

# Project Report

## Enhanced Capacity Building Grant Region 7: Creating a Roadmap for Reskilling Displaced Leisure, Hospitality and Gig Workers for Technology Employment in a Post-COVID 19 Economy

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## Project Overview

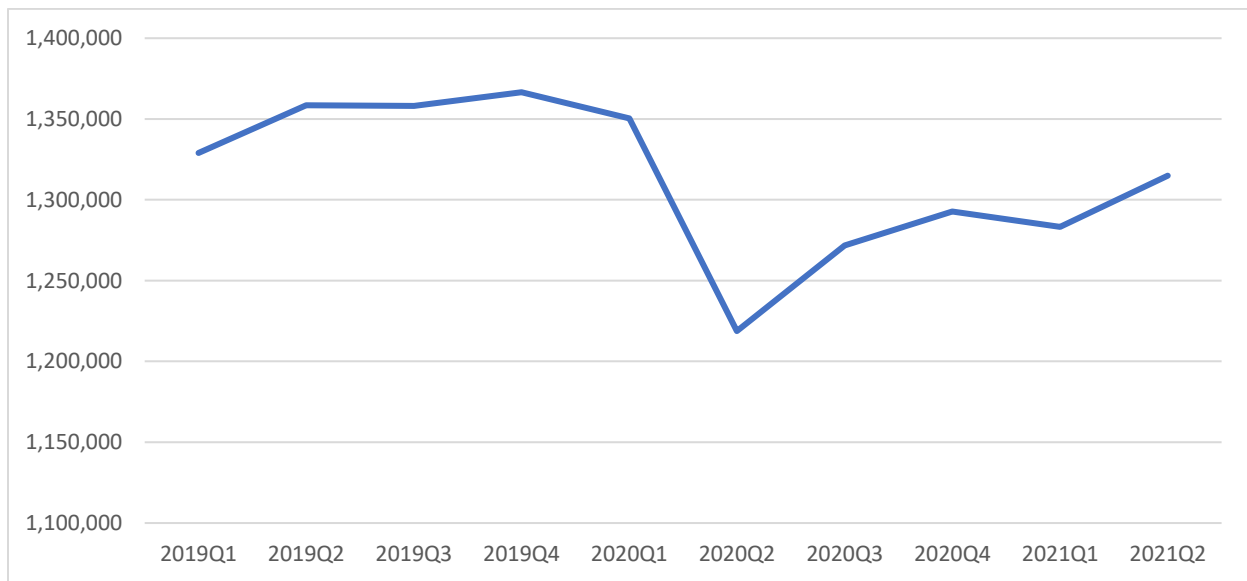
Technology companies require some workers to not only possess at least basic technological skills but to also have “soft skills” for effective interpersonal engagement and communication capabilities to facilitate a wide range of duties that may include customer support, sales, intracompany training and communications, and other important tasks. Due to economic disruptions tied to the COVID 19 pandemic, tens of thousands of workers in the leisure and hospitality, retail, and “gig” workers have lost their jobs in Region 7. Many of these unemployed individuals have advanced soft skills due to training and experience in their previous jobs. This project seeks to design a “roadmap” for broadening the skills of these displaced workers in key technologies that would allow them to gain new employment within the technology sectors of the regional and state economies. The approach is to analyze occupational skills data and engage with senior human resources leaders to identify the specific skills required and to shape an appropriate training approach for meeting employer needs.

## Introduction and Background

The COVID-19 pandemic and related business shutdowns devastated local and regional economies around the world. Using data from Chmura Economics’ JobsEQ data, Figure 1 dramatically illustrates the magnitude of job losses in early 2020 for the Region 7 economy. Using this database to illustrate the jobs impacts is particularly important for the analysis performed in this project. Data from the U.S. Department of Labor’s Bureau of Labor Statistics only reports employment trends for jobs covered by unemployment insurance. JobsEQ adjusts its employment estimates to include contract workers and the self-employed. These types of jobs, which include “gig work,” are especially prevalent in the leisure and hospitality sector, which will be discussed below.

As shown in Figure 1, total employment, including covered employment and other types of jobs, declined by more than 131,000 jobs from the first quarter of 2020 to the second quarter, representing several years’ worth of job growth. As local governments eased restrictions of businesses, employment rebounded in the third quarter of 2020 and has generally grown since – though it does look like the Region will not see full job recovery until 2023 or 2024.

**Figure 1: Total Employment Region 7**

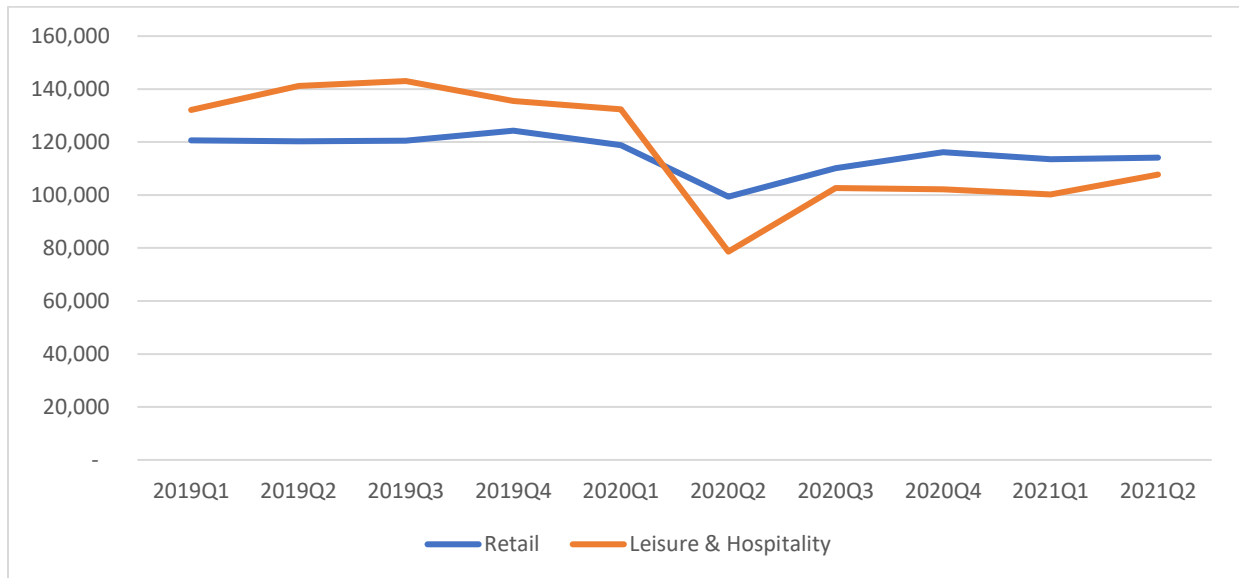


Source: JobsEQ

Two of the worst hit sectors of the Region 7 economic were Retail and Leisure and Hospitality. Leisure and Hospitality is the combined industries including arts, entertainment, lodging, and food services. Another hard-hit sector not included in this review has been Administrative and Waste Management, which includes temporary employment agencies, services to buildings, and other businesses with depressed demand when a large segment of office workers are working from home. Figure 2 shows the impacts of the pandemic on retail and leisure and hospitality workers. Interestingly, retail did have a more significant recovery in jobs starting in the third quarter of 2020, though some of this may be not necessarily reflect a rebound of jobs at brick-and-mortar

retail locations. As shoppers accelerated their online purchases during the pandemic, it has become clear that some of this online shift will be persistent if not permanent.

**Figure 2: Retail and Leisure & Hospitality Employment, Region 7**



Source: JobsEQ

When one considers the skills retail, hospitality, and gig workers must possess to be successful in their industries, aside from specific technical skills, there are striking similarities. The “soft skills” required cross occupations in these sectors. Table 1 shows selected skills listed in the O\*Net occupation database maintained by the U.S. Department of Labor. The O\*Net database shows highly detailed occupation skills requirements. Even though we do not specifically include transportation services in this assessment, the impact on air transportation jobs has been dramatic. We included the most familiar customer-facing transportation sector job in Table 1 for reference. The conclusion that the research team drew when conceiving this project is that many of the displaced workers possess highly desirable interpersonal skills that, with the right support and training, could lead to employment in other, more resilient, and potentially higher paying sectors of the Region 7 economy. Importantly for the Northern Virginia workforce, a larger than expected number of these workers possess at least a bachelor’s degree. According to JobsEQ, about one-third of wait staff and bartenders in Region 7 hold a university degree.

As noted in the Region 7 Growth and Development Plans for 2017 and 2019, there are many unfilled jobs in the information and technology sectors of the regional economy. If we look at five critical sectors of the Region 7 economy representing many government contractors and purveyors of technical and scientific services, we find a comparatively small jobs impact during the pandemic-induced recession and subsequent growth driving total employment beyond pre-pandemic levels (see Figure 3). As observed by many analysts, the lack of available skilled workers has been a persistent drag on regional economy for several years. Figure 4 presents data on the annual projected gap/surplus of workers by occupations through 2025. We need more workers for

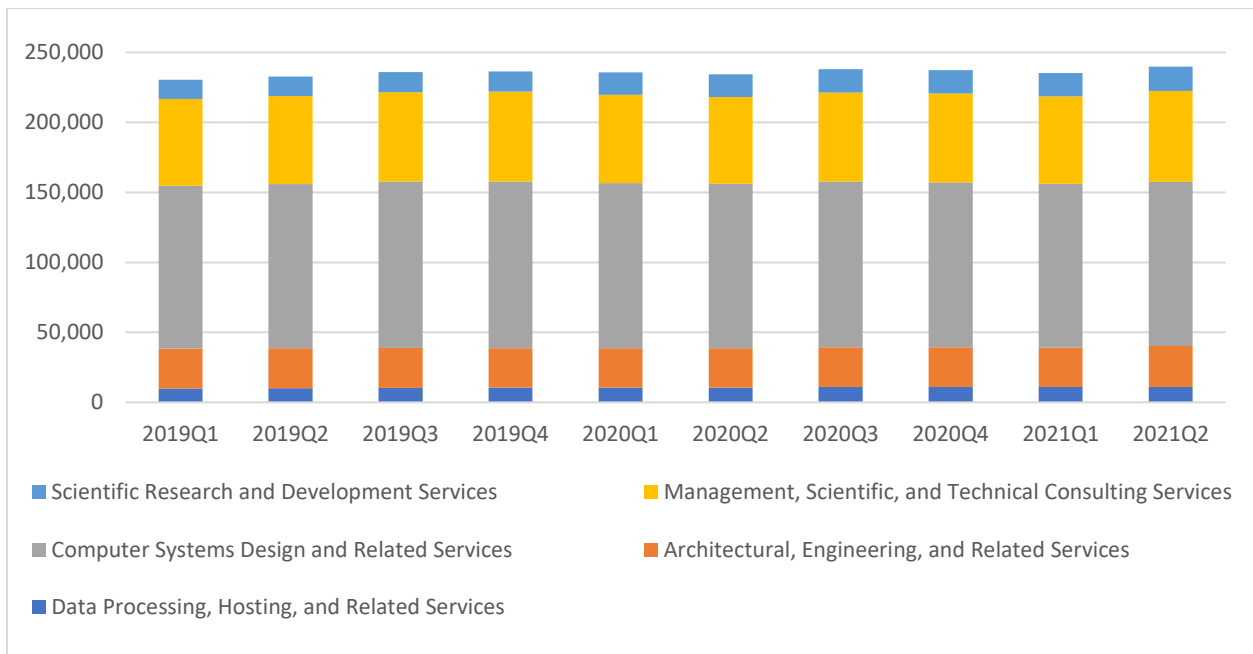
high-wage jobs, and we have a surplus of workers in lower-wage sectors of the economy – the infamous skills gaps that is evident at the national level.

**Table 1: Selected Skills for Retail and Leisure & Hospitality Occupations**

Hotel Desk Clerk	Amusement / Recreation Attendants	Wait Staff / Food Services	Retail Salesperson	Transportation Ticket Agents
Social Perceptiveness	Social Perceptiveness	Social Perceptiveness	Persuasion	Active Listening
Effective Speaking	Effective Speaking	Effective Speaking	Effective Speaking	Service Orientation
Speech Recognition	Oral Comprehension	Oral Comprehension	Oral Comprehension	Effective Speaking
Service Orientation	Service Orientation	Service Orientation	Service Orientation	Social Perceptiveness
Active Listening	Active Listening	Active Listening	Active Listening	Reading Comprehension
Adjusting actions in relation to other's actions	Problem Sensitivity	Adjusting actions in relation to other's actions	Negotiation	Oral Expression
Service Orientation		Speech Recognition	Speech Recognition	Speech Recognition

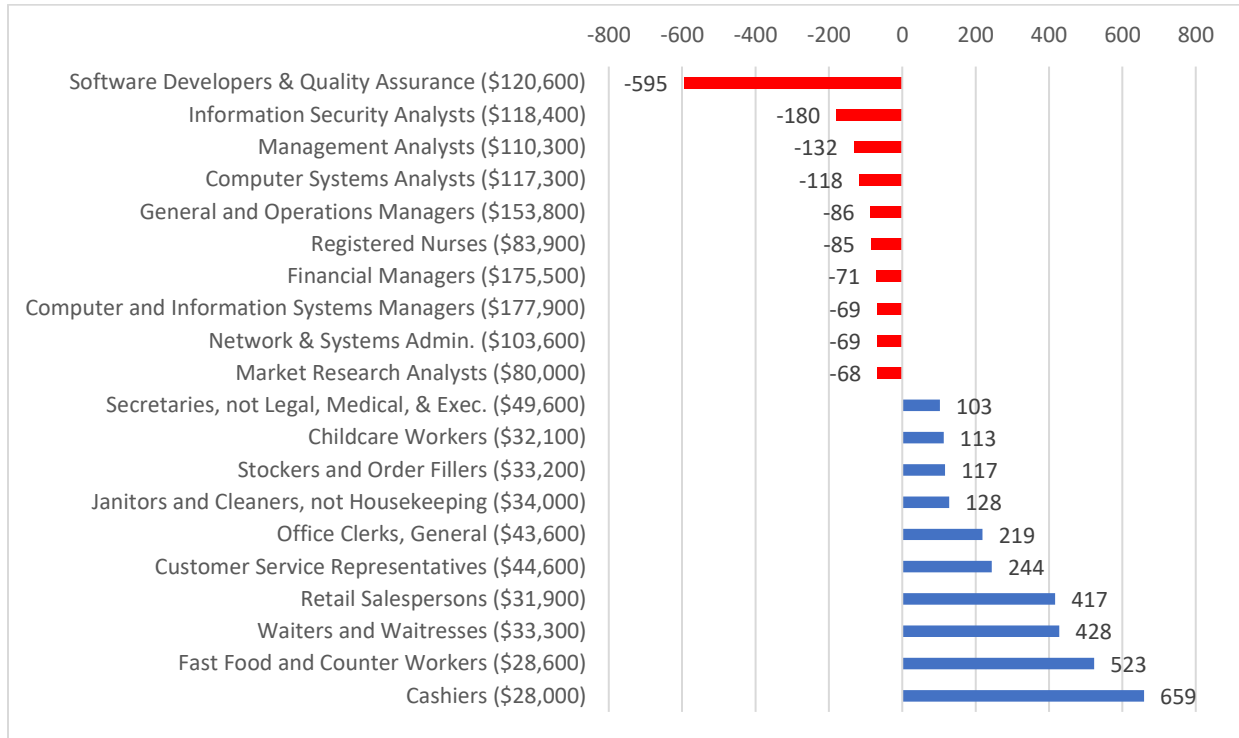
Source: O\*Net

**Figure 3: Employment in Selected Technology Industries, Region 7**



Source: JobsEQ

**Figure 4: Projections of Annual Gaps/Surplus by Occupation, Region 7**



Data as of 2021Q1, wages are 2020 average. Source: JobsEQ

It is not reasonable to assume that someone who has years of experience in retail, hospitality, or similar industries is going to float through a training program for a few months and emerge ready to a software developer. However, there is high demand for entry jobs that would potentially be well suited for these workers, such as Computer User Support Specialists. Recent data show there are 4,000 job listings posted for this occupation in Region 7. Consider some of the skills required for these positions according to O\*Net (see Table 2) and note the similarity with the data presented in Table 1. Table 2 also shows some of the technical skills that would need to be taught to these individuals to succeed in this occupation

**Table 2: Selected Occupation Skills for Computer User Support Specialists**

Skills/Abilities	Technical Skills
Active Listening	Database Management System Software
Effective Speaking	Database User Interface and Query Software
Reading Comprehension	Development Environment Software
Oral Comprehension	Operating System Software
Critical Thinking	Web Platform Development Software

Source: O\*Net

The research for this project, therefore, is distilled into answering two questions:

1. What are the pathways that lead to job candidates having the right skills to succeed in technology-oriented firms?
2. What particular skills and certifications would entice companies to hire displaced former retail, hospitality, and gig workers?

## Methodology

To address these questions, the research team engaged in an extensive series of key informant interviews with a cross section of organizations in Region 7 technology sectors, as well as current technology sector workers who previously worked in retail or leisure and hospitality management. A list of the companies participating in these interviews is available, though participants were assured that there would be no attribution to encourage a frank exchange of information and in keeping with best practices in the performance of ethical research. A total of 40 interviews were conducted in late 2020 through spring of 2021. Company representatives included Chief Executive Officers, Chief Technology Officers, Human Resource directors, and talent scouts. The sample includes small, medium, and large companies. The interviews were qualitative in nature and open ended to allow these experts to provide insights into their hiring needs or experiences. The only barriers encountered in this research were that some large company executives declined to participate based on legal advice. Total participation exceeded planned project goals and there is no indication that having a few companies decline to participate impacted project findings. There was notable consistency in what we heard from employers and employees.

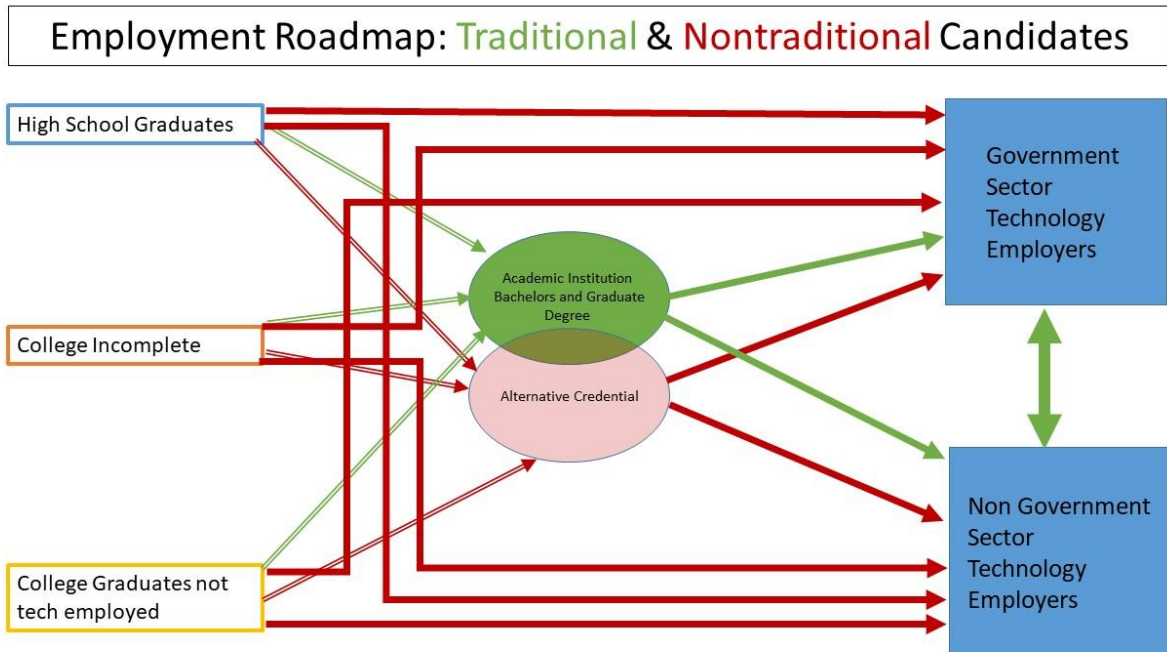
As a final step in the project, additional contextual data on credentialing requirements in the Region 7 labor market will be presented later in this report.

## Key Findings, Recommendations, and Conclusions

The information provided by interview participants paints a clear picture of how a Roadmap to Employment varies for traditional job candidates and non-traditional candidates. For our purposes, traditional candidates move from high school graduation through some level of attainment of college attendance that may or may not have led to earning and bachelor's or graduate degree. This could also include individuals holding a non-technical college degree, such as a liberal arts discipline, who return to institutions of higher education for technology programs before moving into employment in those sectors. Nontraditional candidates skip the higher education experience, and some pursue alternative credentialing of skills before seeking technology sector jobs. Both types of candidates may choose government or non-government positions, and if they remain in the industry may move between government and non-government organizations – perhaps multiple times. These pathways are illustrated in Figure 5. To be sure, the movement of workers from the retail, leisure and hospitality, or gig employment will almost certainly be along a non-traditional path.



Figure 5



### A Shared Approach to Technology Workforce Development

Almost inevitably, as interviewees spoke through their individual experiences and impressions of getting nontraditional candidates into technology employment, they each came to a variation of a common theme. There is a need for a shared (community) approach because the steps necessary to convert nontraditional candidates to technology employers was more comprehensive and expensive than could be successfully done by a single employer or training program.

Examples that interviewees provided on where a shared approach could be used to facilitate greater employment of nontraditional candidates included:

- An information source that would highlight opportunities for technology employment for nontraditional candidates, provide career mentorship, and job search training (networking, resumes, and communications) either online or in person.
- A regular and comprehensive online resource for employment opportunities in the technology sector that combines content on what “a day in a life” of a tech industry works is like, job postings, and job fairs – virtual or in-person. There would be an emphasis on tech sector culture that would be critical information for any non-traditional as well as traditional, but inexperienced job seekers.
- A training program on basic tech workforce skills and professional comportment.
- A mechanism for employers to validate which alternative credentials or credentialing programs they hired from, and the jobs for which they hired.

- A mechanism for sharing internship opportunities and sourcing candidates.
- An objective source of information that could describe for an individual the benefits of pursuing a traditional credentialing pathway, the financial costs and job potential, in comparison to pursuing an alternative credential pathway. [The research team adds that such assessments of returns on a job seekers investment of time, money, and perhaps foregone earnings inherent in most traditional pathways all for a sufficient length of time to capture multiple job demand cycles to better assess the competitive position of degree holders under labor market slack (oversupply) conditions.]

In addition, the research showed that with respect to the government technology sector, there was an additional interest in a shared approach that could address the following:

- An information source that could highlight opportunities for traditionally credentialed candidates with qualifications in nontechnical fields.
- A regular and comprehensive online resource for employment opportunities in the government sector, which highlighted the specific requirements and lifestyle of government sector employment.
- A mechanism for sharing internship opportunities and source candidates.
- A mechanism to facilitate the ingestion of new candidates into the national security clearance regime.

### Recommended Approaches

Our research showed that Region 7 has several business groups that are actively working on connecting at least part of the workforce ecosystem. There are many training programs available in the region, some are funded by the Commonwealth or corporate sponsors, while others are “for profit” businesses. Every economic development office in the region has at least some effort devoted to workforce development. Academic institutions are ever more focused on workforce training and upskilling. The challenge for Region 7 is less around finding programs to address a portion of the overall ecosystem, than in finding ways to promote a coordinated and transparent ecosystem.

The feedback from key informants and careful examination of regional data and past experiences of GO-Virginia funded projects suggests several steps to be taken by Region 7 to address the underlying mismatch between worker skills and the needs of Region 7 technology employers.

### Identify Successful Alternative Credential Training Programs

With the plethora of programs that are available to help nontraditional candidates into technology employment, both employers and candidates have a difficult time making qualitative comparisons. Some of this is due to the relative immaturity of the marketplace for alternative credentials. However, our research suggests that the larger issue is the lack of data on the quality of alternative credentialing programs and their success in placing graduates, or employer views on a particular alternative credential pathway. Numbers of participants or even number of graduates can be less than meaningful when assessing quality, and there is a difference between initial job placement and a candidate becoming an effective and valuable employee.

With respect to traditional credentialing, the marketplace has coalesced around common metrics of evaluating a program and its graduates. Some of this is the “reputation” of an institution, which can be somewhat anecdotal in nature. However, national rankings such as US News and World Report, or the operation of national bodies of academic accreditation (for example, the Association to Advance Collegiate Schools of Business) provide an external validation of the quality of a program and its success in job placements. Importantly, this is not always the same as measures of success at large research universities where external research funding prowess may not reflect the quality of instruction provided to undergraduate students. The core mission and recruiting strategies of colleges and universities can be a telling trait. Nonetheless, college and university rankings provide valuable signaling to both employers and employees. In the absence of a better mechanism for assessing skill attainment, the traditional degree therefore provides the closest existing analogue to a “good housekeeping seal of approval” for a particular program.

Admittedly, the traditional reliance on traditional credentials has significant limitations. It provides at best a secondary source of market information – people get hired after completing a degree from a particular program. Correlation is not causation. It is impossible to know whether graduates are hired because of what they learned in the program, because they were smart enough to get into the program in the first place or because the university they attend had a prominent graduate become the CEO of a local employer.

The reality is that in the absence of better data on employment trends that provides a qualitative assessment of graduate suitability for offered jobs, the marketplace will likely continue to focus on the inexact metrics of a traditional credential – not because it is satisfactory, but because it is the only objective measurement tool that currently exists. Moreover, the reliance on degree attainment as a gateway to job preparation, has demonstrably negative effects on candidates from underserved communities by adding to the structural impediments they must overcome to get admitted to a “higher quality” academic program. **The development of an independent and fair assessment of the training provided by Region 7 higher education institutions could, if successful and properly marketed, provide a competitive advantage in business attraction and retention.**

For nontraditional candidates pursuing alternative credentials, the challenge of deciding which program to pursue is even more difficult. Unlike for a traditional credential where there is at least some market information on a specific program’s use as a pathway to employment, there is often nothing similar for alternative credentials.

Interestingly, we found in our research that although there was no single “magic bullet” program that was suitable for all candidates, there were specific programs that one or more employers regularly hired from. While employers may not have an opinion of all alternative credentials in our region, it appears that many of them have an opinion on at least a few.

Our recommendation, therefore, is that **Region 7 commission a survey of leading technology employers on their hiring out of alternative credential programs.** This survey should be undertaken by an independent observer that does not offer alternative credentials or have any other potential conflict that would undermine their independence. Employers would be asked which programs they hired from, into what jobs candidates were hired and the numbers of individuals hired. This data would be provided on a confidential basis, and only aggregate data would be released to the marketplace through a written report that was made publicly available.

This completed survey would be an important first step in creating a true marketplace for alternative credentialing, by providing visibility for both candidates and employers of the most successful programs. This would allow nontraditional candidates to assess the relative attractiveness of specific alternative

credentials, and to better see specific pathways from where they are to the job that they want. Additionally, employers would learn about programs that others are using successfully. Finally, the data would provide a strong signaling mechanism for the Region 7 Council to use for assessing existing funded programs or future programs.

The survey could be done once or could be undertaken as a recurring project at practical intervals. It can be done independently to the other recommendations in this report, although it could also be a first step to a more comprehensive approach.

### Tell A Story to Candidates

While having knowledge of a particular alternative credential's desirability to employers would be useful to nontraditional candidates, the research showed that an additional information deficit existed for attracting nontraditional candidates. Simply put – they didn't even know what jobs they could do in the technology industry, even with a credential. Working in a technology company was either not something that the candidate would even think of doing, or the candidate had a skewed view of the employment environment of a technology company. This is not to suggest that technology employment is suitable for every personality – it is not – but it is likely that many potential candidates do not consider moving into technology employment due to a lack of information.

A recurring theme of our interviews was a belief that the supply of candidates from the traditional pathway would be insufficient to support the long-term growth of Region 7's technology industry. Admittedly, some of the interviewees in the government technology sector were skeptical that nontraditional candidates moving through alternative credentials would ever be a source of labor, due to the role of traditional credentials in validating suitability for inclusion in government contracts. However, even they acknowledged that the shortfall in available talent is likely to drive up their costs of doing business in the future.

An effort should be undertaken to demystify careers in technology. Stories need to be told of how nontraditional candidates got jobs in technology companies. What pathway they took to get there. What job they do now that they are employed. This is not a novel concept – many employers publish “a day in a life” of new employees on their website. Many of our region's universities have career service offices that provide similar content. What does not exist, however, is an aggregation of such information that is publicly available.

Our next recommendation is that **an independent actor aggregate the stories of successful movement from non-technology to technology employment in a single website**. This website could aggregate these stories into video, blog posts or public events. If the survey of successful programs described above was completed, this information could also be included on the website. The website would be independent of any specific employer or program – and would accordingly be a suitable partner for our region's career services or employment services offices. Effectively it could be the “store front” for Region 7's technology industry. Alternatively, or in addition, the project and/or website development could be done in collaboration with the Northern Virginia Economic Development Alliance's talent attraction and retention initiative.

### Career Services

Region 7's traditional credentialing pathways generally include access to career skill development: interview skills, resume preparation and job searching strategies. Some alternative credential programs attempt to offer something similar. Most do not. Meanwhile, government offices seeking to help the unemployed are under-resourced, or otherwise unable to provide career development assistance.

Our recommendation is that **an alternative credential career services office be created to focus on career development and job placement of candidates from alternative credentialing programs.** Ideally, this office would be independent of any particular jurisdiction or existing educational institution, to ensure objectivity of advice. The alternative credential career service office could also coordinate with the career services offices at regional universities and community colleges to create a pooling of expertise and resources for candidates.

The alternative credential career service office would include the following core services:

- One-on-one advice from career service counselors.
- Group events around key career development topics. For example, resume preparation or interview skills.
- Dissemination of information about available alternative credentials, including any aggregated information on the job placement records of particular programs.
- Dissemination of internship opportunities and job postings.

### A Comprehensive Approach

Our final recommendation is that the Region 7 Board **evaluate the formation of a region-wide business led consortium to organize and manage the conversion of nontraditional candidates to technology workers.** The reason why this should be business-led is to solve the challenge of jump starting a three-sided marketplace: if the employers are in the marketplace with jobs to offer, the trainers and candidates will follow. An employer-led ecosystem will provide transparency into the pathways that are most likely to result in employment for a candidate. Moreover, it will provide a mechanism for government and economic development groups to support training programs and initiatives that will lead to employment.

The consortium should be managed independently from any existing not-for-profit organization or for-profit entity. To succeed in the mission of organizing an integrated technology workforce ecosystem, its management must be objective and free from conflict. The consortium management must be free to state when a particular training program is effective and when it is not, or when a candidate should pursue an alternative credential or when a traditional credential is required. Because our technology industry will grow in ways that are unpredictable, the management must also be independent from being too closely associated with any one subsector of the technology industry.

The consortium would be economically supported by employers, economic development entities and the Commonwealth. To maintain its independence in the promotion of any particular alternative credential or training program, training programs or providers could not have a financial or supporting role in the consortium. Candidates would not have to pay to participate.

There is precedent in our region for training programs and talent development consortium that are supported by business. The Greater Washington Partnership's Capital CoLab is an example of a business-led consortium funded by corporate philanthropy. Our research uncovered references to training programs in the region where the trainer is paid by the corporate or government sponsor upon the onboarding of a successful graduate of the program. We also learned of examples where businesses paid recruiters a per-candidate fee for successful introductions to talent. Many of the interviewees from both government and nongovernment technology businesses thought that a consortium that organized access to nontraditional talent would receive support from their company and others like them.

There is also precedent for the organization of employers around internships. A recently launched effort by the Northern Virginia Chamber of Commerce appears to be off to a strong start in building community awareness of the need to provide internships for traditional candidates to get job experience. Many of the

region's academic institutions have programs in place to promote corporate engagement and seek internships for their students, however, there are sometime concerns that students from modest or low-income households do not have the financial flexibility to take internships that are unpaid or low paid.

There is also precedent for online job fairs. Fairfax County has been successfully piloting online job fairs to match employers with candidate. One of Arlington's fastest growing private companies is currently deploying online job fairs and matching to Fortune 500 companies around the nation.

The model of providing career counseling is also not new. Every academic institution in the region, and many of the better funded training programs, purport to include job readiness and career guidance in their offerings.

Overall, there are many precedents for parts of an integrated whole. Some of them are highly effective, and others less so. All can be learned from, and ultimately to be part of a shared initiative.

Our proposed business-led technology workforce initiative would have the following core attributes:

- Funding from corporate participants, economic development arms of Region 7 governments, and the Commonwealth. The Commonwealth's funding should be used to seed the consortium, but we expect that if the consortium is providing value to the corporate sponsors, they will fund it going forward.
  - The consortium would have a limited initial life of three years to demonstrate utility to the initial funders. It would continue in existence for unlimited three-year terms upon the agreement and continued funding.
  - The consortium would be a newly formed, and independent not-for profit or public benefit corporation. The governing board of the consortium would be drawn from the corporate sponsors. The board would meet quarterly to share trends in workforce needs and "best practices" in training and onboarding.
  - Economic development organizations in Region 7 would be affiliate members of the consortium. They would assist in promoting the consortium to candidates and employers in their jurisdictional reach.
- Day-to-day management of the consortium would be in the hands of a Chief Executive Officer hired by the board. The CEO would be an individual with experience in the technology industry and workforce development and would not be affiliated with any of the consortium members.
  - The support team would include workforce counselors to provide career guidance to candidates.
  - Marketing of the consortium would be led by the CEO and support team, with the support of members and affiliate members.
- At the time of formation and on the one-year anniversary thereafter, the consortium members would provide to the CEO their list of preferred alternative credentialing pathways and preferred providers. Preference would be given to pathways that expressly tied to a particular job function

or role.

- The consortium would have at least one physical career guidance offer, where candidates could get one-on-one career counseling and participate in sessions on job search preparation and career options. It would also offer online resources and classes with similar content.
  - The consortium would operate a two- to three- month program on “job basics” designed to familiarize candidates with key corporate tools such as LinkedIn, Slack, Zoom or other office tools identified by the consortium members.
- The consortium would have online job fairs with regular frequency.
- One a year the consortium would provide a report to board and the broader community on job placement metrics.

### Answering the Research Questions

As the research team entered implementation of this project, we intended to answer the two questions presented earlier.

1. What are the pathways that lead to job candidates having the right skills to succeed in technology-oriented firms?

The key informant interviews provided the insights that allowed the research team to report on the Employment Roadmap pathways for traditional and non-traditional job candidates. As noted, there are weaknesses in the talent pipeline eco-system that serves as barriers or disconnect between employers and potential employees. The recommendations presented above seek to address the perturbations existing in the Region 7 workforce eco-system.

2. What particular skills and certifications would entice companies to hire displaced former retail, hospitality, and gig workers?

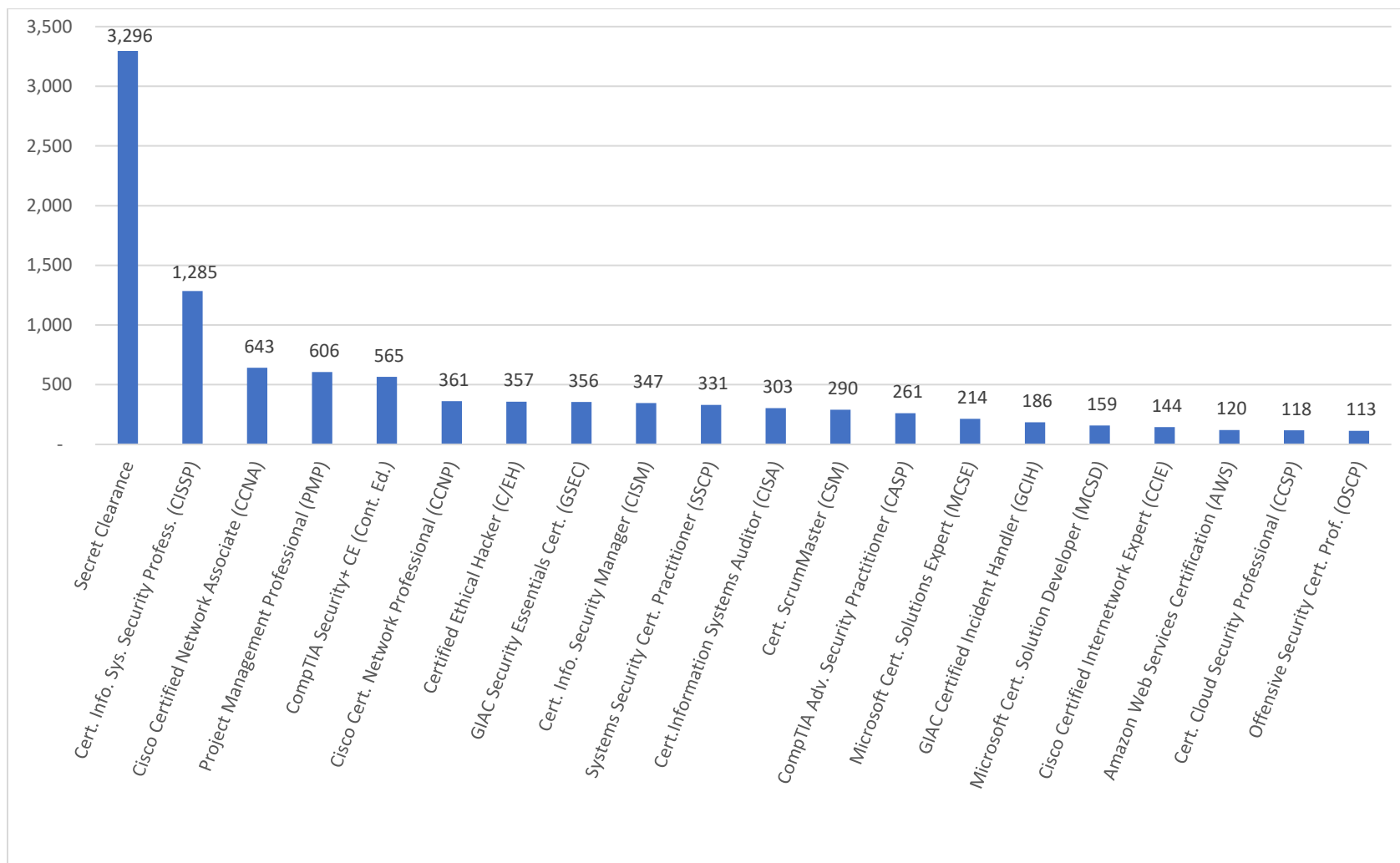
The answer to this question was, at first blush surprising – there is no one particular or set of particular credentials that are widely seen as “must haves,” even within a specific occupation. As observed, there are some companies who show identifiable preferences, but this represents a minority of regional hiring. To test this assertion, we offer data on recent job postings for technology occupations in Region 7 (see Figure 6 on the next page). Out of more than 31,600 job postings for technology occupations in Region 7 for the month of September 2021, by far the most requested credential for employers relates to security clear at just over 10% of jobs listings. The next largest request is for a Certified Information System Security Professional (CISSP) that shows up on 1,285 ads or about 4 percent of all ads. Of the remaining certifications, on the Cisco Certified Network Associate appears on as much as 2 percent of total ads. We can caution that this could be an artifact of an extremely tight labor market, but the information provided by key informants suggest a more fundamental issue is the degree to which candidates, even those who have taken a traditional pathway to technology sector employment, are workplace ready when they enter the job market. We had earlier noted the importance of culture, dress, and understanding the “day in the

life” of technology workers, which includes this observation. However, many of our respondents see the need for basic worker readiness training, and perhaps credentialing, as being more important than technical skills certification for most employers. This led the research team to collaborate on a just approved GO-Virginia supported pilot program to develop training addressing these employer concerns.

As a final note, even though the data presented in Figure 6 may cause some to question the overarching need for skills training resulting in known and respected certifications, there is ample demand to justify the Region 7 Council’s continuing goal to fund efforts to expand the number of certified skilled technology workers in Northern Virginia with a reasonable expectation that newly skilled workers will find employment and thus contribute to regional economic growth and competitiveness.



**Figure 6: Number of Information Technology Job Ads with Certifications**  
 (September 2021, Total Ads 31,614)



Source: JobsEQ