaker said at a workforce development forum, "Soft Skills, Soft Skills, Soft Skills." **Lack of soft skills is identified as a near-universal weakness.** This term covers everything from basic understanding of work environments (dress code), work ethic, dependability (as opposed to having an "excuse-driven workforce," as one human resources staffer put it), and basic communication and interpersonal skills. This is particularly true at lower-wage and high-turnover positions in retail, food service, and other customer service.

West Piedmont Works evaluated job advertisements in 2016 and found a similar range of necessary skills cited most often:

- Customer service
- Decision making
- Flexibility
- Problem solving
- Time management
- Positive attitude
- Mentoring
- Crisis intervention (probably specific to certain positions such as mental health counselors)

Drug abuse is another common issue. A statistic provided at a workforce forum indicated that Virginia now experiences more opioid abuse deaths than motor vehicle

accident deaths.

The other significant weakness in the workforce is **technical skills for mid-level positions**. Business leaders indicate that these are the kinds of skills evidenced by math proficiency and by achieving specific industry certifications.

Lastly, survey respondents mentioned shortages of qualified workers in specific higher-tech fields such as biotech. They pointed to the need for undergraduate degrees in STEM-related fields to be more widely available in Southern Virginia.

Overall, when business people ranked their satisfaction with many issues related to business success in Region 3 – including availability of capital, infrastructure, housing, taxes, quality of life – the lowest-ranked item was “**availability of workers with appropriate skills**.” This comes despite the general perception of community college training efforts as high-quality and effective, and what appears to be a concerted focus on workforce development issues across the region.

There was no real discussion of **wages** and their impact on hiring. Across Region 3, average earnings per worker increased by 24% from 2006 to 2016 in absolute terms, but only by 4.4% in real terms, adjusting for inflation. This relatively slight increase over time might be the reason why wages were not frequently mentioned.

Future Workforce Demand

Business leaders and workforce service providers listed the following as the biggest workforce demand areas in coming years:

- A. **Healthcare Positions** – this includes many occupations, not just physicians. Healthcare is currently and is projected to continue to be the largest in-demand industry sector in the region. In-demand positions include registered nurses and nurse practitioners; physical, occupational, and speech therapists; mental health counselors; and pharmacy technicians.
- B. **Skilled Trades** – the perceived lack of emphasis on technical education among K-12 school systems, students, and their parents creates concern that a shortage of skilled tradespeople will increase. This includes electrical, plumbing, welding, carpentry, and other construction trades. Many of these positions pay a livable wage without requiring a college degree.
- C. **Replacing Experienced Workers in Technical Positions** – with an aging population in Region 3 and the retirement of mid-level workers with technical skills, there should be demand for younger workers to fill these ranks.

In a 2016 survey for the Southern Virginia Manufacturing Partnership, most manufacturing employers planned to expand hiring, and none planned to decrease hiring. This is in contrast to data projections that call for continued declines in manufacturing employment across Region 3.

It is worth noting that when discussing future workforce demand, multiple respondents also pointed to a **lack of employers and jobs**, not just a lack of qualified workers. It is hard to know which must come first – available jobs or quality candidates – but both are mentioned by respondents in Region 3. Given the volume of worker out-commuting from the region, the need to grow jobs as well as improve the workforce is well-taken.

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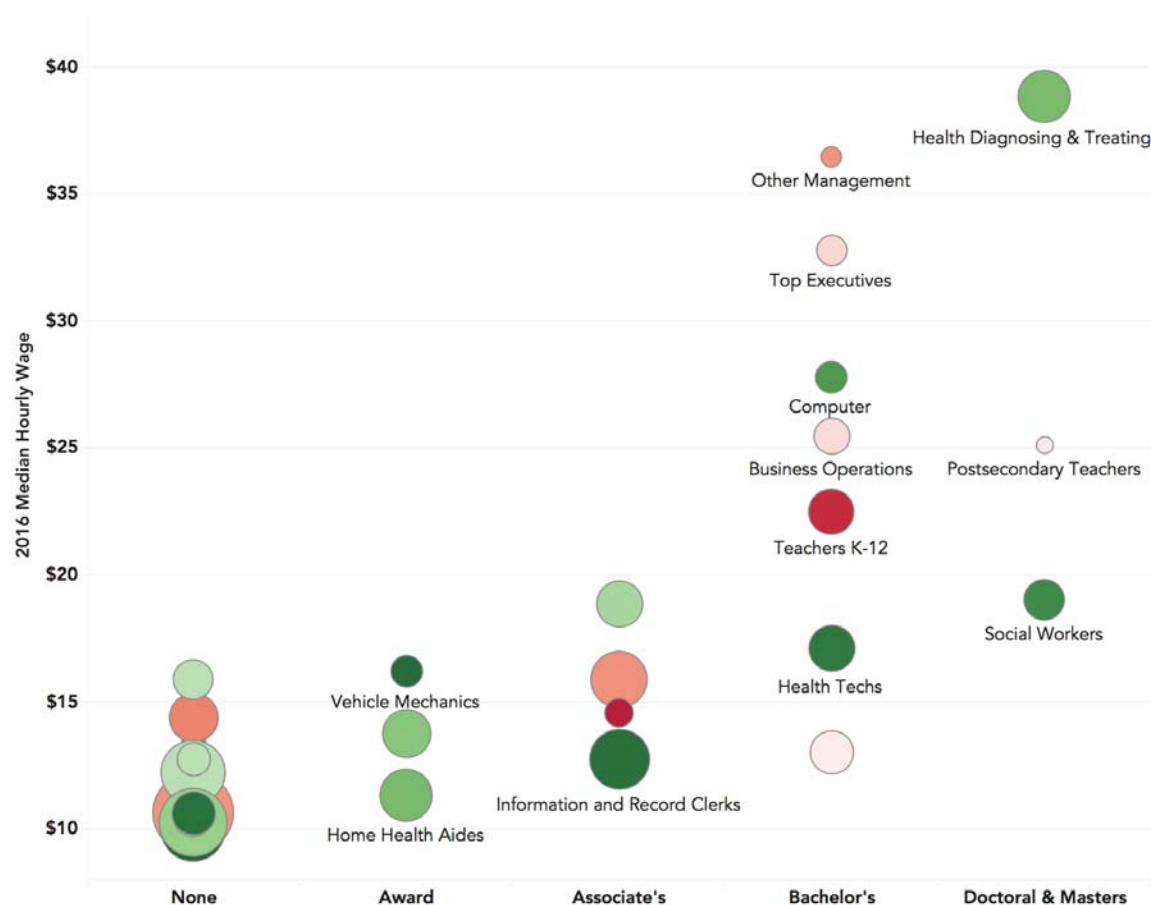
PART III: ECONOMIC AND WORKFORCE BASE GAP ANALYSIS

INTRODUCTION

In this section gaps in the availability of immediately employable talent are identified. To identify these gaps, annual openings - the number of positions needed each year to account for growth and retirements in the workforce - are used to assess job demand. Job postings are also reviewed to show intensity of posting for high-demand positions. Then, supply is measured by evaluating unemployment and regional education program completions within the region. This supply is compared with demand to identify gaps in the workforce.

Once gaps are determined, educational requirements for those jobs are discussed. Current efforts to meet the demands for these occupations are evaluated for adequacy. The workforce gaps within Region 3 are compared with the gaps stated by the Virginia Workforce Board Study. Finally, a bridge for aligning existing skills training programs with local business demand is discussed. Occupations are measured at 3-digit level SOC codes for this section of the report.

Average Wages for Occupations by Educational Requirement



Notes: The size of bubbles on the chart represents the annual number of openings.

The color of each bubble represents the growth of employment from 2010 to 2016, green means positive growth and red demonstrates employment loss.

Award = certificate or other recognition of post-secondary non-degree program completion.

Occupations from bottom to top in Award category: Home Health Aides, Motor Vehicle Operators, Vehicle Mechanics.

Associate category: Information and Record Clerks, Financial Clerks, Other Production Occupations, and Other Maintenance.

In the Bachelor's degree category the first bubble represents Administrative Support.

Region 3 suffers from a glut of low-wage, low-education positions. Most of the openings in the region are for jobs that do not require a post-secondary education. Annual openings were measured based on EMSI projections of employment growth from 2016 to 2026. Four out of the top five occupations in terms of annual openings do not require any education past high school. These most-available jobs are also generally low paying.

An increasingly expensive bachelor's degree can provide residents of Region 3 with a mixed bag of opportunity as the occupations with the most annual openings needing a

bachelor's degree can earn a median hourly wage between \$12 and \$36. In today's climate, students want to make sure that their investment in education is going to pay off, while local officials want to encourage students towards work that will fill demands of local companies. Local leaders are also keen to develop a workforce that can be used as an attractor for new companies looking to relocate. Finding where these interests meet will be crucial for Region 3's future economic success.

Healthcare and computer technology occupations are experiencing growth at the higher education end of the spectrum. Among jobs requiring less education, vehicle maintenance and trucking occupations are growing and providing median wages of around \$15 per hour for students with just a post-secondary award (such as a certificate). Some jobs like post-secondary teaching and management require high levels of education but do not have a high level of openings within the region.

While production work has been declining for several years in Region 3 there are a few production and manufacturing jobs that appear in the list of top annual openings. Metal workers and team assembler occupations are each estimated to need 66 annual replacements. In these traditional blue collar jobs the workforce tends to be older and will see many retirements in the coming years. These jobs may not be promoted in the education system as they do not require a bachelor's degree. Diesel technicians, for example, are one of these occupation groups that offers a decent wage (entry level at \$15 an hour), but companies are having trouble filling positions because students and parents have an outdated, "grease monkey" vision of the job. In reality, diesel technicians and other similar jobs are increasingly reliant on computer software and programming.

Top Annual Occupation Openings in Region 3

Description	Annual Openings	Education Required (Low)	Education Required (High)
Retail Sales Workers	380	None	HS Diploma
Food and Beverage Serving Workers	260	None	HS Diploma
Other Personal Care and Service Workers	229	None	HS Diploma
Material Moving Workers	228	None	HS Diploma
Information and Record Clerks	197	HS Diploma	Associate Degree
Other Production Occupations	173	None	Associate Degree

Health Diagnosing and Treating Practitioners	150	Associate Degree	Doctoral Degree
Nursing, Psychiatric, and Home Health Aides	147	None	Postsecondary Award
Material Recording, Scheduling, Dispatching, and Distributing Workers	128	None	HS Diploma
Motor Vehicle Operators	125	None	Postsecondary Award
Health Technologists and Technicians	120	HS Diploma	Bachelor's Degree
Other Installation, Maintenance, and Repair Occupations	114	HS Diploma	Associate Degree
Preschool, Primary, Secondary, and Special Education School Teachers	111	Associate Degree	Bachelor's Degree
Other Office and Administrative Support Workers	106	HS Diploma	Bachelor's Degree
Building Cleaning and Pest Control Workers	101	None	HS Diploma
Law Enforcement Workers	96	HS Diploma	Bachelor's Degree
Counselors, Social Workers, and Other Community and Social Service Specialists	90	HS Diploma	Master's Degree
Cooks and Food Preparation Workers	87	None	None
Construction Trades Workers	87	None	HS Diploma
Business Operations Specialists	74	HS Diploma	Bachelor's Degree
Assemblers and Fabricators	66	HS Diploma	HS Diploma
Metal Workers and Plastic Workers	66	HS Diploma	HS Diploma
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	62	HS Diploma	Postsecondary Award
Computer Occupations	61	Associate Degree	Bachelor's Degree
Top Executives	59	Bachelor's	Bachelor's

		Degree	Degree
Financial Clerks	55	HS Diploma	Associate Degree
Woodworkers	52	HS Diploma	HS Diploma
Textile, Apparel, and Furnishings Workers	48	None	HS Diploma
Other Management Occupations	45	HS Diploma	Bachelor's Degree
Post-secondary Teachers	44	Doctoral Degree	Doctoral Degree

Job Postings

Another method to measure demand is by documenting efforts by companies seeking applicants. For this report, EMSI's job posting analytics tool was used to measure posting demand. EMSI is a CareerBuilder subsidiary and they have access to many of the online job postings. The following analysis was conducted for Region 3 on job postings from January 2012 to January 2017. During this time there were almost 1.9 million online job postings. Removing duplications, there were almost 300,000 unique job postings. This means there was a job posting intensity of 6 to 1; for each unique position the job was posted about six times online. This shows that companies are putting in effort to find employees.

298,154	6:1
Unique Postings	Posting Intensity

Source: EMSI 2017.1

When postings are broken down by occupation groups the data shows which occupations might be the most difficult to fill for companies during this timeframe. For example, there were almost 1,300 postings for the trucking industry over this five-year timeframe, but only 115 truck drivers were hired. This may convey that companies are working hard and having trouble finding these workers. A majority of the top postings are for healthcare and retail positions. Supervisors of several industries also seem to be in demand in the region.

Average Monthly Job Postings, Jan 2012 - Jan 2017

Occupation	Postings	Hires
Heavy and Tractor-Trailer Truck Drivers	1,295	115
First-Line Supervisors of Retail Sales Workers	286	68
Registered Nurses	237	70
Retail Salespersons	152	216
Physical Therapists	137	10
First-Line Supervisors of Food Preparation and Serving Workers	127	77
Customer Service Representatives	119	140
Occupational Therapists	82	6
Combined Food Preparation and Serving Workers, Including Fast Food	82	274
Cashiers	81	302
Stock Clerks and Order Fillers	74	90
Speech-Language Pathologists	72	6
First-Line Supervisors of Office and Administrative Support Workers	57	56
Merchandise Displayers and Window Trimmers	51	2
Food Service Managers	51	9

Occupational Therapy Assistants	50	2
General and Operations Managers	49	63
Licensed Practical and Licensed Vocational Nurses	41	73
Physical Therapist Assistants	39	6
Maintenance and Repair Workers, General	38	56
Pharmacy Technicians	38	18
Medical and Health Services Managers	35	7
First-Line Supervisors of Production and Operating Workers	31	29
Purchasing Agents, Except Wholesale, Retail, and Farm Products	30	6

Source: EMSI 2017.1

WORKER SUPPLY

To determine where there may be gaps in the workforce all educational completions for the region were reviewed. Unemployed workers were also evaluated as a source to meet local workforce demand.

Unemployment

One source for meeting local job demands are the unemployed. The data for unemployment by industry for Region 3 was only available at the 2-digit industry level, but some parallel inferences can be made. In October of 2016, over 8,400 workers were unemployed in the region. Twenty-four percent of unemployed workers in the region have experience in the government sector. This is the highest unemployed industry group.

The next highest group is workers with no previous work experience at 18 percent. After that, manufacturing and retail trade have the highest rate of unemployed workers. Manufacturing unemployment makes sense considering the decline in production occupations in recent years. However, retail sales occupations have some of the highest predicted annual openings. This could be because unemployed workers with retail experience may not be looking to reenter the retail trade.

Unemployment by Industry, October 2016

Industry	Unemployed	% of Regional Unemployment
Crop and Animal Production	50	1%
Mining, Quarrying, and Oil and Gas Extraction	10	0%
Utilities	18	0%
Construction	222	3%
Manufacturing	1,043	12%
Wholesale Trade	91	1%
Retail Trade	907	11%
Transportation and Warehousing	266	3%
Information	30	0%
Finance and Insurance	97	1%

Real Estate and Rental and Leasing	35	0%
Professional, Scientific, and Technical Services	131	2%
Management of Companies and Enterprises	3	0%
Administrative and Support and Waste Management and Remediation Services	355	4%
Educational Services	208	2%
Health Care and Social Assistance	643	8%
Arts, Entertainment, and Recreation	29	0%
Accommodation and Food Services	462	5%
Other Services (except Public Administration)	281	3%
Government	2,045	24%
No Previous Work Experience/Unspecified	1,530	18%

Source: EMSI 2017.1

Eight percent of unemployed workers have experience in the healthcare and social assistance industry. Based on growth numbers, education occupations in the region have been declining while healthcare occupations have grown significantly in the same timeframe. Thus, it is suspected that most of these workers are in the education portion of the industry group.

Program Completions

In 2015, the most recent year with data available, over 4,700 educational programs were completed in the region at eight local institutions. This data was reviewed to see how the type of degrees conferred matches regional demand. This educational data is based on the Integrated Postsecondary Education Data System (IPEDS). A program completion includes every post-secondary degree or award (certificate), from community colleges to master and doctoral degrees. Using a national, aggregated data source provides consistency in data collection and allows comparisons among different regions and states.

The number of regional program completions is lower than the expected annual openings in the region. However, as seen in the detailed charts earlier in this section, many of the annual openings do not require a post-secondary education.

8	4,722	5,268
Regional Institutions	Regional Program Completions	Annual Openings

Type of Program Completions by Institution in Region 3, 2015

Institution	Certificates	Degrees	Total Completions
Longwood University	0	1,082	1,082

Southside Virginia Community College	719	583	1,302
Danville Community College	478	278	756
Averett University Non-Traditional Programs	0	393	393
Patrick Henry Community College	381	368	749
Hampden-Sydney College	0	228	228
Averett University	0	203	203
Danville Regional Medical Center School of Health Professions	9	0	9

Source: EMSI 2017.1

Most of the institutions focus on degrees. However, the three community colleges in the region gave out more certificates than degrees in 2015. Bachelor's degrees made up about one-third of all completions in the region. Associate degrees were the next most popular degree conferred at 26 percent. All award completions accounted for 34 percent of completions in the region.

Region 3 Education Completions by Type, 2015

Award Level	Completions	Percent
Award of less than 1 academic year	786	16.6%
Award of at least 1 but less than 2 academic years	719	15.2%
Associate degree	1,229	26.0%
Award of at least 2 but less than 4 academic years	82	1.7%
Bachelor's degree	1,560	33.0%
Master's or Doctoral degree	346	7.3%

Source: EMSI 2017.1

The chart below details the breakdown of completions by program type. The top programs were liberal arts and business administration which accounted for almost 30 percent of all completions in 2015. Most of the liberal arts degrees are associate degrees at the community colleges that prepare students to move on to a bachelor's degree. These degrees do not train for any career specifically. There are several nursing and healthcare-based programs that are in-line with the growing industry in the region. Also of note is that only 24 students are completing engineering-based programs and 79 students graduated with a computer and information sciences degree.

Completions by Program Type, 2015

Program	Completions
Liberal Arts and Sciences/Liberal Studies	949
Business Administration and Management, General	455
Licensed Practical/Vocational Nurse Training	310
Welding Technology/Welder	116
Criminal Justice/Law Enforcement Administration	110
Allied Health Diagnostic, Intervention, and Treatment Professions, Other	106

Registered Nursing/Registered Nurse	104
Ground Transportation, Other	79
History, General	79
Psychology, General	79
Computer and Information Sciences, General	74
Biology/Biological Sciences, General	74
Business Operations Support and Secretarial Services, Other	73
Education, General	70
Business Administration, Management and Operations, Other	62
Kinesiology and Exercise Science	61
Speech Communication and Rhetoric	59
Audiology/Audiologist and Speech-Language Pathology/Pathologist	57
Visual and Performing Arts, General	56
Criminal Justice/Safety Studies	55
Political Science and Government, General	51
English Language and Literature, General	51
Economics, General	48
Sociology	46
Child Care Provider/Assistant	46
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	39
Precision Metal Working, Other	38
Social Work	35
Cooking and Related Culinary Arts, General	35
Business/Managerial Economics	35
Reading Teacher Education	33
Mental and Social Health Services and Allied Professions, Other	30
Industrial Production Technologies/Technicians, Other	30
Industrial Technology/Technician	28
Emergency Medical Technology/Technician (EMT Paramedic)	27
Curriculum and Instruction	25
Dental Assisting/Assistant	24
Electrical, Electronic and Communications Engineering Technology/Technician	24
Industrial Electronics Technology/Technician	23
Health Information/Medical Records Technology/Technician	22
Clinical/Medical Laboratory Technician	20
Pre-Medicine/Pre-Medical Studies	19
Therapeutic Recreation/Recreational Therapy	19
Design and Visual Communications, General	19
Graphic Communications, General	19
Automobile/Automotive Mechanics Technology/Technician	18
Athletic Training/Trainer	17

Source: EMSI 2017.1

Finally, the 3-digit occupation groups were compared with the program completion data. This chart below shows the annual openings versus the educational completions. A negative number indicates that there are more job openings than there are students

graduating in that field. It is important to note that some of these occupations do not require education beyond high school. Most of the healthcare industry needs seem to have corresponding training, except for home health aides. If there are gaps at local companies, then there may be a disconnect of keeping students who train here locally.

GAP ANALYSIS

Description	Annual Openings	Associated Program Completions	Completions vs. Openings
Retail Sales Workers	380	0	(380)
Food and Beverage Serving Workers	260	0	(260)
Other Personal Care and Service Workers	229	106	(123)
Material Moving Workers	228	79	(149)
Information and Record Clerks	197	0	(197)
Other Production Occupations	173	29	(144)
Health Diagnosing and Treating Practitioners	150	393	243
Nursing, Psychiatric, and Home Health Aides	147	0	(147)
Material Recording, Scheduling, Dispatching, and Distributing Workers	128	0	(128)
Motor Vehicle Operators	125	106	(19)
Health Technologists and Technicians	120	388	268
Other Installation, Maintenance, and Repair Occupations	114	51	(63)
Preschool, Primary, Secondary, and Special Education School Teachers	111	127	16
Other Office and Administrative Support Workers	106	73	(33)
Building Cleaning and Pest Control Workers	101	0	(101)
Law Enforcement Workers	96	173	77
Counselors, Social Workers, and Other Community and Social Service Specialists	90	68	(22)
Cooks and Food Preparation Workers	87	35	(52)
Construction Trades Workers	87	16	(71)
Business Operations Specialists	74	73	(1)
Assemblers and Fabricators	66	23	(43)
Metal Workers and Plastic Workers	66	116	50
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	62	34	(28)
Computer Occupations	61	96	35
Top Executives	59	162	103
Financial Clerks	55	16	(39)
Woodworkers	52	0	(52)
Textile, Apparel, and Furnishings Workers	48	0	(48)
Other Management Occupations	45	29	(16)
Post-secondary Teachers	44	147	103

Based on this analysis it seems that much of the need for training is for **production, transportation, maintenance, and repair occupations**. Occupations would include Construction Trades Workers, Assemblers and Fabricators, and Vehicle Mechanics. Financial Clerks appears to be another gap area. Based on the annual 2015 program completions the region does produce enough graduates for health care and business administration needs locally. Many of the occupations in demand do not require advanced education beyond high school.

Given global trends of technological advancements, the region may need to increase engineering offerings and **STEM training** programs to meet the demands of the future economy. Additionally, combining STEM training to meet the needs of **industrial, production, and repair occupations** might be beneficial, as these jobs become more technology-based. Pursuing job training in this manner may help to recruit advanced manufacturing firms to the region.

CURRENT EFFORTS ANALYSIS

There have been many new undertakings in the region to address workforce development, even in the past year. Matching company needs and meeting students where they are has clearly been a focus of local officials.

Just recently, the New College Institute (NCI) announced it would **streamline** and shift its focus to only offer bachelor's degrees in the following programs:

- Engineering and advanced manufacturing;
- Technology and cybersecurity;
- Healthcare;
- Education and community leadership.

The leadership of NCI cited being “responsive to current and future industry needs” as the rationale for focusing on these programs. The program allows students to take the first two years at a local community college before transferring to NCI to receive their bachelor's degree.

Educational institutions are also partnering with each other to address workforce needs. Recently, NCI, Patrick Henry Community College (PHCC), and Averett University joined together to allow PHCC associate degree recipients to transfer credits toward a Bachelor of Applied Science in Leadership Studies from Averett. This initiative was begun to address a management gap in the workforce. In the job postings analytics section of this report, management positions are among the top postings for Region 3.

Other initiatives recognize that there is an important need to develop “soft skills” in the workforce. Recently at a meeting with U.S. Senator Tim Kaine, a regional businessman emphasized that job-specific skills weren’t the only missing traits of the workforce. He noted troubles with younger workers showing up on time, drug usage, and work ethic.

Community colleges are also working to provide training at the high school level to reduce costs of training for students. PHCC began a new **dual enrollment** program for high school juniors and seniors interested in applied engineering and manufacturing. Funded by a National Science Foundation grant, the program aims to reduce barriers to students like the cost of programs after high school. The program will focus on **robotics, engineering, and advanced manufacturing**, will prepare students for several certification tests, and put them on the path to an associate degree. This initiative seems to be in-tune with regional trends in manufacturing and the skills that workers will need.

Danville Community College (DCC) is also looking to stay in front of technology trends when training its workforce. DCC now offers a **cybersecurity** program receiving designations from the National Security Agency and Department of Homeland Security. Cybersecurity is a field that is likely to be needed across all industries and sectors as Big Data and the Internet of Things place more and more information online. These types of jobs are very high paying, with Governor Terry McAuliffe citing starting salaries of \$88,000. Students have already been offered jobs before graduating the program. Beyond cybersecurity, DCC is also pursuing training in drone technology.

As discussed in this report, certifications can be a quicker way to train students for immediate workforce gaps. However, a year or more of courses can be financially limiting for many looking to upgrade their work status. PHCC is participating with Virginia’s New Economy Workforce Credential Grant that works to meet the **funding gap in certification programs**. In the past, there has been minimal funding for job certification programs. This grant allows students to receive a credential (in areas such as commercial driver’s license, certified nurse aide, or electrical groundsman) with two-thirds of the cost paid by the grant after program completion and industry certification.

One growing technology cluster that may need additional training is **data center** workforce needs. Currently in Region 3 there are two major data centers, operated by Microsoft in Boynton and Hewlett Packard in Clarksville. Local leaders are confident that these sites will continue to grow. The HP site works on homeland security which has a great tie-in with the new cybersecurity program at DCC. However, the industry was not addressed specifically in the launching of the new programs mentioned above. Further tailoring trainings to meet the demands of this rural tech market should be addressed.

Recent measures taken by local leaders and institutions show that the region is committed to meeting regional demand in existing and emerging industries. Beyond

these measures, the task that might be the hardest sell is getting students into seats. The guarantee of a bachelor's degree in whatever field the student desires leading to a productive and fruitful career is long gone. Students need to be more strategic with their education choices. Just as industry trends are being shared with educational institutions to adapt training, the job market trends need to be communicated with students. Parents also need to be involved and aware of the changing educational trends. Presenting this data to the region's students and parents, perhaps through guidance counselors, may help change perceptions.

Another way to educate students and parents may be through a marketing campaign. For example, the Associated Industries of Arkansas has developed an initiative called *Be Pro Be Proud* to expose students and the community to the new generation of skilled labor. The program emphasizes jobs that require hands-on work as well as technical acumen like a CAD drafter or a CNC operator. The program promotes such positions as in-demand and innovative professions with higher than average wages. The group has a sleek presentation booth and tractor-trailer rig that it carries to job fairs, middle and high schools in the state. Students can learn about the professions and do demo activities of each. The *Be Pro Be Proud* program aims to educate and dispel any myths about these jobs and connect students with the appropriate educational pipeline.

Improving processes for continual input and feedback from stakeholders - including businesses, educational providers, students, and parents - will be crucial for meeting the region's workforce needs. There may be barriers to entry beyond education cost and knowledge of market opportunities to be addressed. Keeping an open dialogue with all these stakeholders will keep workforce development efforts fruitful and in-line with needs.

PART IV: EXISTING EFFORTS TO DIVERSIFY AND GROW HIGHER-PAYING JOBS

SUMMARY

As detailed in Part I of this report and further highlighted in the summary of specialty entities and programs below, the Commonwealth of Virginia and Southern Virginia Region 3 have a plethora of recent, relevant plans for strengthening the region's economy, job opportunities, and workforce. The plans detail numerous programs and initiatives to achieve these goals. Best summing up the main thrust of all efforts is this phrase from the 2017 living wage study prepared for the Dan River Region Collaborative: "...**the fundamental challenge for the region is to expand job opportunities for residents.**"

These current plans and programs are generally of a high quality and share a number of strengths:

- Emphasis on economic diversification, while not ignoring long-term mainstays such as manufacturing, agriculture, and forestry;
- Soundly-reasoned targeting of industry sectors, including growth sectors for jobs such as information technology and healthcare;
- Appropriate stress on the critical role of workforce development, including K-12 public schools, additional training with less than a college degree, and adult learning;
- Increasing emphasis on the wisdom of regional collaboration.

In addition to broader efforts – from regional economic development organizations, planning districts, and workforce boards - Southern Virginia is blessed with innovative entities specializing in a particular niche of economic, workforce, and community development, and/or in a particular geography. These include IALR, SVHEC, The Launch Place, GENEDGE Alliance, community foundations, and many others. Many of these target certain aspects of education and workforce training, such as promoting industry certifications and credentials, student workplace experiences, and entrepreneurship training.

Lastly, there are locally-based organizations like Mid-Atlantic Broadband addressing other key needs of the region, such as telecommunications infrastructure. And the unique asset of the Virginia Tobacco Commission, focused on providing resources to complement new investment throughout Southern and Southwest Virginia.

The general consensus is that there is an impressive array of initiatives, enough to make any region proud and optimistic for its economic future. But there are shortcomings:

- Certain documents (such as the Virginia's Growth Alliance Entrepreneurship

Assessment) and entities (such as The Launch Place) provide strong focus on **entrepreneurship and small business development**. But in general, initiatives that focus on new and smaller businesses are not as fully realized. There is room for greater emphasis on important topics including availability of capital, incubators and accelerators, technical advising and mentoring.

➤ Issues regarding **quality of life** – crucial for attracting and retaining talented, innovative individuals and businesses – are addressed intermittently. The importance of providing cultural amenities, lively downtowns, outdoor recreation, and tourism and retirement attractors is almost always highlighted in personal interviews with business leaders.

➤ The importance of **infrastructure**, especially **broadband** internet coverage, is always noted, but there is not enough discussion of how to fund needed expansion.

➤ There is occasional focus on the most promising **occupations** (citing healthcare occupations and skilled trades). This could be improved through a more robust career pathways strategy.

Overall, the greatest need is to **increase regionalism by scaling up** the most successful or promising initiatives across a wider area.

The business community is aware of resources, but confused by duplication of efforts and the narrow geographic focus of specialty programs. According to our survey of Region 3 business people, they are mixed in their opinion of the relationship between the business community and workforce partners. On a scale from 1.0 (lowest) to 5.0 (highest), they rate the relationship at 3.3. Their comments indicate confusion over which agency or entity to turn to, and frustration that a promising program in a neighboring county is not offered across the region. They suggest reducing the number of service providers. One respondent said that businesses must deal with “too many partners” and called for one “unified point of contact.”

The potential benefits of greater regional collaboration are pointed to in other areas:

- **Entrepreneurship** – multiple areas are striving to package resources together and create an entrepreneurial map or “blueprint”, but this might be more cost-effective and valuable on a regional scale.
- **Infrastructure** – one plan calls for the economic development regions to pool their political influence and lobby for infrastructure improvements that will have the greatest regional impact.
- **Quality of Life and Amenities** – one strategy notes that by highlighting all of the amenities available in Region 3, rather than stopping at county lines, a joint marketing effort would create “a more compelling regional message.”

SPECIAL ENTITIES AND PROGRAMS IN GO VIRGINIA REGION 3

Center for Advanced Film Manufacturing (Martinsville):

Providing an Advanced Film Certification Program. Courses taught at Patrick Henry CC, New College Institute, with an internship at Eastman or Commonwealth Laminating & Coating. Martinsville-Henry County EDC is also a partner.

<http://advancedfilm.org/about/>

Commonwealth Center for Advanced Manufacturing (Disputanta):

Statewide membership research organization comprised of manufacturing companies and research universities. Aims to spread out R&D risks and costs, accelerate innovation and improve products. Technology focus areas: Adaptive Automation Systems; Surface Engineering; Additive Manufacturing. Workforce training and development is also a goal. Located southeast of Petersburg. 501(c)3 started in 2008. Will Powers is President & CEO.

<http://www.ccam-va.com/>

Dan River Region Collaborative:

Founded in 2008 to address workforce development in Halifax, Pittsylvania, Henry, and Patrick counties, Martinsville and Danville. Sector strategy in Advanced Manufacturing, Healthcare, I.T. and Energy. Partnering with employers, educators, workforce developers and others. Focus on capacity building, systems change, and policy advocacy. Julie Brown is project director.

<http://www.danriverrc.org/>

Danville Regional Foundation (Danville):

Established in 2005, DRF encourages renewal and revitalization in the Dan River Region (Danville, Pittsylvania, and Caswell) through long-term investments to improve education, economic vitality, community wellness, financial stability and civic capacity. Funding priority areas are in Education, Health & Wellness, Economic Development, and Community Development. **Economic development** efforts should be forward-thinking, involve regional collaboration, and include workforce development/skills development. **Community development** efforts include development of human and financial capital and leadership. Karl Stauber is President & CEO.

<http://www.drfonline.org/>

GENEDGE Alliance (Martinsville):

Founded in 1992 to provide technical assistance to improve the productivity and technological performance of manufacturers and other industries in Virginia. Helps businesses innovate, compete, and grow their bottom line. Bill Donohue, President.

<http://www.genedge.org/>

Global Center for Automotive Performance Simulation - GCAPS (Alton):

Center for vehicle and tire testing, simulation, and modeling. Includes the National Tire Research Center (NTRC), Southern Virginia Vehicle Motion Labs (SoVa Motion), and the Virtual Design and Integration Laboratory (VDIL). Affiliated with Virginia Tech.

<http://www.sovamotion.com/>

The Harvest Foundation (Martinsville):

Founded in 2002, mission is to invest in programs and initiatives to address challenges in health, education, and community vitality in Martinsville and Henry County. Funding priority areas are in Workforce; Investment; and Advocacy.

Workforce strategies:

- Increase the number of individuals with degrees, diplomas and certifications
- Support industry-specific training programs
- Ready individuals to reenter the workforce after an extended leave
- Expand transportation services
- Improve early learning environments

Investment strategies:

- Support industry recruitment programs to increase investment and tax base
- Support small business growth and development through micro lending, entrepreneurial training and other programs/services

Advocacy strategies include helping secure funding for physical/streetscape improvements that enhance the community's attractiveness to investors and businesses.

Allyson Rothrock is President.

<http://www.theharvestfoundation.org/>

IDEA Center (Martinsville):

At Patrick Henry Community College, includes a Fab Lab and a Tech Accelerator. Focus is on entrepreneurial education.

<http://www.patrickhenry.edu/phcc-news/new-dalton-idea-center-announced>

Institute for Advanced Learning & Research – IALR (Danville):

Aims to serve as a regional catalyst for economic transformation. Focus on research providing a clear path to commercialization; advanced learning where education meets experience; and economic development through conferencing and partnering with Southern Virginia Regional Alliance. Serves Patrick, Henry, Franklin, Pittsylvania,

Halifax and Mecklenburg as well as Danville and Martinsville. Virginia Tech is a partner. IALR includes:

- the Haas Center for Integrated Machining;
- the Sustainable Energy & Technology Center (SENTEC), with research lab space to promote applied/marketable research and development;
- the Academy for Engineering & Technology (AET).

Mark Gignac is Interim Executive Director, Julie Brown is Director of Advanced Learning.

<http://www.ialr.org/>

The Launch Place (Danville):

Aims to be the leading entrepreneurship development organization in the region, also providing traditional business consulting services. Makes small Pre-Seed investments and operates larger Seed Fund. Formerly the Southside Business Technology Center. Eva Doss is CEO.

<http://www.thelaunchplace.org/>

Mid-Atlantic Broadband Communities Corporation (South Boston):

A leader in developing public-private partnerships to build and operate open-access fiber networks. Has built over 1,800 route miles of fiber in Southern Virginia. Aims to be a force for economic development in Virginia. Formed in 2004. Is a 501(c)4 non-profit. Tad Deriso is President & CEO.

<http://www.mbc-va.com/>

New College Institute (Martinsville):

Partners with colleges and universities to offer access to bachelor's degree completion programs, master's degrees, teacher courses, and other certification programs in Martinsville/Henry County. Students are traditional and adult learners, and enroll in credit, non-credit, undergraduate, graduate, and workforce training courses.

52,000 square foot facility in downtown Martinsville.

Leanna Blevins is Executive Director.

<http://www.newcollegeinstitute.org>

Regional Center for Advanced Technology & Training – RCATT (Danville):

Center for Workforce Services programming at Danville Community College. Includes simulators and other equipment for the Industrial Maintenance Technology program.

<http://www.dcc.vccs.edu/Workforce/FacilitiesLocations.htm>

Southern Virginia Higher Education Center – SVHEC (South Boston):

Founded in 1986, collaborates to provide access to education and workforce training to an under-served rural population. An independent state agency now in 100,000 square

feet of space. Serving about 1,300 for-credit students (92% associate degree, 7% bachelor's) and 300 workforce training students. Has R&D Center for Advanced Manufacturing and Energy Efficiency (R&D CAMEE), and a new I.T. Academy. R&D CAMEE assists small and medium-sized businesses with Technology Adoption, Custom Production Runs, and Applied Research. Betty Adams, Executive Director.

<http://www.svhec.org/>

Southern Virginia Product Advancement Center – SVPAC (South Boston):

A project of Halifax County IDA, and formerly known as Riverstone Energy Center. A business incubator and product advancement center focused on initiating, supporting, and growing high-tech ventures and technologies. Modeling and Simulation Center of Excellence (ModSim COE) ▪ Workforce training and education ▪ Testing and validation ▪ R&D ▪ Product and process improvement. Doug Corrigan is Executive Director.

<http://www.svpac.com/>

SVPAC also includes:

National Center for Coatings Application, Research & Education – C-CARE (South Boston):

Opened 2011, a project of Halifax IDA, Riverstone Energy Center, and SVHEC. C-CARE's mission is to be a world-class facility for workforce training, education and research for industrial coating processes and technologies. Support manufacturers of metal, wood, plastic, ceramic, and composite products. Goals of 1) increasing manufacturing efficiency and quality; 2) increase skill level and credentials of workers; 3) support environmentally sound coating practices; 4) attract industries to Southside Virginia. Now a part of the ChemQuest Technology Institute.

<http://www.svpac.com/c-care>

Southside Virginia Community College (Alberta and Keysville) has a Center for Workforce Development, established in 1986.

<http://www.southside.edu/continuing-educationworkforce-development>

Virginia Tobacco Commission:

Tobacco Region Revitalization Commission established by the General Assembly in 1999, to promote economic growth, development, and diversification in formerly tobacco-dependent communities. Eligible projects include building and site improvement, infrastructure, workforce training, tourism development. Has granted more than \$1.1 billion. Funding three Centers of Excellence for advanced manufacturing workforce training (in South Boston, Martinsville, and Abingdon) focused on machinists, welders, and industrial machinery mechanics. Evan Feinman, Executive Director.

<http://www.tic.virginia.gov/>

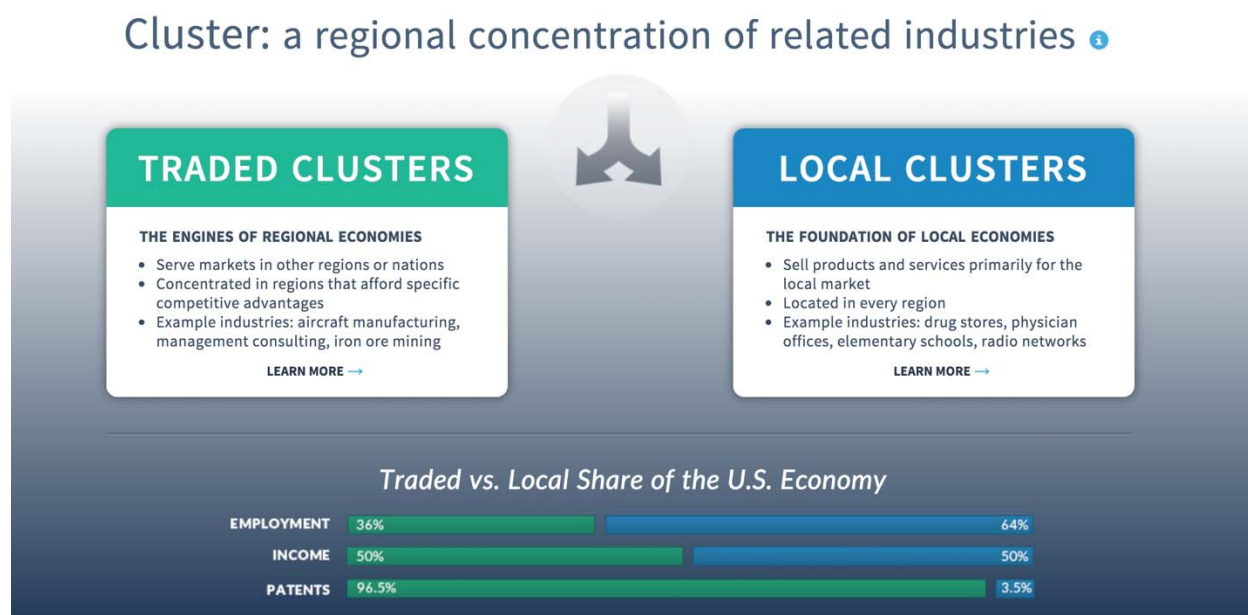
PART V: BUSINESS CLUSTER ANALYSIS

INTRODUCTION

This section of the report reviews “traded,” or exporting, business and industry clusters within Region 3. Traded clusters are groupings of industries that serve markets outside of a region (domestically and/or internationally). Clusters also contain a supply chain that supports an industry with suppliers, machinery and equipment, and infrastructure. Focusing on clusters as an economic development strategy narrows efforts to those industries which are most likely to thrive in a region. This is particularly important as the competition for investment and jobs is intense. Studies have shown that deploying assets in support of clusters is more efficient and cost effective than providing subsidies and solutions to individual companies.

“What makes clusters unique is not just that companies with similar or complementary interests, competencies, and needs congregate around each other. It’s that an entire value chain exists within a cluster: suppliers, manufacturers, distributors, academic institutions, researchers, and workforce training, as well as those who provide relevant support services.”

-Bloomberg



Source: US Cluster Mapping

Traded clusters often account for less than 40 percent of a region’s employment, however, they are usually responsible for 50 percent or more of a region’s income and

innovation.

REGION 3 CLUSTER ANALYSIS

To determine the current state of traded clusters in Southern Virginia we combined over 670 industries into 51 traded clusters as defined by U.S. Cluster Mapping. The U.S. Cluster Mapping Project is led by an institute of the Harvard Business School in conjunction with the U.S. Department of Commerce and U.S. Economic Development Administration. These clusters were then evaluated on recent growth, location quotients, wages, and employment. These cluster groupings do not contain any public-sector industries. This excludes government agencies, the military, public hospitals, and public universities.

In 2016, over 32,200 workers in Region 3 were employed in traded clusters. This accounts for **26 percent of the total workforce** in the region. Wages in traded clusters are on average **\$9,000 higher** than other jobs in the region. Traded clusters in the region were hit hard by the Great Recession, as employment in traded clusters **declined by 19 percent** over the past 10 years. This decline is greater than the rate for all jobs in the region, which declined by seven percent. In the next ten years, the outlook for traded cluster employment is predicted by models to grow at a moderate pace of **10 percent**.

Traded Clusters in Region 3

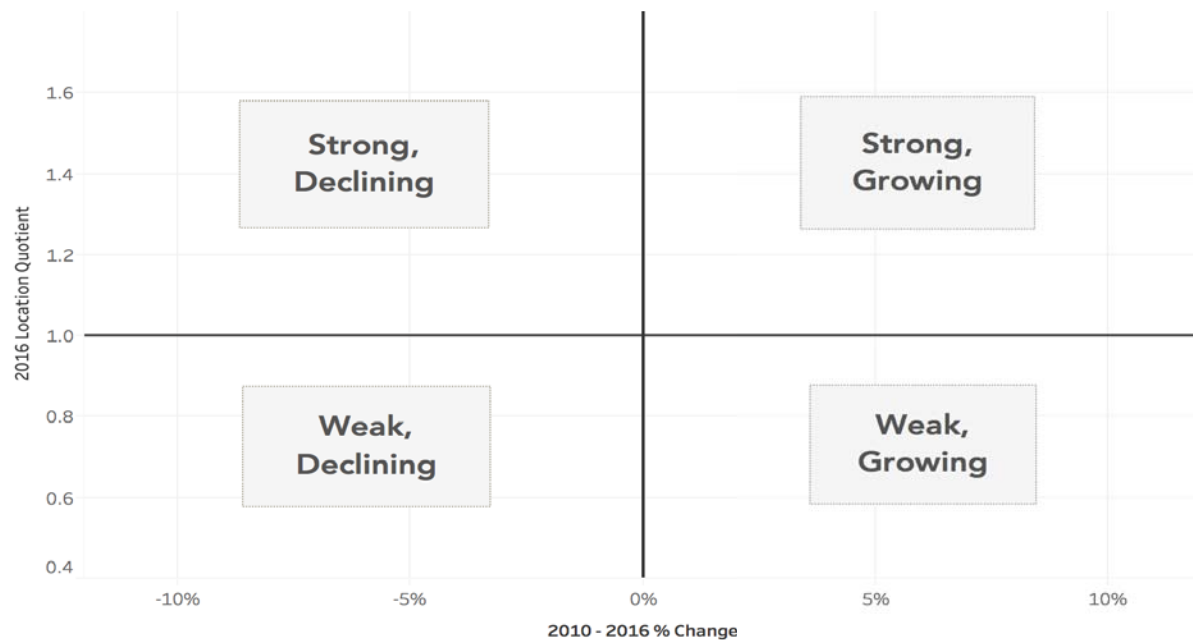
Total Traded Cluster Employment	32,271
2006-2016 TC Employment Growth	-19%
Average TC Wage (2016)	\$50,895
Expected 2017-2026 TC Employment Growth	10%

Source: EMSI 2017.1

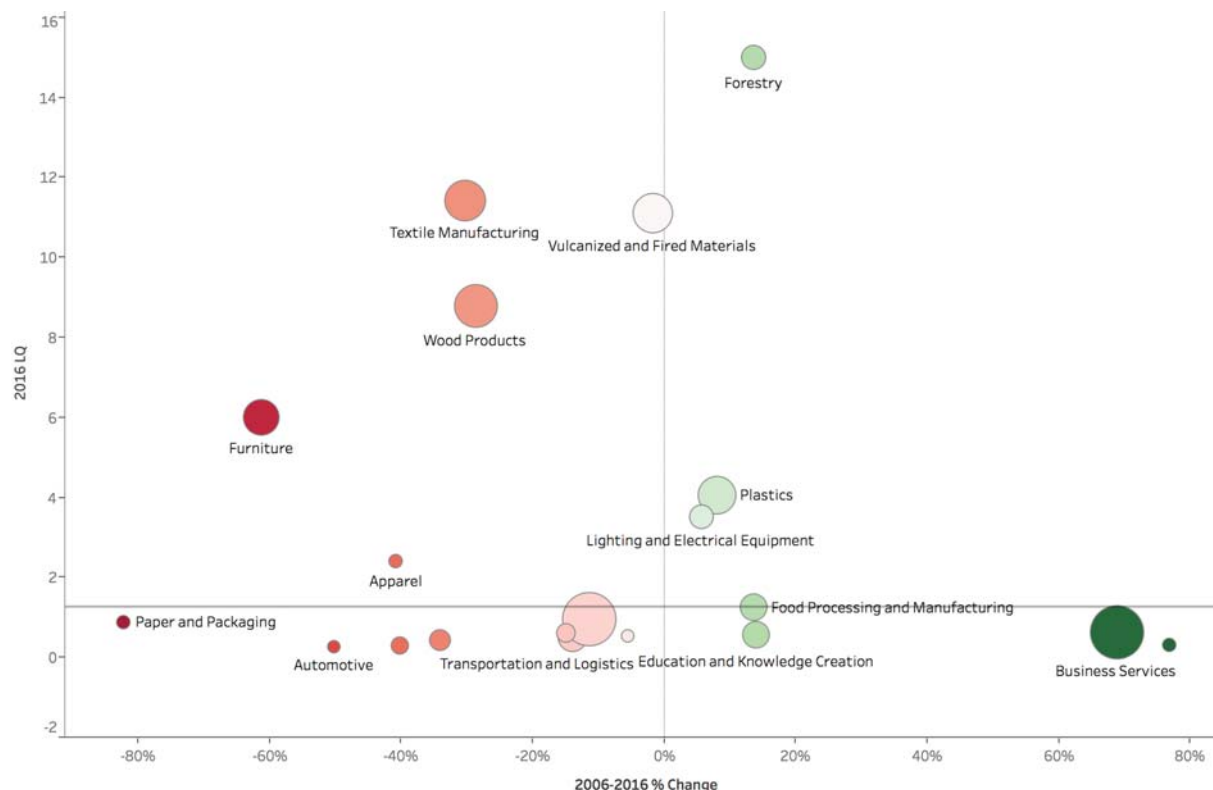
While not a traded cluster, the **healthcare** industry is a crucial component of the local economy. As the occupational data in this report shows, healthcare is a main driver of hiring in Region 3 and adds invaluable wages to the economy. It is a local or “non-traded” cluster, in that the healthcare system mainly serves the local population and generally does not bring outside money into the economy. Therefore, it will not be included in this analysis. However, given its regional importance, data for the healthcare sector will be compared with some of the traded clusters.

To look at industry clusters that exhibit unique strength in the region - a high concentration compared to national levels - **location quotients** were measured. Location quotients are the concentration of a cluster's employment in the region compared to national employment concentration. A location quotient of 1.25 or greater demonstrates a high concentration of workers in one cluster. This can reveal what clusters are concentrated in Region 3 and generating money from outside of the region through exports. LQs were also mapped alongside employment growth to see which clusters are thriving or declining. The chart below demonstrates where a cluster may fall on the map and how it corresponds to its strength and growth.

Example Chart for Cluster Mapping



Cluster Map of Region 3

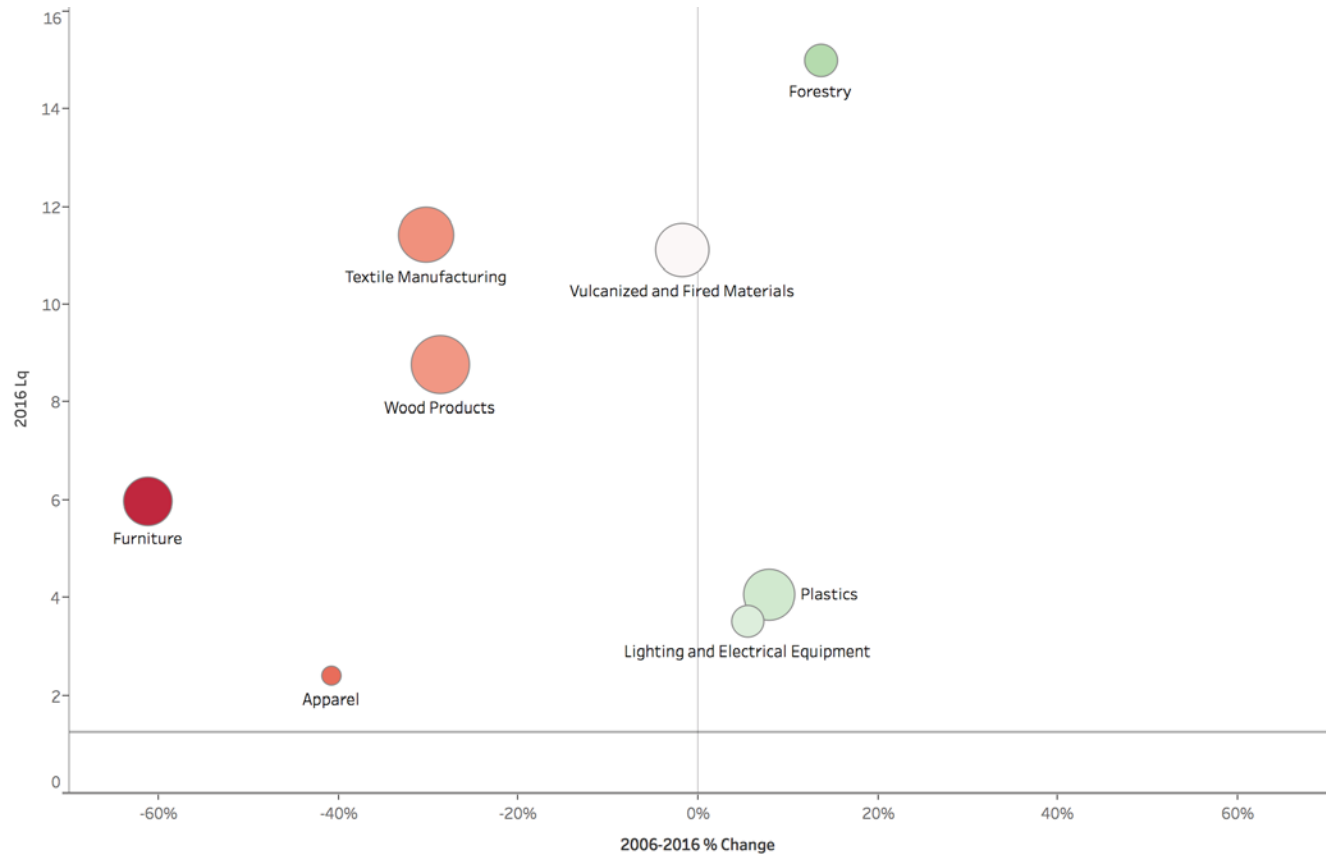


Source: EMSI 2017.1

Note: The size of each cluster bubble is determined by the size of 2016 employment levels. The color of each cluster is determined by the employment growth from 2006 to 2016.

Region 3 has several highly-concentrated industry clusters. Some of these industries employ workers at levels 1,000 percent higher than the national average. The top industry clusters in the region include **Forestry**, Textile Manufacturing, **Vulcanized and Fired Materials**, Wood Products, and Furniture. Three out of the seven strong clusters experienced employment growth in the last ten years. Furniture, Wood Products, Textiles, and Apparel have seen large declines in employment over this timeframe. Other strong traded clusters in the region that are growing are **Plastics** and **Lighting and Electrical Equipment**. These strengths may indicate an opportunity in advanced materials manufacturing and innovation for the region. The chart below shows just the strongest concentrated clusters (highest location quotients) in the region for more detail.

Strong Clusters in Region 3



Source: EMSI 2017.1

Outside of this grouping, another cluster that has shown promising growth is the Food Processing and Manufacturing group. This cluster is just below the 1.25 LQ threshold, but employment in the region is still about 20 percent higher than the national average. As demonstrated in the next chart, there are several industry groups that are growing but are still at weaker concentrations. Production Technology and Business Services both grew employment by greater than 60 percent in the last ten years.

Weak Concentration Clusters in Region 3



Source: EMSI 2017.1

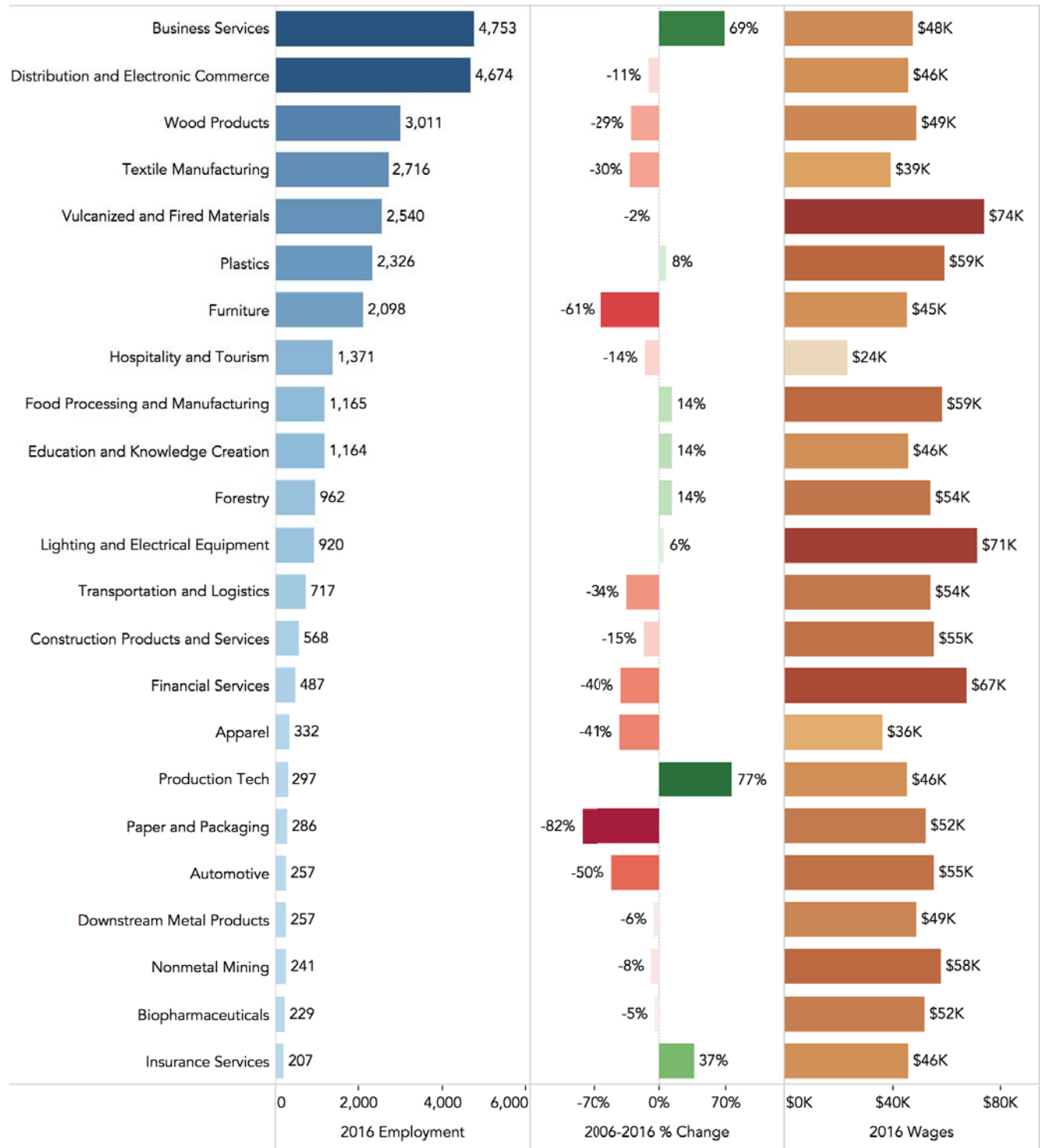
The growth in Business Services is encouraging as it is currently the top-emplying traded sector in the region. Wages (includes salary and benefits) average about \$48,000 for a Business Services worker. Business Services includes establishments that provide support to other aspects of a business or aid other companies. This category includes corporate headquarters as well as support services. Support services include computer, engineering, legal, job placement, and consulting services. DRS Group in Clarksville, VA is an example of a Business Services firm as they assist companies with document imaging, scanning, and cloud services.

The Production Technology cluster manufactures heavy machinery or machinery used for production of downstream products. The machines produced by this cluster go on to be used in agricultural, construction, and industrial sectors. Smart Machine Technologies in Ridgeway, VA is an example of a Production Technology company. They make brewing equipment for commercial breweries as well as production equipment for food and beverage manufacturers.

Vulcanized and Fired Materials is another cluster of focus because the average wage is high at \$76,000 a year and it employs over 2,500 workers in the region. However, employment growth has been declining at a moderate 2 percent rate. The chart on the next page lists the top employing clusters in Region 3. Clusters with less than 200 employees were not included.

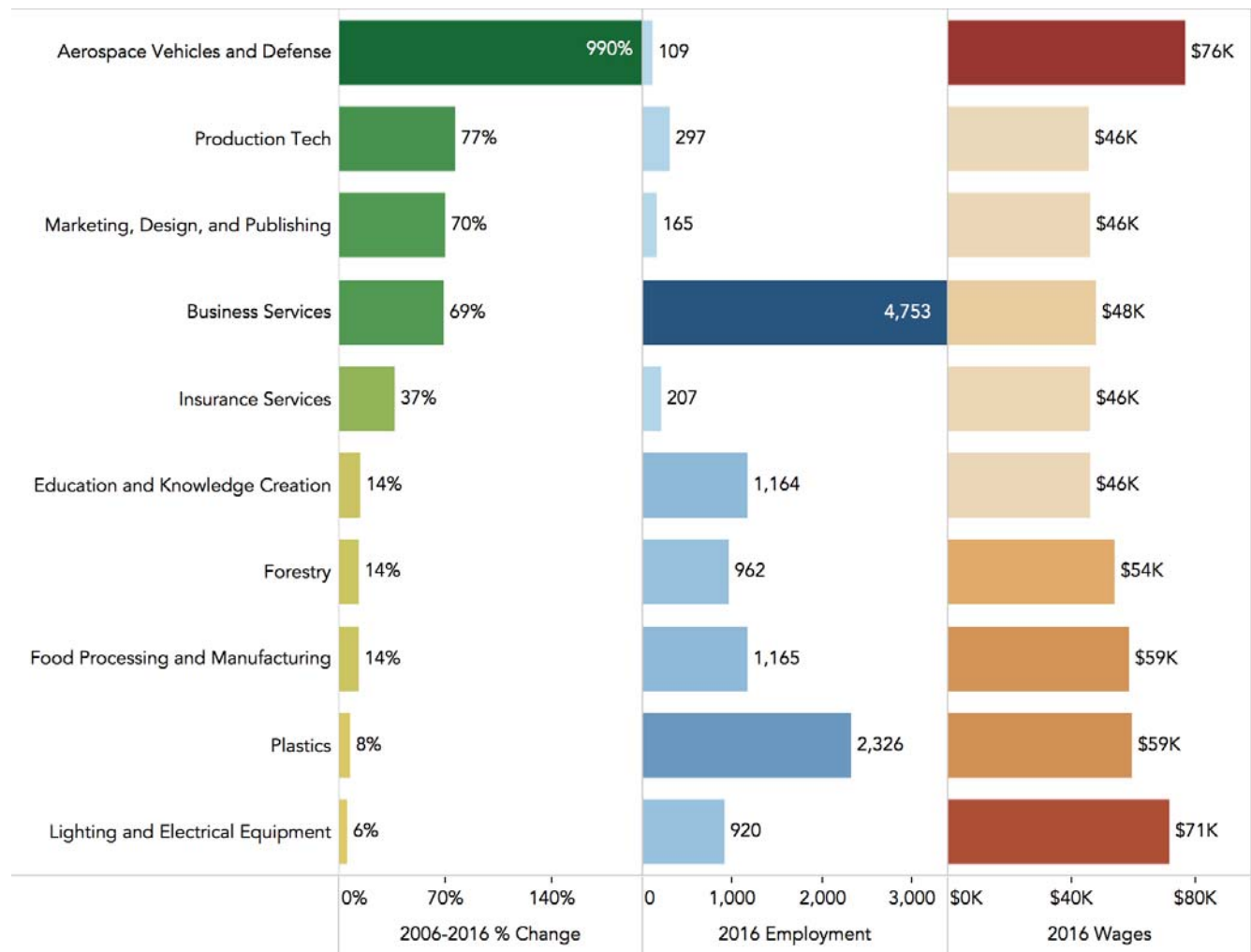
If the healthcare sector was mapped with the traded clusters it would be in the “weak, but growing” category just under the Food Processing and Manufacturing cluster.

Top Traded Clusters by Employment



Source: EMSI 2017.1

Fastest Growing Traded Clusters



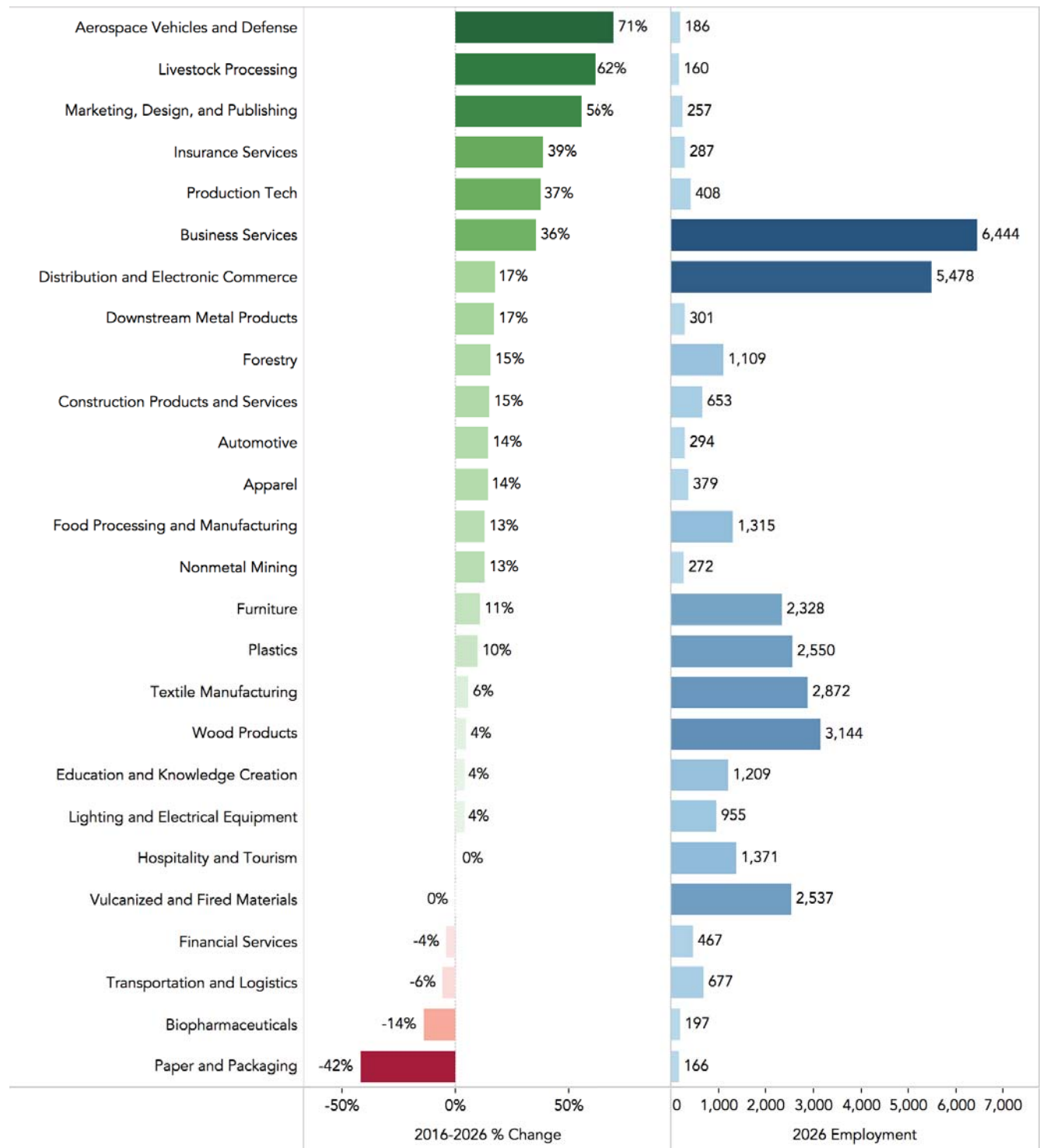
Source: EMSI 2017.1

Region 3 has 10 traded clusters employing over 100 people that experienced growth from 2006 to 2016. Marketing, Design, and Publishing may be an emerging cluster to track. Aerospace job growth also represents a lucrative opportunity. These jobs are technical, but often only require an associate degree or post-secondary award. Skilled machining and tooling workers are in high demand in this industry. The cluster also provides opportunities in engineering. The average wage is about \$76,000, the highest of all clusters featured in this report. Certainly, the high growth percentage in Aerospace is due to 2006 employment of only about 10 workers. However, the fact that the region could recruit in this cluster without an already-established workforce is impressive.

The non-traded healthcare sector employed about 14,680 workers in 2016, much more than any of the top traded clusters. Healthcare sector employment grew by about 8.5 percent from 2006 to 2016. Eight traded clusters experienced faster growth rates than

the healthcare industry during this time.

Predicted Future Employment Growth by Cluster



Source: EMSI 2017.1

The Lighting and Electrical Equipment cluster is another strong group in Region 3. It is expected to grow employment by four percent in the next 10 years. This cluster could be an emerging focus for the region, as it can tap into the increasingly lucrative clean technology and energy efficiency markets. The cluster also pays one of the highest wages in the region at \$71,000 a year. Examples of regional firms in this cluster include Amphenol Times Fiber Communications in Chatham, and Shore Holders in Phenix.

Forestry also can have a high-tech element, in terms of more sustainable and efficient forestry methods and biofuel technologies. These advanced technologies offer opportunities for partnerships with academia to spin off and nurture innovative regional companies.

Only four of the traded clusters that employ over 150 people are expected to see their employment decline in the next 10 years. The Vulcanized and Fired Materials cluster is expected to remain flat, but this cluster is an important industry and top employer in the region. Looking for new research and collaboration in advanced materials could help generate growth in this high-paying cluster and benefit the region.

In the non-traded healthcare sector, 2016 average earnings were about \$47,570 per year. This compares with average earnings in all traded clusters of about \$50,900 per year. One way to leverage the concentration of healthcare workers in the region would be to create linkages to the biopharmaceuticals sector. Biopharmaceuticals is a small, traded cluster that is underutilized in the region, with 220 employees in 2016 and declining employment over the last 10 years. Business leaders suggest that a lack of qualified biotech and biopharmaceutical workers is an impediment to the industry's growth in Region 3.

In conclusion, as the region moves on from the lower-paying Textiles and Furniture clusters, there are opportunities for growth and bringing in aspects of a knowledge economy to support efforts in clean tech and advanced materials, which would in turn support existing and emerging traded clusters in the region. Region 3 is seeing the loss of traditional industries, but it is fortunate to have strong existing clusters that are growing, like Plastics and Forestry, and emerging clusters that present an opportunity for higher paying jobs.

Existing Clusters to be supported:

- Vulcanized and fired materials
- Lighting and electrical equipment
- Plastics
- Distribution and electronic commerce
- Food processing
- Forestry
- Business Services

Emerging Clusters to be explored:

- Aerospace vehicles and defense
- Production technology

BUSINESS INPUT ON REGION 3 CLUSTERS

Business leaders and workforce partners provided good insight into industry clusters in Region 3, particularly focusing on existing clusters that have some potential to grow. Some of their recommendations mesh very well with those identified in the data analysis above. Others present minor discrepancies, particularly those clusters that are well-established but not growing.

Top Recommended Clusters:

- **Aerospace and Automotive:**

Region 3 was particularly mentioned as a location for Tier 2 and 3 suppliers of these industries. One respondent called the Rolls-Royce aerospace supply chain the #1 jobs opportunity for Southern Virginia. Others mentioned the strong Advanced Manufacturing skills of the regional workforce, and suggested that any high-tech manufacturing industry would be a good fit in Region 3.

- **Forestry and Bio-Based Materials:**
Several business people highlighted Forestry, and the potential for developing bio-based products supplied by both the Forestry and **Agricultural** sectors. In Agriculture, the growth potential of Livestock meshes with the predicted employment growth chart in the data analysis above.
- **Food Processing**
- **Wood Products**
- **Logistics:**
A good fit with the Distribution cluster highlighted in the data analysis.
- **Information Technology**

Furniture was also mentioned, though employment trends are down in the region. One respondent highlighted the success of IKEA making furniture in the United States. They noted that in order to succeed, furniture companies operating in America must invest heavily in technology and automation. This will result in lower job creation, but the jobs will be higher-skilled, better-paying positions.

PART VI: CLUSTERS IN SURROUNDING METRO AREAS

INTRODUCTION

In addition to conducting a business cluster analysis for Region 3, Economic Leadership also performed a cluster analysis of each of the metropolitan areas surrounding the region. There is evidence that cluster-based economic development might be more difficult or less productive in rural areas. A predominantly rural area's best cluster and supply-chain approach may be to build connections to nearby urban areas, and use the cluster strengths of its larger neighbors as a competitive advantage. Once the strengths of a region's neighbors are determined, a region can position itself to connect with these clusters by recruiting complimentary industries, supply chain manufacturers and service providers. A region's geographic proximity to a strong cluster of a major city can be a recruiting tool. The following map shows that Region 3 borders seven nearby urban areas used for this analysis.

Map of Metro Areas Surrounding Region 3



For data collection purposes, metropolitan statistical areas (MSAs) were used for pulling cluster information from the EMSI software. A few MSA areas were combined into one city name for this report. The chart below details the MSAs that make up each metro area surrounding Region 3.

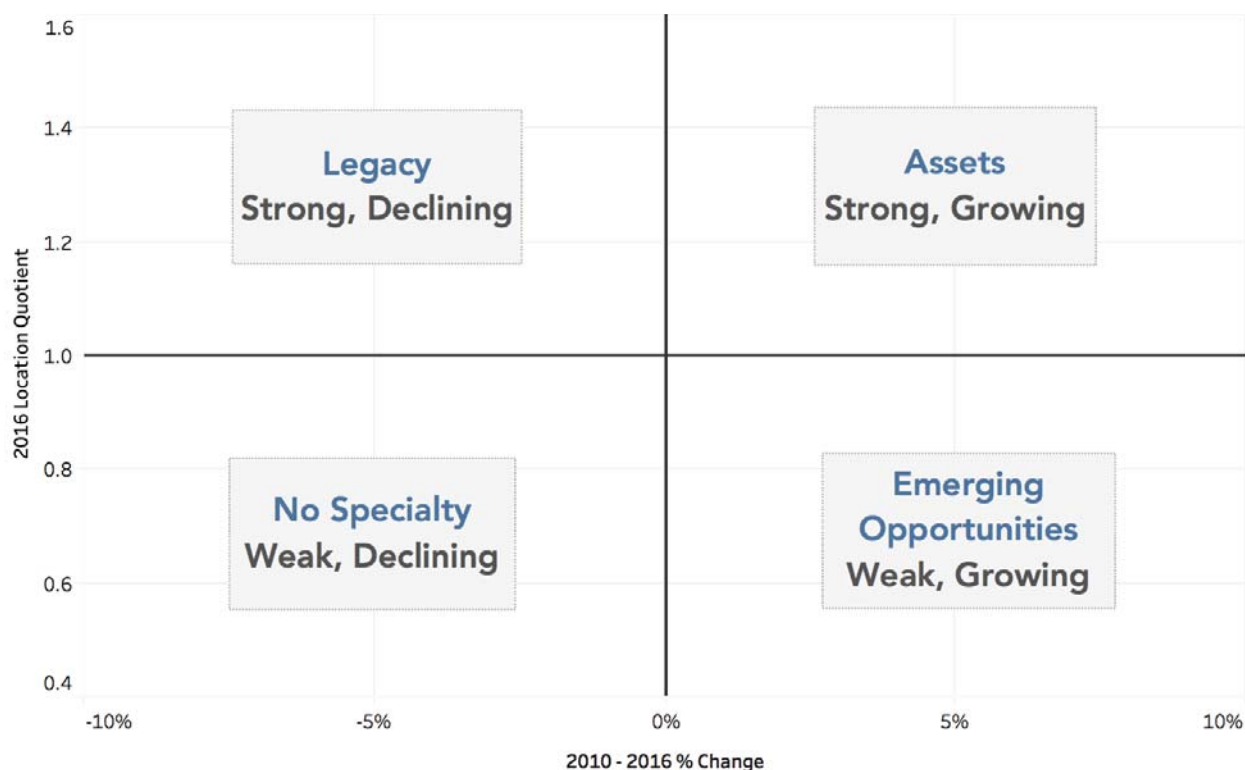
Report City Name	MSA
Richmond	Richmond, VA
Norfolk	Virginia Beach-Norfolk-Newport News, VA
Triangle	Raleigh, NC and Durham-Chapel Hill, NC
Triad	Greensboro-High Point, NC and Winston-Salem, NC
Roanoke	Roanoke, VA

Lynchburg	Lynchburg, VA
Charlottesville	Charlottesville, VA

SURROUNDING METRO AREAS CLUSTER ANALYSIS

To determine which clusters in the surrounding metros are most important to Region 3, clusters are grouped into four categories based on location quotient (LQ) and recent job growth. Location quotient refers to a cluster's employment concentration in one region compared with the cluster's average employment concentration nationally.

Sample Cluster Chart

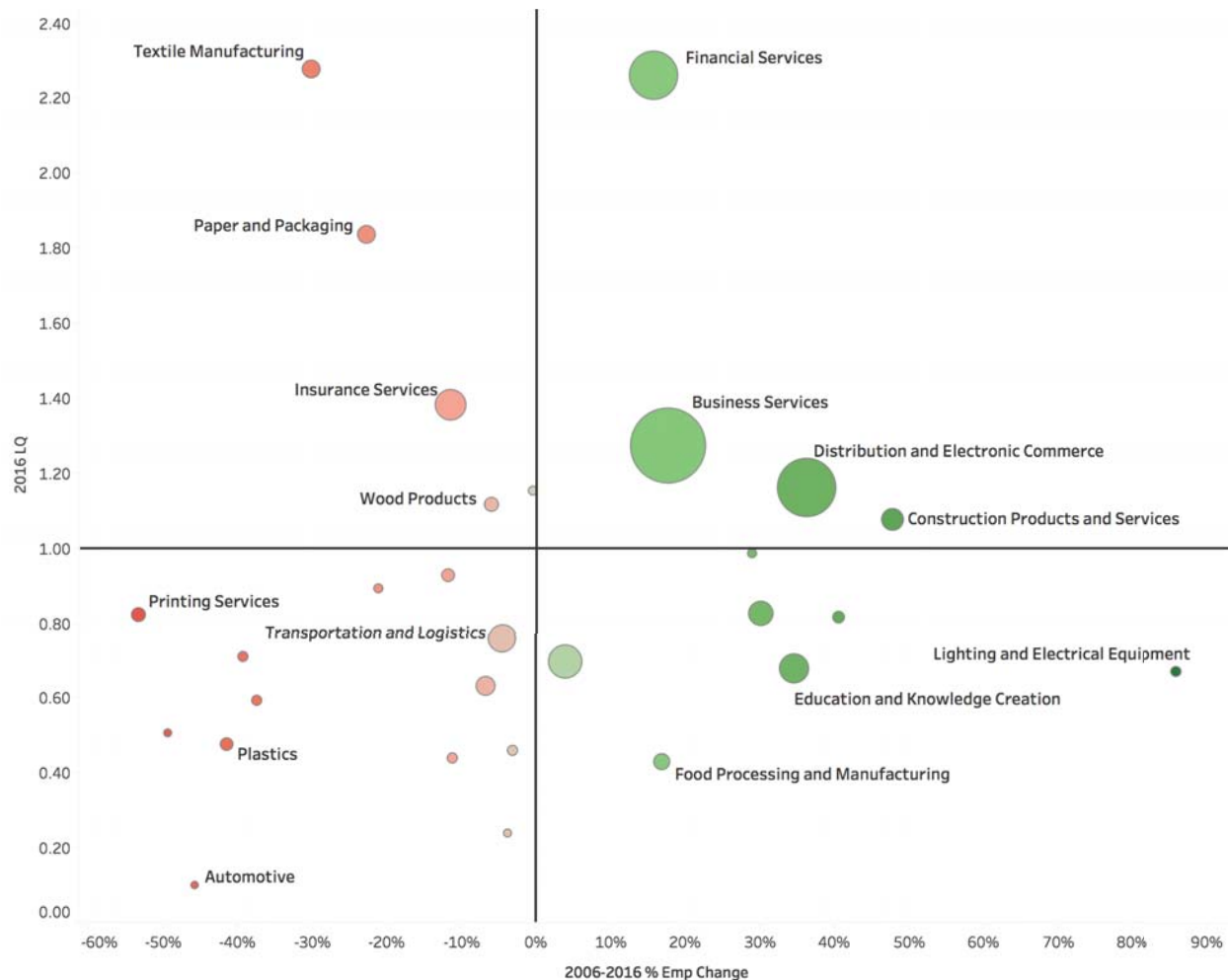


Generally, this analysis chose **asset clusters** as the top clusters relevant to Region 3. This is based on asset clusters having a concentrated presence in the region and experiencing recent job growth. “Legacy clusters” are traditional industries that have long sustained a region but are seeing steady declines in their workforce. Tobacco, textiles, and furniture are legacy clusters present in many of the cities surrounding Region 3. If a cluster lacks job growth and does not have a strong concentration compared to national levels, these clusters are deemed ‘no specialty’ and are not included in the list of relevant clusters. “Emerging clusters,” those with high growth but low LQ levels, are occasionally included among relevant clusters if there is a lack of asset clusters or a cluster of interest to Region 3. Clusters that also employ a higher number of workers are given preference. Once the asset clusters and/or clusters of

interest were determined, a deeper dive into each cluster's performance was conducted.

RICHMOND

Richmond Cluster Map



Source: EMSI 2017.2

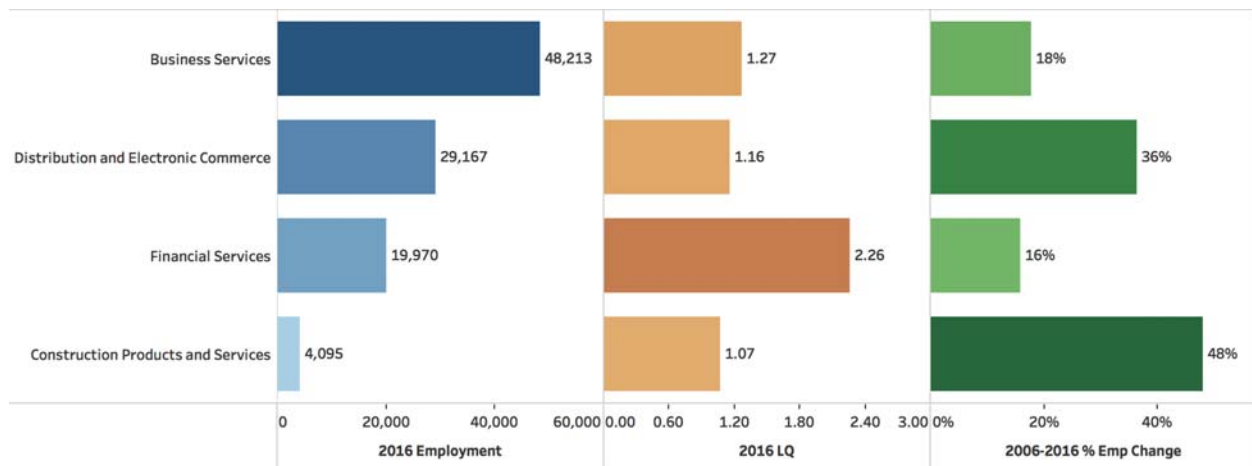
Note that Tobacco Manufacturing has a very large concentration in Richmond - so large that it did not fit on the cluster map. However, Tobacco Manufacturing is a legacy industry with 83 percent employment decline since 2006. Richmond has seen growth in four of its asset clusters. These clusters are also top employers in the city. Richmond's clusters are more focused on white collar employment, often requiring higher education levels, rather than industrial manufacturing.

Richmond Asset Clusters:

- Financial Services
- Business Services

- Distribution and E-Commerce
- Construction Products and Services

Richmond Asset Cluster Performance Metrics

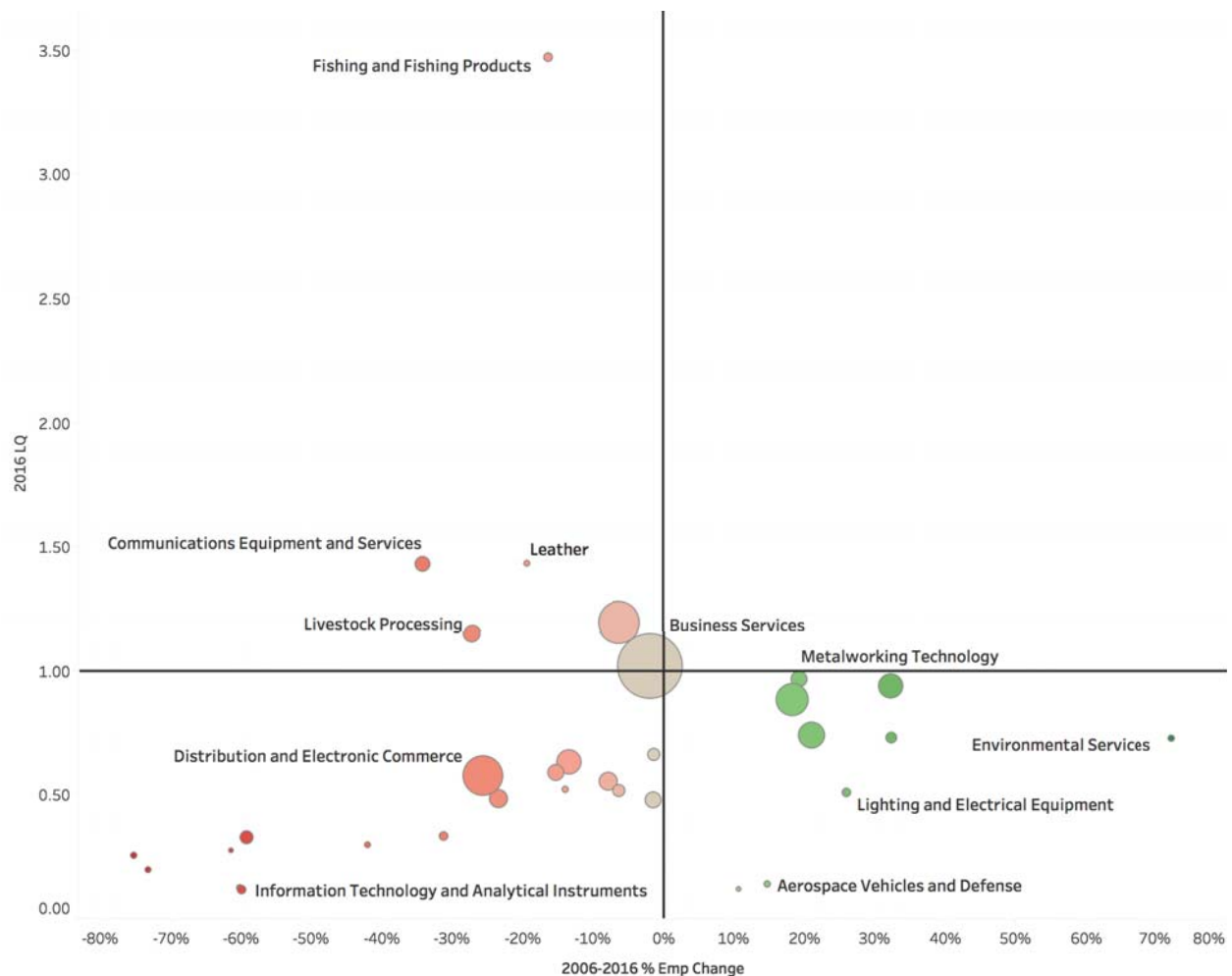


Source: EMSI 2017.2

The four asset clusters in Richmond have seen strong growth in the last 10 years. The strongest comparative advantage cluster in Richmond is Financial Services. Region 3 shares legacy clusters with Richmond, but does not share any asset clusters. However, Business Services is both an asset cluster in Richmond and an emerging cluster in Region 3.

NORFOLK

Norfolk Cluster Map



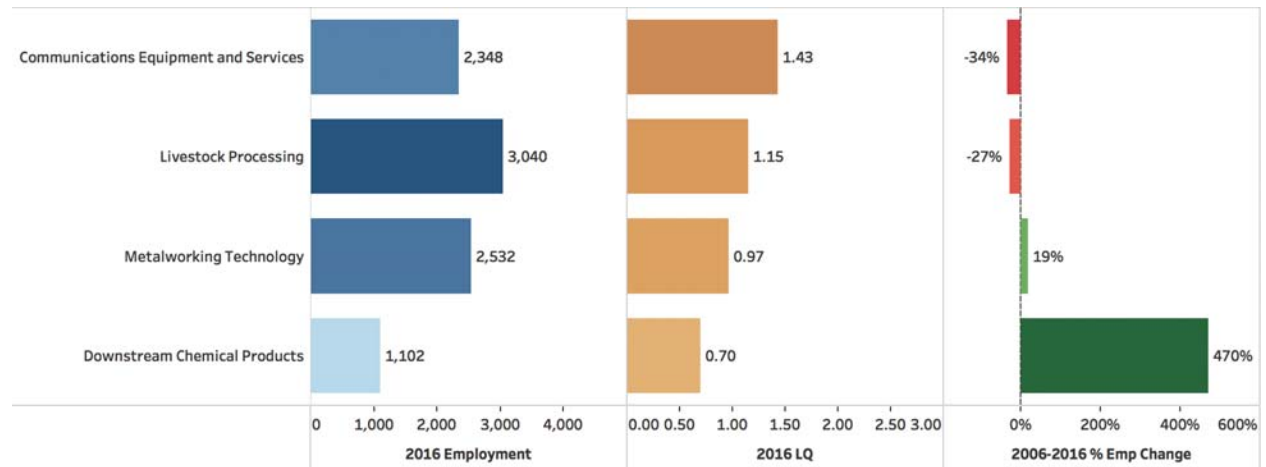
Source: EMSI 2017.2

Note that Water Transportation is an asset cluster for the Norfolk region with a large concentration (LQ of 18). It has grown employment by 3% since 2006. Given that Water Transportation is a product of Norfolk's specific geography it is not included in the asset clusters of interest to Region 3 listed below. Fishing is also considered a site-specific cluster. Beyond Water Transportation there is not another asset cluster in Norfolk. Therefore, legacy clusters and emerging clusters were studied further. Downstream Chemical Products did not fit on the chart as it had job growth over 450 percent from 2006 to 2016. Its employment concentration is still low, with total jobs in the region 27 percent below national averages.

Norfolk Clusters of Interest:

- Downstream Chemical Products
- Metalworking Technology
- Communications Equipment and Services
- Livestock Processing

Norfolk Clusters of Interest Performance Metrics

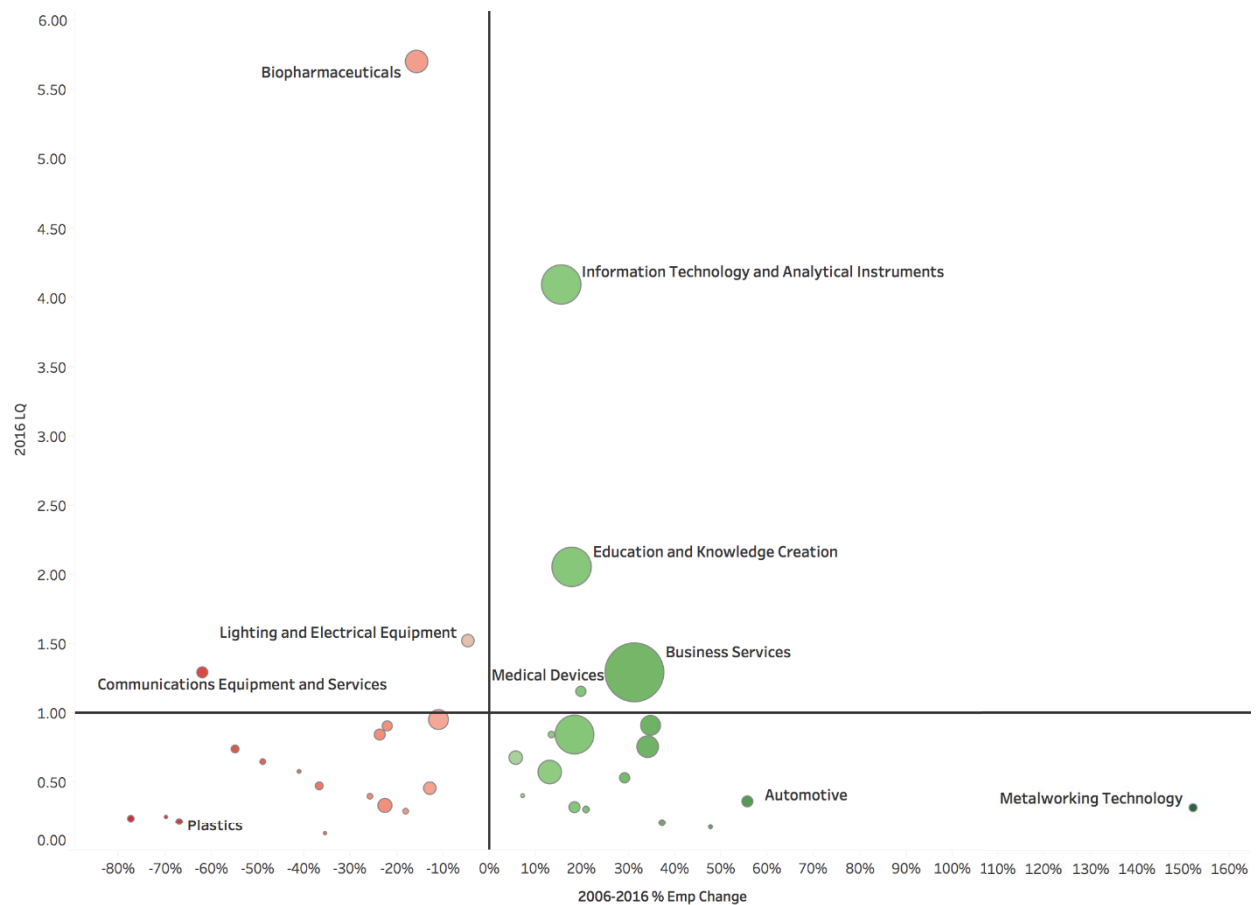


Source: EMSI 2017.2

The lack of any asset clusters, along with the distance from most of Region 3, may leave the Norfolk area out of cluster attraction efforts for Region 3. However, the dramatic growth of Downstream Chemical Products in Norfolk makes it a cluster to watch. Metalworking Technology employment in Norfolk is just three percent below national employment levels. Metalworking Technology appears as an asset cluster in other metro areas in this analysis.

THE TRIANGLE

Triangle Cluster Map



Source: EMSI 2017.2

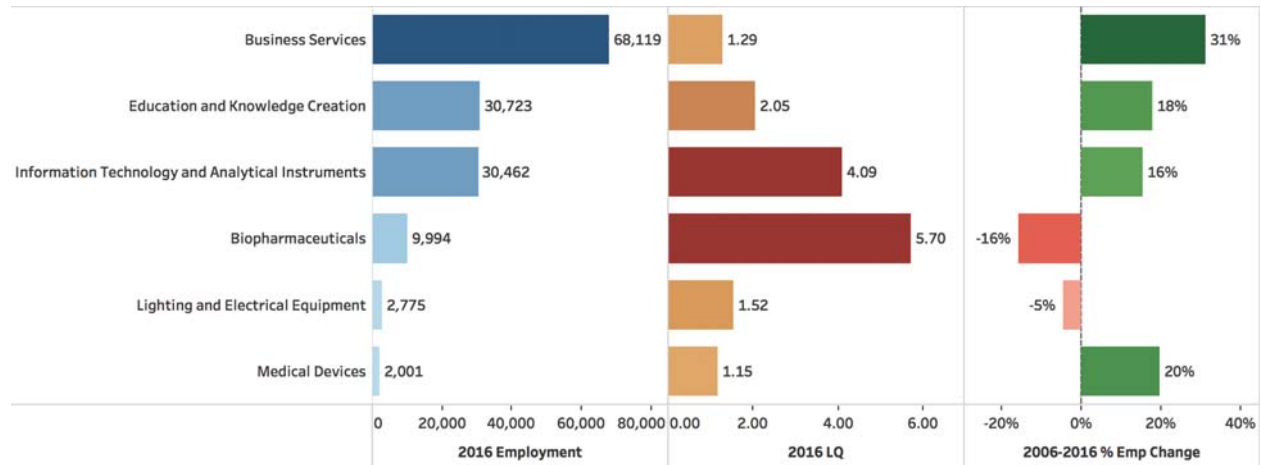
Note that Electric Power and Distribution had such strong job growth it did not fit on the chart above. Its concentration is equal to national averages with an LQ of 1.00. Biopharmaceuticals, education, and research have been hallmarks of the Triangle region for years. However, Biopharmaceuticals employment declined by 16 percent in the past 10 years. The region's highly educated workforce has driven the area to be a major tech hub. Information Technology employment growth in the Triangle is some of the fastest in the nation.

Triangle Asset Clusters:

- Biopharmaceuticals
- Medical Devices
- Information Technology and Analytical Instruments
- Education and Knowledge Creation
- Business Services

- Lighting and Electrical Equipment

Triangle Asset Cluster Performance Metrics

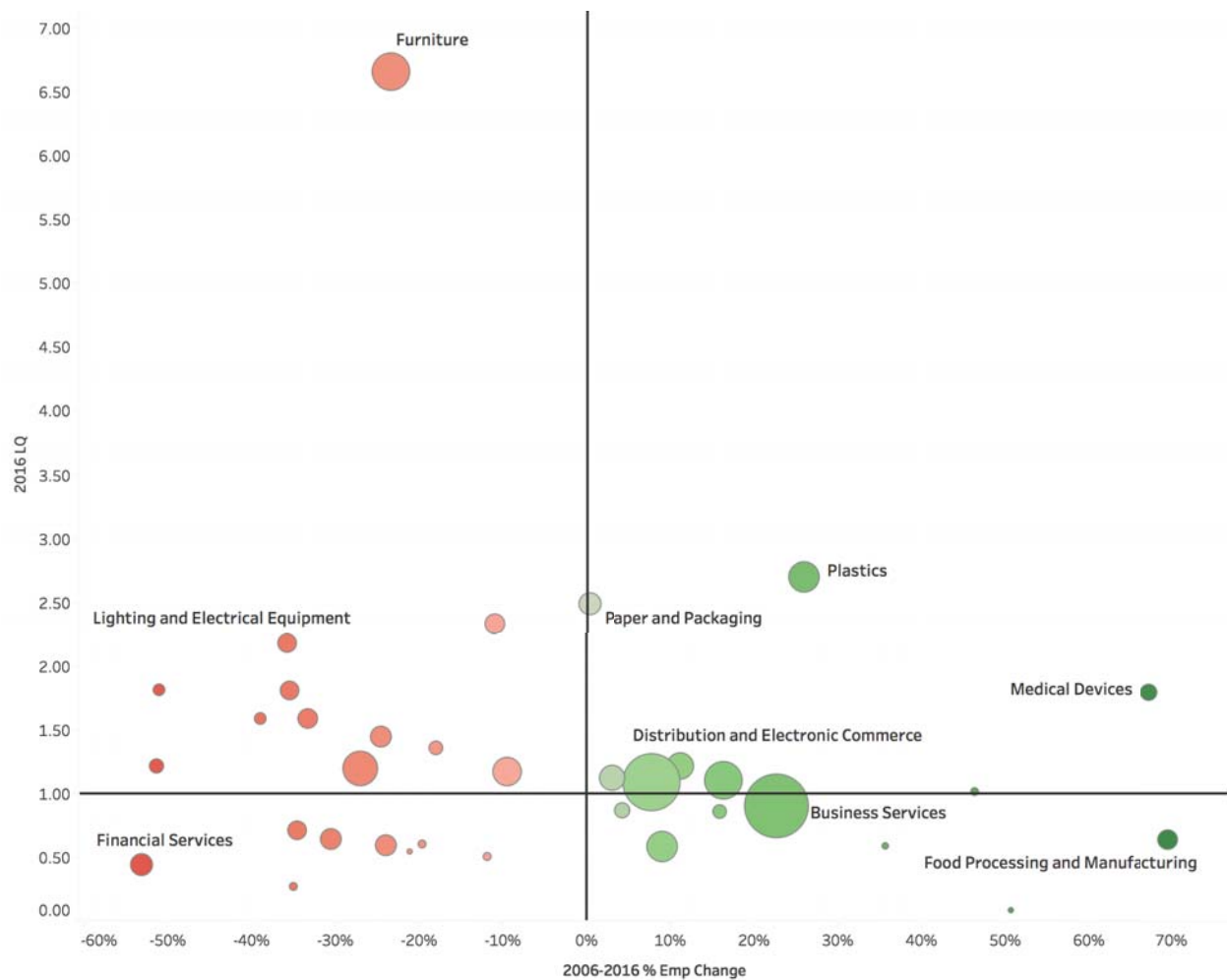


Source: EMSI 2017.2

The Triangle region has four asset clusters. Medical Device growth in the Triangle could be an opportunity for Region 3 as the healthcare sector continues to grow. Lighting and Electrical Equipment is an asset cluster for Region 3 and is thus included in this list. Despite moderate employment declines in the past 10 years, this cluster that includes the Triangle-based firm CREE could be an opportunity for linkage to Region 3.

THE TRIAD

Triad Cluster Map



Source: EMSI 2017.2

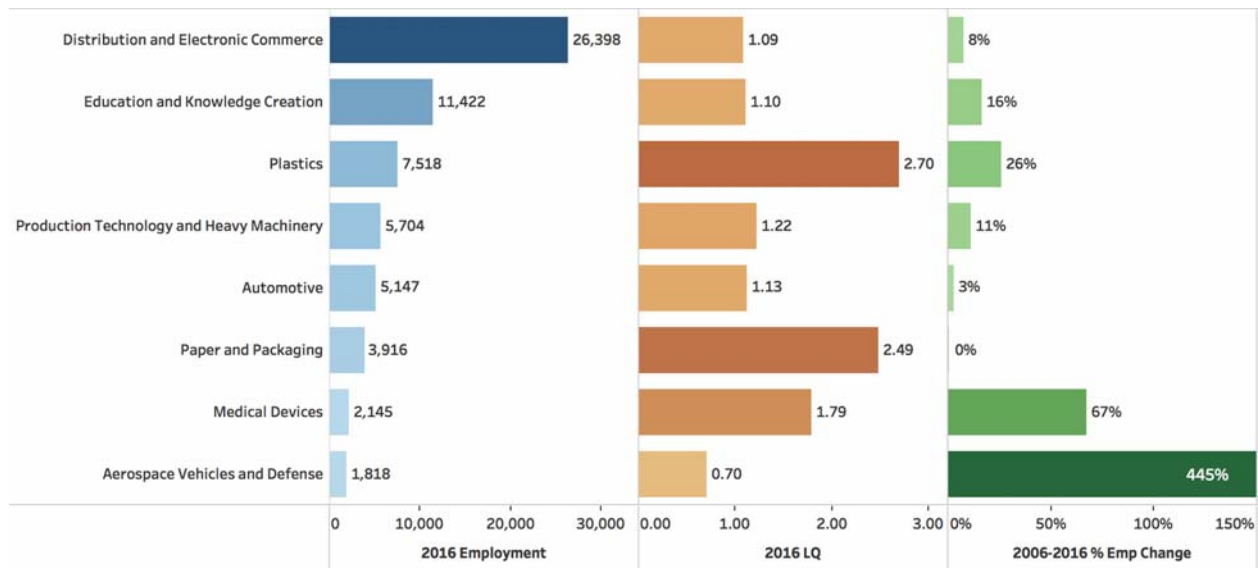
Note that Tobacco Manufacturing has a very large concentration in the Triad, so large that it did not fit in the cluster map. However, Tobacco Manufacturing is a legacy industry with 59 percent employment decline since 2006. Textile Manufacturing was also a large legacy industry that was left off the map. Aerospace Vehicles and Defense could not fit on the map because its job growth was about 450 percent from 2006 to 2016.

Triad Asset Clusters:

- Aerospace Vehicles and Defense
- Automotive
- Paper and Packaging
- Plastics

- Medical Devices
- Production Technology and Heavy Machinery
- Distribution and E-Commerce
- Education and Knowledge Creation

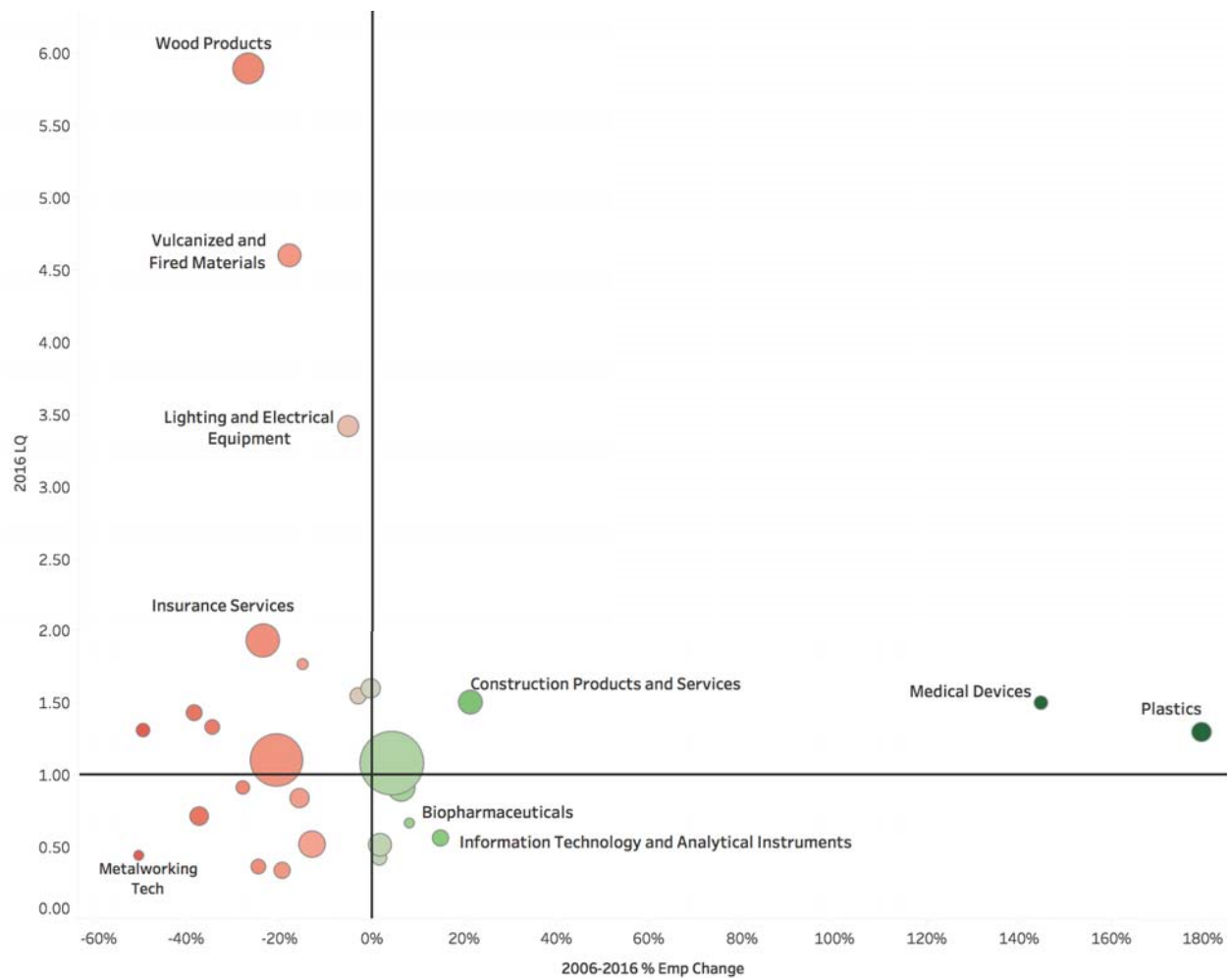
Triad Asset Cluster Performance Metrics



Aerospace Vehicles and Defense is included due to the sheer rate of job growth in the past 10 years as well as similar dramatic growth witnessed in Region 3. Production Technology and Heavy Machinery are clusters that tie in with the aerospace supply chain. Medical Devices already has a strong concentration and has seen 67 percent increase in employment from 2006 to 2016. As stated previously, with Region 3's growing healthcare sector, Medical Devices may be a cluster that make sense to pursue. Plastics is also a shared asset between the two regions.

ROANOKE

Roanoke Cluster Map



Source: EMSI 2017.2

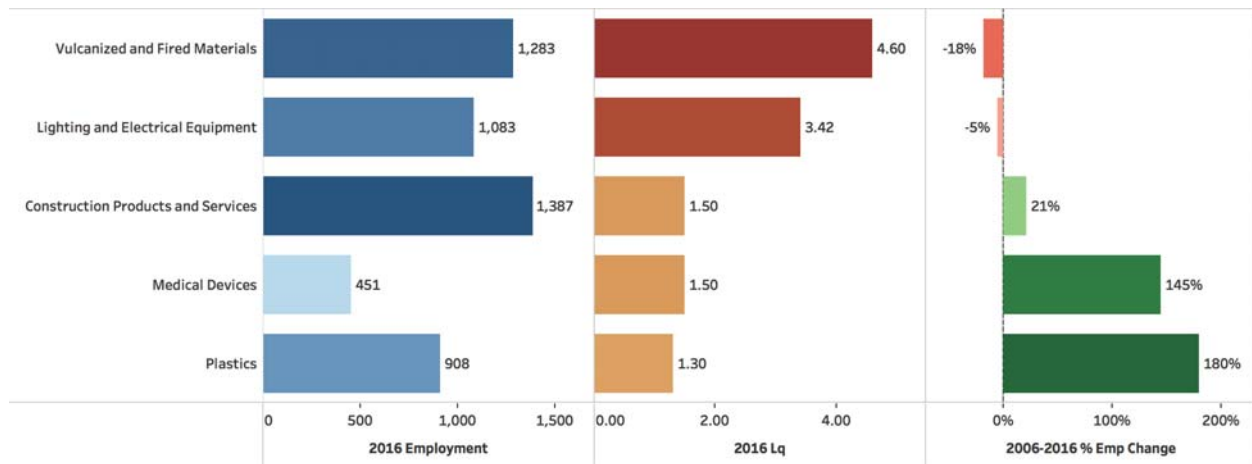
Roanoke's most concentrated clusters experienced employment decline over the past 10 years. Though not strongly concentrated in Roanoke, three clusters experienced job growth and are deemed to be asset clusters. Lighting and Electrical Equipment and Vulcanized and Fired Materials are included as they are strong clusters in Region 3. These clusters have fared better in Region 3 than Roanoke. Three asset clusters in Roanoke also appear as asset clusters in other metro areas in this analysis.

Roanoke Asset Clusters:

- Medical Devices
- Plastics
- Construction Products and Services
- Lighting and Electrical Equipment

- Vulcanized and Fired Materials

Roanoke Asset Cluster Performance Metrics

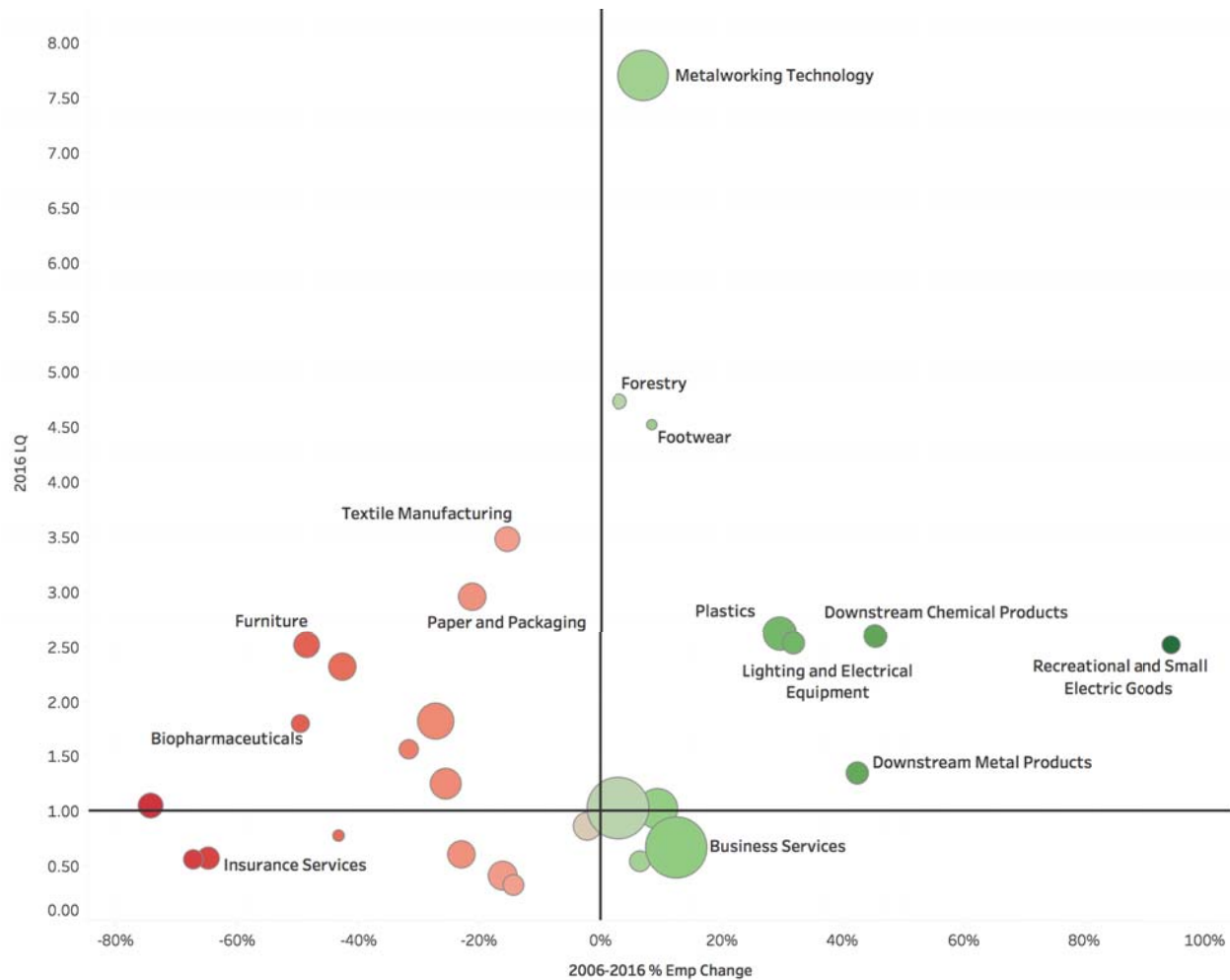


Source: EMSI 2017.2

Plastics and Medical Devices have seen dramatic growth in Roanoke and have metro area employment 30 and 50 percent more concentrated than national levels. Construction Products and Services employs the most people among these asset clusters with over 1,380 employees. This sector has seen 21 percent employment growth from 2006 to 2016.

LYNCHBURG

Lynchburg Cluster Map



Source: EMSI 2017.2

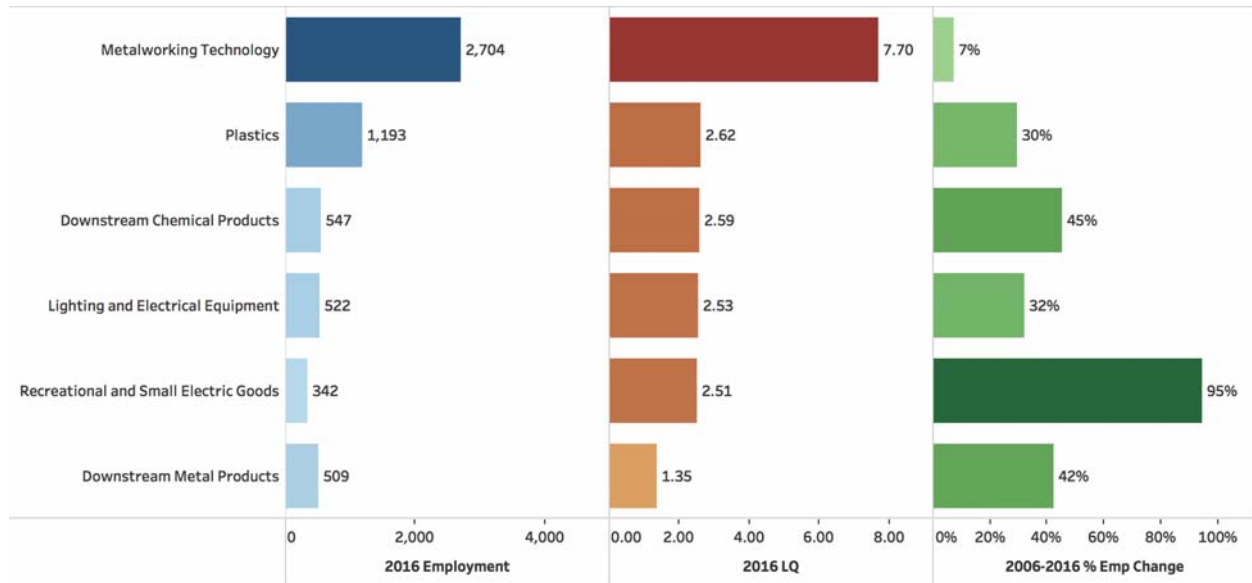
Lynchburg is unique in that its strongest concentrated clusters also experienced job growth. Most of the other metro areas in this analysis and Region 3 have legacy clusters that are the most concentrated but experienced significant employment declines in the last 10 years. Lynchburg still has those legacy clusters of textiles and furniture. In all, Lynchburg has eight asset clusters. Forestry and Footwear were not included because of their small employment levels.

Lynchburg Asset Clusters:

- Metalworking Technology
- Plastics
- Lighting and Electrical Equipment

- Downstream Chemical Products
- Recreational and Small Electric Goods
- Downstream Metal Products

Lynchburg Asset Cluster Performance Metrics

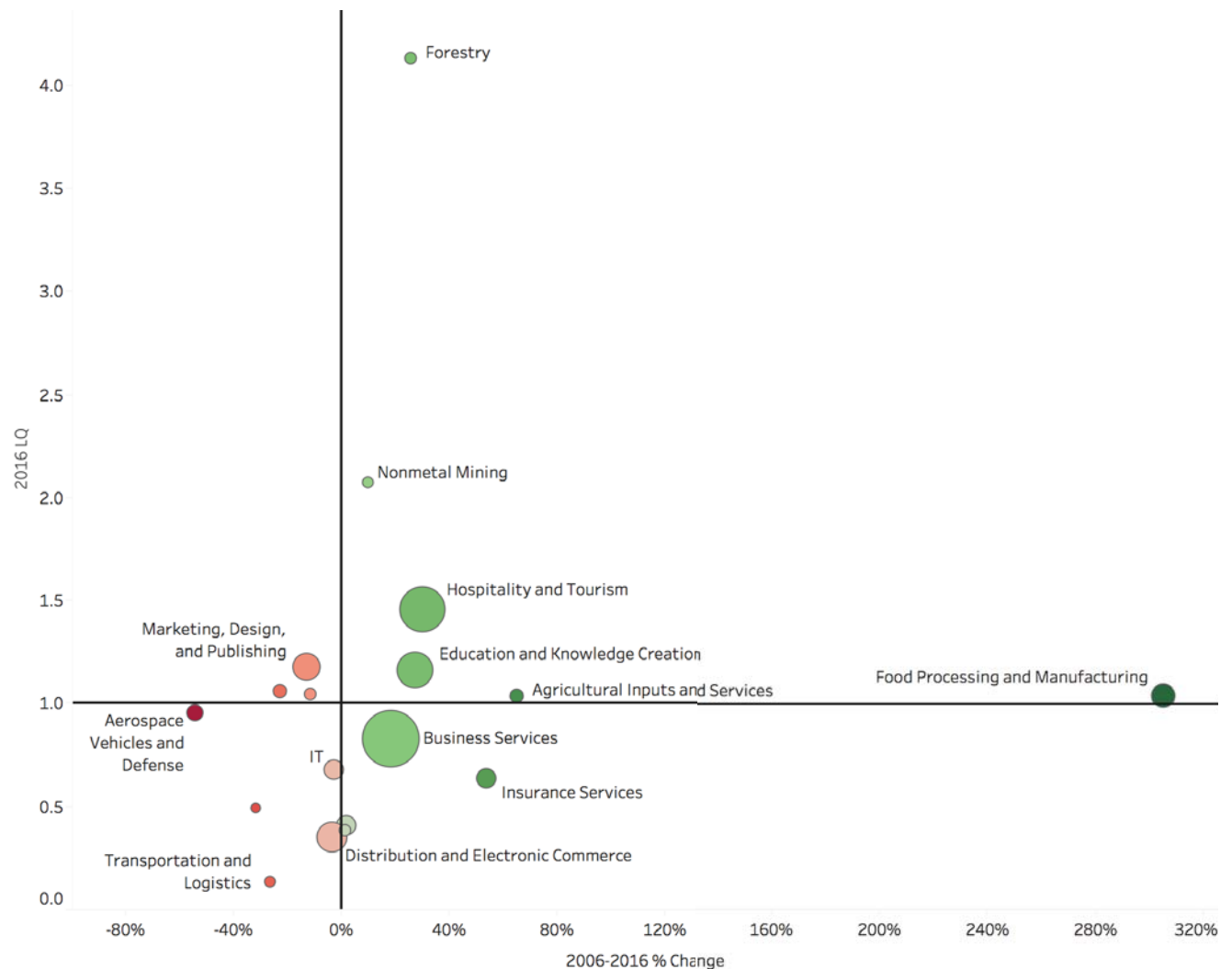


Source: EMSI 2017.2

Metalworking Technology employment is over seven times more concentrated in Lynchburg than it is across the nation. Metalworking Technology is also one of the largest employers in the metro area. Other clusters have also experienced strong growth although their total employment levels are lower. Plastics, Downstream Chemical Products, Lighting and Electrical Equipment, and Recreational and Small Electric Goods are clusters in Lynchburg that have employment concentration over 2.5 times the national level.

CHARLOTTESVILLE

Charlottesville Cluster Map



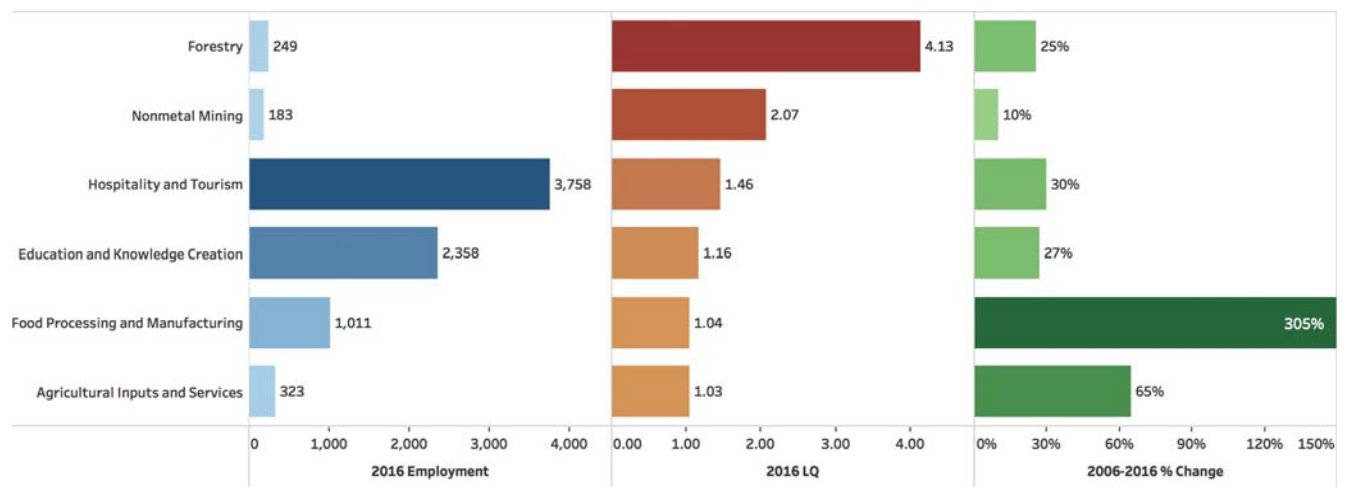
Source: EMSI 2017.2

Charlottesville's strongest industry cluster is in Forestry with an employment concentration four times the national level, though job numbers are small. Forestry and Wood Products are also strong concentrations in Region 3. Charlottesville is unique in this analysis as there are not the traditional, or legacy, clusters that are in drastic decline as found in other areas. This may be attributable to the city having a major public university (UVA) and tourism draws (Monticello). However, Charlottesville is limited on goods producing clusters.

Charlottesville Asset Clusters:

- Forestry
- Nonmetal Mining
- Hospitality and Tourism
- Education and Knowledge Creation
- Food Processing and Manufacturing
- Agricultural Inputs and Services

Charlottesville Asset Cluster Performance Metrics



Source: EMSI 2017.2

Food Processing and Manufacturing is the only true production cluster in the city, and it experienced employment growth over 300 percent in the past 10 years. This industry is beginning to emerge in Region 3 and may represent an opportunity to integrate with the cluster in Charlottesville. Extractive clusters like Forestry and Nonmetal Mining are highly concentrated in this region, but do not employ large numbers of workers.

TAKEAWAYS

First, the clusters of surrounding cities that correspond with strong concentrations and/or growth in Region 3 were compiled. The presence of these similar asset clusters in surrounding cities can be a boon to recruitment and expansion, as there is likely a stronger presence of talented workforce for those industries in the region. There is an opportunity to “expand the pie” of smaller cluster businesses in Region 3, rather than competing directly with surrounding metro areas for the largest projects.

Similar Clusters to Region 3:

- Plastics (Triad, Roanoke, Lynchburg)
- Lighting and Electrical Equipment (Triangle, Roanoke, Lynchburg)
- Forestry (Lynchburg, Charlottesville)
- Vulcanized and Fired Materials (Roanoke)
- Business Services (Richmond, Triangle)

There are seven asset clusters present in surrounding metro areas that are not strong clusters, or are clusters on the cusp, in Region 3. These clusters in surrounding cities represent an opportunity for Region 3 to position itself as a great location for supply chain companies to locate close to these clusters, potentially at lower cost. Each of these seven clusters has seen strong employment growth in the surrounding metros. Many of these clusters focus on advanced manufacturing and need a skilled workforce to attract businesses. These clusters are divided among the surrounding cities, meaning that every part of Region 3 has proximity to the strong clusters of a larger city.

Asset Clusters for Region 3 to Position Itself to Support:

- Metalworking Technology (Lynchburg, Norfolk)
- Distribution and Electronic Commerce (Richmond, Triad)
- Construction Products and Services (Richmond, Roanoke)
- Aerospace (Triad)
- Medical Devices (Triangle, Triad, Roanoke)
- Downstream Chemical Products (Norfolk, Lynchburg)
- Food Processing and Manufacturing (Charlottesville)

Map of Nearby Asset Clusters

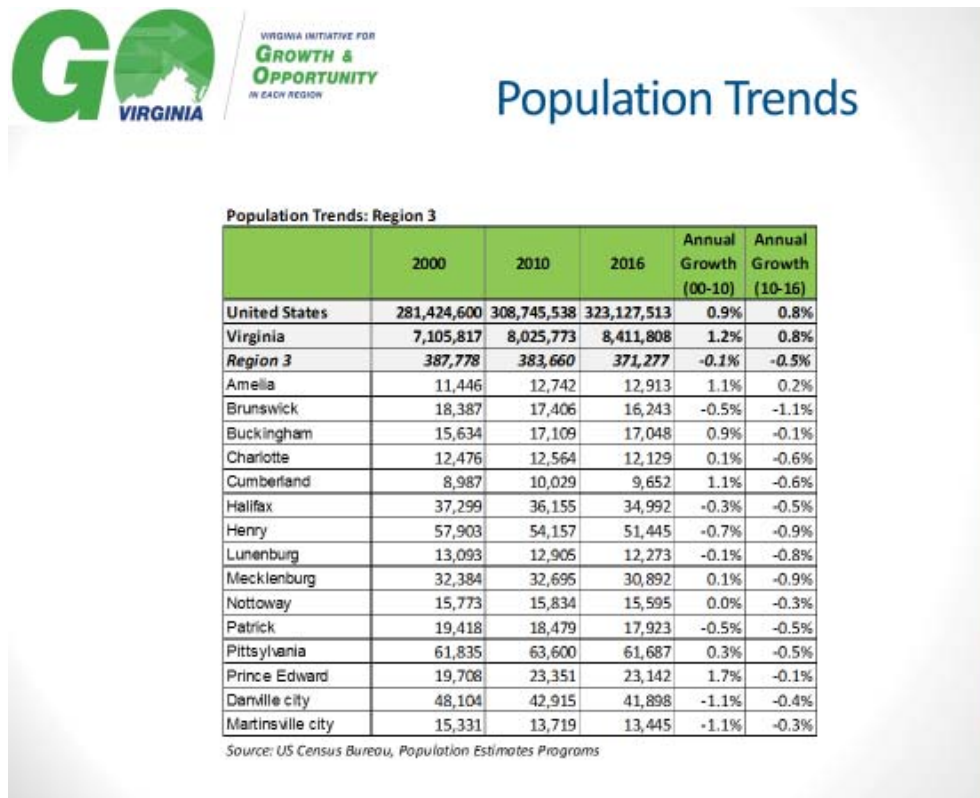


* Denotes clusters that also are strong clusters within Region 3.

APPENDIX A:

ADDITIONAL REGIONAL BASELINE MEASURES FOR GO VIRGINIA REGION 3, INCLUDING INDIVIDUAL COMMUNITIES

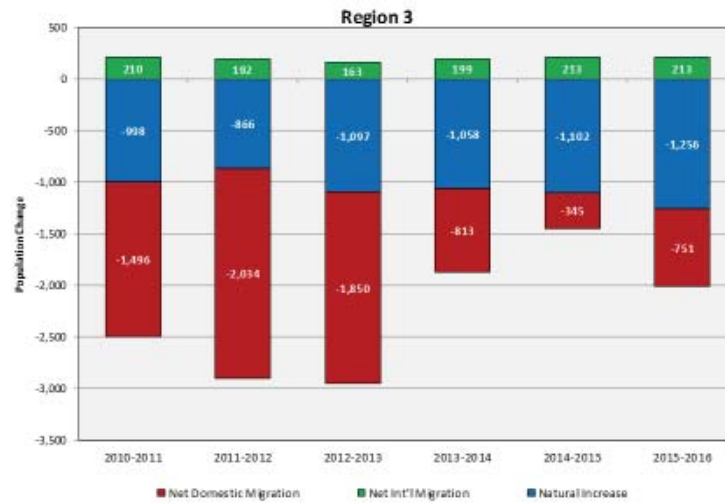
Provided by GO Virginia State Board. Prepared by George Mason University Center for Regional Analysis.





VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

Components of Population Change



Source: US Census Bureau, Population Estimates Program, V2016



VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

Components of Population Change

Region 3

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Natural Increase	-998	-866	-1,097	-1,058	-1,102	-1,256
Net Int'l Migration	210	192	163	199	213	213
Net Domestic Migration	-1,496	-2,034	-1,850	-813	-345	-751

Source: US Census Bureau, Population Estimates Program, V2016



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Per Capita Income

Per Capita Income: Region 3

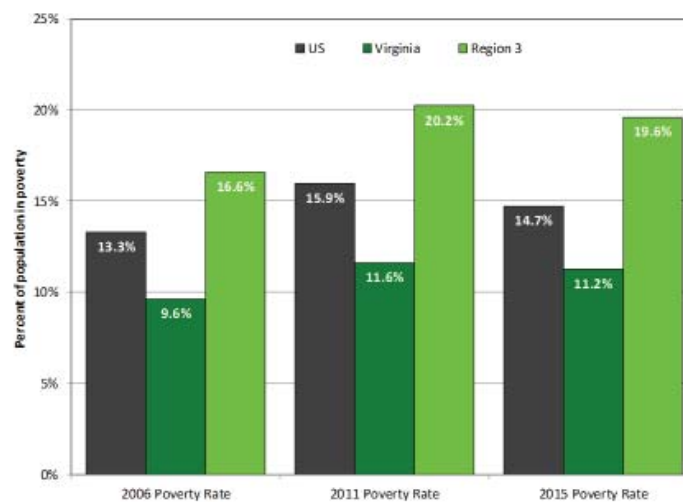
	2000	2010	2015	Annual Growth (00-10)	Annual Growth (10-15)
United States	\$42,231	\$43,902	\$48,112	0.4%	1.5%
Virginia	\$45,144	\$49,421	\$52,052	0.9%	0.9%
Region 3	\$29,000	\$30,990	\$33,480	0.7%	1.3%
Amelia	\$33,191	\$37,162	\$40,511	1.1%	1.4%
Brunswick	\$25,447	\$29,178	\$31,332	1.4%	1.2%
Buckingham	\$23,791	\$25,928	\$27,449	0.9%	1.0%
Charlotte	\$27,968	\$29,446	\$32,048	0.5%	1.4%
Cumberland	\$29,071	\$30,349	\$34,599	0.4%	2.2%
Halifax	\$28,018	\$31,891	\$33,960	1.3%	1.1%
Henry + Martinsville, VA*	\$30,718	\$32,921	\$34,968	0.7%	1.0%
Lunenburg	\$25,761	\$27,856	\$30,733	0.8%	1.7%
Mecklenburg	\$29,404	\$31,495	\$34,137	0.7%	1.4%
Nottoway	\$29,942	\$32,631	\$35,630	0.9%	1.5%
Patrick	\$25,942	\$28,701	\$30,794	1.0%	1.2%
Pittsylvania + Danville, VA*	\$30,744	\$31,423	\$34,119	0.2%	1.4%
Prince Edward	\$24,116	\$26,526	\$29,186	1.0%	1.6%

Source: US Bureau of Economic Analysis, PCI adjusted for 2015 dollars



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Percent of Population in Poverty



Source: US Census Bureau, Small Area Income and Poverty Estimates



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Percent of Population in Poverty

Poverty Trends: Region 3

	2006 Poverty Rate	2011 Poverty Rate	2015 Poverty Rate
United States	13.3%	15.9%	14.7%
Virginia	9.6%	11.6%	11.2%
Region 3	16.6%	20.2%	19.6%
Amelia	9.2%	11.9%	11.1%
Brunswick	19.0%	25.6%	22.1%
Buckingham	17.6%	21.3%	20.2%
Charlotte	17.3%	20.9%	19.2%
Cumberland	15.0%	17.9%	19.6%
Halifax	18.4%	19.3%	16.9%
Henry	14.4%	20.5%	19.6%
Lunenburg	19.8%	22.6%	21.1%
Mecklenburg	14.8%	19.0%	20.4%
Nottoway	19.3%	22.1%	23.7%
Patrick	14.1%	18.0%	17.0%
Pittsylvania	13.0%	14.7%	17.1%
Prince Edward	19.6%	25.0%	22.3%
Danville city	22.3%	26.5%	23.5%
Martinsville city	20.2%	24.5%	23.7%

Source: US Census Bureau, Small Area Income and Poverty Estimates



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Total Employment

Employment Trends: Region 3

	2000	2010	2016	Annual Growth (00-10)	Annual Growth (10-16)
United States	136,891,000	139,064,000	151,436,000	0.2%	1.4%
Virginia	3,522,865	3,860,386	4,070,260	0.9%	0.9%
Region 3	170,177	152,273	153,265	-1.1%	0.1%
Amelia	5,748	5,699	6,049	-0.1%	1.0%
Brunswick	6,609	6,168	5,813	-0.7%	-1.0%
Buckingham	5,947	5,868	6,068	-0.1%	0.6%
Charlotte	5,343	4,820	4,926	-1.0%	0.4%
Cumberland	4,142	4,141	4,357	0.0%	0.8%
Halifax	15,392	14,651	13,939	-0.5%	-0.8%
Henry	27,447	20,467	20,725	-2.9%	0.2%
Lunenburg	5,187	5,020	5,038	-0.3%	0.1%
Mecklenburg	13,765	12,552	11,773	-0.9%	-1.1%
Nottoway	5,991	6,338	6,809	0.6%	1.2%
Patrick	9,193	7,266	7,463	-2.3%	0.4%
Pittsylvania	30,895	27,543	28,496	-1.1%	0.6%
Prince Edward	7,859	9,284	9,230	1.7%	-0.1%
Danville city	20,448	17,390	17,784	-1.6%	0.4%
Martinsville city	6,211	5,066	4,798	-2.0%	-0.9%

Source: US BLS Local Area Unemployment Statistics (2016 preliminary)



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Employment Trends by Industry Sector

Region 3: Industry Sectors, 2015*

Sector	Employment#	LQ	Region 3 Avg Wage	US Avg Wage
Trade, transportation, and utilities	23,852	1.01	\$30,438	\$44,321
Education and health services	20,730	1.11	\$34,115	\$47,383
Manufacturing	17,450	1.61	\$44,021	\$64,305
Local government	14,370	1.17	\$31,557	\$47,573
Professional and business services	11,063	0.64	\$30,117	\$69,270
Leisure and hospitality	10,170	0.76	\$14,106	\$21,807
State government	6,510	1.61	\$38,428	\$55,878
Construction	4,268	0.75	\$36,337	\$57,009
Other services	3,220	0.85	\$23,628	\$35,116
Financial activities	3,106	0.45	\$38,377	\$87,915
Natural resources and mining	2,126	1.20	\$36,667	\$58,461
Federal government	1,144	0.47	\$54,321	\$77,900
Information	1,008	0.41	\$41,374	\$95,098

Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages

*2015 is the most recently available complete year

#Does not include suppressed employment



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Labor Force Participation Rate

Labor Force Participation Rate: Region 3

	LF Participation (06-10)	LF Participation (11-15)
United States	65.0%	63.7%
Virginia	67.4%	66.3%
Region 3	54.8%	54.0%
Amelia	61.3%	58.0%
Brunswick	45.8%	51.4%
Buckingham	27.7%	51.5%
Charlotte	55.7%	55.5%
Cumberland	58.3%	63.0%
Halifax	54.9%	53.4%
Henry	57.3%	55.6%
Lunenburg	51.2%	47.3%
Mecklenburg	52.7%	51.1%
Nottoway	57.3%	49.6%
Patrick	55.1%	49.1%
Pittsylvania	60.0%	58.4%
Prince Edward	54.8%	47.7%
Danville city	57.5%	56.0%
Martinsville city	56.1%	53.4%

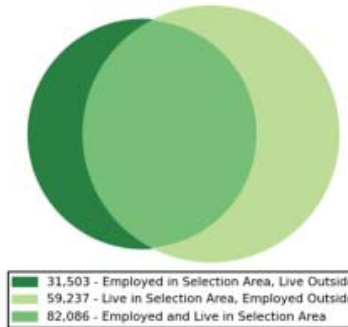
Source: US Census Bureau, 2006-2010 and 2011-2015 American Community Surveys



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Commuting (Inflow/Outflow)

Inflow/Outflow Job Counts in 2014



Inflow/Outflow Job Counts (Primary Jobs): Region 3

	2014	
	Count	Share
Employed in the Selection Area	113,589	100.00%
Employed in the Selection Area but Living Outside	31,503	27.70%
Employed and Living in the Selection Area	82,086	72.30%
Living in the Selection Area	141,323	100.00%
Living in the Selection Area but Employed Outside	59,237	41.90%
Living and Employed in the Selection Area	82,086	58.10%

Source: US Census Bureau, Longitudinal Employer-Household Dynamics OnTheMap, 2014



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Commuting (Inflow/Outflow)

Commuting Patterns: Region 3

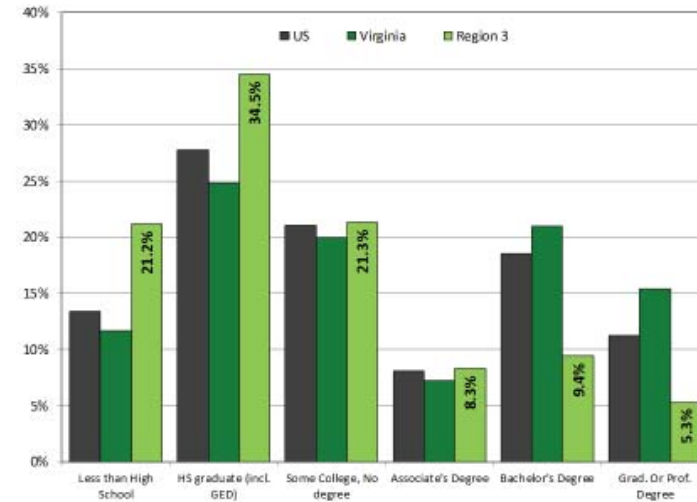
	Employed in Selection Area	Employed in the Selection Area but Living Outside	Employed and Living in the Selection Area	Living in the Selection Area	Living in the Selection Area but Employed Outside	Living and Employed in the Selection Area
Virginia	3,313,939	286,033	8.6%	3,027,906	91.4%	3,377,666
Region 3	113,589	31,503	27.7%	82,086	72.3%	141,323
Amelia	2,091	1,179	56.4%	912	43.6%	5,403
Brunswick	3,663	2,142	58.5%	1,521	41.5%	6,240
Buckingham	6,989	3,702	53.0%	3,287	47.0%	7,525
Charlotte	2,583	1,480	57.3%	1,103	42.7%	4,604
Cumberland	1,196	701	58.6%	495	41.4%	3,965
Halifax	11,299	4,678	41.4%	6,621	58.6%	13,927
Henry	14,827	7,735	52.2%	7,092	47.8%	19,073
Lunenburg	2,087	1,152	55.2%	935	44.8%	4,545
Mecklenburg	10,365	5,377	51.9%	4,988	48.1%	11,827
Nottoway	5,083	3,238	63.7%	1,845	36.3%	5,742
Patrick	4,666	2,053	44.0%	2,613	56.0%	6,690
Pittsylvania	11,106	4,971	44.8%	6,135	55.2%	24,255
Prince Edward	7,887	5,067	64.2%	2,820	35.8%	8,022
Danville city	25,396	17,226	67.8%	8,170	32.2%	15,505
Martinsville city	8,335	7,041	84.5%	1,294	15.5%	4,985

Source: US Census Bureau, Longitudinal Employer-Household Dynamics OnTheMap, 2014



VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

Educational Attainment



Source: US Census Bureau, 2011-2015 American Community Survey



VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

Educational Attainment

Educational Attainment: Region 3

	2006-2010						2011-2015					
	Less than High School	HS graduate (incl. GED)	Some College, No degree	Associate's Degree	Bachelor's Degree	Grad. Or Prof. Degree	Less than High School	HS graduate (incl. GED)	Some College, No degree	Associate's Degree	Bachelor's Degree	Grad. Or Prof. Degree
United States	14.9%	29.0%	20.6%	7.5%	17.6%	10.4%	13.3%	27.8%	21.1%	8.1%	18.5%	11.2%
Virginia	13.9%	26.0%	19.6%	6.7%	19.9%	13.9%	11.7%	24.8%	19.9%	7.1%	21.0%	15.4%
Region 3	26.3%	35.0%	18.4%	7.2%	8.6%	4.7%	21.2%	34.5%	21.3%	8.3%	9.4%	5.3%
Amelia	22.0%	40.0%	19.8%	5.2%	8.7%	4.4%	20.3%	34.1%	24.1%	7.0%	11.4%	3.1%
Brunswick	32.7%	32.3%	18.1%	7.0%	8.4%	3.5%	24.1%	35.7%	19.6%	7.6%	7.5%	5.6%
Buckingham	38.4%	35.6%	9.9%	3.6%	9.3%	3.1%	22.8%	43.5%	17.7%	5.6%	7.6%	2.8%
Charlotte	28.4%	30.1%	20.3%	6.2%	10.3%	4.7%	22.0%	37.6%	18.8%	7.6%	9.2%	4.8%
Cumberland	27.5%	36.5%	17.6%	5.9%	8.3%	4.1%	22.5%	36.5%	18.8%	7.7%	10.0%	4.5%
Halifax	27.1%	34.5%	17.7%	7.6%	7.2%	6.0%	20.2%	36.5%	20.3%	7.5%	10.1%	5.3%
Henry	27.8%	33.5%	19.0%	8.9%	7.1%	3.8%	21.6%	34.1%	22.4%	10.5%	7.3%	4.1%
Lunenburg	28.5%	38.8%	16.6%	6.1%	7.0%	3.0%	25.6%	34.9%	21.4%	5.9%	8.1%	4.1%
Mecklenburg	34.8%	36.7%	19.0%	6.1%	8.6%	4.8%	21.2%	32.5%	22.7%	8.0%	9.8%	5.8%
Nettoway	27.2%	37.9%	16.7%	6.7%	5.8%	5.8%	22.3%	37.1%	19.5%	5.9%	10.5%	4.7%
Patrick	25.9%	36.8%	18.6%	9.2%	7.3%	2.3%	21.3%	36.0%	21.2%	8.9%	8.0%	4.7%
Pittsylvania	24.0%	35.9%	19.8%	7.5%	8.8%	4.0%	19.3%	35.3%	22.3%	8.9%	9.4%	4.8%
Prince Edward	18.9%	43.3%	15.5%	3.9%	10.9%	7.6%	18.0%	34.6%	17.9%	5.2%	12.4%	12.0%
Danville city	24.1%	29.9%	21.1%	8.7%	10.0%	6.1%	21.3%	28.1%	22.8%	10.0%	11.3%	6.5%
Martinsville city	21.7%	30.4%	20.1%	7.4%	13.6%	6.8%	21.9%	29.7%	21.8%	8.8%	10.0%	7.7%

Source: US Census Bureau, 2006-2010 and 2011-2015 American Community Surveys



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Jobs Created by Young Companies (5 years old or less)

Region 3: Young firm (5 yrs old or less) job creation

	2012 Average	2015 Average	2012 as a % of Total	2015 as a % of Total
US	1,542,135	1,674,953	25.2%	26.7%
Virginia	42,118	39,288	19.4%	26.2%
Region 3	1,440	1,348	20.2%	26.3%
Amelia	34	39	22.4%	33.8%
Brunswick	51	52	29.0%	35.2%
Buckingham	45	51	28.3%	39.0%
Charlotte	38	50	25.6%	37.0%
Cumberland	21	17	30.0%	30.1%
Halifax	93	133	11.1%	31.7%
Henry	179	147	20.2%	18.3%
Lunenburg	28	37	22.9%	43.2%
Mecklenburg	159	104	25.2%	20.7%
Nottoway	57	66	30.3%	30.8%
Patrick	54	42	25.7%	15.4%
Pittsylvania	195	183	28.9%	37.4%
Prince Edward	95	65	14.5%	24.0%
Danville city	258	230	17.4%	20.4%
Martinsville city	135	134	18.0%	36.5%

Source: US Census Bureau, LEHD, QWI



VIRGINIA INITIATIVE FOR
GROWTH & OPPORTUNITY
IN EACH REGION

Jobs Created by Small Companies (less than 20 employees)

Region 3: Small firm (0-19 Emp.) job creation

	2012 Average	2015 Average	2012 as a % of Total	2015 as a % of Total
US	2,203,129	2,268,500	36.0%	36.2%
Virginia	58,797	54,683	27.1%	36.4%
Region 3	2,509	2,186	35.2%	42.6%
Amelia	85	87	56.8%	75.5%
Brunswick	94	88	52.8%	59.3%
Buckingham	74	80	47.1%	60.8%
Charlotte	77	75	51.7%	55.4%
Cumberland	46	44	66.4%	77.4%
Halifax	206	209	24.8%	50.1%
Henry	287	252	32.4%	31.5%
Lunenburg	68	65	55.8%	75.7%
Mecklenburg	266	203	42.1%	40.3%
Nottoway	112	105	59.6%	49.4%
Patrick	133	98	62.9%	36.1%
Pittsylvania	342	266	50.7%	54.6%
Prince Edward	145	111	22.2%	41.1%
Danville city	403	335	27.2%	29.6%
Martinsville city	172	169	23.0%	46.1%

Source: US Census Bureau, LEHD, QWI



VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

Sole Proprietorships

Proprietors as a percent of total employment: Region 3

	2000 Proprietors	2010 Proprietors	2015 Proprietors	Annual Growth (00-10)	Annual Growth (10-15)	Proprietors as a % of total employment
United States	27,760,800	37,508,700	42,561,400	3.1%	2.1%	22.4%
Virginia	644,573	890,602	1,008,978	3.3%	2.1%	19.9%
Region 3	33,805	34,286	36,873	0.1%	1.2%	21.7%
Amelia	1,637	1,660	1,743	0.1%	0.8%	39.4%
Brunswick	1,230	1,222	1,365	-0.1%	1.9%	23.4%
Buckingham	2,339	1,403	1,389	-5.0%	-0.2%	28.0%
Charlotte	1,845	1,912	1,914	0.4%	0.0%	37.6%
Cumberland	854	751	889	-1.3%	2.9%	37.3%
Halifax	3,572	3,233	3,509	-1.0%	1.4%	21.0%
Henry + Martinsville, VA*	5,215	5,373	5,797	0.3%	1.3%	18.1%
Lunenburg	1,150	970	1,103	-1.7%	2.2%	27.7%
Mecklenburg	2,939	2,985	3,243	0.2%	1.4%	20.4%
Nottoway	1,462	1,494	1,476	0.2%	-0.2%	19.0%
Patrick	1,997	2,226	2,230	1.1%	0.0%	28.6%
Pittsylvania + Danville, VA*	8,041	8,866	9,913	1.0%	1.9%	19.3%
Prince Edward	1,524	2,191	2,302	3.7%	0.8%	19.3%

Source: US Bureau of Economic Analysis

APPENDIX B:

LARGEST PRIVATE SECTOR EMPLOYERS IN REGION 3 COUNTIES, CITIES, AND WORKFORCE BOARD AREAS

Provided by Danville Regional Foundation, data from multiple sources including Virginia LMI and Manta Company Profiles, 4th Quarter 2016.

“Overall Rank” indicates the employer’s ranking including both private sector and public sector employers.

South Central Workforce Investment Area

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Wal Mart (5)	Retail Trade
Food Lion (6)	Retail Trade
Dolgencorp LLC [Dollar General] (7)	Retail Trade
ABB Service Company Division (14)	Industry & Manufacturing
Presto Products Company (20)	Industry & Manufacturing

West Piedmont Workforce Investment Area

<i>Employer (Overall Rank)</i>	<i>Industry</i>
The Goodyear Tire & Rubber Co (1)	Industry & Manufacturing
Wal Mart (6)	Retail Trade
Danville Regional Medical (7)	Hospitals
Results Customer Solution (8)	Corporate & Business Services
Food Lion (9)	Retail Trade

Amelia County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Star Children's Dress Company (4)	Industry & Manufacturing
Glenwood Farms (5)	Agriculture
Food Lion (6)	Retail Trade
Goodman Truck & Tractor Company (7)	Retail Trade
McDonald's (8)	Food Services

Brunswick County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Geo Corrections & Detention Inc (2)	Corrections
The Scotts Company (5)	Industry & Manufacturing
Brunswick Academy (8)	Education
Envoy of Lawrenceville, LLC (9)	Healthcare & Residential Care
Melvin L. Davis Oil Company (10)	Industry & Manufacturing

Buckingham County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Kyanite Mining Corporation (4)	Industry & Manufacturing
Heritage Hall (7)	Healthcare & Residential Care
Home Health, Inc (8)	Healthcare & Residential Care
Food Lion (10)	Retail Trade
The Discovery School of Virginia (11)	Education

Charlotte County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Genesis Products Inc (4)	Industry & Manufacturing
W & L Mail Service Inc (5)	Transportation
Morgan Lumber Company Inc (6)	Industry & Manufacturing
Snowshoe LTC Group (7)	Healthcare & Residential Care
Cardinal Homes (8)	Construction & Infrastructure

Cumberland County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Primoris Energy Services (3)	Construction & Infrastructure
Gemini (4)	Industry & Manufacturing
Johnny R. Asal Lumber Company (5)	Industry & Manufacturing
Covance Research Products (7)	Pharmaceuticals
Appomattox River Company (8)	Retail Trade

Danville City

<i>Employer (Overall Rank)</i>	<i>Industry</i>
The Goodyear Tire & Rubber Co (1)	Industry & Manufacturing
Danville Regional Medical (4)	Hospitals
Wal Mart (5)	Retail Trade
Telvista Incorporated (6)	Corporate & Business Services
EBI LLC (7)	Industry & Manufacturing

Halifax County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Dolgencorp LLC (3)	Retail Trade
ABB Service Company Division (4)	Industry & Manufacturing
Presto Products Company (5)	Industry & Manufacturing
Wal Mart (6)	Retail Trade
VIR, Virginia International Raceway (7)	Tourism & Recreation

Henry County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Cpfilms, Inc (2)	Industry & Manufacturing
Monogram Management Services (3)	Industry & Manufacturing
GSI Solutions (4)	Corporate & Business Services
Springs Global US Inc (5)	Industry & Manufacturing
Hanesbrands Inc (8)	Industry & Manufacturing

Lunenburg County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Virginia Marble Manufacturing (2)	Industry & Manufacturing
S & M Brands (4)	Industry & Manufacturing
Benchmark Community Bank (5)	Corporate & Business Services
Food Lion (7)	Retail Trade
Applebees (8)	Food Services

Martinsville City

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Memorial Hospital of Martinsville (1)	Hospitals
Wal Mart (5)	Retail Trade
Southern Finishing Company (6)	Industry & Manufacturing
Kidd International-Home Care, Inc (7)	Corporate & Business Services
Faneuil Inc (8)	Corporate & Business Services

Mecklenburg County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Global Safety Textiles LLC (3)	Industry & Manufacturing
ONE Jeanswear Group (4)	Industry & Manufacturing
Wal Mart (5)	Retail Trade
G A & F C Wagman Inc (6)	Construction & Infrastructure
Food Lion (7)	Retail Trade

Nottoway County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Heritage Hall (7)	Healthcare & Residential Care
Wal Mart (8)	Retail Trade
Reiss Manufacturing (10)	Industry & Manufacturing
Arbotech Forest Products (13)	Industry & Manufacturing
Home Recovery-Home Aid (14)	Healthcare & Residential Care

Patrick County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Results Customer Solutions (1)	Corporate & Business Services
Primland Ltd. (3)	Tourism & Recreation
Hanesbrands Inc (4)	Industry & Manufacturing
Blue Ridge Nursing Center (5)	Healthcare & Residential Care
Wal Mart (6)	Retail Trade

Pittsylvania County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Unique Industries (2)	Industry & Manufacturing
Swedwood Danville LLC (3)	Industry & Manufacturing
Intertape Polymer Corp (5)	Industry & Manufacturing
Haynes Brothers (7)	Construction & Infrastructure
Food Lion (8)	Retail Trade

Prince Edward County

<i>Employer (Overall Rank)</i>	<i>Industry</i>
Wal Mart (5)	Retail Trade
Holly Manor Nursing Home (6)	Healthcare & Residential Care
Immigration Centers of America (8)	Corrections
Lowe's Home Centers, Inc. (10)	Retail Trade
Fuqua School (11)	Education

APPENDIX C:

SUMMARY OF SURVEY AND INTERVIEW RESULTS

SURVEY OF BUSINESS LEADERS

Distributed to chamber of commerce board members and other business owners throughout the region. Responses edited for clarity and brevity.

1. Please rate current economic conditions in your home county today.

Good	37%
Fair	33%
Poor	30%
Excellent or Very Good	0%

2. Please rate current economic conditions in Virginia as a whole.

Good	59%
Very Good	22%
Fair	19%
Excellent or Poor	0%

3. How has business been over the past 12 months?

Fair	41%
Good	33%
Very Good	19%
Excellent	4%
Poor	4%

4. How satisfied are you with each of the following in the region?

Highest-ranked items:

- Access to business financing
- Public higher education (2-year and 4-year)
- Availability and quality of water and sewer
- Availability of affordable and reliable energy
- Legal climate for businesses

Lowest-ranked items:

- Availability of workers with appropriate skills
- Quality and cost of health care and insurance
- Air transportation infrastructure
- Government regulations impacting your business
- Your local K-12 education system

5. What is the state of the workforce as it relates to your company's employment needs?

(Multiple responses permitted)

Employers have trouble finding people with good "soft" skills	85%
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Employers have trouble finding people with the right technical skills	82%
Generational differences in the work ethic present challenges	70%
Too many potential employees cannot pass a drug test	52%
Employees have good skills but need retraining for specific job requirements	15%

6. We hear that there is a gap between the skills of Virginia's workers and the jobs that are available from the private sector. What do you think the reason for the mismatch is? *(Multiple responses permitted)*

There is a mismatch between what is being taught in K-12 and the skills employers have identified as necessary to be successful in the workplace	65%
There is a mismatch between what is being taught in higher education and the skills employers have identified as necessary to be successful in the workplace	50%
Demographics, as the population ages and there are older people in the workplace, they lack the new skills necessary to be successful	50%
Employers are not aware of workforce training programs available in their communities	35%

7. How would you rate the relationship between businesses and workforce partners in the region? *(1 being lowest and 5 being highest)*

Average score: 3.3

8. What could be improved in these relationships?

Better communication between workforce partners and businesses/One point of contact for businesses (mentioned 3 times).

Overall dissemination of jobs and program information, advertising (3 times).

Students need to know about available jobs as alternatives to college.

Need better input/feedback from businesses.

More work-based learning experiences.

Employers need to reach out, get involved.

Partners are not working together effectively.

9. Please select the number one priority you would need to improve your workforce.

Soft skills/life skills training	56%
More curriculum focus in K-12 on future job needs	19%
Better coordination among programs	11%

10. Looking at the education system, what career pathways would you urge educators to develop or improve, to deliver a quality workforce in the most needed occupations and careers?

Skilled Trades (mentioned 6 times)

Advanced Manufacturing/High-Tech (4 times)

Healthcare (3 times)

Computers/Information Technology (3 times)

Basic work skills and work ethic (2 times)
Machine maintenance
CNC Programming
Automotive
Critical thinking
Learn to problem-solve, not just pass a test.
Connect people to mentoring and apprenticeships for work opportunities.
Communication skills
STEM Careers

11. If you could choose one investment – of any kind – to be made in the region that would increase economic opportunity and jobs, what would it be?

Workforce training (mentioned 4 times, including technical training, technical equipment for local colleges, internships, and soft skills training).
Education (3 times, including K-12 schools specifically, and teacher salaries).
Recruit new businesses (2 times).
Highway infrastructure (2 times).
Public transportation improvements (2 times).
Four-year university.
Broadband internet.
Keep talent base in the area.
Marketing.
Beautification.
Youth centers.
Government program fraud enforcement.

WORKFORCE PROVIDERS' SURVEY

Distributed to staff at workforce boards, chambers of commerce, and community colleges. Responses edited for clarity and brevity.

1. Please rate current economic conditions in your home county.

Fair	83%
Poor	17%
Excellent, Very Good, or Good	0%

2. What is the state of the workforce as it relates to regional employment needs?

(Multiple responses permitted)

Employers have trouble finding people with good "soft" skills	83%
Employers have trouble finding people with the right technical skills	83%
Too many potential employees cannot pass a drug test	83%
Generational differences in the work ethic present challenges	33%
Overall the local workforce has good skills	17%

Employees have good skills but need retraining for specific job requirements	17%
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3. We hear that there is a gap between the skills of Virginia's workers and the jobs that are available from the private sector. What do you think the reason for the mismatch is? *(Multiple responses permitted)*

There is a mismatch between what is being taught in K-12 and the skills employers have identified to be successful in the workplace.	50%
Employers are not aware of workforce training programs that might be available in their communities	50%
There is a mismatch between what is being taught in higher education and the skills employers have identified to be successful in the workplace	33%
People are less mobile and less likely to move to where jobs are being created	33%
Other:	67%
<i>Trades need to return to high school (even middle school).</i>	
<i>All these factors play a role, as do employers themselves.</i>	
<i>Lack of work experience leads to lack of soft skills.</i>	
<i>People lack motivation to seek job training because of safety-net disincentives to holding a job.</i>	

4. How would you rate the relationship between businesses and workforce partners in the region? *(1 being lowest and 5 being highest)*

Average Score: 3.3

5. How could those relationships be improved?

Workforce partners need to work together to provide one clear message to businesses.

Businesses need a streamlined process to meet and communicate with workforce partners.

Needs to be better collaboration among all workforce partners.

Businesses need to know what they want and be willing to pay for it. Some want engineer qualifications and pay janitorial wages.

Businesses could also help by requiring higher-level education attainment.

Economy needs to improve so businesses can get out of "survival" mode.

6. Looking ahead to the next 5 to 10 years, what concerns you or reassures you most about workforce needs in the region?

Concern – the number of employers.

Reassuring – growing attention to the need for small business start-ups.

Concern – declining population and dwindling pool of potential students.

Reassuring – renewed focus on workforce development.

Need for additional industry and businesses.

We're doing a better job of educating students, but need to connect students to work experiences.

Lack of student demand.

Limited openings for younger workers as experienced employees are working longer due to the economy.

7. What career pathways would you urge educators to develop or improve, to deliver a quality workforce in the most needed occupations and careers?

Trades (mentioned 2 times).

Healthcare in general (2 times).

Career Technical Education (CTE) in general (2 times).

Information Technology.

Occupational Therapy.

STEM in general.

Rather than one career pathway, provide students with a strong education that includes work experiences.

Soft skills.

8. If you could make one change to the region's workforce or the workforce education and training system, what would it be?

Better recognition of the role of our community colleges and universities.

School systems need to invest in CTE.

Incorporate more work experiences.

Industry needs to truly partner by participating in K-12 schools, require credentials for hiring.

Employers and training providers must work together so the curriculum fits employer needs.

9. If you could choose one investment – of any kind – to be made in the region that would increase economic opportunity and jobs, what would it be?

Public transit from our rural outreaches to college locations.

Use economic development to shape the narrative to improve our schools.

We must increase investment in schools, not cut their budgets.

A. Early childhood education. B. Entrepreneurship – a great investment for growing jobs. C. Infrastructure – connect region through high-speed broadband, and to major highways, ports and airports.

Interstate highway that connects to I-85, I-40, and I-77.

Attraction of businesses to the area.

HIGHLIGHTS FROM PERSONAL INTERVIEWS WITH BUSINESS AND COMMUNITY LEADERS

Responses edited for brevity and clarity.

A. Where are the biggest gaps in the availability of employable talent in the region?

We need to engage high school students earlier, expose them to the workplace and entrepreneurship opportunities. Skilled trades people can make a good living without a four-year degree.

Big gaps for mid-level positions paying good wages (such as machinists). We need more on both sides of this – more jobs and more qualified people. We are generally able to recruit for higher-level jobs here, such as engineers and managers.

Issues with filling low-skill jobs: drug issues, soft skills, basic education. We're also lacking in specific areas, like biotech workers.

Soft skill issues. With younger workers (in their 20s), employers have to "raise them to behave" in a work setting. At the factory worker level, there are math skill issues and drug issues. Employers have to interview so many people to find a good candidate.

Finding people who can clear pre-employment screening, then engage and show initiative.

Maintenance positions! We have very few of those employees below 45 years old, they'll all be aging out. Currently we have to take people with a two-year degree and no experience. There's a need for workers with basic math skills, some mechanical knowledge, teamwork and problem-solving skills.

B. How would you rate the relationship between businesses and workforce partners in the region? What could be improved?

Pretty good. But confusing for businesses with how many workforce organizations there are. They all overlap. We could have just one in the region. K-12 school leaders need to have more flexibility with class scheduling, to allow things like workplace experiences and dual enrollment.

Relationship with many chambers of commerce is excellent. Also very good with some public schools, but varies widely (positive example: Noblis and Danville middle schools.) VEC is not utilized as much as it could be. Certified Work Ready Communities cooperation is a success, is being embraced.

SVHEC reaches out well to companies like Presto, ABB, Dollar General. But region-wide coordination and partner coordination could be improved. Dan River Region Collaborative is a positive example.

Overall a "B". Danville Community College is exceptional, an "A."

Danville/Pittsylvania Chamber also does a good job.

Exceptional partners at the community level, including chambers, economic development, community colleges. Very proactive. Could improve relationship with high schools. There is less vocational education focus, and/or kids don't want to take the classes offered.

PHCC has good leadership, understands business, is reaching out. Industry has to be clear about what we need from partners. Workforce Investment Board and chamber work together closely, are focused on training. VEC needs to understand that businesses are customers, and streamline the process.

C. Looking ahead to the next 5 to 10 years, what concerns you or reassures you most about workforce needs in the region?

We're heading in the right direction. Across the Southside the main need is having the right leadership in K-12 schools.

People leaving the area, younger families not staying. Aging workforce. Tax base reduction. Need to work on Quality of Life factors.

The workforce infrastructure is in place, and in good shape. We need to support existing providers.

Concerns: Drugs, alcohol, criminal records, "dependability" issues. People getting used to living on welfare. Concerned that this will drive away businesses.

Reassuring: Workforce partners are engaged, working hard to make things better.

Biggest concern is not enough understanding of workplace expectations. Legacy of job-hopping is ingrained in the community. Also, not enough linkage between businesses and K-12 schools.

D. Looking at the education system, are there career pathways would you urge educators to develop or improve, to deliver a quality workforce in the most needed occupations and careers?

Need to change the K-12 emphasis on testing. K-12 schools need to have greater focus on workforce training and preparation.

Focus on certifications and credentials for workers, not just degree programs. Need scheduling to allow people to continue to work. Most of our people can't afford to be full-time students, and many students need to work full-time.

This region appreciates the European model – skills and certificates, not necessarily a 4-year degree. The Advanced Manufacturing degree at DCC is a great, successful example. More specialized, less vague than a 4-year degree. We should get young people focused in 11th or 12th grade on what they might want to do.

Better relationships between businesses and K-12 schools. Not everyone needs a 4-year degree, people can make solid incomes without that.

Trade skills – mechanical, electrical, welding, HVAC. Esp. any MAINTENANCE careers.

Maintenance jobs – need a 2-year degree with hands-on training.

More focus on engineering paths.

There is some problem recruiting managers here, due to reputation of the schools, and lack of other young professionals.

E. If you could make one change to the region's workforce or the workforce education and training system, what would it be?

We desperately need to have undergrad STEM degrees in the region.

Make sure that students and workers understand their options. What are their paths to good jobs and careers?

Improve engagement/dependability of the workforce.

*Getting people on the same page, with a common goal. Instead of
“defending your own little corner.”*

F. Looking at clusters of businesses and industries in the region, do you see opportunities for growth in a particular sector? Are there opportunities to attract more of your suppliers or buyers to the region?

Agriculture and forestry. Livestock/animals have potential. Our cropland is not as good. Need to diversify our agriculture.

Legacy strengths across the Southside: high-performance manufacturing.

Machinists. Could be applied to automotive, aerospace. Tier 2 and 3 suppliers.

Also agriculture and forestry, wood products, food processing, logistics, I.T.

Rolls-Royce (near Petersburg) supply chain is #1 opportunity. Could create 10,000 advanced manufacturing jobs. We are most suited for advanced manufacturing.

Firms are attracted by our training programs.

Also, bio-based materials. Renewable supplies of agriculture products, feedstocks.

Yes. Example: IKEA making furniture in the U.S. by investing in latest technology and automation. Fewer workers needed, but higher skilled jobs. Local suppliers offer shorter supply chains.

Our business and our sector (film) is growing and expanding.

There's some strength in the plastics sector. But sectors are small here (2-3 firms).

We don't have critical mass of companies.

G. In your region, do you see larger businesses working with small businesses and entrepreneurs to grow the sector?

It does happen some, automatically, with smaller firms supplying the larger ones.

Not necessarily. We need more activities to bring them together. Some cooperation in logistics, and machining.

Not at all.

Not enough. Large businesses don't appreciate the impact of small businesses, how many they employ. We could focus more on regional supply chain development.

Not in any concerted way. We try to develop local suppliers – we get better service that way. We want our local supplier base to be healthy.

H. What is one important thing that could be done to improve conditions for small businesses and entrepreneurs in the region?

Entrepreneurship financing and start-up assistance/training.

Start-up capital.

More sophisticated technical assistance. SBDC can only do so much. Use an incubator model to connect people and provide mentoring.

Small business financing. This limits small businesses' ability to grow.

Banks are heavily regulated for risk.

Coordinate organizations to support startups. Efforts exist now, but are disjointed.

I. How big a role do Quality of Life topics play in the region's economy and the ability to attract

and keep talented people?

A major role. We need to show that we have amenities without the hustle & bustle. Need vibrant downtowns, trails, blueways, things for tourists to do. South Boston has seen great interest in a business startup program to fill downtown vacancies. This is key! Perhaps the #1 thing for business attraction. Firms are making decisions based on where managers want to live and raise families. Very important to overseas companies looking in the U.S.

Huge! Smart people can live and work anywhere, so we have to compete. Our positives: low cost of living, great place to raise families. But people also want shopping, entertainment, natural beauty, activities, sports. We don't promote these assets enough. Not found on the Internet.

We need to think regionally, collect all assets and market them together.

It depends. Supply chain people are often from foreign countries, and it is difficult to attract them to Martinsville. Others we've hired like the opportunities for hunting, fishing, camping. It is important, but generally not a deal-breaker for recruiting or keeping talent. Our accessibility to larger cities helps. They'll take positions here, but not live here. People migrate toward Greensboro.

J. What aspect of economic development in the region most needs attention? What could be done to improve it?

Entrepreneurship – seems like this is where most jobs will be created.

Regionalism. Competition vs. seeing success across the region. Need less duplication of efforts. The state could help put a regional portfolio together, and market as a region.

Develop the workforce pipeline regionally. In advanced manufacturing, I.T. and cyber security.

We need to add population, and get younger. So, we need more job opportunities, amenities, good healthcare and schools, shopping, quality of life factors. We are doing a good job with workforce development.

Creation of quality jobs, above a living wage. Though I do hear often about jobs that go unfilled. We need to attract talent to the region. There are issues with good jobs for trailing spouses.

The workforce.

The workforce lacks appropriate skills. There are enough bodies, but don't have the skills. This stymies our firm's growth.

K. If you could choose one investment – of any kind – to be made in the region that would increase economic opportunity and jobs, what would it be?

A regional entrepreneurship program – offering financing and assistance.

Higher education – in STEM fields. Also find some low-hanging fruit to show early success. Maybe in Work Ready Communities.

Money to match developers' investments to create new housing communities, with shopping, other amenities. We need Quality of Life improvements!

More support for our community colleges. They're our most effective investment.

Whatever can be done to incentivize businesses, to bring in jobs.

Get I-73 completed through here; it would improve accessibility.

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GO Virginia Region 3 – Appendix II

Growth & Diversification Plan Approach

SOUTHERN VIRGINIA GO Region 3

Growth & Diversification Plan Approach

Background

GO Virginia is a bi-partisan business-led initiative authorized by the General Assembly in 2016 to help diversify the Commonwealth's economy and reflect variations in regional economies. With public and private support, GO Virginia requires each of the nine defined regions to develop a Growth & Diversification Plan (G&D). Each region shall articulate how it intends to invest state, regional and local resources to address three critical issues: 1) how the region will increase the number of higher paying jobs; 2) how the region will enhance its economic competitiveness; and 3) how the region will diversify its economy that in turn supports the growth of the Commonwealth's overall economy.

The G&D is not intended as a strategic plan for the region. Development of strategic plans appropriately belongs to local and regional economic and planning entities. The Southern Virginia Region 3 G&D is intended as an investment plan to produce answers to the three questions noted in the previous paragraph. For the plan to be successful, it will support innovation and be flexible to incorporate new ideas and opportunities that are identified by the Regional Council over time. Once the plan is approved, each Region will move forward developing specific projects to be considered for funding.

Region 3 SoVaGO

In undertaking the development of the G&D plan, Region 3 faced several significant challenges. Attached to this document is an initial overview of the economic indicators of the Region. Highlights of the data include:

- With 15 independent local units of government, Region 3 is geographically the largest of the nine GO Virginia Regions in the Commonwealth (6,701 sq. miles or 17% of the land mass).
- Region 3 has the lowest population of any of the nine GO Virginia Regions (373,530 people or 4% of the population).
- 8.7% of the workforce in Region 3 have a bachelor's degree or better, while the same indicator for the Commonwealth is 36%. The median household income for the Region is \$38,100 and for the Commonwealth, \$65,015 (United States is \$53,900 per 2011-2015 American Community Survey).
- Historically the largely rural Region 3 has been dominated by agriculture, specifically tobacco and low wage manufacturing like furniture, textiles and agricultural processing.

- Currently there are 493 manufacturing firms in Region 3 employing 21,700 employees, but only 67 of these firms and 6,500 of the employees are in advanced sectors like advanced materials manufacturing.
- Additionally, 93% of the advanced material manufacturing jobs are concentrated in just four local units of government—Danville, Martinsville, Henry County and Halifax County.
- Thus, while certain parts of Region 3 are positioned for a strategy to build on existing clusters in growing industries, much of the Region is not.

To ensure long-term impact across all of Region 3 will require highly innovative approaches and investments that definitively have long-term impact and also meet the requirements outlined in the legislation creating GO Virginia.

Building the Region 3 Growth & Diversification Plan

To be as competitive as possible, and because of early private sector partner support that gave Region 3 the financial resources and capabilities to move forward, Region 3's *Steering Committee* began preparing its approach to the G&D Plan even before the official Certification by the State Board. As part of its progress, the Region 3 *Steering Committee* was offered an opportunity to leverage the resources of an existing contractor. The *Steering Committee* considered the contractor's overall suitability of its current work, and the plans, methodology, and approach as it related to expanding its scope of services to conduct portions of the Region 3 G&D Plan; the *Steering Committee* reviewed the contractor's experience, qualifications, ability, and expertise to provide additional services; and it assessed the costs associated with the existing contractor.

In March 2017, the newly certified Regional Council 3 committed to completing and submitting the G&D Plan to the State Board by the earliest review date, August 25, 2017. The Region 3 Council committed to implementing the aggressive timeline of action steps to finalize the G&D Plan. Key elements of the Region 3 G&D Plan development include the following as required by the State Board:

1. Review of existing documents, plans and strategies in region.
2. Economic and workforce base growth analysis – historical trends since 2006 as well as comparative data to other similar regions, state and nation, to include intraregional variations.
3. Economic and workforce base gap analysis in both the existing economic drivers in the region as well as suggested clusters and sectors as well as prioritized opportunity areas.
4. Identification of existing efforts to diversify and grow higher paying jobs and enhances access to these jobs.
5. Business cluster analyses including identification of existing and potential drivers of the existing economy and growth trends of these drivers which can lead to sustainable, scalable future growth in Region 3; to include commuting patterns' analysis as it relates to existing and future clusters and sectors.
6. Expansive stakeholder engagement.

7. Demonstration of alignment with the Virginia Research Investment Fund & Committee (VRIC); the Collaborative Jobs Act; and the SCHEV credentialing program, as well as alignment with other statewide and regional plans that related to identified strategies & projects.
8. Diversification recommendations and performance metrics showing measurable results over a 2-year period sustainable over a 5-10 year horizon.

Rather than undertaking these activities in sequence, Region 3 determined it would conduct the first five in parallel while also moving forward with the sixth and seventh elements (stakeholder engagement and alignment with state and regional plans), and ultimately culminating with the eighth step.

A more detailed timeline and explanation of these parallel steps are shown below.



Steps 1 – 5: Data Collection and Analysis**Timeline: March 2017 – June 2017****Approach:**

With support from the Danville Regional Foundation (DRF), the consulting firm of *Economic Leadership LLC* was retained to conduct the preliminary data collection and analysis required by this effort. Using *Economic Leadership LLC*, DRF had just completed a similar data collection/workforce analysis/business cluster analysis for its primary footprint (a sub-region of the Region 3 SoVaGO footprint). DRF offered to modify its current contract with the vendor, to expand the footprint to include all of Region 3. This allowed the Region to benefit from the efficiency of utilizing a vendor with current and applicable knowledge of the Region; to reduce replication of current analytics performed on a portion of the Region; and to benefit from a private-sector/non-profit partner's contribution toward the Region 3 by its willingness to cover the costs of these portions of the G&D Plan requirements.

Economic Leadership LLC collected and reviewed all existing relevant documents, plans and strategies available in the region. It identified these materials through communication with the previously-engaged contract staff of the Steering Committee, and continued that communication in the months since Region 3 attained certification. *Economic Leadership LLC* also opened and leveraged connections with other entities and organizations in the footprint. *Economic Leadership LLC* provided the following description of its approach to the economic, workforce and cluster analysis it will complete:

“Our analysis for the (Region 3) GO Virginia project includes data collection and quantitative analysis on overall economic performance, workforce gaps, and business clusters. In order to collect this data in an efficient and precise manner, we will utilize data from Economic Modeling Specialist International (EMSI). EMSI’s Analyst tool is a subscription-based data dashboard that Economic Leadership has been utilizing for over three years. Sara Casey, our lead analyst, has received additional training and certification from EMSI.

“Unlike publicly available government data, EMSI data can drill down to 5-digit SOC occupation codes and 6-digit NAICS codes to see highly detailed trends without encountering the non-disclosure barriers of public data. EMSI data is based heavily on the Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW). This means EMSI values will be generally consistent with public sources. EMSI is also able to provide more detailed demographic and wage data because it also compiles data from the Census, BEA, and other BLS reports. EMSI is a great tool for the GO VA project because of the Analyst tool’s ability to create customized regions. We will be able to run queries on the total Southern Virginia Region 3 in drastically reduced time, compared with amalgamating public sources.

“EMSI data can be provided for industries and occupations and is available from the most recent quarter of the current year. Economic Leadership LLC has access to EMSI data for all counties in the United States, allowing us to run analysis on comparison regions. Using this data, we will evaluate the region’s traded clusters, those industries that export goods outside of the region. Economic Leadership uses cluster groupings determined by the Harvard-based US Cluster Mapping group, and has created customized industry groups in EMSI’s tool to easily query these clusters.

“In addition to assessing top-performing clusters, our analysis provides an opportunity to drill down and help leadership distinguish emerging sectors and future target industries for the region. EMSI models allow us to predict cluster performance in terms of employment up to the year 2026. EMSI models take an average of 5-year, 10-year, and 15-year trends and predict the future growth of industries and occupations.

“To determine where there may be gaps in the workforce, we will evaluate all educational completions for the region and see how the type of degrees conferred matches regional demand. This educational data is based on the Integrated Postsecondary Education Data System (IPEDS). Another tool we will use within EMSI Analyst is its job posting analytics. This analysis will also provide an assessment of the regional workforce demand.”

Steps 6 – 7: Stakeholder Engagement and Alignment with State and Regional Plans**Timeline: May 2017 – July 2017****Approach:****Stakeholder Engagement**

Stakeholder input is critical to the viability and regional ownership of this effort and Region 3 SoVaGO began its unofficial stakeholder involvement in late 2016. As early as January 2017, Region 3 SoVaGO implemented formal communications in the sub-regions of the footprint, through a series of three public information sessions (information on these sessions was provided to the GO Virginia State Board and the Virginia Department of Housing & Community Development). Over 175 attendees participated in these information sessions.

The Region 3 SoVaGO Council created seven Advisory Committees, primarily for the purpose of creating consistent communication platforms for continued stakeholder engagement, initially into the G&D Plan development but in the future, to serve as continued ways for public engagement to occur. The Advisory Committees are shown below and represent a mix of stakeholders with interest in the defined topics:

- *Education & Workforce Development*
- *Economic Development Professionals*
- *Local Governments and Planning Districts*
- *Legislative and State Boards/Commissions*
- *Community Leaders (chambers, non-profits, civic)*
- *Large Business Employers*
- *Young Leaders*

These Advisory Committee members participated in a three-hour Orientation Session on May 2, 2017. Over 110 participants were given an overview of GO Virginia by Ben Davenport, Vice-Chairman; were informed about the status of the G&D Plan, and then met with their Regional Council Chairmen to network and begin the input process.

In addition to these Advisory Committees, the Region 3 Council identified three focus groups to provide additional input into the G&D Plan. These focus groups are: 1) Small business; 2) Innovation assets; and 3) Ag and natural resource stakeholders. These platforms were extensively utilized during the development of the G&D Plan, as described below.

During May, June, and July, Region 3 SoVaGO actively convened a series of public input sessions across the region; these sessions included the Advisory Committees as well as the Focus Groups described above. Each session addressed a standardized set of questions. These questions allowed for a wide

variety of circumstances and audiences but also sought to gain insight that could be assessed and measured across stakeholder groups. Each session was designed to last approximately 90 minutes; the following questions were used as the platform for dialogue. Each session was led by the Region 3 Council Committee Chairmen, and was staffed by one member of the Council as well as the existing Contract Executive Officer.

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*
3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*
4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*
5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

In total, Region 3 SoVaGO held approximately 13 input sessions during the planning process between May and July. In addition, an electronic survey was conducted with the Small Business Focus Group from eastern Virginia, through the support of the Longwood Small Business Development Center.

Region 3 SoVaGO also created a Communications Strategy Committee to develop a public communication strategy which it expects will include launch of a website that ultimately can be used to encourage public input via the internet. The Region 3 SoVaGO Council continues to consider additional forms of communication that can supplement the visibility and outreach across the large regional footprint.

Alignment with State and Regional Plans

Alignment with State and Regional Plans was conducted with the guidance and input of the Support Organization and selected Regional Council members. Plans were identified and prepared for review and summarization of the key areas of focus anticipated to be included in the G&D Plan.

Step 8: Creation of Growth & Diversification Plan and Recommendation of Measurable Results

Timeline: June 2017 – August 2017

Approach:

The Growth & Diversification Committee of the Region 3 SoVaGO Council led step 8. This committee is charged with combining the data analysis and stakeholder input to propose the plan's focus and evaluation criteria to be submitted to the Regional Council and then state Board for approval. The plan must identify what are the measurable results over a two-year period that also can be sustained over five to ten years.

The plan establishes priorities for future use of GO Virginia project grants after taking into consideration other studies and analyses related to development and validation of an economic diversification strategy as it relates to the creation of higher-paying jobs. In developing the plan, the Region 3 SoVaGO recognized that Regional Councils are advised that the projects and programs which could ultimately be funded by the GO Virginia Board need only include two or more localities.

The Measurable Results section of the Plan is not intended to outline the exact projects that could be funded by GO Virginia project funds but instead will serve as the framework or lens to guide future decisions by Regional Council 3 and the State Board in determining which potential projects might address the plan's priorities and other statewide goals established by the Board.

Given the limited resources and the scale and diversity of the region served by Region 3 SoVaGO, the plan focused on the small set of investment opportunities that have the greatest potential to meet the objectives of GO Virginia, rather than the desires of each of the 15 local units of government or the many individual enterprises in the region.

It is the intent of the Region 3 SoVaGO Regional Council to publish the draft, and host one additional public meeting, scheduled for August 29, 2017, to ensure stakeholders are aware of the content of the plan and to begin discussions on the Project Submission process. The Region 3 G&D Plan will be submitted to the Virginia Department of Housing & Community Development by August 25, 2017 for review and preparation for final approval by the GO Virginia State Board on September 12, 2017.

Following this narrative is an initial summary of the economies of the Region 3 footprint.

GO Virginia Region 3
Demographics

County/City	Land Area (sq mi) (1)	Population per square mile (2)	Population (3)	Population by Race/Ethnicity (3)						Median Household Income (4)	Labor Force Participation (5)
				Hispanic or Latino	White alone, not Hispanic or Latino	Black or African American alone	American Indian/ Alaska Native alone	Asian alone	Two or More Races		
Amelia	355.27	35.7	12,903	2.9%	73.0%	21.8%	0.5%	0.8%	1.7%	\$56,850	58.0%
Brunswick	566.17	30.8	16,698	2.1%	41.5%	55.2%	0.3%	0.4%	1.0%	\$36,919	51.4%
Buckingham	579.66	29.6	17,032	2.4%	60.7%	34.7%	0.4%	0.4%	1.8%	\$40,331	51.4%
Charlotte	475.27	26.5	12,201	2.7%	67.1%	29.3%	0.4%	0.2%	1.6%	\$35,079	55.5%
Cumberland	297.46	33.8	9,719	2.6%	62.9%	32.0%	0.6%	0.4%	2.3%	\$39,301	63.0%
Danville City	42.93	1,002.8	42,082	3.8%	44.2%	49.6%	0.4%	1.2%	1.6%	\$32,315	56.0%
Halifax	817.84	44.3	35,125	2.1%	59.7%	36.7%	0.4%	0.5%	1.2%	\$35,240	53.4%
Henry	382.33	141.6	51,881	5.6%	70.2%	22.2%	0.3%	0.6%	1.8%	\$35,293	55.4%
Lunenburg	431.68	29.9	12,299	4.3%	60.1%	33.8%	0.5%	0.3%	1.9%	\$39,506	47.3%
Martinsville City	10.96	1,261.5	13,645	4.9%	47.0%	45.4%	0.5%	1.1%	2.1%	\$29,587	53.4%
Mecklenburg	625.49	52.3	31,081	2.8%	60.0%	34.8%	0.3%	0.9%	1.8%	\$37,356	51.1%
Nottoway	314.39	50.4	15,673	4.0%	54.6%	39.9%	0.7%	0.4%	1.6%	\$36,284	49.1%
Patrick	483.10	38.3	18,045	2.9%	89.8%	5.7%	0.4%	0.3%	1.1%	\$33,982	49.1%
Pittsylvania	968.94	65.5	62,194	2.5%	74.2%	21.6%	0.3%	0.4%	1.3%	\$41,824	58.4%
Prince Edward	349.96	66.8	22,952	2.5%	62.5%	32.4%	0.3%	1.3%	1.7%	\$41,697	47.7%
Southside	6,701.45	55.7	373,530	3.2%	61.8%	33.0%	0.4%	0.6%	1.6%	\$38,104	53.3%
Virginia	39,490.09	202.6	84,382,993	9.0%	62.7%	19.7%	0.5%	6.5%	2.9%	\$53,889	64.7%

Key

Less than Southside
Greater than Southside, less than VA
Greater than VA

Demographics: Notes & Sources

(1) Land Area for counties, cities, and state taken from U.S. Census 2010 data:
<https://www.census.gov/quickfacts/table/POP060210/0>
0. Land area for Southside region calculated using sum of constituent locales.

(2) Population per square mile for counties, cities, and state taken from U.S. Census 2010 data:
<https://www.census.gov/quickfacts/table/POP060210/0>
0. Population per square mile for Southside region calculated by dividing Southside population [Column D] by Southside land area [Column B].

(3) Population and population by race/ethnicity for counties, cities, and state taken from U.S. Census 2015 estimates.
<http://www.census.gov/quickfacts/table/PST045215/51>.
Southside population calculated using sum of constituent locale populations. Southside racial composition calculated using average of constituent data.

(4) Median household income taken from U.S. Census 2011-2015 data by state and county.
<http://www.census.gov/quickfacts/table/PST045215/51>.
Southside region median income calculated using average of constituent locales.

(5) Labor force participation rates taken from U.S. Census 2011-2015 data by state and county. Southside region labor force participation calculated using average of constituent locales.

Region 3
Largest Employer Details

Virginia Largest Employers (1)			
Overall		For-Profit Only (3)	
Employer	Industry (2)	Employer (Overall Rank)	Industry
US Department of Defense	Government - Federal	Wal Mart (2)	Retail Trade
Wal Mart	Retail Trade		Industry & Manufacturing
Fairfax County Public Schools	Education	Huntington Ingalls Industries, Inc (5)	Corporate & Business Services
Sentara Healthcare	Healthcare & Residential Care	Capital One Bank (16)	Corporate & Business Services
	Industry & Manufacturing	Lowes' Home Centers, Inc (17)	Retail Trade
Huntington Ingalls Industries, Inc	Corporate & Business Services	Kroger (18)	Retail Trade
South Central Workforce Investment Area (LWIA VIII) Largest Employers (4)			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Halifax County School Board	Education	Wal Mart (5)	Retail Trade
Longwood University	Education	Food Lion (6)	Retail Trade
Wal Mart	Retail Trade	Dolgencorp LLC [Dollar General] (7)	Retail Trade
Sentara Healthcare	Healthcare & Residential Care	ABB Service Company Division (14)	Industry & Manufacturing
Mecklenburg County School Board	Education	Presto Products Company (20)	Industry & Manufacturing
West Piedmont Workforce Investment Area (LWIA VII) Largest Employers (4)			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
The Goodyear Tire & Rubber Co	Industry & Manufacturing	The Goodyear Tire & Rubber Co (1)	Industry & Manufacturing
Pittsylvania County School Board	Education	Wal Mart (6)	Retail Trade
Danville City Public Schools	Education	Results Customer Solution (8)	Corporate & Business Services
Henry County School Board	Education	Food Lion (9)	Retail Trade
City of Danville	Government - Local	Cpfilms, Inc (11)	Industry & Manufacturing

Region 3
Largest Employer Details

Amelia County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Amelia County School Board	Education	Star Children's Dress Company (4)	Industry & Manufacturing
Amelia Life Care LLC	Healthcare & Residential Care	Glenwood Farms (5)	Agriculture
County of Amelia	Government - Local	Food Lion (6)	Retail Trade
Star Children's Dress Company	Industry & Manufacturing	Goodman Truck & Tractor Company (7)	Retail Trade
Glenwood Farms	Agriculture	McDonald's (8)	Food Services
Brunswick County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Brunswick County School Board	Education	Geo Corrections & Detention Inc (2)	Corrections
Geo Corrections & Detention Inc	Corrections	The Scotts Company (5)	Industry & Manufacturing
Southside Virginia Community College	Education	Brunswick Academy (8)	Education
Meherrin River Regional Jail	Corrections	Envoy of Lawrenceville, LLC (9)	Healthcare & Residential Care
The Scotts Company	Industry & Manufacturing	Melvin L. Davis Oil Company (10)	Industry & Manufacturing
Buckingham County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Buckingham County School Board	Education	Kyanite Mining Corporation (4)	Industry & Manufacturing
Buckingham Correctional Center	Corrections	Heritage Hall (7)	Healthcare & Residential Care
Dillwyn Correctional Center	Corrections	Home Health, Inc (8)	Healthcare & Residential Care
Kyanite Mining Corporation	Industry & Manufacturing	Food Lion (10)	Retail Trade
County of Buckingham	Government - Local	The Discovery School of Virginia (11)	Education
Charlotte County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Charlotte County School Board	Education	Genesis Products Inc (4)	Industry & Manufacturing
Southside Virginia Community College	Education	W & L Mail Service Inc (5)	Transportation
County of Charlotte	Government - Local	Morgan Lumber Company Inc (6)	Industry & Manufacturing
Genesis Products Inc	Industry & Manufacturing	Snowshoe LTC Group (7)	Healthcare & Residential Care
W & L Mail Service Inc	Transportation	Cardinal Homes (8)	Construction & Infrastructure

Region 3
Largest Employer Details

Cumberland County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Cumberland County School Board	Education	Primoris Energy Services (3)	Construction & Infrastructure
County of Cumberland	Government - Local	Gemini (4)	Industry & Manufacturing
Primoris Energy Services	Construction & Infrastructure	Johnny R. Asal Lumber Company (5)	Industry & Manufacturing
Gemini	Industry & Manufacturing	Covance Research Products (7)	Pharmaceuticals
Johnny R. Asal Lumber Company	Industry & Manufacturing	Appomattox River Company (8)	Retail Trade
Danville City Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
The Goodyear Tire & Rubber Company	Industry & Manufacturing	The Goodyear Tire & Rubber Co (1)	Industry & Manufacturing
Danville City Public Schools	Education	Wal Mart (5)	Retail Trade
City of Danville	Government - Local	Telvista Incorporated (6)	Corporate & Business Services
Danville Regional Medical	Healthcare & Residential Care	EBI LLC (7)	Industry & Manufacturing
Wal Mart	Retail Trade	Nestle USA, Inc (8)	Industry & Manufacturing
Halifax County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Halifax County School Board	Education	Dolgencorp LLC (3)	Retail Trade
Sentara Healthcare	Healthcare & Residential Care	ABB Service Company Division (4)	Industry & Manufacturing
Dolgencorp LLC	Retail Trade	Presto Products Company (5)	Industry & Manufacturing
ABB Service Company Division	Industry & Manufacturing	Wal Mart (6)	Retail Trade
Presto Products Company	Industry & Manufacturing	VIR, Virginia International Raceway (7)	Tourism & Recreation
Henry County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Henry County School Board	Education	Cpfilms, Inc (2)	Industry & Manufacturing
Cpfilms, Inc	Industry & Manufacturing	Monogram Management Services (3)	Industry & Manufacturing
Monogram Management Services	Industry & Manufacturing	GSI Solutions (4)	Corporate & Business Services
GSI Solutions	Corporate & Business Services	Springs Global US Inc (5)	Industry & Manufacturing
Springs Global US Inc	Industry & Manufacturing	Hanesbrands Inc (8)	Industry & Manufacturing
Lunenburg County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Lunenburg County Public Schools	Education	Virginia Marble Manufacturing (2)	Industry & Manufacturing
Virginia Marble Manufacturing	Industry & Manufacturing	S & M Brands (4)	Industry & Manufacturing
Lunenburg Correctional Center	Corrections	Benchmark Community Bank (5)	Corporate & Business Services
S & M Brands	Industry & Manufacturing	Food Lion (7)	Retail Trade
Benchmark Community Bank	Corporate & Business Services	Applebees (8)	Food Services

Region 3
Largest Employer Details

Martinsville City Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Memorial Hospital of Martinsville	Healthcare & Residential Care	Wal Mart (5)	Retail Trade
Martinsville City Schools	Education	Southern Finishing Company (6)	Industry & Manufacturing
City of Martinsville	Government - Local	Kidd International-Home Care, Inc (7)	Corporate & Business Services
Piedmont Regional Community Service Board	Healthcare & Residential Care	Faneuil Inc (8)	Corporate & Business Services
Wal Mart	Retail Trade	Palm Harbor Homes Inc (9)	Industry & Manufacturing
Mecklenburg County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Mecklenburg County School Board	Education	Global Safety Textiles LLC (3)	Industry & Manufacturing
MCV Hospital	Healthcare & Residential Care	ONE Jeanswear Group (4)	Industry & Manufacturing
Global Safety Textiles LLC	Industry & Manufacturing	Wal Mart (5)	Retail Trade
ONE Jeanswear Group	Industry & Manufacturing	G A & F C Wagman Inc (6)	Construction & Infrastructure
Wal Mart	Retail Trade	Food Lion (7)	Retail Trade
Nottoway County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Nottoway County Public School Board	Education	Heritage Hall (7)	Healthcare & Residential Care
Virginia Center for Behavioral Rehabilitation	Healthcare & Residential Care	Wal Mart (8)	Retail Trade
Nottoway Correctional Center	Corrections	Reiss Manufacturing (10)	Industry & Manufacturing
Piedmont Geriatric Hospital	Healthcare & Residential Care	Arbotech Forest Products (13)	Industry & Manufacturing
U.S. Department of Defense	Government - Federal	Home Recovery-Home Aid (14)	Healthcare & Residential Care
Patrick County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Results Customer Solutions	Corporate & Business Services	Results Customer Solutions (1)	Corporate & Business Services
Patrick County School Board	Education	Primland Ltd. (3)	Tourism & Recreation
Primland Ltd.	Tourism & Recreation	Hanesbrands Inc (4)	Industry & Manufacturing
Hanesbrands Inc	Industry & Manufacturing	Blue Ridge Nursing Center (5)	Healthcare & Residential Care
Blue Ridge Nursing Center	Healthcare & Residential Care	Wal Mart (6)	Retail Trade
Pittsylvania County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Pittsylvania County School Board	Education	Unique Industries (2)	Industry & Manufacturing
Unique Industries	Industry & Manufacturing	Swedwood Danville LLC (3)	Industry & Manufacturing
Swedwood Danville LLC	Industry & Manufacturing	Intertape Polymer Corp (5)	Industry & Manufacturing
Pittsylvania County Board	Government - Local	Haynes Brothers (7)	Construction & Infrastructure
Intertape Polymer Corp	Industry & Manufacturing	Food Lion (8)	Retail Trade

Region 3
Largest Employer Details

Prince Edward County Largest Employers			
Overall		For-Profit Only	
Employer	Industry	Employer (Overall Rank)	Industry
Longwood University	Education	Wal Mart (5)	Retail Trade
Centra Health	Healthcare & Residential Care	Holly Manor Nursing Home (6)	Healthcare & Residential Care
Hampden-Sydney College	Education	Immigration Centers of America (8)	Corrections
Prince Edward County Public Schools	Education	Lowe's Home Centers, Inc. (10)	Retail Trade
Wal Mart	Retail Trade	Fuqua School (11)	Education

Region 3
Largest Employer Details

INDUSTRY COUNTS - State		
	# of Overall Largest	# of For-Profit Largest
Education	1	0
Healthcare & Residential Care	1	0
Government	1	0
Industry & Manufacturing	1	1
Retail Trade	1	3
Corporate & Business Services	1	2

INDUSTRY COUNTS - Southside (LWIA VII & VIII)		
	# of Overall Largest	# of For-Profit Largest
Education	6	0
Healthcare & Residential Care	1	0
Government	1	0
Industry & Manufacturing	1	4
Retail Trade	1	5
Corporate & Business Services	0	1

Region 3
Largest Employer Details

INDUSTRY COUNTS - Counties and Cities		
	# of Overall Largest	# of For-Profit Largest
Education	19	3
Healthcare & Residential Care	10	8
Government	8	0
Industry & Manufacturing	20	29
Agriculture	1	1
Corrections	6	2
Transportation	1	1
Retail Trade	5	16
Food Services	0	2
Construction & Infrastructure	1	4
Pharmaceuticals	0	1
Corporate & Business Services	3	6
Tourism & Recreation	1	2

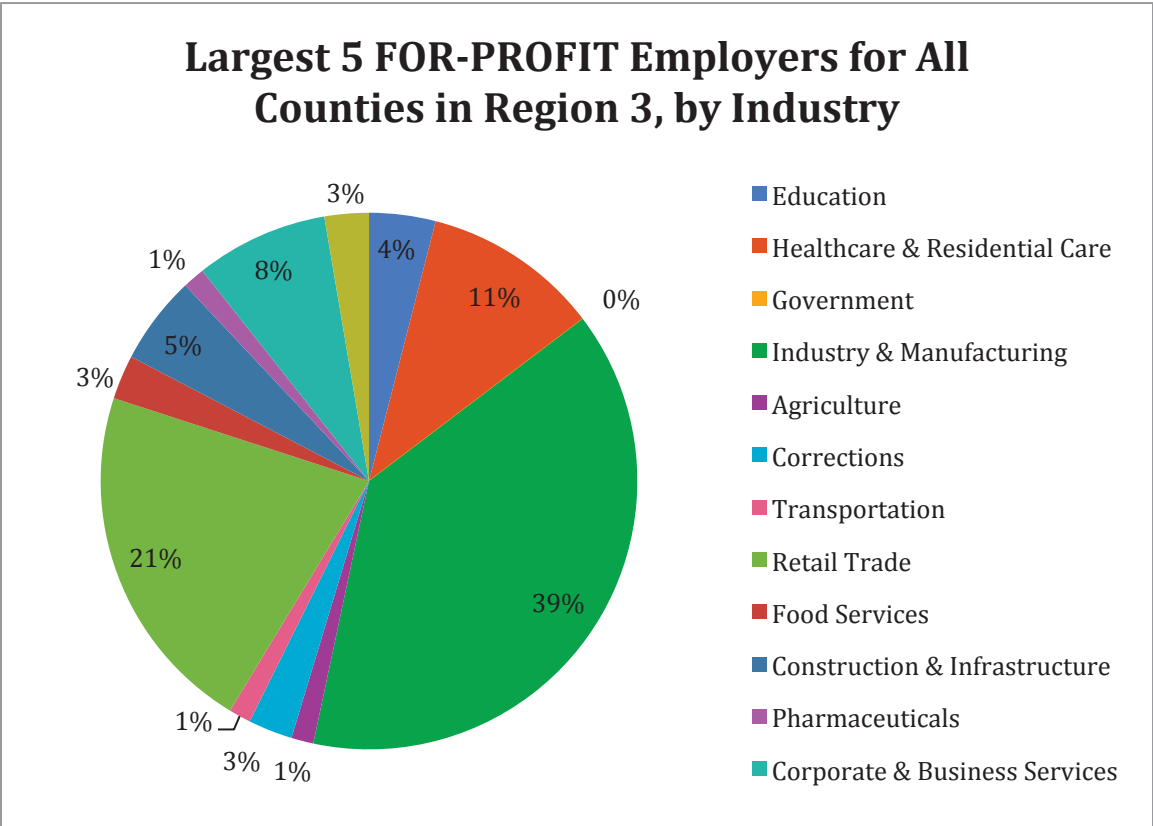
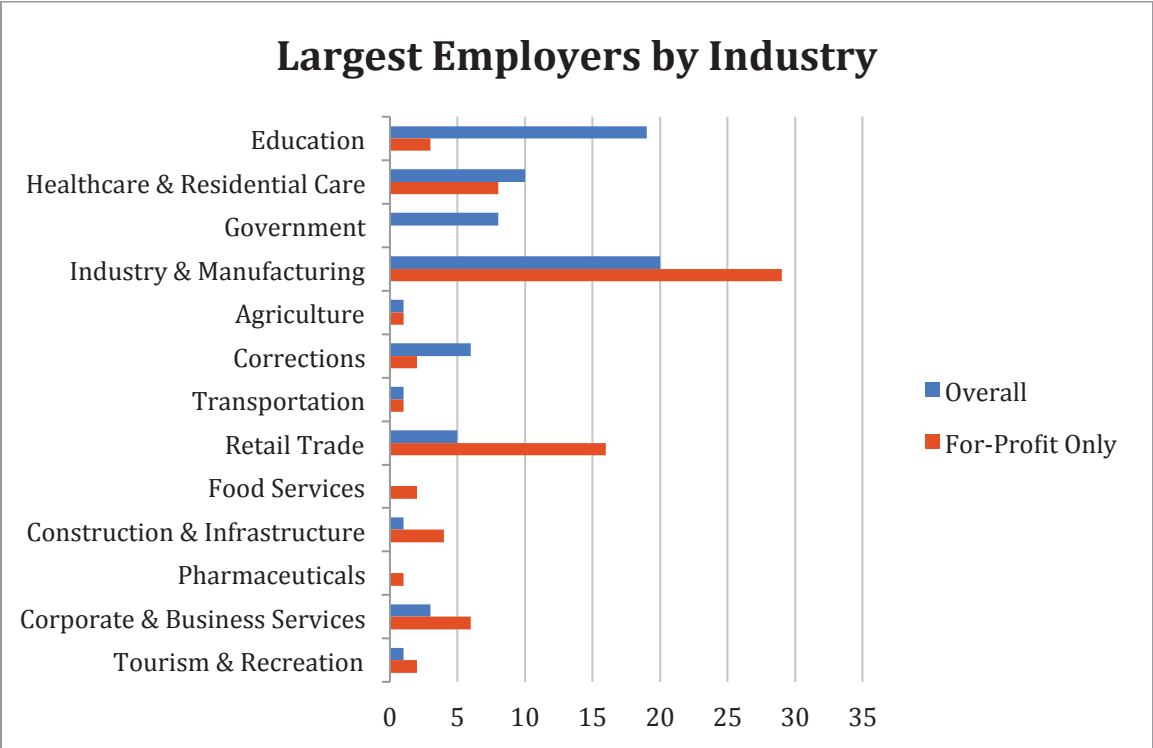
Largest Employer Details: Notes & Sources

(1) Employers taken from Virginia LMI 50 Largest Employer Reports:
http://bi.virginialmi.com/rdPage.aspx?rdReport=limitools_industry&tabsIndustry=tpnlLargestEmployers&rdNoShowWait=True&rdWaitCaption=Loading...

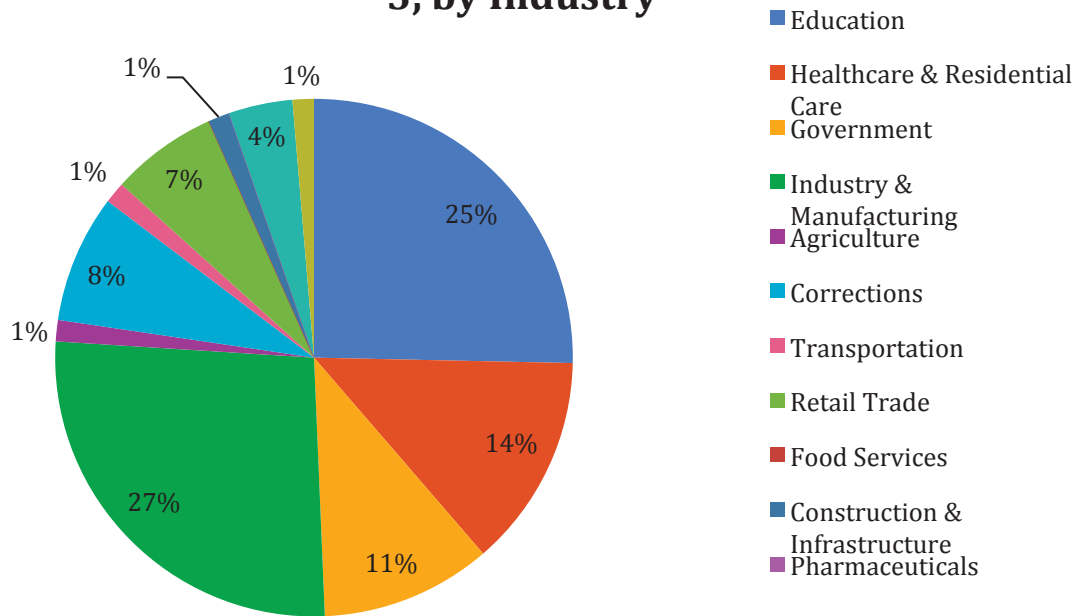
(2) Industry adapted from multiple sources, including NAICS codes provided by Virginia LMI 50 Largest Employer Reports (code lookup available at <http://www.census.gov/eos/www/naics/>) and Manta Company Profiles (<http://www.manta.com>). Also based on basic searches of individual employers.

(3) For-profit status determined using multiple sources, including Manta employer profiles and basic searches of employers.

GO Virginia Region 3 Largest Employer Analysis



Largest 5 Employers for All Counties in Region 3, by Industry



Large For-Profit Employers



Largest Employer Data Analysis

County/City	# of For-Profit Employers Ranked in Overall Largest 5	Overall Rank of Largest For- Profit Employer	Overall Rank of Second Largest For- Profit Employer	Overall Rank of Third Largest For- Profit Employer	Overall Rank of Fourth Largest For- Profit Employer	Overall Rank of Fifth Largest For- Profit Employer
Amelia	2	4	5	6	7	8
Brunswick	2	2	5	8	9	10
Buckingham	1	4	7	8	10	11
Charlotte	2	4	5	6	7	8
Cumberland	3	3	4	5	7	8
Danville	2	1	5	6	7	8
Halifax	3	3	4	5	6	7
Henry	4	2	3	4	5	8
Lunenburg	3	2	4	5	7	8
Martinsville	1	5	6	7	8	9
Mecklenburg	3	3	4	5	6	7
Nottoway	0	7	8	10	13	14
Patrick	4	1	3	4	5	6
Pittsylvania	3	2	3	5	7	8
Prince Edward	1	5	6	8	10	11
Southside (avg)	2	3	5	6	8	9
Southside (median)	2	3	5	6	7	8

Description	Count
Counties/Cities with 0 For-Profit Employers Ranked in the Overall Top 5	1
Counties/Cities with 1 For-Profit Employer Ranked in the Overall Top 5	3
Counties/Cities with 2 For-Profit Employers Ranked in the Overall Top 5	4
Counties/Cities with 3 For-Profit Employers Ranked in the Overall Top 5	5
Counties/Cities with 4 For-Profit Employers Ranked in the Overall Top 5	2

Largest Employers in Region 3 (using top 5 in each county, 75 total), counted by industry		
	Overall	For-Profit Only
Education	19	3
Healthcare & Residential Care	10	8
Government	8	0
Industry & Manufacturing	20	29
Agriculture	1	1
Corrections	6	2
Transportation	1	1
Retail Trade	5	16
Food Services	0	2
Infrastructure	1	4
Pharmaceuticals	0	1
Corporate & Business Services	3	6
Tourism & Recreation	1	2

GO Virginia Region 3 – Appendix III Precision Machining Pipeline Overview

Precision Machining Pipeline Overview

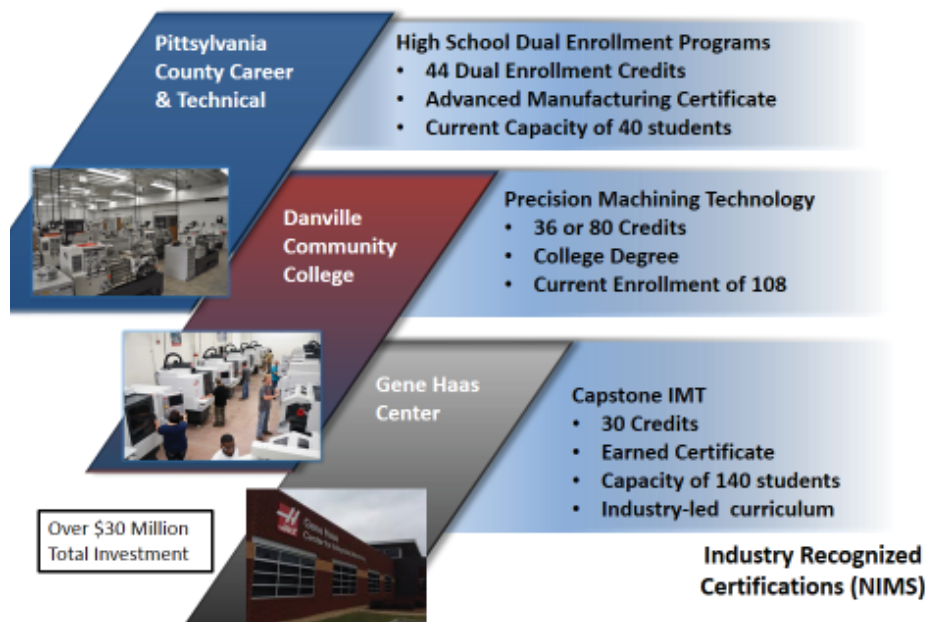
Two of the essential needs to support and encourage economic development include: high quality training targeted to the needs of industry: a robust pipeline of skilled employees sufficient to staff industry expansion and development. This has been achieved in the Danville/Pittsylvania County and surrounding regions in a collaborative public/private/industry partnership. The initial effort focused on advanced manufacturing, and more specifically Precision Machining, to meet the growing demand for highly skilled manufacturing workers in the Dan River Region.

Bottom line results: the number of students enrolled in training expanded from a total of 50 in 2012 to an enrollment of 180 in the pipeline today; expanding to a fall 2018 enrollment of roughly 225 students achieving Level II Certification and degree completion. The efficacy of this model is producing demonstrable results in terms of supporting and expanding the industrial base in the region.

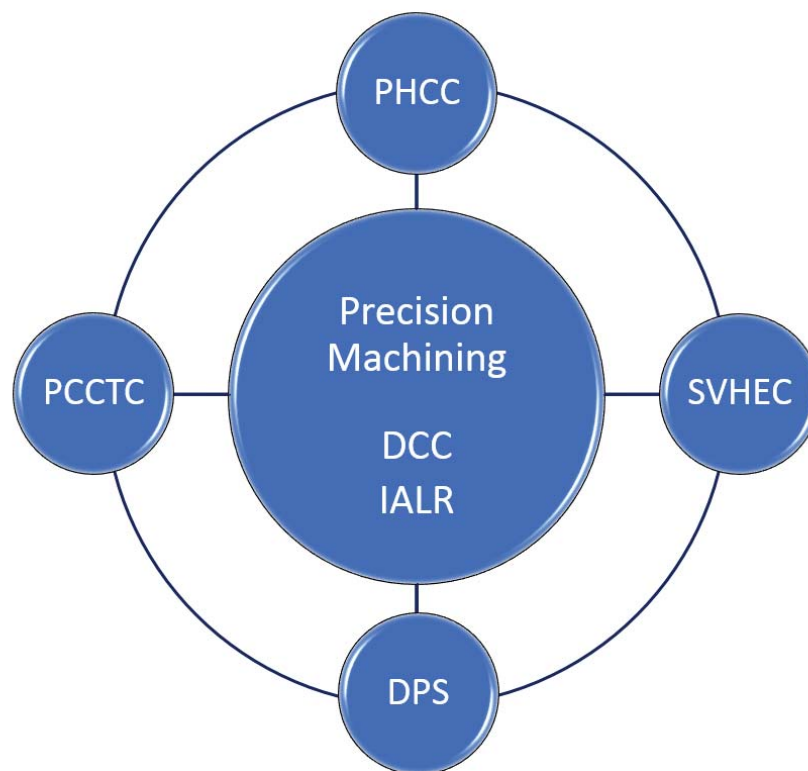
A Collaborative, Spoke and Hub Training Model

The graphic below shows the current training model that has been developed and that made it possible to more than quadruple the number of individuals engaged in state-of-the-art manufacturing flow-cell training.

A Progressive Training Model



The success of this model also rests in the ability to create a regional training “hub” that does not duplicate resources. Successful collaboration with nearby secondary and community college entities, as well as higher education centers have resulted in the ability to effectively create a “hub” for advanced level training while expanding the capacity of the “spoke,” or existing training at other regional training sites. This has allowed this model to be able to focus investment on extraordinary training capability while increasing capacity region-wide. The figure below shows the “hub and spoke” model that has been developed for Precision Machining training in the region.



The graphic above shows how the “hub and spoke” model for the extraordinary training capability is achieved. The model cannot be successful without collaboration between community college entities, local school divisions, and private educational facilities. The partnership between Danville Community College and the Institute for Advanced Learning and

Research that resulted in the development of the third-year, Capstone training facility is the fruit of what this collaboration can achieve when implemented effectively.

The Center, part of the Capstone IMT program, *provides students the opportunity to train in an authentic manufacturing workflow cell*, a unique concept being implemented for the first time in America. Students will utilize state-of-the-art technology and equipment in the flow cell that integrates machining, metrology, lean manufacturing, visual management, and manufacturing economics. This equipment will be replaced and upgraded every 24 months with the most current machinery in the marketplace. This experience will enable students to earn valuable, nationally recognized industry credentials from such esteemed organizations as the National Institute for Metalworking Skills (NIMS), the American Society for Quality (ASQ), and the Council for Six Sigma Certification. In 2014 DCC students earned 96 NIMS certifications, representing one-third of all NIMS certifications earned in Virginia. In 2015, that number grew to 154.

No one, single entity would have been capable of delivering similar results in such a short period of time. Rather, the collaborative effort engaged grant funding from the U.S. Department of Labor Employment and Training Administration, financial support from the Danville Regional Foundation, the Virginia Tobacco Region Revitalization Commission, the Commonwealth of Virginia, the City of Danville and Pittsylvania County, and the Institute for Advanced Learning & Research. Notable industry partners such as HAAS Machinery, Master Gage & Tool, BWXT, Rolls Royce, provided staff time and assistance in curriculum development, specialized training, tooling and consumables for the program. Danville Public and Pittsylvania County public schools linked with Danville Community College to provide a seamless dual enrollment to college completion experience for students which shortened the time to degree completion by a year saving families substantial sums in tuition/fees and other costs. The Gene Haas Foundation continues to support the entire pipeline through the donation of scholarship dollars for students attending the programs and for teachers attending HTEC training totaling over \$200,000. The total investment to date from federal, state, and local grants and industry investment totals over \$30 million. The dual enrollment model has now expanded across southern Virginia with the participation, and planned participation, of Southside Community College, Patrick Henry Community College, the New College Institute, and the Southern Virginia Higher Education Center.

The extraordinary training/preparation program that allows for a robust pipeline of quality students in reduced time requires participation from industry and academia. The model allows students to complete training in an accelerated timeline and at a reduced cost to the student and/or parent. It is the result of substantial industry involvement, from the development of curriculum to the donation of materials, supplies, and software. The careful process in planning

the training results in students receiving multiple industry-recognized, stackable credentials. A summary of the program highlights are noted in the outline below:

- Reduction of Time and Cost to Completion
 - o High school dual enrollment students complete 50% of the two year training program at no cost to the students so an entire year of college is achieved before students graduate from high school.
 - o Students are able to complete their two year degree community college program in Precision Machining in their first year out of high school.
 - o For students who choose to complete the advanced skills training in a post degree certificate/AAS program in the HAAS Tech Center that focuses on advanced level training and lean manufacturing principles, they can complete this training in an accelerated 9 month program.
 - o For students who wish to pursue bachelor's degrees, the community college is working to arrange articulation partnerships so that students can complete BS degree (engineering) in a 3+1 model; completing the 4 yr degree as soon as 3 years post high school graduation.
- Industry Participation
 - o The Gene Haas Foundation has awarded substantial funds to scholarship students in the pipeline and teachers attending training since its inception; have provided equipment discounts, gifts, and rotations of entrusted equipment on a regular basis to maintain state-of-the-art training.
 - o Mitutoyo has partnered to make the facility one of the first non-industry training sites for their equipment, and provides training to the students at no cost.
 - o Sandvik Coromant has donated tooling for program start-up and committed to substantial commitment in recurring tooling costs each year as well as sending trainers to train students at no cost.
 - o HAAS gave a \$1,000,000 endowment to aid in program sustainability.
 - o The facility has been recognized as one of 4 Haas Technical Education Center designated to train teachers on the most relevant Haas machinery.
- Industry Certifications
 - o Students earn stackable industry credentials throughout the program beginning with the high school dual enrollment courses and continuing through the third year IMT program.
 - o Stackable NIMS credentials offered throughout the program include Measurement, Materials, and Safety; CNC Lathe Operator; CNC Mill Operator; Lathe Level 1 Programming; and Lathe Level 2 Programming

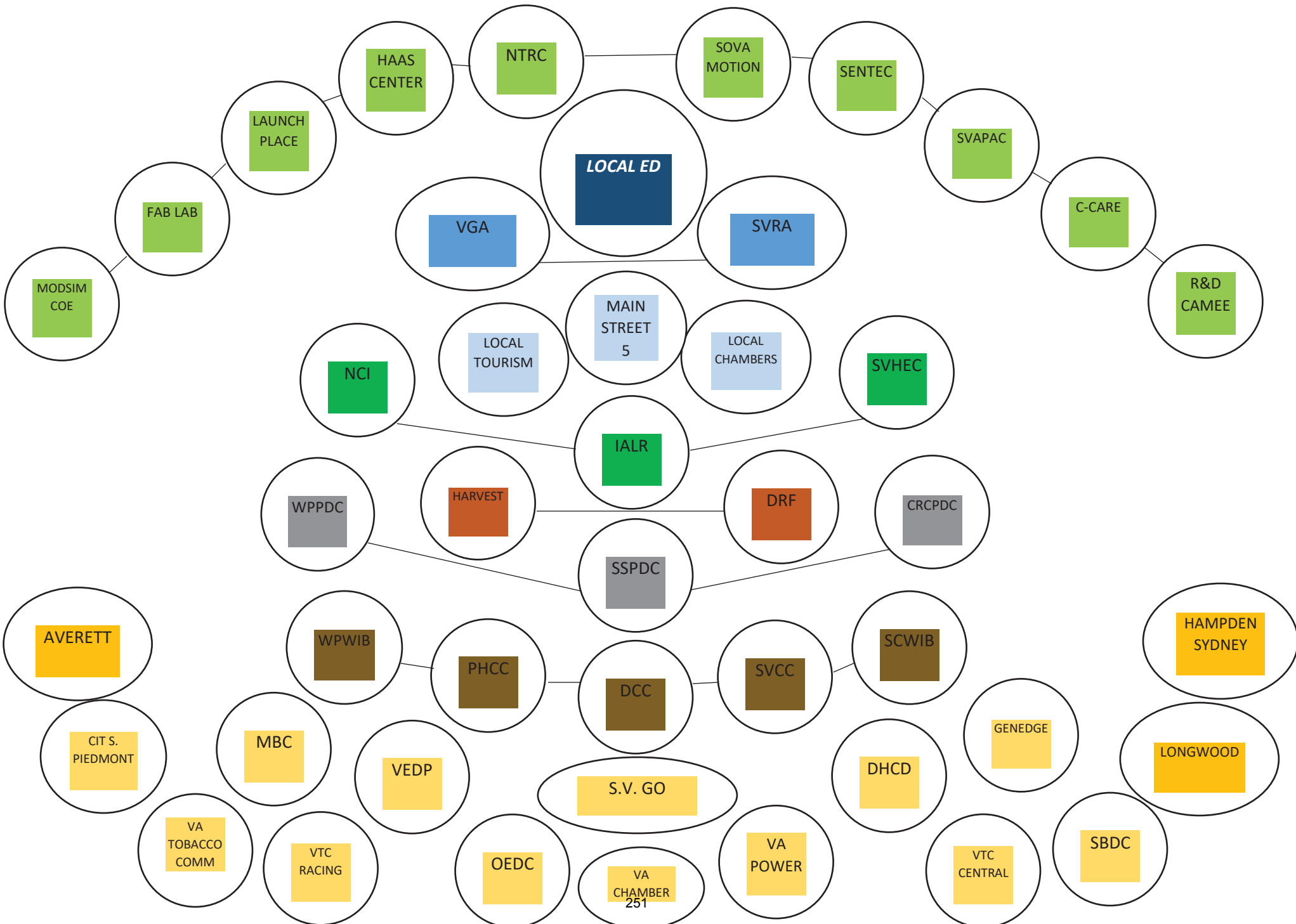
- At the completion of the third year, students also earn Six Sigma Yellow Belt Certification, MCOSMOS Level I and Level II, and Sandvik Advanced Tooling Applications certification
- Students earn a Career Studies Certificate at the end of the 2nd year of coursework at DCC, and additional Career Studies Certificate at the end of the third year, and with the completion of an internship, will earn an Associate's of Applied Science degree.

Industry Expansion / Economic Development

The purpose driving this endeavor serves and promotes economic development, the creation of jobs for the residents of southern Virginia. The training pipeline has resulted in two companies announcing their location into the region with a third expected this fall. Kyocera SGS Tech Hub announced their expansion into the Danville Region with facilities to be built in close proximity to the Gene Haas Center and Overfinch also announced plans to locate in the region as a result of the community's commitment to training a skilled workforce. These two industries will create over 75 new jobs with an average annual salary of \$55,000 per year. The total net investment in the region as a result of these announcements is \$18.1 Million. These companies have expressly noted their decision to locate in this region is owing to the extraordinary training programs and the capacity to maintain a robust pipeline of highly skilled employees.

GO Virginia Region 3 – Appendix IV
Economic Development Entities and Partners

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS



LEGEND FOR ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS' MAP

LOCAL ECONOMIC DEVELOPMENT OFFICES – 15

Patrick, Martinsville/Henry, Danville, Pittsylvania, Halifax, Mecklenburg, Brunswick, Nottoway, Amelia, Cumberland, Prince Edward, Charlotte, Lunenburg, Buckingham

LOCAL PARTNER OFFICES (CHAMBERS, MAIN STREET, TOURISM) – TBD

REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS – 2

Virginia's Growth Alliance, Southern Virginia Regional Alliance

REGIONAL PLANNING DISTRICT COMMISSIONS – 3

Southside Planning District, Commonwealth Regional Council, West Piedmont Planning

REGIONAL FOUNDATIONS – 2

Danville Regional Foundation, The Harvest Foundation

REGIONAL COMMUNITY COLLEGES and WIBS – 5

Southside Virginia Community College, Danville Community College, Patrick Henry Community College, West Piedmont WIB, South Central WIB

REGIONAL FOUR-YEAR COLLEGES/UNIVERSITIES – 3

Longwood University, Hampden Sydney College, Averett University

REGIONAL HIGHER EDUCATION CENTERS – 3

Southern Virginia Higher Education Center, Institute for Advanced Learning, New College Institute

STATE AGENCIES and PRIVATE PARTNERS – 12

Virginia Tourism Corporation (2), Center for Innovative Technology, Virginia Tobacco Commission, Southern Virginia GO, Genedge, Virginia Economic Development Partnership, Virginia Department of Housing & Community Development, Virginia Chamber of Commerce, Longwood Small Business Development Center, MidAtlantic Broadband, Old Dominion Electric Coop, Dominion Virginia Power

LOCAL INNOVATION ASSET PARTNERS – 10

R&D Camee, SOVA Motion, National Tire Research Center, C-CARE, Southern Virginia Product Advancement Center, ModSim Center of Excellence, FabLab, HAAS Performance Center, The Launch Place

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

CATEGORY	NAME	DESCRIPTION	BIZ GROWTH	BIZ RETENTION	BIZ ATTRACTION	SMALL BIZ	TOURISM	FINANCING AND GRANTS	RESEARCH	TRAINING	REGIONAL STRATEGY
LOCAL ECONOMIC DEVELOPMENT		Local economic development offices are the primary public POC for economic development services; generally they are "portals" into services needed for business growth. Their primary audience is basic-sector businesses.									
	Patrick County ED			X	X	X					
	Martinsville/Henry EDC			X	X	X	X	X			
	Pittsylvania ED			X	X	X		X			
	Danville ED			X	X	X		X			
	Halifax IDA		X	X	X	X		X			
	Mecklenburg ED			X	X	X	X				
	Brunswick ED			X	X						
	Nottoway ED			X	X						
	Lunenburg ED			X	X	X					
	Cumberland ED			X	X	X					
	Amelia ED			X	X	X					
	Prince Edward ED			X	X	X					
	Buckingham ED			X	X	X					
	Charlotte ED			X	X	X					
LOCAL PARTNERS – CHAMBERS		Chambers of Commerce are generally membership organizations that serve as business networking organizations; they may be local or regional in nature. Chambers may be legislatively active. Their primary audience is existing businesses.		X							

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
	Patrick County Chamber										
	Danville/Pittsylvania Chamber										
	Halifax County Chamber										
	Chase City Chamber										
	Clarksville Chamber										
	Chase City Chamber										
	Brunswick Chamber										
	Lunenburg Chamber										
	Farmville Area Chamber										
	Amelia County Chamber										
	Charlotte County Chamber										
LOCAL PARTNERS – MAIN STREET		Main Street communities are designated by the VDHCD and are geographically tied to downtown districts. Southern VA is home to five Main Street communities. Their primary audience is existing businesses.	X	X	X	X		X		X	
	Blackstone Main Street										
	Danville Main Street										
	Farmville Main Street										
	Martinsville Main Street										
	South Boston Main Street										

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
LOCAL PARTNERS - TOURISM		Tourism offices generally focus on encouraging visits by tourists for overnight or longer stays. They may be involved in property development. Some tourism functions are embedded in economic development offices. Southern Virginia has one regional tourism entity and several local entities. Their primary audience is tourists.	X				X				
	Patrick County Tourism										
	Martinsville Henry Tourism										
	Discover Halifax										
	Virginia's Retreat Regional Consortium										
REGIONAL ECONOMIC DEVELOPMENT		Regional ED organizations represent multi-jurisdictional footprints. Generally they focus on business attraction activities although some may also support existing business expansions and entrepreneurial development. Regional ED organizations typically represent labor market areas. They are typically the first point of entry for									

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
		companies and for VEDP. Their primary audience is basic-sector businesses.									
	Virginia's Growth Alliance		X		X	X			X		X
	Southern Virginia Regional Alliance				X				X		X
PLANNING DISTRICT COMMISSIONS		Planning District Commissions are state-enabled regions that focus on research and strategic planning activities to support local and regional development. They apply for and administer a variety of grants. Their primary audience is local governments.									
	West Piedmont PDC							X	X		X
	Southside PDC							X	X		X
	Commonwealth Regional Council										X
REGIONAL FOUNDATIONS		Community Foundations are generally focused on mission-driven investments based on needs of the region that is represented. Southern Virginia has two such entities that interact with economic development. Their primary audience is regional civic, political and business leadership.	X			X		X	X		X

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
	Danville Regional Foundation										
	Harvest Foundation										
COMMUNITY COLLEGES		Community Colleges are entities that offer on-ramps to higher education and also provide customized technical training. Their primary audience is citizens who seek life-long learning.		X		X		X		X	X
	Patrick Henry Community College										
	Danville Community College										
	Southside Virginia Community College										
FOUR YEAR INSTITUTIONS		Four-year higher education partners degree-granting institutions that are focused on providing life-long learning opportunities as well as selected research and support for businesses. Their primary audience is citizens who seek life-long learning.							X	X	
	Longwood University										
	Hampden Sydney College										
	Averett University										
HIGHER ED CENTERS		Higher Education Centers are conduits for conferring degrees from higher ed partners outside the footprint. These centers	X	X	X	X			X	X	X

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
		also may conduct research, package workforce development training, and serve as a connection with K-12 entities. Southern Virginia has three higher education centers. Their primary audience is citizens who seek life-long learning opportunities, as well as businesses who seek support for workforce training and/or research.									
	Institute for Advanced Learning & Research										
	New College Institute										
	Southern Virginia Higher Education Center										
STATE AGENCY		State agencies in this matrix are agencies which have designated regional support for their specific function.									
	Virginia Economic Development Partnership			X	X			X	X	X	
	Virginia Department of Housing and Community Development		X	X		X	X	X	X		X
	Center for Innovative Technology		X			X		X	X		X
	Southern Virginia GO Region 3		X	X	X	X		X			X

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
	Virginia Tourism Corporation		X			X	X	X			X
	Virginia Tobacco Commission		X	X	X	X		X			X
	Longwood Small Business Development Center		X	X		X			X		X
	Genedge			X		X			X	X	
PRIVATE PARTNERS		Private organizations that specifically support economic development outcomes through a variety of services.									
	MidAtlantic Broadband (MBC)		X	X	X			X			X
	Dominion Virginia Power			X	X						
	Old Dominion Electric Cooperatives			X	X			X			
	Virginia Chamber of Commerce			X		X			X		X
INNOVATION		Innovation entities are organizations that focus on utilizing technology, research, funding, and other tools that advance business development through innovation in product development.									
	R&D CAMEE		X	X		X			X		
	SOVA Motion		X	X		X			X		
	National Tire Research Center		X	X		X			X		X

SOUTHERN VIRGINIA ECONOMIC DEVELOPMENT ORGANIZATION PARTNERS

<i>CATEGORY</i>	<i>NAME</i>	<i>DESCRIPTION</i>	<i>BIZ GROWTH</i>	<i>BIZ RETENTION</i>	<i>BIZ ATTRACTION</i>	<i>SMALL BIZ</i>	<i>TOURISM</i>	<i>FINANCING AND GRANTS</i>	<i>RESEARCH</i>	<i>TRAINING</i>	<i>REGIONAL STRATEGY</i>
	Southern Virginia Product Advancement Center		X	X		X			X		
	ModSim Center of Excellence		X	X		X			X		
	FabLab		X	X		X			X		
	HAAS Performance Center		X	X		X				X	
	The Launch Place		X			X		X			X

GO Virginia Region 3 – Appendix V **Stakeholder Input Session Summaries**

Southern Virginia GO Region 3 Ag & Natural Resources Roundtables

Stakeholder Input Sessions

July 13, 2017 – Institute for Advanced Learning, Danville

***July 14, 2017 – Environmental Education Center, Longwood University,
Farmville***

Facilitators: Karl Stauber and Liz Povar

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. BioMass (energy) sector growth; note this market is price dependent based on other fuel costs
 - b. Higher yields form land; more productive farming methods
 - c. Change in regulation related to weight of trucks on Route 29 made the region more competitive with NC
 - d. Increased use of technology in agribusiness community
 - e. Land use practices have maintained large open land space
 - f. Strong marketing efforts for "grow local" have brought attention to the importance of food safety, as well as created a positive image for agriculture (Lancaster PA is an excellent model that Southern VA should investigate)
 - g. Recognition that the agricultural heritage of southern VA is an asset for the Region; this is the Wood Basket for VA
 - h. Exports of wood and lumber have increased.

- i. Forest products in Virginia is a great contextual success that supports this region.
- j. Creation of the Virginia's Finest "Super Seedling" is a success story.
- k. The Virginia Reforestation Act is fully funded.
- l. Large production agriculture appears strong.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Market development is the key barrier to growth
- b. Exiting younger population – lack of local jobs?
- c. Adoption of new technologies by ag producers has been slow – perhaps impacts the Region's lack of being ahead of the curve in building this sector
- d. Cost of electricity in the Co-Op territories is a barrier and perhaps has impacted the success of some development opportunities
- e. Lack of broadband to last mile limits development
- f. There is less emphasis on traditional, commercial farm production; the "farm-to-table" movement/image may mask the real income producers (large commercial farms) by creating the image that "organic = good and conventional = bad" in the consumers' minds.
- g. The regulatory environment does not understand the variations that need to be considered in rural and urban areas; lack of flexibility inhibits appropriate development; one-size-fits-all is not appropriate.

- h. Inconsistency of the application of the regulatory process creates risk for ag producers and impacts the growth of the sector.
- i. Encroachment of housing along the more urbanized areas adjacent to southern Virginia is a barrier.
- j. Disposable income levels are declining.
- k. Land use regulations are barriers to compatible development.
- l. Talent attraction is needed in the ag community because of the departure of younger people; the attraction of tech-trained new generation farmers should be a goal.
- m. Finding quality employees with motivation and work ethic for ag-based work is difficult.
- n. Regulations that prevent the hiring of teenage workers impacts the sector's ability to educate and bring the next generation into the wood products business.
- o. Soft skills for ag production workers is needed.
- p. Decline may be occurring because local elected bodies (boards of supervisors, city councils, town councils) are not open to new ideas; are not flexible.
- q. The impact of "NIMBYs" is a barrier to ag development.
- r. Advanced technology integrative processing isn't located in the region; such a project could create a stronger internal supply chain for ag producers.
- s. The mindset of local leaders is not forward-thinking.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. The precision welding training program in Danville/Pittsylvania is an excellent example.
- b. The Halifax Youth/Adult Ag Forestry Program, currently in development, is a good model for K-12 and beyond.
- c. Collaboration between higher education and the forestry/ag industry is excellent:
 - i The Southside Virginia Community College's Agribusiness Concentration Course.
 - ii Virginia Tech and forest businesses
- d. There is an Amish-led collaborative for wholesale veggies by auction (Southside Wholesale Produce Auction) that connects Regions 2,3,4 & 9 – perhaps a model for other ways to increase market share?

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*

- a. Become known as the "best managed" natural resource based region in the country.
- b. Build small-producer collaboratives to increase markets and create economies of scale for this sector.
- c. Increase participation in international market growth through trade missions.
- d. Find ways to serve smaller, more diverse markets rather than just monolithic, traditional markets.
- e. Innovate new product development for by-products and waste, by partnering with higher education and other organizations.

- f. Strengthen the business knowledge of new and existing producers in all ag and natural resource markets – help sustain businesses.
- g. Address the barrier of electric Co-Op rate structures as this impacts the ability of the region to market certain developable sites
- h. Creating an attractive Advanced Ag Production curriculum for high school students could build this sector.
- i. Market the outdoor, ag, and open space resources more effectively to attract new talent.
- j. Build/attract an ag-related processing facility that could begin to build a stronger ag sector.
- k. Create a mindset in ag leaders that strategic partnerships can create new solutions, new markets.
- l. Leverage the timber industry
- m. Identify and tap into new ag product markets that can diversify the existing ag base.
- n. Target a food-production facility for location in the region.
- o. Create a climate in which local elected officials champion & embrace value-added ag production.
- p. Identify and build or recruit an intermodal facility.
- q. Optimize the ag base of this region.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. Identify and develop a recruitment strategy for a value-added engineered timber production facility
- b. Take steps to create the right zoning, site, infrastructure to attract a regional ag integration facility.
- c. Connect with surrounding ag-based regions (Shenandoah Valley, Carroll County region) to identify and recruit or establish value-added facilities such as cold storage or logistics that can improve the supply chain for ag in VA.
- d. Ensure the Region 3 Council invests in projects that have defined, solid business outcomes.
- e. Create an expectation that these public dollars are going into projects with solid business logic.
- f. Region 3 should invest in projects that leverage existing assets.
- g. Create better outcomes from workforce training programs (Dabney Lancaster CC is an excellent model)
 - i Create internship programs
 - ii Replicate the SVCC model that "Dixie Watts" established
 - iii Create co-op programs in forestry

Miscellaneous

- Risks:
 - o Concern that if the regulations that allowed Route 29 to have increased weight levels may be changed if that corridor becomes an interstate.
 - o Lack of intergenerational sustainability for the ag sector

- o Perceived loss of timber replanting, at rates that were previously higher. This creates a future economic loss because of the time it takes to regrow the timber.
 - o Concern that the forests are not being managed for sustainability, particularly in the eastern portion of the Region.
- New entrants into the Ag sector, are not necessarily grounded in business reality; seeing a lot of interest in boutique product development (i.e. growing mushrooms for farmers' markets) but no aligned business plan.
- For production companies in natural resource sector, lack of technically-skilled applicants is a challenge.
- There's a lack of market for, or distribution channel for, byproducts of the ag and natural resource sector, which impedes some income opportunities that are currently sustaining some businesses.
- The region does not appear to be focused on deepening the value-added capability of the ag-based economy. No strategy, no political will.

Southern Virginia GO Region 3 Community Leaders Advisory Committee***Stakeholder Input Session******May 25, 2017 – Southern Virginia Technology Park******Facilitators: Karl Stauber and Liz Povar******Chairman: Scott Burnette***

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Look at the "Discover Clarksville" video and replicate that across the region: <http://www.clarksvilleva.org/>
 - b. Because we are outside the "blast zone" we have successfully recruited data centers and need to continue to do that.
 - c. We have a good quality of life but need to understand what businesses and others we are trying to attract, mean by "quality of life" so that we can better position that.
 - d. Our highway infrastructure is very good.
 - e. Our geographic location is excellent and needs more promotion (between the Richmond/Raleigh markets); we are at the heart of the southeast's Aerospace Triangle
 - f. Our Chambers and our Tourism organizations are strong and effective
 - g. We are a safe and secure Region.
 - h. We have MidAtlantic Broadband as a common technology asset.
 - i. Microsoft, HP and MidAtlantic Broadband are successes producing higher-paying jobs.
 - j. The Bear Garden power plant produces high-paying jobs.

- k. The IT Academy at the Southern Virginia Higher Education Center is a success.
- l. The Southern Virginia Technology Park is a success.
- m. The Tobacco Commission is a significant asset that we all share.
- n. The Institute for Advanced Learning and Research is a significant asset that should be more regionally deployed, particularly as it relates to opportunities for spinoff and commercialization of research.
- o. The Virginia International Raceway business park is a success and demonstrates commercialization of research and jobs in STEM-related occupations.
- p. In western southern Virginia, the Danville Regional Foundation and the Harvest Foundation are exceptional assets. Eastern Virginia does not have similar organizations.
- q. The Danville Community College IDEA Academy is an excellent example of business/educational partnership.
- r. The Region's health care based is strong, creates partnerships with institutions like VCU, and provides higher-paying job opportunities.
- s. Project Restoration is an example of a successful partnership, it is a food bank that partners with Feedmore.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Major business closings resulting in job losses
- b. Intra-regional cooperation is not the norm; there are some examples of site development success, utility partnerships, and economic development partnerships but these don't appear to be the norm.

- c. There is a lack of historic public commitment to education, and a lack of parental expectations that education is important, which results in challenges to create competitive schools and to create a pipeline of enrollment in training such as the IT Academy.
- d. Job applicants are unable to complete simple forms.
- e. K-12 public schools are perceived as non-competitive.
- f. There is a lack of activities/nightlife for young professionals and this creates a barrier to attracting new and younger people to the Region.
- g. For students who go on to higher education, the debt load is a barrier to economic success in the future.
- h. The region has a dearth of shovel-ready sites which is a barrier to attracting new investment and jobs.
- i. Intra-regional collaboration is limited.
- j. Evidence of decline can be seen in the poverty rates and hunger needs (school-aged children on free and reduced lunch)

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. Resistance is still seen by business leaders who do not want the Region to recruit or support the expansion of new businesses whose wage rates may be higher. Some of these existing businesses have significant influence at the local level.
- b. Local elected officials across the region are barriers to economic growth; they wield influence on regulatory issues and don't always understand what new businesses need.

- c. Personal connections are a barrier; in rural areas, relatively few citizens can influence decisions, due to personal relationships.
 - d. Generally speaking, it is difficult to be candid in this region, with those who may disagree with your position, because of the "thin" population and the general culture to be respectful, it's a challenge to have professional disagreements even though those may lead to new and improved outcomes.
4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*
- a. We will be a Region known for creating talent that is skilled in soft skills.
 - b. We will leverage the IT and technology assets more effectively
 - c. We should more effectively utilize existing business leaders in the business attraction strategy (peer-to-peer)
 - d. We will replicate the successes of our Workforce Development Systems across the Region.
 - e. We will provide a solution to student debt, in order to attract new talent.
 - f. We will be a Region that is attentive to the issues of basic education, rather than hiding from the challenges.
 - g. We will more effectively leverage the Tobacco Commission funding for regional projects, while the Commission still exists.

- h. We have a lot of land; we should determine good land use policies and develop real estate inventory that matches our target sectors.
- i. We will leverage the MAREA landing site.
- j. We will leverage our proximity to the Research Triangle Park to create new economic activity in our Region.
- k. Synchronize and model the existing charitable foundations to be aligned with Regional goals.
- l. Build a focus on the IT/Automotive/Aerospace/Precision Engineering Cluster, connecting workforce to existing job openings as well as focusing business attraction efforts on these sectors.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. We will focus our investments on technology-based opportunities, to leverage our existing assets.
- b. We will develop a workforce/talent development solution that fills existing employment gaps and creates a regional approach to train, and retrain, and retain, talent.
- c. We will develop projects that "grow the pie"
- d. We will develop an interactive map of our assets and utilize that for business growth retention, expansion and attraction.
- e. We will develop an impactful regional message that can be used for business retention, expansion and attraction and can be used to build pride in region, and to educate officials who are barriers to smart growth.

- f. Build a supply chain strategy to help existing businesses develop new regional markets.
- g. Develop a regional program that supports solo/entrepreneurial business development.
- h. Develop a system that monetizes the recreation assets of the Region.
- i. Look at leveraging the STEAM Lab in Nottoway across the Region.
- j. The Region may be home to "come-back" adults who are caring for aging parents, and who have had successful careers. Develop a program to leverage and engage them.
- k. Develop a comprehensive and accessible asset inventory that can be used by many organizations to improve the economy.
- l. Develop a program that leverages the Agricultural assets for growth in the culinary sector.
- m. Assess our existing vocational assets and create more effective outcomes to solve existing business job needs.

Miscellaneous:

- This group had significant questions about the meaning of high-paying jobs.
- Invite Noblis to the Innovation Assets meeting
- There is a question about the "build it and they will come" strategy
- Too often, we take what we have for granted
- We need to "bring business home"
- As a Region, we need to be able to let our kids go so that they can be successful; we can't be myopic about realities. We need to be known as a region that prepares leaders that can influence success anywhere.

- There is a concern that the Tobacco Commission financial resources are ending and there's not a replacement for this resource.
- These participants felt there was a significant lack of intra-regional communication that shares best practices, job opportunities, etc.

Southern Virginia GO Region 3 Economic Developers Advisory Committee***Stakeholder Input Session******May 16, 2017 – Southern Virginia Technology Park******Facilitators: Karl Stauber and Liz Povar******Chairman: Telly Tucker***

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Cluster of information-technology companies in Mecklenburg County (Microsoft, HP, EDS) – large employers, significant tax base. Key factor was prepared sites with infrastructure in place.
 - b. Location of Dominion Resources facility in Brunswick County – significant tax base. Key factor was support provided by TIC, political leaders. Dominion Resources was surprised at the professionalism of the locality in this location process (having available information, being prepared with answers, etc.)
 - c. RIFAs in western portion of region: Danville/Pittsylvania; and a new RIFA being established in northern Pittsylvania that will include Danville, Pittsylvania, Hurt and Altavista and be focused on becoming a logistics center. Key factors are the experience of the localities in using the legal structure of the RIFA and in connecting with significant state partner (Virginia Ports Authority).
 - d. The workforce delivery system in Danville/Pittsylvania which was locally-initiated, aligned with occupations and skills needed by existing major advanced manufacturers, involves

curriculum and equipment, was led with significant industry input, and includes K-12 thru higher ed. Results demonstrated by the number of enrollees in the cohorts and the placement of graduates in industry. Key factor was local investment and leadership in partnership with leadership of IALR.

- e. The alignment of the business recruitment focus in Danville/Pittsylvania, with the focused advanced manufacturing workforce system. Danville/Pittsylvania have elected to be strategic in their recruitment and align it with their workforce capabilities. Key factor is leadership's willingness to more narrowly focus.
- f. Historic revitalizations have impacted the quality of life in many of the towns and cities. This place-based economic development is creating interesting spaces that are attractive to business as well as employees. Key factor is Main Street program structure as well as investors (public and private) willing to put dollars into redevelopment.
- g. General consensus among the group is that most successes are influenced by the involvement of a key champion and strong leaders. (Troy at DCC; Jerry at IALR).
- h. General consensus that the investment to be prepared in terms of land, workforce, leadership, professionalism are also factors that contribute to success.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Group did not cover this in depth.

- b. The Danville Pittsylvania County declines was a result of textile processing moving off shore to lower labor cost environments. This exodus created a vacuum for middle income families particularly because many were transient and left the area in search of other employment opportunities. The unfortunate reality was that it left a gaping hole in the economic make-up of the citizens that remained in the region.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. General consensus that together, with focused goals and outcomes, makes for more long-term success than undertaking individual strategies.
- b. See examples above related to RIFAs as an example of positive outcomes that led to new jobs and investment.
- c. Collaboration is driven by various stakeholders, depending on the issue being addressed.
- d. It appears that successful collaborators replicate their processes (i.e. success breeds more willingness to collaborate again).
- e. Collaboration is not a function that some local elected officials are comfortable with. The challenge is that they are elected to represent an area delineated by a geographical boundary which discourages collaboration in some ways.

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*

- a. Cybersecurity is a growth field that the region should embrace.
- b. Build an IT Academy that serves the region; use the private-sector partners such as Mid-Atlantic Broadband, Microsoft, HP.
- c. Engage the Technology Councils in Southern Virginia as they may have new approaches to building economic opportunities.
- d. Solve the last-mile connectivity problem, which would increase the opportunities for new business formation, business retention, business attraction, as well as increase educational outcomes and provide health-care solutions. The partners of MBC and Microsoft should be engaged in this strategy.
- e. Connect and leverage the three community colleges with the economic development strategy (appears to be very diverse connectivity between the community colleges and each region).
- f. Connect and leverage the four-year institutions to create more alignment with regional goals and to create more meaningful connectivity with the business community and economic development professionals.
- g. Retain and develop students who are in higher education, to stay in the region and create businesses or become active new leaders.
- h. Create systematic opportunities for intentional collaborations; need to find ways to meaningfully keep this large region's leaders and stakeholders engaged.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part*

of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?

- a. Group consensus that site development projects (of significance) is NOT where funding should be targeted. Other resources available, and site costs are so high that the amount of \$\$ available through GO Virginia will not be significantly impactful.
- b. Group consensus to build on successes; don't reinvent the wheel.
- c. Group consensus to demonstrate outcomes from collaborations that are established.
- d. Suggestions for specific projects of regional significance that could result in higher-paying jobs (note: a concern of the group is the ROI timeline, as some of these require longer timeframes for direct impact):
 - i. Workforce system focus and alignment: i.e. focus resources on academies that align with regional strengths: information technology, advanced manufacturing.
 - ii. Assess the regional model for Work Ready Certified Communities to determine if it has relevance to existing businesses and as a recruitment tool.
 - iii. Invest in a baseline assessment of existing last mile technology services. Partner with CIT/Mid-Atlantic Broadband/others. Results in an understanding of connectivity that can then influence the results of the 2020 Census; noted that in the Census, "homes served by internet connectivity" is measured and then used by site selection consultants as part of their data analysis for regional capacity. Would ultimately be impactful in

education, business formation, business attraction, health care. Study would also engage ISPs to demonstrate various ways of solving the last-mile connection issue, starting from solid data, giving local governments the tools and best practices to solve the problem locally. Noted that wireless is best practice; many localities own/operate systems for emergency services, poles could be the infrastructure to assist in deploying the technology. At a minimum would improve Southern Virginia's image of addressing a regional problem. Would likely be an achievable and efficient use of GV \$\$.

- iv. Create a regional "Certified Sites/Buildings" initiative that would present prepared real estate in a holistic manner. Would influence site selection consultants, VEDP.

Miscellaneous:

- The perception of Southern Virginia, in terms of "professionalism", needs to change to be more positive. How can GO Virginia assist with this?
- Education partners need to be connected economic development professionals more consistently, so strong relationships can be established; and workforce systems need to align with regional goals.
- Need to determine how to address the WIIFM (What's In It For Me) for all localities.
- Barriers:
 - Privately-held land is costly
 - Economic developers need a data source that provides current data on many variables, including the regulatory climate.

- Perception of the workforce may be negative and needs to be overcome – how to do this?
 - Not easy to identify operational and funding partners for appropriate needs.
 - Need the community colleges to consistently, across the region, align with economic development goals. Appears to be very differing approaches by the three community colleges.
 - The eastern portion of southern Virginia has a weak intra-region connectivity and spirit. How can eastern southern VA learn from western Southern VA's collaborations?
 - The age of local elected leadership creates barriers to innovation and change. This impacts the region's success.
- Needed:
 - Regional leaders need a system to share best practices
 - Look at the Golden Triangle and see what lessons apply
 - Two questions the region's higher ed partners need to ask:
 - What is relevant training for today and the future?
 - What training assets exist on which to build to the future?
 - Eastern Southern Virginia has fewer business leaders involved in their communities and localities. This is an opportunity to engage new leadership by using the GV model to get these business leaders to the table. Don't discount small business leaders (accountants, attorneys, physicians, etc.)
 - Wireless solutions must be part of the last-mile deployment; how to educate local leaders about this technology?

Southern Virginia GO Region 3 Innovation Assets Stakeholder Roundtable

Stakeholder Input Session

May 25, 2017 – Southern Virginia Technology Park

Facilitators: Karl Stauber and Liz Povar

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Retaining and expanding the industrial base by creating innovation opportunities within existing companies
 - b. Local, state, regional investments in new technology programs
 - c. Tobacco funding and local collaborations
 - d. The FabLab in Martinsville which helps support an entrepreneurial ecosystem
 - e. Locations by R&D technology companies like ChemQuest which take advantage of existing underutilized real estate
 - f. Genedge support for "next stage" companies; statewide program that is headquartered in the Southern VA region
 - g. Microsoft data center – what is important is the companies it connects to – i.e. Siemens, which is the technology support organization that requires significant STEM-related skills in its workforce
 - h. Historic revitalization of downtowns creates unique image for the region – the "cool factor"
 - i. The Center for Advanced Film Manufacturing is a very unique business/education partnership

j. There are connections between the Southern Virginia entrepreneurial ecosystem to the Virginia entrepreneurial ecosystem, which raises visibility of the Region in the eyes of state partners.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

a. There is evidence of decline that includes:

- i. Shrinking/aging population
- ii. Lack of engaged diversity in region
- iii. Participation in educational systems due to lack of tradition of importance of education in the Region
- iv. The Region is weak in recruiting college-educated and technically-skilled talent
- v. Per capita incomes are decreasing
- vi. Many of our existing businesses are in an aging part of their life cycles
- vii. The state border with NC is a barrier only because there are limited mechanisms to connect operationally for economic development
- viii. Due to a low population, there is a lack of "opportunity density" – meaning, there is a risk to inbound job applicants to be able to have redundant options in employment in the Region.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. MidAtlantic Broadband is a most impactful organization at both the local and regional levels; combines private vision with public impact.
- b. The Danville River District is an excellent example of investing \$\$ to achieve real estate improvements which change the image of the City and create a sense of place.
- c. The Launch Place investments in companies have been in syndication with other funders, thus creating new revenue into the Region.
- d. Pittsylvania County's Satellite Wireless broadband deployment is a public/private partnership model that could be replicated.
- e. There are private investments in South Boston into "heritage buildings" that create new innovative real estate product that improves the image of the community and also creates opportunities for business investment.
- f. The Capstone Center at the Institute for Advanced Learning is a superb model of public/private partnership; it has become both a training center (connected with Pittsylvania Career & Tech Center) and a lead generator for the Danville/Pittsylvania area (companies come to see the HAAS machines in operation)
- g. The Center for Advanced Film Manufacturing is an excellent example of a public/private partnership to solve a workforce issue – PHCC and Eastman and Commonwealth Laminating (two competing private sector companies) came together to create curriculums to train for both companies; resulted in Eastman expansions; also raised the bar for other companies who have not invested in their employees in the same manner.

- h. Resistance by citizens to change
- i. Generational change is occurring, but too slowly. Patience is required but patience may result in corrective actions that occur too late to be impactful for the Region.
- j. The leadership mindset (locally, regionally) only looks at the "cost" side of the equation; there is a lack of embracing the value of investing in quality outcomes.
- k. Some employees are unwitting participants in maintaining the status quo: employees value \$\$ for overtime (immediate benefit) than they value education (long-term benefit)

4. As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?

- a. The next generation needs to become engaged in shared vision and actions for the Region.
- b. Employers need to be more fully engaged in encouraging lifelong learning.
- c. Region's proximity to NCSU should be leveraged; NCSU has a focus on energy and this Region has assets to market to that sector.
- d. The Region should be known as the best in class for the intersection of IT, Advanced Manufacturing and Workforce Development.
- e. The "Internet of Things" (IOT) will create opportunities for the Region; devices communicating with devices; the Region should strive to create an educated workforce to manage

information, not just in technology companies but also in manufacturing companies.

- f. IOT will also create opportunities for local revenue, through development of new devices. Important to ensure that local governments understand these new technologies and how to benefit from them.
- g. IOT also allows this Region to create collaborative networks that can connect to other Regions (need to ensure IT connectivity and security); Region should strive to build this connectivity.
- h. IOT can also enhance intrapreneurial innovation that can enhance existing business competitiveness. (Business Retention Strategy)
- i. The 28K people who are out-commuting each day, represent a talent resource that the Region should strive to retain and redeploy. We need to fully assess their skills and their employment to determine how best to leverage.
- j. The Region has large tracts of available land. Leverage it.
- k. Patrick Henry Community College's IDEA Academy is a model that should be replicated across the Region.
- l. The Region should be known as a Region that produces impactful industry-led applied research.
- m. Become known as an "intrapreneurial" Region; creating innovative employees who add value to their current employers by creating business solutions in production, service, logistics, etc. How can the Region support this?
- n. The Region will find its economic anchors and build clusters around that, using existing talent.

- o. The Region will maximize the Marea Landing in Virginia Beach.
- p. The region will build a workforce that is exceptional in crossfunctional skills (soft skills and technical skills)
- q. The Region will operate as a "business". It will prioritize its investments based on outcomes that move it forward and keep it competitive.
- r. There is a common need for tech-skill workers to fill existing jobs; the Region should be known for its investment in education and training to fill this gap.
- s. The Region should strive to create many companies, not just one big win. There is safety in numbers.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. First, understand the reason for the outmigration of the net 30K citizens.
- b. Identify and leverage "local investors" to support a "Grow Your Own Talent" strategy
- c. Focus on health care providers as a talent retention platform connecting citizens with credentialed programs
- d. Determine a way to more effectively leverage our private IT partners meaningfully across the region (MidAtlantic Broadband, Microsoft, HP); see the demonstration project in Halifax and Charlotte.

- e. Find out what MBC, Microsoft, HP need to be successful and help them get there!
- f. Develop a regional ISP.
- g. Leverage MBC, Microsoft, HP for business development strategies.
- h. In 2 – 4 years, the Region should strive to achieve goals similar to those of Halifax County:
- i. Focus on education & training systems that produce qualified workforce for existing businesses
 - ii. Focus on developing Quality of Place; this is a community development activity
 - iii. Focus on providing family services that help create an environment that retains talent (daycare, eldercare)
 - iv. Focus on developing a "boundary-spanning mentality" for public leadership
- i. Invest in the creation of Business Leadership Councils
- j. Build on the Region's legacy of strengths and where the Region has been extraordinary: Advanced Materials, Energy, Carbon Fiber, Polymers (all require "Heritage Skills" in their workforce). Examples of success are ABB, Noblis, Microsoft, Eastmen.
- k. Region should focus on immediate needs: retaining talent and filling vacant positions. Ties into understanding the outcommuting population.
- l. Region 3 Council needs to find low-hanging successes with impact in the sub-regions; this helps build trust in the GO Virginia program and demonstrates success in each subregion.

- m. The Region should consider leveraging the VEDP's Buildable Sites Program, particularly for the northern and eastern portions of the Region, which have a weakness in prepared real estate inventory.
- n. Investing in a regional capital access tool could benefit the entire Region.
- o. The Capstone project is a model that could be replicated in target sectors and geographies, if appropriately funded.
- p. Scaling up existing businesses to broader regional markets (i.e. developing a program that helps businesses identify new markets in the Eastern US) would be beneficial.
- q. Important to map existing job openings, and create a recruitment strategy for talent, for those openings (i.e. Raleigh's "Employ Us" campaign)
- r. Consider mapping the Innovation Companies in the Region; then look at the assets that could support them: Incubators, Genedge, etc.

Miscellaneous

- It's important for the Region to recognize that as talent is identified within large employers, those employers will likely move the talent to other operations and levels and thus, they may leave the Region.
- The Region should look at the legacy skills inherent in the Region, and map these to its business cluster focus. Build on Heritage talent.
- Region should consider how it defines the word "professional" (as in Young Professional"). Should strive to instill a sense of professionalism in every profession/skill.

- The Region needs a unified, cohesive message and voice. Both internally and externally.
- At the microscale of towns and counties and cities, the Region should support investments in Quality of Place, as this creates the environment that is attractive to younger talent.
- "If it's about higher-paying jobs, it's about employers"
- Young professionals want to see value in the \$\$ they've spent on their education. Southern Virginia should be able to win that value proposition; create an environment that not only employs young professionals but fully engages them in shared civic leadership.
- The Region needs to continuously message its employers that it is important to pay well, for talent. This is no longer a "low wage" Region.
- Consider looking at clusters through the human resource/occupational lens.
- Region should think about how ideas that are collected through this process, and are not appropriate for the GO Virginia initiative but may be important for other partners, can be shared with those partners.

Southern Virginia GO Region 3 Large Business Employer Advisory Committee

Stakeholder Input Session

June 6, 2017 – Halifax Visitors' Center, South Boston, VA

Facilitator – Charley Majors

Chairmen – Denise Taylor-Forrest, Larry Ryder

Session was handled slightly differently than other stakeholder sessions. Two primary questions were asked:

1. *As a large business employer, what keeps you up at night?*
 - a. Consistent response about need for technically-skilled talent.
 - b. There is a perception that the schools systems are not producing good talent; does this reflect lack of leadership from local elected officials, unwilling to invest in K-12?
 - c. Drain of talent from small towns
 - d. Trailing spouses can be an issue in recruitment of supervisory talent and in the health care profession.
 - e. Human resource element is the key issue affecting our success
 - f. Work ethic, in addition to lack of technical skills, is a barrier
 - g. Upcoming retirements in key occupational areas (primarily technical skills) is a threat
2. *What do you need to help your company grow and succeed in Southern Virginia?*
 - a. There is much knowledge in this room tonight; how do we continue to engage and learn from each other?
 - b. Find ways to capture the talent that is leaving the region each day.

- c. There is a strong sense of "community caring" in this region; how to leverage that?
- d. Need business leaders to actually live in the region and become engaged in public policy decisions
- e. Pursue the Danville machining training model – can this be replicated across the region?
- f. Find ways to showcase job opportunities earlier in the educational process
- g. The Route 58 corridor is the heavy manufacturing base that needs the high tech skills – it's the backbone of manufacturing in the region – how to leverage this?
- h. Find ways to create "intentional collisions" of talent, business opportunities, education. Also for connecting young people with the elderly.
- i. Is there a way to create a pipeline of lower-skilled talent from special populations (i.e. non-violent offenders) that would then open opportunities for others to work up to higher-skilled jobs?
- j. How can we better leverage the "come-here's" who seem to be the motivators who want to make real change?
- k. Can we map the skills sets (job openings) needed in the area, and map the skill sets of out-commuters, to creating a more effective matching of supply and demand?
- l. Consider building on the "medical camp" model of Centra Hospital in Farmville, as a way to engage middle school kids and expose them to career opportunities. Partnership with Robert Wood Johnson Foundation.

Miscellaneous:

- This region has a "dark sky" designation

- About 1/3 of the business audience attending had been in the region less than 2 years.
- Several of the business leaders were internationally-connected (unusual for rural areas)

Southern Virginia GO Region 3 Legislative & State Boards Advisory Committee***Stakeholder Input Session******June 1, 2017 – Southern Virginia Technology Park******Facilitators: Karl Stauber and Liz Povar******Chairman: Tim Clark***

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. MidAtlantic Broadband as an organizational and operational infrastructure is very significant for near and long-term; evident by the location of Microsoft, HP and the pipeline of investment projects that consider the Region.
 - b. Once these are identified, Region 3 should map the reasons for these successes to see if any are scalable and replicable.
 - c. The MS-led education project being deployed in Charlotte and Mecklenburg.
 - d. The Vo-Tech Center in Pittsylvania County; very focused on occupations tied to business needs.
2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*
 - a. Not decline, but a barrier, is that the cost of electricity, particularly from partner Co-ops, is high when compared to alternative locations. This impacts the region's ability to attract energy-intensive businesses such as data centers.
 - b. Another barrier is the last mile deployment of broadband to homes and small businesses.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*
 - a. Not discussed

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*
 - a. The Small Business and Supplier Diversity Department has a "Scale for Business" program that provides technical assistance to companies that are in success mode but need to plan for future. Southern VA should connect companies with this program.
 - b. Developing a workforce (and workforce development program) that specifically trains for the IT sector.
 - c. Region should find a way to bring together its political and public leadership, to regularly meet with the corporate HQ leadership of MS and HP, to understand their strategic corporate goals and find ways for the region to participate in helping the company achieve those goals. i.e. MS has significant emphasis on K-12 learning. Region 3 needs to improve outcomes in K-12. How can the Region's leadership begin and continue a dialogue that results in MS investing more in K-12 in the Region 3 territory?
 - d. The Southern Virginia region will be known as a location where workforce outcomes align with business needs in the technical skills, by replicating or scaling existing models that are working.

- e. The Region will demonstrate a willingness to work across the NC/VA border and will have overcome institutional barriers to do this.
- f. Regional leaders will understand what "success measures" are being tracked and will endorse and support efforts to achieve these.
- g. The region will be known for solving infrastructure challenges that benefit industrial categories (i.e. locating a grain elevator that helps all ag-related businesses) processing of existing natural resources (i.e. timber).
- h. The region will have developed more value-added
- i. The region will support and market its capabilities for diversification of ag-based production (i.e. hemp production)
- j. The region will have successfully secured the deployment of high speed broadband across the region.
- k. Market research will be available for small businesses, helping them develop new markets for their products and services.
- l. The region will launch and sustain a small business scaling program that is aligned with the region's targeted sectors.
- m. The region will develop and implement an aggressive business attraction program.
- n. The region will develop and implement a successful talent retention program (recapture the 28K that are exiting every day).
- o. Ensure that the Region's real estate solutions are aligned with its target sectors and are fully prepared to be utilized.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should*

they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?

- a. Need to research the future of Ag as it relates to high-paying jobs.*
- b. Need research on the use of natural gas as a feedstock; what opportunities exist? What new industries can we attract? We have advantages in this resource and need to leverage them.*
- c. Need to leverage the MS effort to increase its supplier diversity; SBSD has MS contacts and would be a good partner for this.*
- d. Need clarity on the impact of the MAREA trans-ocean telcom cable; know that MBC is involved, need to understand how to leverage this intra-regional asset for benefit of Southern VA.*
- e. Once this is understood, develop a clear message and value proposition to market the Region as a "secure alternative" for data centers, and then expand aggressively the outreach to companies like HP due to its ownership by DXC Technology.*
- f. Invest in a regional solution for broadband deployment that will support small business growth.*
- g. Become a source for filling unmet cybersecurity jobs for employers in Virginia. Model program could be replicated (model program is the NCI +2 Collaborative).*

Observations:

- Full broadband deployment to homes and businesses is not in place; barrier appears in part to be the position of VML/VACO/VDOT as it relates to use of, and leases on, existing and new towers. Is there a role for GV to help solve this?
- There is an existing MBC study about the cost of last-mile deployment. Region 3 should become familiar with this.

- Region 3 needs to quickly ensure the stakeholders, including the "fringe" areas, are informed regularly about the Region's efforts. Suggested to start using Constant Contact as a platform.
- Region 3 has an opportunity to leverage companies like Microsoft, but needs more clarity on the company's vision and areas of focus, to align the region's capabilities and opportunities with the company's.

Southern Virginia GO Region 3 Local Government & PDC Advisory Committee

Stakeholder Input Session

May 9, 2017 – Southern Virginia Technology Park

Facilitators: Karl Stauber and Liz Povar

Chairmen: Gail Moody and Ronald Roark

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. n/a
2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*
 - a. n/a
3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*
 - a. Resistance generally comes from local elected officials who may not see an effective ROI for their citizens
 - b. There is a culture of competitive politics in southern VA that needs to be reversed to a culture of collaborative politics.
 - c. Collaborations have worked when the mutual benefit is well-communicated.
 - d. Good example of a collaborative success is the VIR utility project that is currently in discussion.

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*

- a. Deployment of last-mile broadband services needs to be INTENTIONAL into small town and community assets (fire departments, schools, etc.)
- b. Last-mile broadband deployment needs a visible public champion and advocacy to help change the reality and perspective of the regional gap; even if local solutions exist, the image of the region is negatively impacted in the eyes of business and state partners if we don't present a regional solution.
- c. Schools should seek creative solutions by partnering with private companies. I.e. we would be using retirees as teaching mentors, particularly for technical skills, and in support of faculty.
- d. The region needs to attract talent, so we need to develop places that connect people and then actively promote those connection locations.
- e. Replicate the example of the VCCS/electrical lineman program that's in place in Nottoway. It was funded by a pilot program across the Commonwealth that solicited responses from businesses or business associations, to leverage state dollars to create new ways to train for needed skills and occupations. This program has placed virtually all of its certificated grads in full employment.
- f. Southern Virginia should cultivate local talent.
- g. Southern Virginia should create Place Economies.
- h. Southern Virginia should take advantage of its "greenbelt" location between central VA and central NC.

- i. Southern Virginia should find ways to adaptively reuse existing buildings and become known for this type of adaptive reuse.
- j. Southern VA should ensure that the regional vision, as well as local visions, are shared and communicated with citizens and stakeholders.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. First, understand the reason for the outmigration of the net 30K citizens.
- b. Identify and leverage "local investors" to support a "Grow Your Own Talent" strategy
- c. Focus on health care providers as a talent retention platform connecting citizens with credentialed programs
- d. Determine a way to more effectively leverage our private IT partners meaningfully across the region (MidAtlantic Broadband, Microsoft, HP); see the demonstration project in Halifax and Charlotte.
- e. Find out what MBC, Microsoft, HP need to be successful! Help them get there!
- f. Develop a regional ISP.
- g. Leverage MBC, Microsoft, HP for business development strategies.

Southern Virginia GO Region Small Business Roundtable***Stakeholder Input Session******July 13, 2017 – New College Institute, Martinsville******Facilitators: Karl Stauber and Liz Povar***

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Main Street – new businesses opening – entrepreneurs taking risks.
 - b. Fort Pickett's State Department Training Center – FASTC – wonderful success story.
 - c. Deployment of broadband technology backbone (MidAtlantic Broadband)
 - d. Distributed higher education centers creates a network of educational infrastructure
 - i New College Institute
 - ii Southern Virginia Higher Education Center
 - iii Institute for Advance Learning
 - e. Investment in megasites in the Region could lead to location of major employers in the future.
 - f. Training resources such as SmartStart and StartUp Martinsville are available to support entrepreneurs.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. "Gazillion" resources are available; however, most are advisory; small business would be better served if these resources were actually used to offset costs incurred by small businesses.
- b. Loss of older, traditional major employers such as Dan River Mills created job losses
- c. The Region is isolated and there's a lack of intra-region connectivity; also creates a context of a negative image of decline.
- b. Business leadership in the Region is aging; this creates a lack of institutional knowledge
- c. Educational attainment outcomes are an indicator of decline
- d. Regulations that impact the ag sector has led to younger people not being as interested in this sector
- e. Attraction of new talent is a barrier to economic health
- f. Leadership (local elected officials) are resistant to change and this causes new business ventures to die on the vine before they ever get started.
- g. There is a skepticism about innovation (both in customers, and in leadership in community)
- h. For small businesses, failure occurs because cash flow funding is difficult, particularly if their customers are government clients, whose payment schedules are slow.
- i. Technology platforms exist to help small businesses with cash flow but these are expensive.
- j. Access to capital is a barrier to new business creation.

- k. Local media highlights negative stories and this impacts the citizens moral; is also not helpful when trying to attract new business or new talent.
- l. Opioid addiction is causing the region to lose some of its best talent.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. MidAtlantic Broadband

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*

- a. The region will be known as a culture of innovation and excitement
- b. Small businesses will be technology-literate
- c. Larger employers will be attracted to the region to create market for small businesses
- d. The transportation infrastructure in the region will be improved which will help attract major employers (I-73; US 58; US 220)
- e. Existing tourism assets such as the Raceway, Smith River will be more effectively promoted, leveraged and used for quality of life activities, which will help attract talent.
- f. Students will be well-informed about employment opportunities in advanced manufacturing and the region will be known as a region that produces quality skill sets

- g. Community pride will be improved
- h. Quality of life assets – restaurants, shops, festivals, events, trails, etc. – will be more effectively connected, scaled and promoted to advance the image of this region
- i. The region will deliberately create a "metro corridor" from Danville – Martinsville – Farmville that creates an identity for the Region.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. Focus on creating community conversations that can help create a new internal image for citizens
- b. Focus on the health care sector, become a region known as a mecca for health care education
- c. Create a program that increases access to quality health care for citizens
- d. Rebrand advanced manufacturing, so that more students and citizens understand the opportunities that exist for employment
- e. Create visibility for existing businesses by showcasing them to each other – i.e. create/foster stronger internal supply chains
- f. Create more strategic and focused business formation support and include deliberate promotion of this effort
- g. Build on the investments made in large mega sites by creating a better messaging and promotion strategy

- h. Increase housing diversity – this helps with talent attraction – engage local governments and non-profits and use local contractors – i.e. build a regional co-op
- i. Leverage the very good higher education centers to be more attractive to students and community as community centers of knowledge
- j. Focus resources on the tourism/quality of life assets that improve the region's image, attract talent, and create business opportunities (Smith River Complex could be leveraged for tourism, business development, environmental research, aquaculture.
- k. Create a focused incentive package for the region's small businesses
- l. Create a regional brand! I.e. "Crooked Road" in southwest VA

Miscellaneous

- Risks were noted:
 - o Technology literacy in small businesses can create home-based business competition that may result in loss of business as well.
 - o Some businesses will not succeed due to loss of market because of alternative technologies (i.e. photography versus electronic photos)

Southern Virginia GO Region 3 Small Business Survey Results

Conducted through the Longwood Peer-to-Peer Network

Handwritten Survey Instrument

July 1-15, 2017

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Ag & Forest Products growth
 - b. Growth of export strategies by local businesses
 - c. Main Street programs (see Blackstone as a model)
 - d. Fort Pickett and the State Department Training Center that is locating there is a major success and will impact the Town of Blackstone's economy very positively
 - e. Microsoft in Boydton
 - f. Trucking and logging are very active sectors
 - g. Small restaurants are thriving in some small towns and these restaurants are very exceptional quality (Molasses Grill, Corner Kitchen, Herb Cottage, Bistro 1888)
 - h. Venues like VIR are unique but under-appreciated in the region
 - i. Some small towns appear to be healthy
 - j. Small business growth and development
 - k. Growth of local, regional, and independent bank and insurance companies that provide the "everybody knows your name" level of service.
 - l. Tourism, retail development through some use of social media and primarily by word of mouth

- m. State police driving school in Blackstone
- n. Virginia Army National Guard headquarters relocation to Fort Pickett
- o. Community Memorial Hospital/VCU partnership
- p. The Dominion Power Plant in Brunswick County
- q. Expansion of the hospital in Mecklenburg County has been very positive for the community
- r. Rails to Trails project in eastern part of region

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Biggest decline appears to come from loss of major employers and lack of new industries coming into area.
- b. Technology and automation have reduced employment opportunities in agriculture and other industries.
- c. Lack of intergenerational business transition planning.
- d. Closing of St. Paul's College in Brunswick.
- e. Barrier to small business growth is cash flow and access to capital
- f. Loss of younger population is evident, likely due to lack of job opportunities
- g. Cost of utilities is a barrier to small business growth; utilities' costs increase because population base is shrinking
- h. Evidenced through losses in the downtown business districts.
- i. Changing buying patterns impact small businesses.
- j. Loss of major employers and resulting loss of entry-level and mid-skill level jobs
- k. Business owners are aging and retiring

- l. There are relatively few new imaginative ideas being acted upon
- m. Lack of internet to homes/businesses is a barrier to growth
- n. Funding for economic development and Main Street programs is always at risk, but should be a priority across the region
- o. There is a lack of business savvy in small businesses; need assistance in developing real business plans
- p. Loss of rail service, both passenger and freight, has impacted the connectivity of the region to other markets.
- q. Loss of lumber businesses due to regulatory climate, inconsistent pricing, lack of local market for raw materials, and lack of being respected as an important driver of the economy.
- r. Loss of restaurants
- s. Lack of good presentation and delivery of services in a professional manner.
- t. Political territorial issues appear to be a reason that companies are not coming to this region.
- u. Aging of the agribusiness owners.
- v. There are vestiges of Massive Resistance and other racially divisive actions are still evident, particularly as seen in lack of support for public schools.
- w. Loss of affordable housing has impacted the area's ability to attract new people
- x. Closing of the Virginia United Methodist Assembly Center in Blackstone resulted in a significant loss of out-of-town dollars
- y. Evidence of economic decline can be seen in the increase of crime and the loss of morale in the citizens.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. Extension services are a good model, but funding reductions have impacted their reach to small businesses
- b. Longwood SBDC's Peer-to-Peer Network has helped small businesses solve problems in areas of human resources, financing, marketing, etc.
- c. Community discussions with businesses can be impactful if dialogue is well-structured and has a purpose
- d. There's a distinct lack of collaboration among local governments, among small businesses, among communities – and this lack of partnership impedes sharing good ideas and finding new markets.
- e. SVCC expansion of certifications
- f. The South Hill Chamber of Commerce is an excellent example of bringing together business owners for education, networking, and market development.
- g. Longwood's decision to embed itself in downtown Farmville, which generates economic activity.
- h. The Farmville Downtown Partnership – a beautification model that develops small and large projects and helps instill pride in the community.
- i. Clarksville YMCA is thriving – it's a model – can it be replicated?
- j. Clarksville Players are well-known for their productions. Worth replicating across the region.
- k. Civic organizations are an underutilized platform for helping create more positive collaborations. Is there a way to bring

them all together and share examples of the huge number of volunteer hours they give and what the results are? Would raise the image of our region.

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*
- a. Invest in strategies that help small businesses expand their markets regionally.
 - b. Regional investments in job training and education which will attract major employers
 - c. For the eastern VA region, take advantage of the State Department investment in Fort Pickett and leverage those who are coming to the site.
 - d. Develop a campaign to attract the leaders of local businesses (particularly those higher on the socio-economic ladder) to actually live in the region. This would bring another level of leadership and commitment that can be very positive.
 - e. Creating in-community, buy-local campaigns
 - f. Region is geographically well-positioned to compete for logistics sector.
 - g. Finding new talent for existing job openings
 - h. Engage more business owners in the economic development process.
 - i. Invest in tourism-related strategies.
 - j. Invest in bringing a large employer in the wood products industry to the region, which will take advantage of existing

raw materials, facilities and will create supply chains for small businesses.

- k. "Let's rediscover the wood products industry!"
- l. Invest in the health care industry and support the hospitals in the region.
- m. Invest in leadership development.
- n. While focusing on technical skills development, don't lose sight of the need for a well-rounded education.
- o. Invest in tourism strategies that connect towns and counties
- k. Create opportunities to invest in a regional message about the region's tourism assets.
- p. Leverage the FASTC development at Fort Pickett; this will require collaboration with local and regional partners and that is not a normal practice for current leadership.
- q. Seek to improve the physical image of the region by removing blighted properties and rehabilitating other salvageable structures
- r. Invest in housing, housing, housing
- s. Investment in community college programs to increase educational attainment and also to be a community builder.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. Have a solid plan, build on existing good practices and projects, and measure results.

- b. The most important consideration is that projects demonstrate community involvement that shows business and local governments working together. Without active commitment, the funding won't make a difference.
- c. The region should consider ways to create networks of small businesses that can collectively work together.
- d. Focus on ONE industry and do it right.
- e. Invest in STEM education and advanced manufacturing resources
- f. Recruitment of major employers should be a priority
- g. Region should solve the lack of internet infrastructure that is the biggest impediment to economic stability.
- h. Need to create environment where public education is valued and supported.
- i. Invest in management/customer service training and small business technical assistance
- j. Invest in reutilization of existing storefronts for startup businesses, incubators, etc.
- k. Invest in infrastructure around Fort Pickett to take advantage of the FASTC development.
- l. Conduct site planning at the local level that aligns with regional strategies, including residential, industrial and mixed use.
- m. Invest in broadband solutions and workforce development, particularly at the Middle School level.

Miscellaneous

- There is resistance to change in this region; business leaders generate excitement about projects and then the political leaders are slow to act due to citizens who refuse to change with the times.

- Small town elected leaders focus on business as usual and therefore are not creating a welcoming climate
- Challenge to keep some small but effective quality of life assets open (i.e. local museum hours are limited)
- There is a resistance to engaging with "outsiders" who have ideas for development

Southern Virginia GO Region 3 Workforce & Education Advisory Committee***Stakeholder Input Session******May 22, 2017 – Southern Virginia Technology Park******Facilitators – Karl Stauber and Liz Povar******Chairman/Facilitator – Dr. Barbara Johnson***

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. Chairman asked for focus on how the success is apparent – what evidence is shown?
 - b. Noted that during the economic recession, student results measured by Standards of Learning (SOLs) has been maintained or improved.
 - c. There is a positive image of the K-12 system in some localities.
 - d. One community has added a significant child-care program that involves parents, the Department of Social Services, the Soil & Water Conservation District, and other state/local organizational partners. The program includes a parental education component. The program is well-respected; it's helping change the historical cultural perspective of parents that education is not important and actually leads to their children leaving the area.
 - e. General consensus that local leadership now is willing to reach across boundaries to solve problems.
 - f. The partnership between Averett University and Danville Community College, for career pathways, is a success.

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Chairman asked for focus on how decline is apparent – what evidence is shown?
- b. Small businesses closings in towns and counties
- c. Technology appears to be replacing jobs that were formerly impactful (think about the technology in manufacturing plants)
- d. The number of students receiving free and reduced lunches in schools has increased.
- e. Group believes median income levels are down.
- f. Group also identified barriers to success in region:
 - i. Lack of broadband access
 - ii. At home – lack of exposure to basic tools (i.e. internet)
 - iii. Interference of social media on student engagement – seen by this group as a negative
 - iv. Perceptions of "manufacturing" by many adults in the region are still negative – no full understanding of what advanced manufacturing is really like
 - v. Concerns that previous retraining systems led to employment in lower-paying jobs which ultimately went away; this impacts the marketability of current training opportunities which may be perceived as having limited value.
 - vi. Lack of connectivity between students and career advisors is a barrier.
 - vii. Student self-motivation for employment is a barrier.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*
- a. See the comment about Averett University and Danville Community College – local higher ed leadership drove the collaboration.
 - b. Some consensus that local elected officials do not easily adapt to changes in business climate and in educational requirements.
4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*
- a. The region is known for providing hope to students – creating a hopeful, forward-thinking student population.
 - b. The region is known for establishing a consistent way to connect students with existing jobs in the region – a Career Expo that is well-respected.
 - c. The region consistently provides guaranteed jobs for its graduates at the culmination of their education, if students want to stay in the region. Perhaps there's a seed fund established to incentivize this?
 - d. Employers know that the region is committed to aligning educational opportunities with business' human resource needs.
 - e. The region has created a systematic and accurate way to inform students and adults about the job functions that are available in the region.

- f. The region is known for effectively utilizing technology to motivate and inform and connect businesses with human resources, and citizens with job opportunities.
- g. The region has created an education & training consortium of best practices that are shared across the footprint.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. Examples of opportunities were varied but the theme was how to more effectively connect existing business job opportunities, with both students and with training organizations, to help fill those jobs.
- b. Great emphasis on finding ways for the region to "grow its own talent".
- c. Want to find ways to improve the image of the K-12 systems; begin to think of them as "community schools" that might help offset negative perceptions of "rural schools". i.e. emphasize class sizes, community involvement, use of a broad variety of resources, use of technology, etc.
- d. Continue the convening of workforce and education professionals and leaders so that best practice models can be scaled up (i.e. DCC/Averett/Danville)
- e. To offset the potential barriers related to internships and apprenticeships, consider developing a "volunteer/job shadowing" program for students, which could help students experience the need for essential soft skills while simultaneously exposing them to a variety of occupations in the region.

- f. Create platforms for business-to-business engagement in the region, helping improve the intra-region supply chain for services and products.
- g. Look at the concept of "digital badges" as a new model for K-12 student success, which is directly tied to the occupational needs of growing sectors and existing business. This can enhance the K-14 to business connectivity and improve clarity on the specifics of job occupations in the footprint and also outside the region.

Miscellaneous:

- Getting together routinely, in the room, and discussing areas of common focus, best practices, learning is important.
- Group believes that internships are a valuable element of filling existing jobs in region, but also believe that internships are difficult to scale across the region, as it takes significant oversight by the employer, of the intern, and so there is resistance to getting employers on board.
- The region needs to more effectively promote and leverage the state's new investment in non-credit training.
- Some concern raised that the region is focusing on students and adult learners in transition, but has not included the potential pool of applicants with challenges stemming from incarceration or other social problems; these may represent a pool of workers for which a program of re-engagement could benefit the region.

Southern Virginia GO Region 3 Young Leaders Advisory Committee

Stakeholder Input Session

May 22, 2017 – Southern Virginia Technology Park

Facilitators - Karl Stauber and Liz Povar

Chairmen/Facilitators – James McClain and Nicole Young

1. *What have been the economic success stories of your sector or region in the last ten years and what are the key factors that have driven the success? In what ways is that success apparent?*
 - a. The Farmville master plan – well-conceived, lots of stakeholder input, resulting in a sense of "place"
 - b. Recreation amenities in many of the communities are improved
 - c. Greenfront Furniture is an example of a local business with a very broad market that brings additional impact to the Town
 - d. Startups are visible
 - e. MidAtlantic Broadband has established an image of broadband capacity in the region
 - f. Southern Virginia Higher Education Center – very well-used and solves business needs
 - g. Many beautiful little downtowns that create a sense of place
 - h. Impact of downtown revitalization has created nicer images and used formerly vacant buildings
 - i. Cyber parks across the region seem relevant to the market
 - j. Dominion Resources gas-fired plant in Brunswick is an example of collaborative success
 - k. The IT Academy is good because it addresses a specific workforce need

2. *What are the economic decline stories of your sector or region in the last ten years and what are the factors that have driven the decline? In what ways is that decline apparent?*

- a. Most could not comment on specific stories of decline, but could give voice to the ways the decline is apparent.
 - i. It "feels" like some counties are losing their "heart"
 - ii. Territorialism among governments and organizations leads to lack of support for businesses, which in turn leads to decline
 - iii. There have been a number of significant business closings and backfilling those jobs has been challenging (moving from large, corporate employers to smaller businesses)
 - iv. The location of correctional facilities has been seen as a substitute for true economic growth
 - v. Middle class seems to be disappearing
 - vi. Educational quality seems to be declining; there is a perception that public K-12 is particularly poor
 - vii. The perception of available workforce in the skilled trades seems to be that this is a deficiency
 - viii. It is difficult for companies to source their workforce – particularly skilled trades
 - ix. Housing diversity and stock are limited and of poor quality – evidence of declining economy
 - x. This is not a "dual-career" region (attracting talent for a primary job, but region unable to articulate job opportunities for the spouse, is a barrier)
 - xi. The communication channels by which news is shared, are not effective in sharing best practices; more visible when sharing the negatives of the region.

- xii. Time is valuable for both businesses and young professionals. Region needs to think about how to engage young professionals effectively, while respecting their limitations.
- xiii. Local government aversion to debt creates an environment that is not accepting of new initiatives.
- xiv. A "NIMBY" attitude exists in our communities.
- xv. There appears to be a loss of critical mass.
- xvi. The region appears sometimes to be in a "death spiral".
- xvii. Leadership exhibits a hesitancy toward accepting and leveraging change.
- xviii. Local citizen support for new initiatives is not strong across the Region.
- xix. Access to capital inhibits startups.
- xx. A portion of the younger generation is still impacted by the low educational attainment levels of adults; there is not an expectation of education as a tool for success.
- xxi. Leadership (and citizens) are not exposed to best practices in ways that help them think differently about solutions that can positively impact the region; this lack of exposure means we repeat mistakes and don't take positive action.
- xxii. Opposing change is always easy.
- xxiii. Activists who could induce change, tend to be engaged "from a distance" and not within the organizational structures that can actually make change happen.

3. *What has been the impact of collaboration or cooperation on the economic change in your sector or region? Who has driven and who has resisted that collaboration in your sector or region, and why?*

- a. Commissions and public bodies at the local level, that say "no" instead of looking for ways to say "yes".
- b. Local Boards of Supervisors/Town Councils/City Councils have not adapted to the needs of new and emerging businesses (or even the new requirements of existing businesses) and thus, tend to use old tools and processes that block or stall business growth.
- c. There is duplication of purpose by organizations; no clear and distinctive roles and responsibilities defined
- d. There are generational gaps that impede success

4. *As you look ahead to the next five to ten years, what are the greatest economic opportunities for your company, sector and region to increase the number of higher paying jobs, enhance the economic competitiveness, and diversify the economy of the region?*

- a. The younger generation, that we want to attract, is transient. We need to be the Region that accepts that fact, and figure out how to use and deploy younger talent while it is in our Region.
- b. The Region needs to "get beyond the zero-sum" game and recognize that what is good for one part of the region, is good for all.
- c. Engaging young leadership in elected and appointed positions is important; young leaders also need to step up and seek ways to engage.
- d. Find ways to leverage the Danville Regional Foundation. A wonderful institution for long-term thinking.
- e. Find ways to connect older leaders with younger leaders.
- f. Help our region become a region known for "getting to yes"
- g. The region will be known as "SOVA by choice"

- h. The region will consistently promote its "points of pride" and have a cohesive, positive message.
- i. The narrative about connectivity will be changed and be positive.
- j. The MBC backbone fiber will be more effectively leveraged.
- k. Citizens will believe and celebrate this region and its assets.

5. *With limited resources, what are the private and public sector regional investments we need to be making in the next two to four years as part of GO VA to support the opportunities identified above? How should they be targeted to assure greatest impact? How do we tie the results of these investments directly to private sector outcomes?*

- a. Develop a campaign to ensure better understanding of existing job openings are connected to a pipeline of applicants so that current job openings are filled!
- b. Create a model that helps eliminated student debt for students that continue into higher education and return to fill job openings (talent attraction strategy); find ways to lengthen the time that talent stays in the Region.
- c. Find a project that leverages existing assets like Longwood University and the work its doing with small businesses.
- d. Take advantage of "little opportunities" like the entrepreneurial car wash in Danville; very innovative, very replicable business, needs to be shared as an example of new business formation.
- e. Establish a regional leadership program that provides a mechanism for engaging younger citizens in civic leadership.
- f. Develop a marketing campaign for our K-12 schools; some are excellent; need to help people think of them as small, personalized educational systems. Many are doing unique work with very challenging populations and we need to find

ways to celebrate that and replicate good programs across the region.

- g. Analyze the skills/occupations of the workforce that is commuting out the Region and use that data as a recruitment tool.
- h. Develop a platform to share intra-regional successes and best practices.
- i. Create a front-line worker training program and promote it so the front-line workers become more visible and respected.
- j. Create an Ambassador program of existing leaders, citizens who can share positive images and news about Southern Virginia with their networks.
- k. Measure the public schools' use of the internet and ensure it's a standard tool in every public school.
- l. Build on the Region's authenticity by creating a map of a weeklong stay in the region, and market that. Showcases rural nature with positive image. Attracts new talent.
- m. The region will build economic "hubs" that are place-based and attractive to younger people.
- n. The Region will create a toolkit or pattern that can be shared with leadership to replicate best practices in development, talent attraction, etc.

GO Virginia Region 3 – Appendix VI

Participant List

Southern Virginia GO Region 3 Roundtable Participants

Betty Adams, Southern Virginia Higher Education Center

Les Adams, Virginia House of Delegates

Sandy Adams, Virginia Department of Agriculture & Consumer Services

Christine Baggerly, First Piedmont Corporation

Rick Barker, Supply Resources

Wade Bartlett, Prince Edward County

Stephen Barts, Virginia Cooperative Extension, Pittsylvania County

Bret Berneche, Cardinal Homes

Holly Blackwell, Town of South Hill (Mecklenburg County)

Kimley Blanks, Halifax County Ag Development

Robert Boerrigter, Axxor

Ace Bohanon, Benchmark Community Bank

Mark Boyer, Roots & Shoots Landscaping

Shelia Bradley, Office of Delegate James Edmunds

Neil Burke, Benchmark Community Bank

Scott Burnett, VCU Health Community Memorial Hospital

Jay Calhoun, Pittsylvania County Producer

Bain Cameron, Project Restoration

Phyllis Cameron, Project Restoration

John Carney, MARi (Mecklenburg County)

Wayne Carter, Mecklenburg County

Jeremy Catron, Huber Engineered Wood Products

Richard Cocke, Town of Chatham (Pittsylvania County)

Cathy Conner, Virginia Employment Commission

Sheila Cuykendall, Clarksville Chamber of Commerce

Ben Davenport, GO Virginia State Board

Kerry Davis Mossler, Centra Southside Community Hospital, Prince Edward County

Ricky Dawson, Dawson Photography

Michael Ehrat, Memorial Hospital, Martinsville

Alexis Ehrhardt, Averett University

Monica Elder, Charlotte County

Carl Espy, Town of Halifax (Halifax County)

Mark Estes, Halifax County

Kate Farmer, Town of Gretna (Pittsylvania County)

Jeanette Filpi, Pioneer Community Hospital of Patrick (by phone)

Kelly Fitzgerald, The Launch Place

David Forlines, Mid Atlantic Test

Melody Foster, Commonwealth Regional Council Planning District
Commission

Jim Franklin, Blue Ridge Aquaculture

Brad Fuller, Huber Engineered Wood Products

Mark Gignac, Institute for Advanced Learning and Research

Dexter Gilliam, Bank of Charlotte

Dawn Goolsby, Covance, Inc.

Steven Gould, Byrnes Gould Law

Karla Gravitt, Halifax County Public Schools

Hope Harris-Gayles, Southern Virginia Higher Education Center

Jeff Haley, American National Bank

Valerie Harper, Martinsville Henry Economic Development Corporation
Small Business Division

Taylor Harvie, Coverly Farms and Administrator, Amelia County

Joe Hines, The Timmons Group

Dave Hoback, West Piedmont Planning District Commission

Rhonda Hodges, Patrick Henry Community College

John Horin, Noblis (by survey)

Peter Howard, Community Foundation of the Dan River Region/Rotary Club

Linda Hutson Green, Southern Virginia Regional Alliance and Southern Virginia Technology Council

Roger Jefferson, Dairy Producer

Jeff Johnson, SalesHEAD Solutions

Kristy Johnson, Halifax County

Bob Jones, Virginia Cooperative Extension, Charlotte County

Mark Jones, Pittsylvania County Public Schools

Mike Jones, Intertape Polymer

Philip Kallam, Town of South Hill (Mecklenburg County)

Dave Keller, Mid-Atlantic Broadband (by phone)

Angie Kellett, Mecklenburg County

David Kenealy, Southern Virginia Higher Education Center

Jessee Kenealy, Town of South Boston (Halifax County)

Lisa Kipps-Brown, Glerin Business Resources

John Laramore, Wilkins & Company

Allen Larsen, Danville Regional Medical Center

Angela Lawrence, Town of Chase City (Mecklenburg County)

Matt Leonard, Halifax Industrial Development Authority

Nancy Leonard, Charlotte County Public Schools

David Lipscomb, Mecklenburg Electric Cooperative

Ilsa Loeser, Town of Farmville (Prince Edward County)

Darla Main-Schneider, Rising Sun Breads

Charles Majors, American National Bank

Danny Marshall, Virginia House of Delegates

Lauren Mathena, Danville

Hank Maxey, Pittsylvania County Producer

Mitzi McCormick, Halifax County Chamber of Commerce

Tony McCoy, Lignetics

Robert Mills, Jr., Pittsylvania County Producer

Jessica Minter, Casting Logos

Gail Moody, Southside Planning District Commission

Joan Moore, Brunswick County

Ken Morgan, Morgan Lumber

Carolyn Mulligan, American Forest Management

Paul Nichols, Mecklenburg County Public Schools

Connie Nyholm, Virginia International Raceway

Katy Overby, Virginia Cooperative Extension, Prince Edward County

John Parkinson, Drake Extrusion - Eastman Chemical Co.

Carl Parsons, Parsons Farms

Mickey Powell, Martinsville Bulletin

Steve Powell, Buckingham Branch Railroad

Tom Raab, Town of South Boston (Halifax County)

Jeff Reed, Virginia's Growth Alliance

Kate Reinhardt, ABB, Inc.

Ronald Roark, Nottoway County

Allyson Rothrock, The Harvest Foundation

Matthew Rowe, Pittsylvania County

Frank Ruff, Virginia Senate

Bruce Scism, Danville Community College

Maudie Scott, Amelia County

Bryce Simmons, Danville

Rebekah Slabach, Virginia Cooperative Extension, Halifax County

Liz Smith, Mid-Atlantic Broadband Communities Corporation

Vondrenna Smithers, Brunswick County

Ted Sojourner, Essel Propak

Brandon Spencer, Kenbridge Construction

Teresa Steward, Benchmark Community Bank

Robert Stolle, Virginia Center for Innovative Technology

Sherry Swinson, Town of Farmville (Prince Edward County)

Denise Taylor-Forrest, Presto Products

Lauren Tetterton, ChemQuest Technology Institute

Brenell Thomas, Patrick Henry Community College

Dara Tucker, Fuqua School

Telly Tucker, City of Danville

Brian Vincent, Town of Farmville (Prince Edward County)

Grey Watson, Halifax County

Tracey G. Wiley, Virginia Department of Small Business & Supplier Diversity

John Williams, Bassett Physical Therapy

Amanda Witt-Cox, Martinsville Henry Chamber of Commerce

Henry Wood, Gold Hill Farm

Jessie Woodson-Johnson, Buckingham County

Tommy Wright, Virginia House of Delegates (by phone)

Vance Wright, Charles A. Wright Logging

Dean Young, Genedge

An additional 120+ participants attended the May 2 Region 3 Orientation Session at Berry Hill in South Boston, VA but names were not collected at that meeting. In addition, the Small Business input was supplemented by written responses from 19 small businesses that are members of the Longwood University Small Business Development Center Peer-to-Peer Network, facilitated by Gary Shanaberger. The written responses to the survey instrument were completed during the middle of June, and returned to the Southern Virginia Region 3 staff and their comments were incorporated into the summary report. All responses were anonymous, but principally from the eastern half of the Region 3 footprint.

GO Virginia Region 3 – Appendix VII **Leadership List**

Southern Virginia GO Virginia Region 3 Board Members as of August 2017

Adam Birkett
Scott Burnette
Tim Clark
Barbara Johnson
Randy Lail
Charles Majors
James McClain II
Ronald Roark
Al Roberts

Larry Ryder
Karl Stauber
Sherry Swinson
Denise Taylor-Forrest
C. R. “Bob” Timmons
Telly Tucker
Lauren Willis
Dennis Witt
Nicole Young

Region 3 Growth & Diversification Investment Plan Authors, Editors and Facilitators

Lori Merricks, Danville Regional Foundation
Gail Moody, Southside PDC
Nancy Poole, RiverLink Group
Liz Povar, RiverLink Group
Karl Stauber, Danville Regional Foundation

Cyber Infrastructure:

Rodney T. Willett, Impact Makers Inc.

Sectoral Development:

Genedge Alliance

Talent Development, Recruitment & Retention:

Dr. Julie Brown, The Institute for Advanced Learning & Research
Clark Casteel, Danville Regional Foundation

Region 3 Planning Data Analysis:

Economic Leadership, LLC