

# WORKFORCE CREDENTIALS:

*The Pathway to Virginia's  
New Middle Class*



 **Virginia's**  
Community Colleges

September 1, 2015

The Honorable S. Chris Jones, Chairman  
House Appropriations Committee  
Virginia General Assembly  
201 North 9th Street  
Richmond, Virginia 23219

The Honorable Walter A. Stosch, Co-Chairman  
The Honorable Charles J. Colgan, Co-Chairman  
Senate Finance Committee  
Virginia General Assembly  
201 North 9th Street  
Richmond, Virginia 23219

Dear Chairman Jones and Co-Chairmen Stosch and Colgan,

Increasingly, workforce development is economic development. Credentialing Virginia's workforce is essential to diversifying our economy and boosting our competitiveness. Together, we face considerable economic challenges from a dynamic global economy that undermine our ability to sustain a vibrant middle class. In addition, Virginia must deal with the adverse economic pressures brought by the losses of tobacco and coal industries, as well as the looming threat of further federal sequestration. Coupled with those related job losses is the imperative to reintegrate our veterans into the state economy. Put simply, how can the Commonwealth best position its workforce to meet the requirements for in-demand jobs today? Addressing this need is perhaps the most pressing higher education issue that we face. It is also the basis for this report, *Workforce Credentials: The Pathway to Virginia's New Middle Class*.

This report meets the charge contained in Item 213, Chapter 665 of Virginia's 2015 Appropriation Act directing Virginia's Community Colleges to, "develop a specific plan to expand the number of workforce training credentials and certifications to a level needed to meet the demands of Virginia's workforce. The plan should be outcome-based and include recommendations with regards to programs, accessibility, leveraging private investment, measuring outcomes and funding."

According to a recent study, Virginia must fill an estimated 1.5 million jobs by the year 2022. While as many as two-thirds of those jobs will require postsecondary education, most will not require a bachelor's degree. Instead, businesses will seek applicants to fill jobs who hold associate's degrees and/or industry-recognized certifications.

Something must be done; Virginia has too few of those today – a view shared by economic and labor analysts, higher education leaders, and, perhaps most importantly, Virginia's businesses.

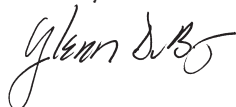
More than 1,500 business and community leaders from every corner of Virginia contributed to this proposal by participating in nearly two dozen town hall meetings. We further consulted with more than a dozen workforce-focused associations, organizations and agencies along the way. While the VCCS is responsible for compiling this information, make no mistake about it – this is Virginia's report.

What those conversations revealed, and research has verified, is that Virginia's challenge with producing enough credentials to meet the middle skills job needs, occurs on four fronts, creating four significant barriers to Virginians along the pathway to the new middle class:

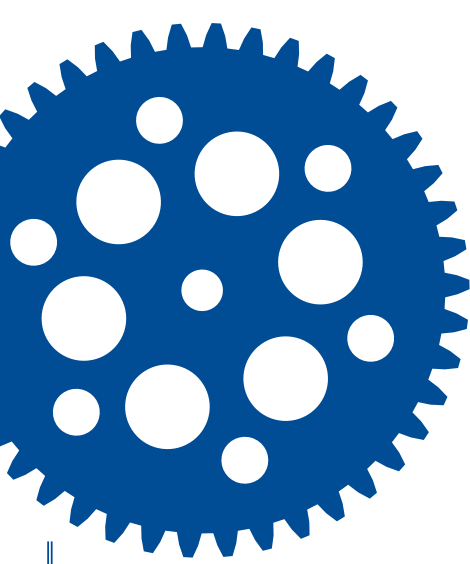
- **The Skills Gap:** Virginia businesses cannot find enough qualified in-state candidates today to fill the vacancies they have in middle class careers;
- **The Interest Gap:** Too few people pursue these middle class careers because of outdated societal stigmas or they are unaware of them, how well they pay, the advancement opportunities they offer, or even how to secure the credentials necessary to pursue them;
- **The Affordability Gap:** The financial aid that supports Virginians pursuing traditional degrees is insufficient for those pursuing short-term training, despite evidence that they exhibit the greatest need for such aid. Moreover, those who most need the credentials can least afford the training; and
- **The Competitiveness Gap:** Businesses need a workforce that can grow, learn and change to compete in a global economy, and they are not afraid to relocate to find it. Virginia has limited tools to help an existing business refresh its skill-set, even when it is beneficial to the Commonwealth.

While 19 other states already fund the training that leads to credentials required for well-paying jobs, we are offering an innovative and unique approach, one that is performance based, emphasizing the direct return Virginia would earn through a public investment. Virginia's Community Colleges stand ready to lead this effort. We look forward to the conversations this report will inspire, and we savor the chance not just to elevate Virginia's middle class through these credentials, but also to boost Virginia's reputation for workforce quality and competitiveness.

Sincerely,



Glenn DuBois



# WORKFORCE CREDENTIALS:

## *The Pathway to Virginia's New Middle Class*

The workforce training needs of Virginia families and businesses are outpacing the Commonwealth's existing policy structure and resources. Those families, businesses, and Virginia all pay a substantial penalty for that misalignment.

For example, more than 175,000 "middle skill" job openings occurred in Virginia last year. Each job, on average, took 26 days to fill.<sup>1</sup> That nearly month-long gap stripped businesses of more than 36 million hours of productivity; families of more than \$1 billion in wages; and Virginia's General Fund of an estimated \$54 million in state income taxes.<sup>2</sup> If nothing is done to directly promote these credentialing programs, those opportunity costs will strike Virginia again, only harder.

Comprehending that misalignment requires an understanding of the staffing ratio consistent throughout today's workplace. In general, for every **one** job that requires an advanced degree, there are **two** jobs that require a bachelor's degree, and **seven** jobs that require postsecondary training that leads to an associate's degree or industry-recognized credential beyond a high school diploma but not a four-year degree.<sup>3</sup> Those 175,000 unfilled jobs belong to the **sevens**.

This 1:2:7 problem is not exclusive to one particular region in the Commonwealth. This is an issue found in rural communities, suburban communities, and urban communities alike. Those missing **sevens** are felt throughout

our entire economy, including the missing mechanics that require the Deltaville Boat Yard to turn away potential clients; the missing truck drivers who are holding back production at Tyson's Food on the Eastern Shore; the missing machinists who are costing a shop near Lynchburg business; and the missing electricians who are slowing down Northern Virginia's fast-paced technology firms.

# 1:2:7 BALANCE

*of the 21st Century Workplace*

1  Graduate Degree Holder

2  Bachelor Degree Holders

7  Associate Degree or Industry-Recognized Certification Holders

Other examples of jobs in the **seven** category include:

- Cyber Security (Annual Salary: \$95,492)
- Electrician (Annual Salary: \$47,103)
- Network Support Specialist (Annual Salary: \$65,358)
- Welder (Annual Salary: \$40,186)
- Pharmacy Technician (Annual Salary: \$32,302)
- Dental Assistant (Annual Salary: \$36,233)
- Industrial Mechanic (Annual Salary: \$45,978)

SEE APPENDEIX B

And while Virginia makes significant investments in the training of those **ones** and **twos**, this has historically not been the case for the **sevens**. That disparity is hurting the Commonwealth's competitiveness. That includes the ability of individuals to obtain well-paying middle class jobs; the ability of businesses to secure a workforce that can compete globally; and the Commonwealth's ability to compete for business retention, expansion, and relocation. State policymakers recently studied this challenge.<sup>4</sup> Their findings inspired a bipartisan charge from the Virginia General Assembly and Governor Terry McAuliffe to the Chancellor of Virginia's Community Colleges: Develop a plan to increase the number of credentials earned to better meet Virginia's needs.<sup>5</sup>

Chancellor Glenn DuBois engaged businesses, the Virginia Business Council, trade associations, the Virginia Economic Development Partnership, leadership of the Virginia Board of Workforce Development, the Secretary of Commerce and Trade, the Secretary of Education, and the State Council for Higher Education for Virginia through a series of 22 town hall meetings across the Commonwealth. More than 1,500 Virginia businesses and community leaders gathered at these meetings to identify Virginia's most pressing workforce challenges.

What those conversations revealed, and the research verified, is that Virginia's challenge with the **sevens** — with producing enough credentials to meet the middle skills job needs — occurs on four fronts, creating four specific workforce development gaps:



### **The Skills Gap –**

Businesses cannot find enough qualified candidates (the **sevens**) today to fill the vacancies they have in middle class careers;



### **The Affordability Gap –**

The financial aid that serves Virginians' pursuit of a degree (the **ones** and the **twos**) is largely not available to Virginians pursuing short-term workforce training programs (the **sevens**), despite evidence that they typically need it the most;



### **The Interest Gap –**

Too few people pursue these middle class careers because of outdated societal stigmas or they are unaware of them, how well they pay, the advancement opportunities they offer, or even how to secure the credentials necessary to pursue them; and



### **The Competitiveness Gap –**

Businesses need a workforce that can grow, learn, and change to compete in a global economy, and they are not afraid to relocate to find it. Virginia has limited tools to help an existing business refresh its skill-set, even when that would benefit the Commonwealth.

Guided by insights from business and community leaders, Virginia's Community Colleges present a solution set to address these four gaps, positioning Virginia as a national model for workforce training. This scalable,

targeted, outcomes-based solution detailed below is unique.

Further, *for every \$1 million invested in this plan, Virginia would earn an ROI of approximately 420 high-demand and in-demand industry certifications – a realignment that would benefit families, businesses, and Virginia’s General Fund.*

The information gleaned from these town halls, supplemented by leading economists’ research and analyses, businesses surveys, and several Joint Legislative Audit and Review Commission studies, drew clear and unequivocal conclusions:

1. Virginia businesses struggle most in filling middle skills jobs – those that require more than a high school diploma but less than a bachelor’s degree.
2. The most significant and obvious contributor to this hiring difficulty is the skills gap present within Virginia’s workforce.
3. The skills gap is exacerbated by similar gaps in interest, affordability, and competitiveness.
4. These challenges will only intensify if left unaddressed.

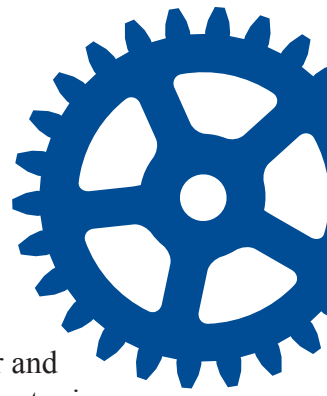
The plan that follows explores the gaps identified above and provides an integrated set of four solutions to address them. These solutions are based on the best thinking from Virginia business executives, community leaders, and state and national experts.

## **Prioritize Needed Middle Skills**

Virginia’s existing public policies perpetuate its skills gap. Virginia’s Community Colleges are the most efficient way to train people for the hard-to-fill **seven** positions, though they receive nominal state investment to do it. In fact, many colleges lose money on such short-term workforce programming, thereby creating a disincentive to develop or expand needed training.

Virginia businesses insist that addressing the skills gap is a top priority, though confronting it alone would fail to meet their needs, due to the contributing factors: an *interest gap*, an *affordability gap*, and a less visible *competitiveness gap*. An effective, comprehensive workforce solution in Virginia must address all four areas.





# PROPOSED SOLUTIONS

## *for Addressing Virginia's Workforce Development Gaps*

Virginia can address these gaps by implementing a performance-based process that rewards results by investing in the *attainment* of industry credentials by students who complete training at a community college. Furthermore, only in-demand and high-demand industry credentials, as identified by the regional business community, should earn those incentives.

In addition to being outcomes-based, the amount of the incentive should be directly tied to a measurable and positive return on investment for the Commonwealth. To that end, Virginia should protect its investment and drive the desired results from its community colleges by providing an incentive proportionate to the increased income tax the credential holder would pay in the first year of improved employment following training and credentialing. In successive years, the investment in training will continue to pay dividends to the Commonwealth through continued higher income tax collection, promote business growth by providing a pipeline of skilled workers, and help build stronger communities of well-paid workers.

A key benefit of this model to the Commonwealth is that Virginia relies on its income tax more than all but one other state.<sup>6</sup> Therefore, with more than 61% of Virginia's revenue coming from income taxes, the

*Burning Glass recently produced a report indicating that there were more than 175,000 job vacancies for middle-skill occupations last year in Virginia, with an average hourly wage of \$28.17 (or \$58,594 per year). The average period of time that these jobs remained unfilled, according to Burning Glass, was 26 days. That equates to 36.4 million hours of lost productivity for business, more than \$1 billion in potential wages for Virginians, and without accounting for deductions, \$54.3 million in tax revenue.*

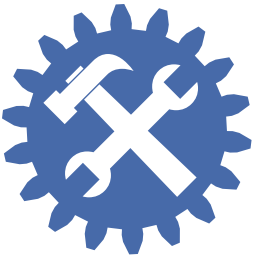
Commonwealth has much to gain from increasing the number and proportion of Virginians earning greater income. Conversely, Virginia has a greater disincentive than 48 other states for jobs to remain vacant.

### ***An Urgent Challenge***

Virginia businesses, both large and small, report that the challenge of identifying and hiring qualified applicants is hurting their bottom line. That can be surprising given that Virginia has added 204,800 jobs and lowered its unemployment rate to less than 5% since the height of the recession.<sup>7</sup>

Concerns like that inspired the Joint Legislative Audit and Review Commission (JLARC) to research Virginia's workforce training opportunities. JLARC published its "Virginia's Workforce Development Programs" report in December 2014. Among its many findings was the conclusion that "resource constraints" are holding back Virginia from providing the training programs Virginia businesses are demanding.

These challenges are far reaching. Businesses struggle to operate at peak capacity and efficiency, hindering their competitiveness. Many low-skill Virginians find themselves in a Catch-22 – unqualified for the well-paying, middle-class jobs that are available, but unable to pay for the training that would prepare them with the needed skills to become qualified, and, yet, they are unable to qualify for state and federal resources. The Commonwealth's economic vitality is threatened by unnecessarily restrained revenues, increased dependency on public benefits, and loss of economic development projects to other states.



# SOLUTION 1: ADDRESSING VIRGINIA'S SKILLS GAP

*Building and executing an outcomes-based funding model*

Virginia benefits in several ways by creating a performance-based funding model for industry certifications and licenses. First, it places the priority on the regional needs of business high-demand and in-demand occupations. Second, the credentials earning the public investment will ease the skills gap, reducing the hiring challenges facing Virginia business. Third, the plan ensures public resources are spent only on completion of credentials that meet regional business needs.

## **Creating Tangible Results for the Commonwealth**

For every earned industry certification and license that matches a regional employment demand identified by business, the Commonwealth provides a monetary incentive to the community college that delivered the needed training. This allows the community college to expand capacity for needed training programs, develop new training programs to meet demand, and reduce the attendance costs for students.

**High-demand**, in this context, refers to select occupations for which business demand is most acute.

**In-demand**, in this context, refers to the remaining occupations for which the regional demand for skilled workers outpaces the supply.

Only industry certifications and licenses that prepare a workforce for high-demand and in-demand occupations should receive investment from the state. Therefore, training that results in industry certifications and licenses leading to occupations that are not identified regionally by business as in-demand or in high-demand, should not be incentivized.

The amount of the incentive aligns to an estimated income tax paid by the average income earner in the high-demand and in-demand occupations. It is estimated that high-demand occupations will earn more, on average, than in-demand occupations and therefore, the incentive will be greater for high-demand occupations.

As a result, Virginia gets trained and qualified people who, in turn, earn more money and contribute more income tax while businesses get better-qualified, better-skilled employees.

## **An Investment of \$1 Million Would Produce an Estimated 420 Credentials**

For every \$1 million invested, the Commonwealth would reap no fewer than 175 credentials leading to high-demand occupations and no fewer than 245 credentials leading to in-demand occupations, for a total of at least 420 credentialed workers for high-demand and in-demand occupations. The number of credentials could be as high as 569 credentials. (See Appendix A)

This result assumes an incentive, paid to the community college, commensurate with one year of annual state income taxes on the expected annual salary. The conservative estimate of credentials produced – 420 – assumes an aggressive but reasonable estimate of salaries and therefore income tax payments. (See Appendix A)

The more aggressive estimate of 569 credentials assumes the most conservative estimate of salaries and, therefore, income tax payments. Both estimates also assume that the Commonwealth seeks to distribute funding such that half of its investment is focused on the select set of credentials that result in high-demand occupations and the other half is focused on in-demand occupations.

Using a conservative estimate of salaries earned, the Commonwealth will receive a direct return of

about \$2,000,000 in income tax revenue over five years, a 100% increase.<sup>8</sup> By varying the expected average salaries that credential holders may earn for high-demand and in-demand occupations, additional estimates forecast a return of almost \$2,500,000 in income tax revenue over five years when applying a moderate estimate of salaries earned and a return of just less than \$2,800,000 in income tax revenue over five years when using an aggressive estimate of salaries earned. (See Appendix A)

## Virginia's Need for the Sevens Is Growing

Experts predict that of the 1.5 million job vacancies in Virginia over the next decade, 50-65% of them will require less than a bachelor's degree but more than a high school diploma.<sup>9</sup>

Given that 90% of all jobs in the future will require some education and training beyond high school, with the supermajority of those jobs requiring less than a bachelor's degree, the *1:2:7 phenomenon* drives Virginia to prioritize its greatest workforce need.

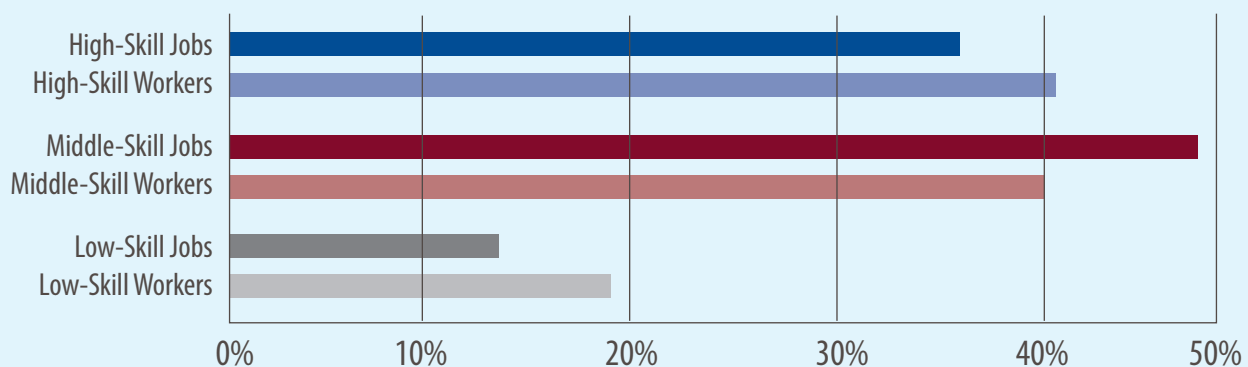
Virginia's higher education policies, outstanding universities, and superior quality of life come together to either produce or recruit the talent needed to address businesses' needs for workers who hold advanced degrees, or the **ones**. The same is true for workers with bachelor's degrees, or the **twos**. In fact, when generally considering the **ones** and the **twos** as high-skilled occupations, the National Skills Coalition (NSC) finds that Virginia has a slight surplus of talent, while there is a shortage of those workers with middle-skills – or the **sevens**.<sup>10</sup>

Middle-skill jobs account for 49% of Virginia's labor market, but only 40% of the state's workers are trained to the middle-skill level, according to the NSC. Virginia's prosperity in the coming years and decades depends on our ability to address this skills gap.

Virginia's policies and practices that effectively address the **ones** and **twos** – educating Virginia residents or recruiting talent from outside our borders – are not solving the **sevens** challenge. Virginia business leaders confirm this. As a representative from a financial services firm shared at a town hall meeting in Northern Virginia, businesses can attract the **ones** and the **twos** from across the state or around the world, but it hires locally for the **sevens**. Economic developers say that at a macro level, businesses not only hire locally for the talent of **sevens**, but also make choices to locate new facilities and expand their existing footprint based on the availability of the middle-skills talent.

An outcomes-based funding formula is an innovative and powerful solution needed to address Virginia's skills gap and will have a significant impact in addressing the **sevens** hiring challenges faced by Virginia's businesses. Still, addressing the skills gap alone will not be sufficient to solve the hiring problem, as there are still three critical factors working against Virginia's businesses in finding the workers they need: *an interest gap, an affordability gap, and a competitiveness gap*.

### Jobs and Workers by Skill Level, Virginia, 2012



Source: National Skills Coalition





## SOLUTION 2: ADDRESSING VIRGINIA'S AFFORDABILITY GAP

*Expanding access to need-based financial aid for individuals pursuing in-demand and high-demand credentials*

As noted previously, the need for **sevens** is now, and will be for the foreseeable future, the biggest challenge facing Virginia's businesses. Moreover, the most efficient pathway to those jobs and the prosperity they bring is through short-term workforce training programs that produce workforce credentials.

Last year, the Virginia General Assembly supported a Governor- and State Council of Higher Education-led initiative to create a first-of-its-kind financial aid program for short-term workforce training leading to workforce credentials. The initial investment of just over \$1 million serves as an excellent first step and is sufficient for a pilot to address a small portion of the current estimated need.

Still, and despite the critical role that this training plays, Virginians participating in short-term workforce training to acquire the credentials they need for in-demand and high-demand occupations almost always pay the full cost of instruction without access to the aid Virginia supplies to degree-seeking students. The result: Virginians who frequently need training cannot afford it, and the businesses that would hire the skilled and credentialed product of short-term training are left with job vacancies.

### ***Often, Those Who Most Need the Credentials Can Least Afford the Training***

The average estimated cost of short-term training leading to industry certifications and licenses needed for in-demand and high-demand occupations is just over \$3,000 at Virginia's Community Colleges. And though this cost is a small fraction of the cost of tuition leading to a bachelor's or associate's degree, evidence suggests that it is out of reach for many who need training the most. More than 75% of Americans live paycheck-to-paycheck,<sup>11</sup> and the vast majority of Americans lack access to money that can be used to cover out-of-the-ordinary expenses, even when such expenses are just \$500.<sup>12</sup> In fact, among those Americans who would benefit most from short-term training leading to industry certifications and licenses – those with only a high school diploma – less than one-third can afford even a fraction of the cost of training, while more than half of college graduates could cover such expenses.<sup>13</sup>

### ***Preparing Virginians for 21st Century Opportunity***

The demand for credentials is clear; and so too is the entity best positioned to supply them. Virginia's Community Colleges are charged in the *Code of Virginia* with coordinating postsecondary workforce training at the level needed to address the hiring challenge – particularly the **sevens**. The VCCS was created, after all, to address the Commonwealth's unmet needs in higher education and workforce training.

A recent report from the Brookings Institution confirms the wisdom of this approach, citing community colleges as the primary vehicle to address the challenge in creating more middle-skilled workers.<sup>14</sup> Brookings further recommends the use of incentives to community colleges to produce the desired outcomes for business.

Nearly every Virginian lives within a 30-minute drive of a Virginia community college campus. The centrally governed, 23-college system offers the best of both worlds: each college fosters local direct connections to both the demand and supply side of the workforce equation, while the governance structure allows the colleges to act swiftly and nimbly at a regional level to deliver workforce training solutions that meet business needs efficiently and systemically.

Industry-recognized credentials further serve as a "Plan B" opportunity for men and women who did not complete their degree studies. Just over 1,000,000 Virginians have what is described as "Some College," according to the U.S. Census Bureau. Many of them today are repaying student loans for a degree they never earned. Of those who earn an industry credential, one in three go on to earn a degree – giving people a second chance at the life for which they previously dreamt and sought.

With the right resource support, Virginia's Community Colleges can significantly expand services to deliver on their codified responsibility to "maximize noncredit course offerings made available to business and industry... minimize the cost of noncredit offerings... [and] deal directly with employers in designing and offering courses to meet real, current, and projected workforce training needs."<sup>15</sup> Addressing the statewide hiring challenge – supplying the **sevens** – requires reliance on the scale, scope, and reach of Virginia's Community Colleges. Moreover, Virginia's competitiveness in economic development efforts demands it.



## SOLUTION 3: ADDRESSING VIRGINIA'S INTEREST GAP

*Initiating a targeted campaign to measurably increase interest in, and completion of credentials leading to, in-demand and high-demand occupations among Virginia's current and future workforce, including Virginia's veterans.*

The days of a high school diploma being enough to work a middle-skill job that pays middle class wages are over, according to research from Georgetown University and studies supported by the Joyce Foundation, “The job market for people without postsecondary credentials has collapsed.”<sup>16</sup> In less than two generations, the American economy, “has flipped dramatically, from a majority of jobs that required only a high school education or less – many of which supported a middle-class lifestyle – to one in which the large majority require some college.”<sup>17</sup>

The credentials at the heart of this plan are the coin of the realm in this new work environment. Today's workplace is far more complex and dynamic than it was a generation ago – as evidenced by the demands of jobs such as automotive service technicians, medical coders, network administrators, industrial mechanics, and HVAC technicians. Workers in the 21<sup>st</sup> century economy must arrive both skilled and flexible, ready to be productive on day one, and to regularly upgrade their knowledge and skills through recertification and training in ever-changing technologies and practices.

While traditional degrees are still valuable to business, the fastest growing credentials today are the short-term workforce credentials that prepare students for the roles of the **sevens**. As leading labor economist from Georgetown University, Tony Carnevale, explains, “Middle-skill jobs... have long been overshadowed by more prestigious, supposedly better paying career choices marketed to students who graduate from four-year colleges and universities. But this perception does not reflect reality.”<sup>18</sup>

These credentials help business hire people more efficiently. They can be used as a screening tool for applicants because of their inherent trustworthiness. Typically, these certificates, industry certifications, and licenses are created and validated by industry coalitions and professional organizations, so hiring managers can trust that credential holders have the specific skills needed to fill the jobs for which they apply.

The appeal of these credentials extends beyond businesses to the individuals who acquire them. Workforce credentials are the fastest pathway out of poverty. They can be acquired quickly, often in months or even weeks, rather than years. They support increased wages, reduce the

likelihood of unemployment, and are often stackable, leading people to related credentials and degrees. In fact, one out of every three people who earn a credential later earns a degree.<sup>19</sup>

According to the U.S. Census Bureau, Americans with workforce credentials are overrepresented among the employed and underrepresented among the unemployed.<sup>20</sup> Perhaps most compelling, two out of every three workers who hold both a workforce credential and a college degree earned the workforce credential first, an indication that these credentials can and do serve as stepping stones on the way to college degrees.<sup>21</sup>

### ***New Opportunities for Virginia's Veterans***

Veterans frequently possess high levels of discipline, proven work experience, and specialized skills. These attributes are of great interest to Virginia's businesses but veterans often lack knowledge of how their military experience translates to in-demand and high-demand civilian occupations through pathways that include industry-recognized credentials. Virginia is rich with veteran human resources, ranking near or at the top on indicators of veteran workforce strength when compared to other states.

Virginia is ranked 5<sup>th</sup> among states with the largest concentration of veterans age 20 to 34 and has the second lowest proportion of veterans 65 and older. Virginia also has the greatest proportion of female veterans when compared to other states and is tied with two other states for the highest total concentration of veterans as a percent of the state population.<sup>22</sup>

Still, these rich resources may go untapped if Virginia's veterans – numbering more than 840,000 – are unable to connect their skills and interest to in-demand and high-demand jobs by translating their military experience to civilian credentials that are recognized by Virginia's businesses who seek their talents.

This solution proposes a targeted outreach campaign specifically designed to reach Virginia's veteran community to not only inform them about their professional options when they return home from duty, but to give them the skills they need to receive training and credentials to remain in the Commonwealth for years to come.



## SOLUTION 4: ADDRESSING VIRGINIA'S COMPETITIVENESS GAP

*Create a fund – for customized workforce training and credentialing – that releases public funds only when matched by private investment and only when resulting in the creation of new jobs or the up-skilling of incumbent workers.*

Creating and maintaining the skills needed for Virginia's existing businesses to thrive and grow in a world economy requires that the incumbent workforce is regularly refreshed and adapted to the latest technologies and best-in-class business practices. Similarly, businesses are increasingly likely to start-up and relocate around access to talent pools and pipelines. However, business executives, community leaders, and economic developers alike identify that Virginia lacks a sufficient resource stream to share the cost of creating and refining workers to the individual specifications of businesses, even when there is mutual benefit to the businesses and the Commonwealth in doing so.

While businesses will not hesitate to conduct searches that are national, and sometimes global, to attract qualified candidates for the jobs held by the **ones** and the **twos**, it is impractical for them to do the same for the jobs held by the **sevens**. Businesses are deciding where to locate and expand an operation increasingly based on how convenient it is to find the **sevens**.

In other words, the success of a community in the 21<sup>st</sup> century to attract new businesses, and retain its existing businesses, will depend on whether it can grow, refine, and credential its existing talent base. Outreach efforts must be made to connect Virginians with middle-class opportunities that middle-skill jobs provide, and with relatively affordable and quick training programs that can prepare them for those opportunities. Opportunities exist to build on existing programs in the Commonwealth that connect unemployed workers with the skills they need for re-employment, as well as programs that support the workforce needs of Virginia's incumbent workers.

### *Bolstering Virginia's Economy for 21st Century Competition*

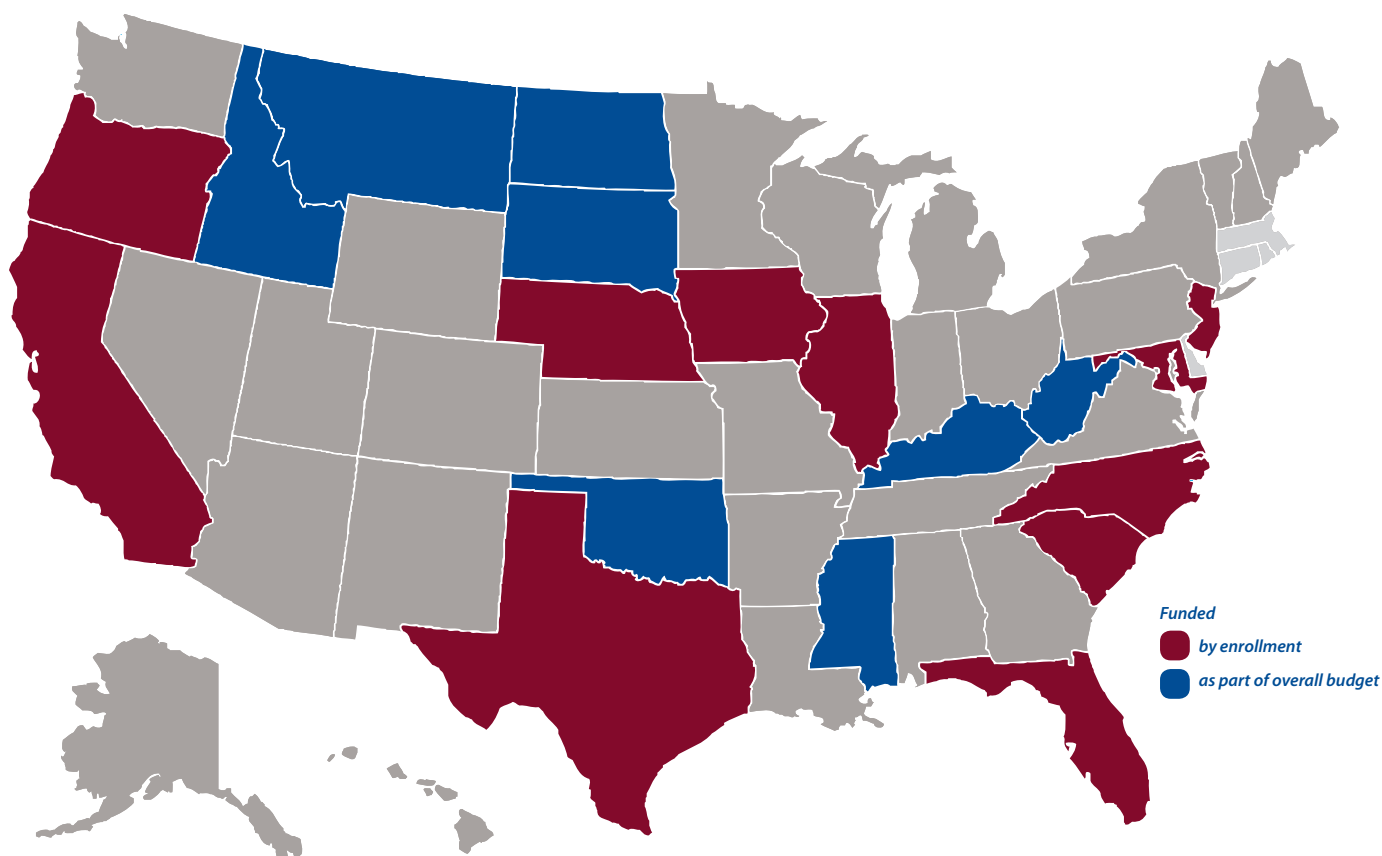
Nineteen other states have already positioned their community colleges to take the lead in addressing the middle-skills gap by investing in short-term workforce training that leads to industry credentials.<sup>23</sup>

The importance of state investment in workforce training has long been recognized by businesses and economic developers. Nowhere is this more evident today than in the frequent rankings of states' business climates, where public sector investment in training has become a key measure. Martin Briley, president and CEO of the Virginia Economic Development Partnership attests: "Our ability to deliver a workforce that is well prepared with the technical and soft skills companies require is critical to economic development."

According to CNBC, which annually ranks states' business climates, "Employers are increasingly looking at the availability of state-sponsored training programs...to develop the local workforce, better aligning the workers' skills with their needs."<sup>24</sup> Of the ten broad categories used to evaluate states in its rankings, CNBC awards more points to workforce than any other category. Virginia, which once stood atop the CNBC rankings, rated 12<sup>th</sup> in their most recent survey.

That is not the only survey showing Virginia losing ground. North Carolina, which CNBC and Forbes both ranked higher than Virginia in recent years, is widely regarded as a state with a very strong workforce, and this strength is reflected in the two polls.<sup>25</sup> Like Virginia, North Carolina invests directly in the development of the **ones** and the **twos**. Unlike Virginia, though, North Carolina also

## State Support for Community College Workforce Training



invests in its **sevens**. In fact, North Carolina invested over \$91 million in workforce training and continuing education at community colleges last year, compared to Virginia's investment of just over \$5 million.

Virginia need not match that investment dollar-for-dollar, however, to create an enviable, world-class workforce of credentialed individuals. Instead, the Commonwealth could become a national leader through shrewd innovation and by creating a mechanism that pays for people who earn credentials, not just enroll in training.

### ACTION PLAN

In response to the General Assembly's and Governor's charge to the Chancellor of the Virginia Community College System to develop a specific, outcome-based plan to expand the number of workforce credentials to a level needed to meet the demands of Virginia's businesses, the following four solutions and associated benefits are offered in response to the four problems identified by Virginia's business leaders. These four solutions, with an investment of \$40 million over two years, will enable Virginia's Community Colleges to add 10,500 high-demand and in-demand credentials to Virginia's workforce, creating a direct return on investment of \$50 - \$70 million for Virginia's General Fund.



## Problem 1: The Skills Gap

*Virginia businesses cannot find enough qualified candidates (the **sevens**) today to fill the vacancies they have in middle class careers.*

**Solution 1: Build and execute an outcomes-based funding model addressing Virginia's Skills Gap.** When coupled with direct engagement of businesses in the identification of high-demand and in-demand credentials and a performance-based funding model that pays only for credential completion, Virginia's Community Colleges could produce an additional 10,500 business-driven credentials over the biennium, with no waste to the Commonwealth. Colleges training capacity will grow in subsequent years by investing the incentives in personnel, materials, equipment and space. That growth, and constant realignment with evolving business needs, would fuel increased credential completion in further biennia.

**Benefits: For every \$1M invested, an estimated 420 credentials would be created.** Total cost and results in the first biennium: **\$25M** incenting **10,500 in-demand and high-demand credentials**, producing an estimated **five-year return on investment to the Commonwealth of \$50M to \$70M** based on increased personal income tax revenue.

**BUDGET ASK:  
\$25 Million**



## Problem 2: The Affordability Gap

*The financial aid that serves Virginians pursuing traditional degrees (the **ones** and the **twos**) is not sufficient for Virginians pursuing workforce training (the **sevens**), despite evidence that they exhibit the greatest need for such aid.*

**Solution 2: Expand access to need-based financial aid for individuals pursuing in-demand and high-demand credentials. Ironically, those low-income Virginians who have the most to gain by earning an industry-recognized credential can least afford the training required to earn it.** An additional annual investment of \$3M would serve up to 2,250 Virginians who demonstrate the highest need. Such an allocation would reduce the average cost of training (\$3,000) by as much as two-thirds for those most in need. The wage increases these low-income Virginians would experience through credentialing would produce the greatest return on investment to the Commonwealth described in Solution 1.

**Benefits:** Over the biennium, an **additional investment of \$6M** will support as many as **4,500 Virginians with financial need**, while heightening the likelihood of maximizing the Commonwealth's return on investment described above.

**BUDGET ASK:  
\$6 Million**



### Problem 3: The Interest Gap

*Too few people pursue these careers because they are unaware of them, how well they pay, the advancement opportunities they offer, or even how to secure the necessary credentials to pursue them.*

**Solution 3: Initiate a targeted campaign to measurably increase interest in, and completion of credentials leading to, in-demand and high-demand occupations among Virginia's current and future workforce, including Virginia's veterans.** Building on the research-driven results and recommendations of a National Governors Association-funded study in Virginia, the investment will seek to address the near- and long-term pipeline development of Virginians interested in and ultimately pursuing the credentials incentivized in Solution 1. In the absence of such a strategy, the pipeline of interested workers preparing for and entering these fields is likely to continue to be outpaced by demand from business. A specific effort will be undertaken to provide support to the translation of veterans' military experience and skills into credentials leading to in-demand and high-demand occupations in the civilian workforce.

**Benefits:** A biennial investment of **\$3M** will produce a consumer-driven campaign to **attract more people to train for these careers** as well as **a technology-enabled solution to specifically support veterans**. Tactics will include: social and mobile media marketing; materials created for K12 guidance counselors, K12 and college-level academic advisors, Virginia One Stop Center personnel, veterans support offices, and case workers to inform students and adults, including veterans, about these credentials and careers; and traditional newspaper and radio advertising and public service announcements to reach the shrinking numbers of individuals who lack online access. A technology-enabled virtual advising solution for veterans will further assist this target population in translating their skills and experiences to the civilian credentials of economic value.

**BUDGET ASK:  
\$3 Million**



### Problem 4: The Competitiveness Gap

*Businesses need a workforce that can grow, learn, and change to compete in a global economy, and they are not afraid to relocate to find it.*

**Solution 4: Create a fund – for customized workforce training and credentialing – that releases public funds only when matched by private investment and only when resulting in the creation of new jobs or the up-skilling of incumbent workers.** This public-private partnership would leverage private resources (on a dollar-for-dollar basis) and federal resources. This program will only be accessible to new and existing businesses that are creating new jobs or pursuing reskilling or up-skilling of incumbent workers that will result in either increased wages or the avoidance of layoffs.

**Benefits:** Over the biennium, an **additional investment of \$6M** of state resources will **leverage at least \$6M in private resources and as much as \$2M in federal resources** to support the creation of new jobs or the reskilling or up-skilling of incumbent workers that results in increased wages or job retention, thereby either adding further to the Commonwealth's income tax revenue or averting losses from it.

**BUDGET ASK:  
\$6 Million**

# APPENDIX A

## Estimated Credential, Salary, and Income Tax Outcomes for Every \$1 Million Invested

Salary Estimate Approach	Increment of State Investment	Estimated Pre-Credential Salary	Estimated Pre-Credential Income Tax <sup>26</sup>	Estimated Post-Credential Salary	Estimated Post-Credential Income Tax <sup>27</sup>	Number of Credentials Produced by Demand	Credential Total	5-Yr Net ROI/ \$1M
Aggressive	\$500,000	\$28,324	\$1,371	\$54,000	\$2,848	176 High-Demand	420	<b>\$2,799,222</b>
	\$500,000	\$18,644	\$815	\$40,000	\$2,043	245 In-Demand		
Moderate	\$500,000	\$28,324	\$1,371	\$47,010	\$2,446	204 High-Demand	484	<b>\$2,460,354</b>
	\$500,000	\$18,644	\$815	\$35,598	\$1,789	279 In-Demand		
Conservative	\$500,000	\$28,324	\$1,371	\$40,020	\$2,044	245 High-Demand	570	<b>\$1,997,195</b>
	\$500,000	\$18,644	\$815	\$31,196	\$1,536	325 In-Demand		

# APPENDIX B

## *Demand and Wages for Select Middle-Skill Occupations That Require or Prefer Workforce Credentials*

<b>Example In-Demand and High-Demand Occupations</b>	<b>Projected 5-Year Statewide Supply Deficit<sup>28</sup></b>	<b>Average Hourly Wage<sup>29</sup></b>	<b>Average Annual Salary</b>	<b>Requires or Prefers Workforce Credential</b>
Cyber Security Analysts	230	\$45.91	\$95,493	Yes
Logisticians	340	\$36.44	\$75,795	Yes
Computer Network Support Specialists	1,300	\$31.42	\$65,358	Yes
Commercial and Industrial Electrical Equipment Repairers & Installers	50	\$24.48	\$50,922	Yes
Electricians	1,495	\$22.65	\$47,104	Yes
Industrial Machinery Mechanics	435	\$22.11	\$45,978	Yes
Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) Technicians	760	\$22.09	\$45,941	Yes
Welders	430	\$19.32	\$40,185	Yes
Medical Records and Health Information Technicians	125	\$18.14	\$37,721	Yes
Tractor-Trailer Truck Drivers	1,610	\$17.53	\$36,472	Yes
Dental Assistants	460	\$17.42	\$36,234	Yes
Emergency Medical Technicians	290	\$15.68	\$32,614	Yes
Pharmacy Technicians	445	\$15.53	\$32,302	Yes



# ENDNOTES

- <sup>1</sup> Job vacancy data provided by Burning Glass in report prepared for Governor McAuliffe and Capital One, June 26, 2015
- <sup>2</sup> Wages data provide by Burning Glass in report prepared for Governor McAuliffe and Capital One and income tax calculations derived from Virginia Department of Taxation income tax calculator: <http://www.tax.virginia.gov/income-tax-calculator>
- <sup>3</sup> BLS Occupational Handbook; Grey & Herr, (2006) *Other Ways to Win: Creating Alternatives for High School Graduates*. Thousand Oaks: Corwin Press.
- <sup>4</sup> JLARC report, "Virginia's Workforce Development Programs," December, 2014: <http://jlarc.virginia.gov/pdfs/reports/Rpt463.pdf>
- <sup>5</sup> Item [213 #1c](#) of Virginia's 2015 Appropriation Act
- <sup>6</sup> "States' Shifting Reliance on Income Versus Sales Taxes" in *Governing*, May 6, 2015: <http://www.governing.com/topics/finance/gov-state-tax-collection-burden-shifts.html>
- <sup>7</sup> U.S. Senate, Joint Economic Committee, June 2015: [http://www.jec.senate.gov/public/\\_cache/files/e0f299a6-0fe5-467c-be44-cd35585204bc/virginia.pdf](http://www.jec.senate.gov/public/_cache/files/e0f299a6-0fe5-467c-be44-cd35585204bc/virginia.pdf)
- <sup>8</sup> Income tax calculations derived from Virginia Department of Taxation's income tax calculator: <http://www.tax.virginia.gov/income-tax-calculator>
- <sup>9</sup> Secretary Maurice Jones, [NY Times, March 19, 2015](#); Stephen Fuller, Center for Regional Analysis, GMU
- <sup>10</sup> National Skills Coalition, August 27, 2014: <http://www.nationalskillscoalition.org/resources/publications/file/middle-skill-fact-sheets-2014/NSC-Virginia-MiddleSkillFS-2014.pdf>; High-skill occupations may also include jobs that are considered "sevens" as they may be acquired with an associate degree or industry credential.
- <sup>11</sup> CNN Money "76% of Americans are living paycheck-to-paycheck": <http://money.cnn.com/2013/06/24/pf/emergency-savings/>
- <sup>12</sup> CNBC, "62% of Americans can't cover unexpected expenses," January 7, 2015: <http://www.cnbc.com/2015/01/07/60-percent-of-americans-cant-cover-unexpected-expenses.html>,
- <sup>13</sup> Bankrate.com, "Budgets can crumble in times of trouble," January, 2015: <http://www.bankrate.com/finance/smart-spending/money-pulse-0115.aspx>
- <sup>14</sup> Brookings Institution, "Higher education and workforce policy: Creating more skilled workers (and jobs for them to fill)," April 6, 2015: <http://www.brookings.edu/research/papers/2015/04/higher-ed-workforce-policy-skilled-workers-holzer>
- <sup>15</sup> VCCS role in Code as "the state agency with the primary responsibility for coordinating workforce training at the postsecondary to associated degree level" as well as the responsibility to "(i) maximize noncredit course offerings made available to business and industry at a time and place that meet current and projected workforce needs and minimize the cost of noncredit offerings to business and industry to the extent feasible, (ii) deal directly with employers in designing and offering courses to meet real, current, and projected workforce training needs"
- <sup>16</sup> Mary Alice McCarthy, "Beyond the Skills Gap: Making education work for students, employers, and communities," 2014
- <sup>17</sup> Mary Alice McCarthy, "Beyond the Skills Gap: Making education work for students, employers, and communities," 2014
- <sup>18</sup> Tony Carnevale and Nicole Smith, Georgetown University, "Skills Match" in *Community College Journal*, 2013
- <sup>19</sup> Tony Carnevale, Stephen Rose, & Andrew Hansen, Georgetown University, "Certificates: Gateway to gainful employment and college degrees," 2012
- <sup>20</sup> US Census Bureau, 2014: Measuring Alternative Educational Credentials: <http://www.census.gov/prod/2014pubs/p70-138.pdf>
- <sup>21</sup> Tony Carnevale, Stephen Rose, & Andrew Hansen, Georgetown University, "Certificates: Gateway to gainful employment and college degrees," 2012
- <sup>22</sup> Niraj Chokshi, "What each state's veteran population looks like, in 10 maps," Washington Post, November 11, 2014: <http://www.washingtonpost.com/blogs/govbeat/wp/2014/11/11/what-each-states-veteran-population-looks-like-in-10-maps/>
- <sup>23</sup> The primary vehicle for preparing people to take on these middle skill occupations is noncredit workforce training, as it is highly specific to a skill area, it is nimble – not requiring the cumbersome external review required of credit courses – and similarly not requiring a host of general education courses needed to round-out a degree.
- <sup>24</sup> CNBC, "The state skills gap: Who's got talent?," June 24, 2015: <http://www.cnbc.com/id/102777803>
- <sup>25</sup> Forbes, "The best states for business," November 12, 2014: <http://www.forbes.com/best-states-for-business/> & CNBC "America's top states for business, 2015," June 24, 2015: <http://www.cnbc.com/id/101747925>

<sup>26</sup> Income tax calculations derived from Virginia Department of Taxation's income tax calculator:  
<http://www.tax.virginia.gov/income-tax-calculator>

<sup>27</sup> Income tax calculations derived from Virginia Department of Taxation's income tax calculator:  
<http://www.tax.virginia.gov/income-tax-calculator>

<sup>28</sup> Virginia Education Wizard: [www.VaWizard.org](http://www.VaWizard.org)

<sup>29</sup> Bureau of Labor Statistics, 2013 dataset

