On-ramps to Good Jobs

Fueling Innovation for the
Learning Ecosystem of the Future

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FOR THE FUTURE OF WORK

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Authors

Michelle R. Weise, PhD, is the chief innovation officer of Strada Institute for the Future of Work and SVP of workforce strategies at Strada Education Network. She specializes in disruptive innovation and the future of learning and work.

Andrew R. Hanson is a senior research fellow at Strada Institute for the Future of Work. He specializes in the economics of postsecondary education and the future of learning and work.

Allison Salisbury is the president of Entangled Studios. Allison leads the design and build of dynamic solutions in partnership with philanthropies, universities, and companies, and writes about the future of learning, work, and economic mobility.

Kathy Qu is an engagement manager at Entangled Solutions, focused on strategic planning and operations for multi-stakeholder projects and initiatives, especially around college completion and economic mobility.

Contributors

Elyse Ashburn is a researcher for Strada Institute for the Future of Work. She has written about and worked in higher education for over a decade, including posts as a university chief of staff and an editor at The Chronicle of Higher Education.

Chanee D. Hawkins Ash, PhD, is a researcher for Entangled Solutions. Her work focuses on designing innovative education policies and practices to enhance learning experiences that improve outcomes of students.

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"The future is already here — it's just not evenly distributed yet."

— **William Gibson**[14]

Preface

Michelle R. Weise, PhD
Chief Innovation Officer, Strada Institute for the Future of Work

Despite the fact that the labor market is now tighter than at any point since the 1990s,[1] too many Americans are still struggling.

Working-class adults[2] have been disproportionately hurt by automation and globalization.[3] They are enduring massive job losses and downward pressure on wages in the careers and industries in which they have worked.[4] In fact, the people who captured nearly all of the job growth in the post-recession economic recovery were the workers with at least some education or training beyond high school—not the working class.[5] And today, adults with only a high school education are 50 percent more likely to live in poverty than are those with some college or a two-year degree.[6]

A recent report, *Work, Skills, Community: Restoring Opportunities for the Working Class*, outlines how these factors tear at the social fabric of the country: "Workers are losing their jobs and their social supports, and with them, in many cases, their sense of their identity and their place in the world."[7] Once-thriving working-class communities such as Milwaukee, Cleveland, and Columbus have lower educational attainment rates than middle-class communities.[8] These differences matter greatly because statistics show that educational and economic outcomes are being passed on to children. Only 11 percent of Americans from working-class families earn a BA by the age of 24,[9] while only two out of every 25 children born in low-income households reach the top rung of the economic ladder.[10] To exacerbate matters, the jobs of the future will require even more education and training—and a broader set of "human"[11] skills and digital competencies—than the jobs of the past.

So, where will working-class Americans access the right tools and training to develop their digital fluency and transferable human skills, and gain the relevant work experience that will lead to good jobs?

Many colleges and universities are designed for younger students right out of high school and do not work well for full-time workers who may be seeking short-burst training programs or who may not be able to enroll even as part-time students. The federal government invests $139 billion in postsecondary education,[12] the lion's share of which is for financial aid for those who are enrolled in undergraduate degree programs.

Unfortunately, resources are scarce for the working class. Out of the $170 billion that employers invest in formal training each year, the majority of that funding (58 percent) is channeled toward workers who have already earned bachelor's degrees and work in higher-paying professional and managerial positions.[13] Venture capital, too, disproportionately flows to solutions aimed at the well-educated, not at the most underserved.

For all of these reasons, in this report we focus on the nascent market of on-ramps, which are innovative programs that serve as engines of upward mobility. By shining a spotlight on what works, as well as identifying barriers to growth, we hope to spark a dialogue—particularly within the social impact investing space—about how to scale more robust and creative on-ramps to launch a larger portion of the 32 million working-class adults in America toward good and better jobs.

The 32 Million Working-Class Adults at Risk of Being Left Behind by the Future of Work

The way we live, learn, and work is rapidly changing. We are feeling the velocity of change as technological innovations reshape the nature of work and spark a whole host of predictions that anywhere from 8 percent[16] to 47 percent[17] of the jobs in the U.S. workforce are at risk of automation. With the future of work hurtling toward us, the future of workers appears uncertain.

Our current education and training ecosystem is already falling behind and failing too many unemployed and underemployed Americans: 32 million adults are jobless or lacking the skills, credentials, and networks they need to earn enough income to support themselves and their families. We need better solutions for our most vulnerable citizens.

Building a learning ecosystem that connects these 32 million working-class[15] Americans to good jobs and careers is *the* fundamental challenge our country faces as we prepare for the future of work.

"Working Class"

Many terms are used to refer to Americans with less education and low wages who are failing to thrive in the labor market: low-skill, low-wage, low-income, low-mobility, working poor, less-educated, unemployed, disadvantaged, and underserved. Acknowledging that all of these are imperfect descriptors, we use the term "working class" in this paper to refer to people who have less than an associate's degree and are not earning a living wage.[18] Working-class Americans are a diverse population: They come from all races and ethnicities and live in both urban and rural parts of the country.

A nascent market of what we call on-ramps provides a case study for how we might meet these challenges. These learning models are the seeds of innovation for the learning ecosystem of the future. In this report, we analyze nine on-ramps out of a market of 65 around the country: i.c.stars, JobTrain, JVS San Francisco, LaunchCode, Per Scholas, Philadelphia Works, Samaschool, STRIVE International, and Techtonic. On-ramps are designed are designed for the people who need the most help launching into promising, well-paying jobs and careers.

On-ramps represent the leading edge of a new market of intermediaries connecting working-class adults to better economic opportunity. This unique set of programs is designed to serve learners with significant barriers to educational and economic success. On-ramps boost skills, employment, and earnings for working-class adults and connect them faster and more directly to employers seeking new and more diverse talent pipelines. Although they vary widely by program, most combine intensive assessments and screening, opportunities for experiential learning, human+ skills[22] training, wraparound support, and job placement and advancement services—all in a short-term format. On-ramps last anywhere from a few weeks to several months, and occasionally as long as two years.

On-ramps are engines of economic mobility that empower adults with broad-based human skills,[19] plus more technical depth for growing industries. Crucially, they develop strong relationships with employers to connect a nontraditional talent pool to good jobs and pathways. They are the leading edge of a new market of intermediaries connecting working-class adults to better economic opportunity.

Many on-ramps boast strong job attainment rates—some as high as 91 percent—while others are driving substantial increases in workers' salary earnings, ranging from 200 to 400 percent or more. Employer partners of on-ramps, too, are recognizing that through these partnerships, they can begin to rethink their preference for degrees and build more diverse talent pipelines. These programs are providing sorely needed experimentation to determine what works in launching, reskilling, and upskilling the 32 million working-class adults in America. Most importantly, they are delivering on their promises. This case study celebrates the major successes of these important programs and underscores their heartening results.

At the same time, we take a hard look at why on-ramps are not proliferating and scaling faster. They are relatively new and still in the early phases of development, serving an estimated 100,000 learners out of a target population of 32 million working-class adults with less than a two-year degree.[20] By comparison, community colleges serve approximately 1 million working-class adults.[21] One of the major challenges for on-ramps is that employer partners of on-ramps may view these initiatives as goodwill, but they do not necessarily see them as good business. On-ramps therefore must build a better business case for themselves because they can be both.

Employers, impact investors, funders, and entrepreneurs as well as policy makers and learning providers all need to pay attention. These on-ramps have the potential to empower an even larger portion of the 32 million Americans who need the right skills, credentials or social networks to thrive in an ever-evolving economy.

Because it will be so crucial to scale on-ramps and build out this foundational part of the learning ecosystem of the future, this report surfaces five key opportunities for enhancement and growth:

Improve the analysis of program economics.

On-ramps that launch working-class adults are high-cost endeavors because they require interventions and services beyond those provided by traditional education and training programs. Poor program economics as well as over-reliance on public and philanthropic resources prevent on-ramps from scaling. On-ramps can improve their sustainability and growth by adopting modern activity-based costing methods.

Implement "try-before-you-buy" outsourced apprenticeship models to reduce risk for employers and develop sustainable revenue streams.

The most innovative programs are "hiring" program participants before employers do through "outsourced apprenticeship" models. Not only do they mitigate risk in the hiring process for employers, but they also create an interesting revenue model for the on-ramp.

Position on-ramps as robust talent pipeline solutions

for employers. Businesses can often perceive these programs as goodwill, not good business. Employers that engage with on-ramps via their corporate social responsibility (CSR) programs are often satisfied with hiring just enough program completers to signal their goodwill. This dynamic ultimately inhibits growth; in order to achieve scale, employers must perceive on-ramps as talent pipelines and seek buy-in across multiple business units—from the executive leadership down to the hiring managers.

Extend support services beyond job placement for retention and advancement.

Providing employee support is a best practice for any new hire, but it is especially true for adults with limited employment experience. Many on-ramp participants placed in jobs can struggle after losing the supports provided by the program. In the best cases, employer partners take the baton from the on-ramp program by providing critical mentoring, guidance, and training to help workers acclimate to the new environment.

Measure, measure, and measure again.

Learners don't have good information to make informed decisions on whether to pursue an on-ramp. Employers don't see an obvious human capital management return on investment (ROI) for leveraging more on-ramps. And on-ramp providers struggle to articulate the value of their programs to all stakeholders, including funders. On-ramps must sell themselves as robust talent pipelines, by providing a sound business case that includes measures such as ROI and long-term employee success.

There is a real need for more solutions like on-ramps that set more people onto prosperous pathways faster. The seeds are all here, but when it comes to resource allocation and impact strategies, the focus is not. Funding streams may be abundant, but they are not flowing to the people who need them the most. Over the last three years, a $2.9 billion marketplace of funding for workforce technology has blossomed.[23] Venture capitalists are investing billions of dollars in new programs, companies, and technologies with the promise to disrupt higher education by connecting learners more directly to the workforce.

But among the over 250 companies that have emerged, many programs are geared toward newly minted college graduates and college-educated workers. According to one analysis, "companies directed at supporting middle- to high-skilled white-collar workers have attracted more than three times the amount of funding as those companies directed at low-skilled, low-income workers."[24] Regrettably, these innovations repeat the mistakes of the traditional learning ecosystem: They are designed to serve those already poised to succeed in the workplace, rather than to fulfill the democratic ideal of education to connect all Americans to economic opportunity and prosperity.

On-ramps, on the other hand, are creating faster and more direct pathways for working-class Americans to connect to greater opportunity. A case study on these on-ramps reveals the areas for employers, impact investors and funders, policymakers, learning providers, and entrepreneurs to engage, improve, and experiment further.

Together, we can:

Scale strategies and programs that work.
Philanthropists, funders, and social entrepreneurs can invest in these models, build better business cases, or develop innovative approaches that address the barriers to scale that on-ramps face. With an ecosystem-approach, more partners can help on-ramps more clearly demonstrate their value and efficacy, so that others can accelerate their learning and develop even more on-ramps. There is also a need to showcase more employers that view on-ramps as goodwill matched with better business practices.

Build an infrastructure for growth.
On-ramps are proven models that other groups can leverage. Workforce investment boards and learning providers, such as community and technical colleges, which serve large populations of adult learners, can partner with on-ramps to deliver learning content or augment training, wraparound, or placement services. Or more directly, they can develop their own on-ramp programs.

Demystify and incentivize.
Policymakers and funders can change the narrative about hiring nontraditional talent pools by incentivizing more employers to partner with innovative, nontraditional programs and attract more entrepreneurs to design new models to target the adults who are at serious risk of being left behind.

By zeroing in on the challenges of scaling on-ramps to good jobs, we hope to spark a dialogue—particularly within the social impact investing space—about how we might develop robust and creative solutions to empower more of the 32 million working-class Americans at risk of being left behind by the future of work.

On-ramps Fill Gaps in Our Learning Ecosystem

"How do we get people back to a career pathway that enables them to earn enough money to sustain themselves and their families?"

— Patrick Clancy, Philadelphia Works

On-ramps represent the seeds of a new market of intermediaries focused on connecting adults without postsecondary credentials to economic opportunities and success.

On-ramps attend to some of the most vulnerable people in our country. Many participants are jobless, underemployed, or from low-income backgrounds—facing barriers that have dogged them in the past and continue to affect their pursuit of education. In response to clear gaps in the opportunities available to upskill low-wage workers, these new models are emerging independently across the country in both the nonprofit and for-profit sectors. On-ramps work particularly well in sectors with a high demand for workers without a college degree.

Programs like STRIVE International, i.c.stars, JobTrain, and Per Scholas recognize the interrelated challenges that job-seekers face in terms of time constraints, financial resources, and skill levels. On-ramps directly address the obstacles to learners' workplace success, but they differ in whether they are full-stack, all-inclusive programs or whether they unbundle services and rely on partnerships with outside providers, such as community colleges or community-based organizations (CBOs), to provide counseling and other services related to

mental health, financial stability, housing, and transportation.

Not only do on-ramps provide intensive services and training in reading and math, but they also broaden learners' human+ skills, including critical/creative thinking, problem solving, communication, teamwork, persistence, self-efficacy, and professionalism. At the same time, these programs hone high-demand, technical skills in computer programming, information technology, business and financial services, and cybersecurity.

On-ramps are built with employers in mind. They work closely with employers to ensure that program completers will have both the specific skills employers require and the ones they desperately desire. Crucially, they all develop strong employer partnerships and commitments to hire through apprenticeship and internship models, as well as through proactive job placement services.

HUMAN SKILLS

BROAD CAPACITIES IN SELF-AWARENESS AND CRITICAL THINKING

INTERPERSONAL SKILLS

Self-awareness

"Grit"

Self-efficacy

Emotional Intelligence

ESSENTIAL SKILLS

Critical/Creative Thinking

Problem Solving

Time Management

Communication

CAREER-READINESS SKILLS

Interview Skills

Professionalism

Job Search Strategy

Networking

+ TECH SKILLS

DEEP EXPERTISE IN AN INDUSTRY OR FIELD OF TRAINING

Advanced Manufacturing

Business & Financial Services

Cybersecurity

Healthcare & Human Services

Computer Programming & Coding

In short, on-ramps reduce both education and hiring frictions. Education friction includes the barriers learners must overcome to upskill—not to mention the lack of clarity around what to study and the expected outcomes of any given learning pathway. Hiring friction is the uncertainty employers have about whether a job candidate can perform a job successfully. This friction, says Ryan Craig, cofounder of University Ventures, exists because employers "are increasingly reluctant to hire candidates without exact relevant experience. The cost of a bad hire is higher than ever, as is employee churn, as is the cost of replacing terminated employees—all of which have contributed to an increase in experience requirements for positions that should be (and once were) entry-level."[25]

The various models being designed and tested around the country are tackling head-on the friction, or the disconnect, that too often exists between employer needs and the structure, content, and delivery of available work-related education programs. These targeted, short-term trainings reduce time to employment, the costs of participation, and uncertainty around job outcomes compared to traditional education and training programs.
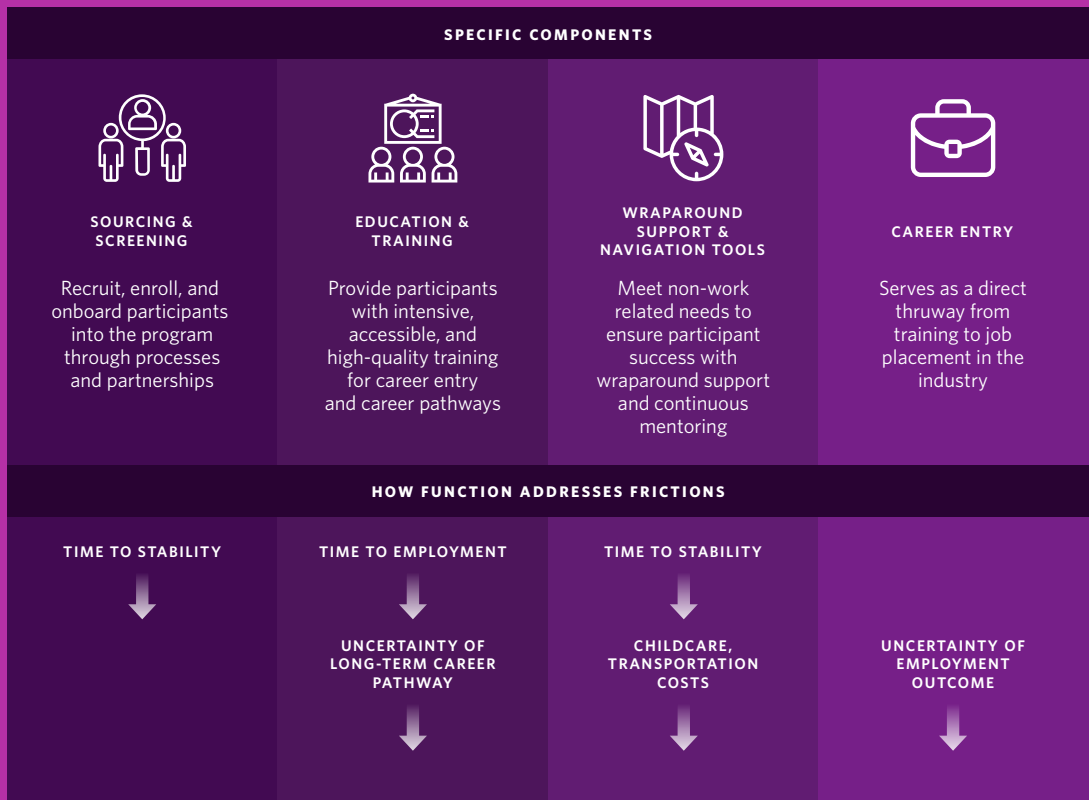
Spotlight on nine on-ramps

This report is based on a national market-sizing scan of organizations and programs that emphasize the strategy and design elements summarized above. From an initial set of approximately 65 programs, we narrowed our analysis to a set of nine programs that we studied in depth. They represent nonprofit organizations, for-profit providers, and a workforce board:[26]

• i.c.stars
• JobTrain
• JVS San Francisco
• LaunchCode
• Per Scholas
• Philadelphia Works[27]
• Samaschool
• STRIVE International
• Techtonic[28]

Figure 2. On-ramps are designed to reduce education and hiring frictions.

SPECIFIC COMPONENTS			
SOURCING & SCREENING	**EDUCATION & TRAINING**	**WRAPAROUND SUPPORT & NAVIGATION TOOLS**	**CAREER ENTRY**
Recruit, enroll, and onboard participants into the program through processes and partnerships	Provide participants with intensive, accessible, and high-quality training for career entry and career pathways	Meet non-work related needs to ensure participant success with wraparound support and continuous mentoring	Serves as a direct thruway from training to job placement in the industry

HOW FUNCTION ADDRESSES FRICTIONS			
TIME TO STABILITY	**TIME TO EMPLOYMENT**	**TIME TO STABILITY**	
	UNCERTAINTY OF LONG-TERM CAREER PATHWAY	**CHILDCARE, TRANSPORTATION COSTS**	**UNCERTAINTY OF EMPLOYMENT OUTCOME**

KISHA

PROGRAM
EXCEL BY JVS

ON-RAMP PARTICIPANT YEAR
2016

CURRENT ROLE
UCSF HOUSING ASSISTANT II

JOURNEY TO THE ON-RAMP

- Learned about EXCEL through a friend who was an alumna of the program.

- Applied and attended an orientation for an upcoming JVS EXCEL internship cycle, but was not accepted due to an incomplete application.

- Continued to be in touch with members of the JVS staff and applied for the following cycle and was then accepted.

ON-RAMP EXPERIENCE

- Kisha had pursued job opportunities at the University of California-San Francisco but never received an offer.

- Once in her on-ramp, Kisha realized that she lacked knowledge of key technical skills required for work at UCSF. For example, she had no experience using some of the job-specific software such as Excel, Outlook, and APeX.

- Kisha and her cohort received specific training in these areas, and she also learned how to highlight her technical skills on her resume to ensure she stood out as a qualified applicant.

- Kisha said that interacting with her cohort members was invaluable. They were a great source of support, encouragement, and motivation.

IMPACT ON KISHA'S LIFE

Working at UCSF had always been a dream of Kisha's. Since participating in her on-ramp program, she says her life has completely transformed. Not only did she learn valuable technical skills, but she also gained confidence and strong professional networking skills. Kisha greatly excelled in her internship. Since completing the program, she has advanced through multiple full-time roles at UCSF. She credits both her professional success and personal growth to the on-ramp.

The on-ramp programs we examined serve low-income adults with at least a high school diploma/GED—some, like STRIVE International and JobTrain, however, also serve adults without credentials. A number of programs specialize in working with formerly incarcerated adults or, in one case, prisoners on temporary furlough. With many of the participants receiving public assistance (e.g. SNAP, Medicaid, TANF), on-ramps offer wraparound supports that range from access to legal services, counseling services, affordable childcare and housing, transportation, as well as support with government benefits applications. As an example, STRIVE layers additional services, such as cognitive-behavioral therapies or legal services, to help formerly incarcerated adults navigate systems and address specific needs.

With a range of missions, each on-ramp is committed to enabling more working-class adults to prepare for, secure, and succeed in jobs that they would not have been able to get without the program.

"In 2015, I lost my job, then a month later, I lost my house. Then, two months later, I lost my car. I was in the calWORKs welfare-to-work program, and I was just like, 'Okay. What am I going to do? I'm already at rock bottom. Where am I going to go?"

What on-ramps are *not*

It is useful to distinguish how on-ramps differ from other institutions and systems that exist to provide work-related postsecondary education and training to adults seeking skills, credentials, and career advancement. Here are brief descriptions of the most important of these: community colleges, federally funded job training programs, registered apprenticeships, and the new market of last-mile training providers.

Community and technical colleges have long served working-class adults who would otherwise be left out of postsecondary education. These public institutions—over 1,000 of which operate across the country—reach approximately 1 million working-class adults.[29] They have long been the workhorse institutions of higher education in mitigating workforce shortages and building training programs for companies. But community colleges are pulled in myriad directions beyond workforce-oriented education and training; they provide adult basic education, prepare students for transfer to four-year institutions, expose high school students to college through dual enrollment programs, and serve as community arts, cultural, and athletic hubs. The pressure to focus on transfer, in particular, has grown as a greater proportion of students aspiring to bachelor's degrees now start their college educations at community colleges. For many underprepared working-class adults, the prospect of a two-year degree program is a bridge too far in terms of time to credential and the full cost of attendance, including the foregone earnings associated with attending school instead of working more hours.
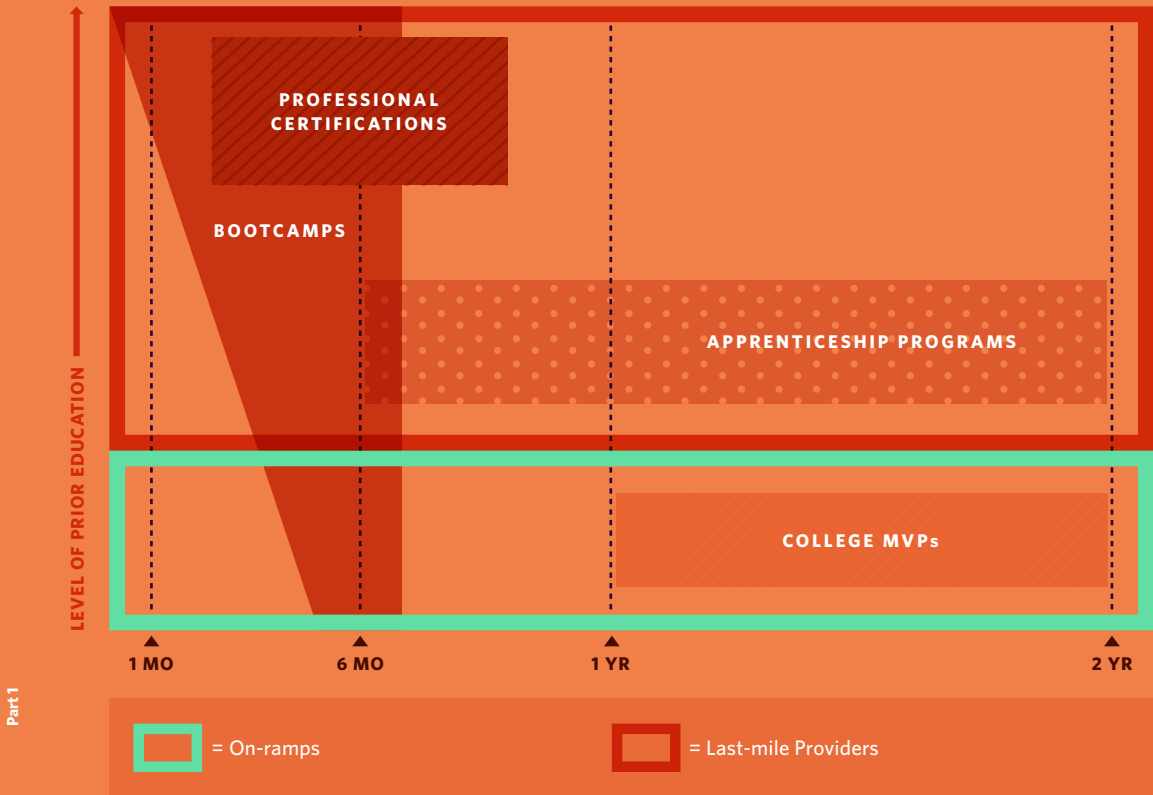
Federally funded job training programs provide training and employment services to millions of Americans. The Workforce Innovation and Opportunity Act (WIOA) is designed to help Americans access the education, training, and support services they need in order to succeed in today's labor market, as well as to better connect employers and job seekers. The federal government, however, spends the equivalent of roughly $350 for each American who receives services via regional workforce boards.[30]

This funding stream is insufficient, to say the least, in light of evidence that many of the most successful training-to-employment programs in the country cost more than $10,000 per person to deliver.[31] Moreover, there is tremendous variation in the design and quality of these programs across states and regions.

Apprenticeships are the gold standard of work-based learning. A highly effective mode of career preparation, traditional apprenticeships include a mix of formal training and informal learning on the job, including a training wage. Although the current and previous presidential administrations have supported expanding and modernizing apprenticeships to serve high-growth industries and occupations, few models have emerged that address areas beyond the traditional building and industrial trades. Apprenticeship remains a fairly small pathway in the United States, with only 500,000 Americans enrolled in registered apprenticeships[32] compared to the 26 million students enrolled in two- and four-year colleges.[33]

Last-mile training providers are short-term, very targeted training programs that address skills bottlenecks in fast-growing technical fields. They tend to target adults who already have a college credential and are looking to move into a new field. Skills bootcamps and coding academies—General Assembly, Flatiron School, and Revature, to name a few—augment the career readiness of college graduates by providing intense, experiential learning environments and creating clear pathways to jobs, if not outright job placement. Last-mile providers are growing rapidly. Between 2012 and 2017, there was a 220 percent growth in bootcamp graduates.[34] Nevertheless, these programs are not intentionally designed to serve working-class adults. They are neither priced nor structured to serve a population without an already high level of skills and education. Although some of these providers have experimented with serving adults without credentials, the population we are discussing in this report is typically not their primary market.

Figure 3. Last-mile providers and on-ramps serve different customers.

LEVEL OF PRIOR EDUCATION

PROFESSIONAL CERTIFICATIONS

BOOTCAMPS

APPRENTICESHIP PROGRAMS

COLLEGE MVPs

1 MO | 6 MO | 1 YR | 2 YR

☐ = On-ramps   ☐ = Last-mile Providers

"Without JVS and EXCEL, it would be hard for somebody like UCSF to look at me and say, 'Oh, you have the necessary skills to work in a hospital setting.' The on-the-job training cycle has been very beneficial for me because I can maneuver to see what area I fit the best."

Solving for education and hiring frictions

In many ways, on-ramps leverage similar techniques to those of last-mile providers. Both kinds of programs address education and hiring frictions head-on, but they each address very different markets of learners and the employers that hire them.

On-ramps vary in their target industries, job categories, and target populations, but share a common set of design elements around:

• Sourcing and screening of candidates
• Education and training approaches
• Wraparound services and navigational tools
• Career entry and advancement services

Sourcing and screening of potential participants

On-ramps place a heavy emphasis on reaching their target populations where they are. Entry into these programs is competitive in nature, due to the limited size of each cohort. Programs, therefore, seek to ensure that their sourcing and screening processes reduce barriers to enrollment. A majority of the on-ramps we examined leverage community-based partnerships, including community-based organizations (CBOs), public libraries, and community colleges, word of mouth, and social media to source candidates.

During the screening process, on-ramps use a number of approaches to ensure that the screening process itself does not prevent good candidates from enrolling. Place-based approaches reduce transportation costs and time off from work, while the screenings done with employers increase the transparency of expectations and ROI for candidates.

Sourcing & Screening		
Place-based	**Holistic**	**With Employers**
Participants are recruited, enrolled, and onboarded at the same site within a short timeframe to reduce time away from paid work and to assess fit. For example, Philadelphia Works conducts screenings, assessments, and drug and background tests all within a week at the same site.	On-ramps emphasize a holistic assessment process. This allows programs to screen in participants not only on skill, but also on behavior and dispositions such as "grit" and perseverance through computer-based tests and interviews. Programs emphasize the importance of using nontraditional assessment tools.	Employer representation and/or panels during the enrollment process engage and motivate potential candidates. Employers frequently provide an overview of available roles, expectations, and culture.

Intensive and sophisticated screening is critical to finding candidates who can succeed in a short-term program and be ready to contribute productively in the workplace. Intensive screening, however, does not necessarily mean setting a high bar by using traditional filters. Some programs are moving beyond aptitude toward a more holistic approach that includes behavior and disposition. "We used a logic aptitude test but found there wasn't a strong correlation to performance in the program," said Haley Shoaf, vice president of impact at LaunchCode. "We shifted to [a screening process] that focuses on having students demonstrate and talk through interest, passion, and drive to success—characteristics that are traditionally overlooked. The hope is that we have a better understanding of predictors of success."

On-ramps are actively examining whether certain student populations experience different levels of success in their programs. They want to ensure that those with the most severe needs have an equal chance of success, while maintaining the cost-effectiveness of these programs. Leaders of on-ramps know how important it is to get the balance right between screening out inappropriate candidates (both those who are unlikely to succeed in the program and those who do not need the intervention to advance into the targeted jobs) and screening in nontraditional candidates for whom the program can open up doors to better employment and earnings.[35]
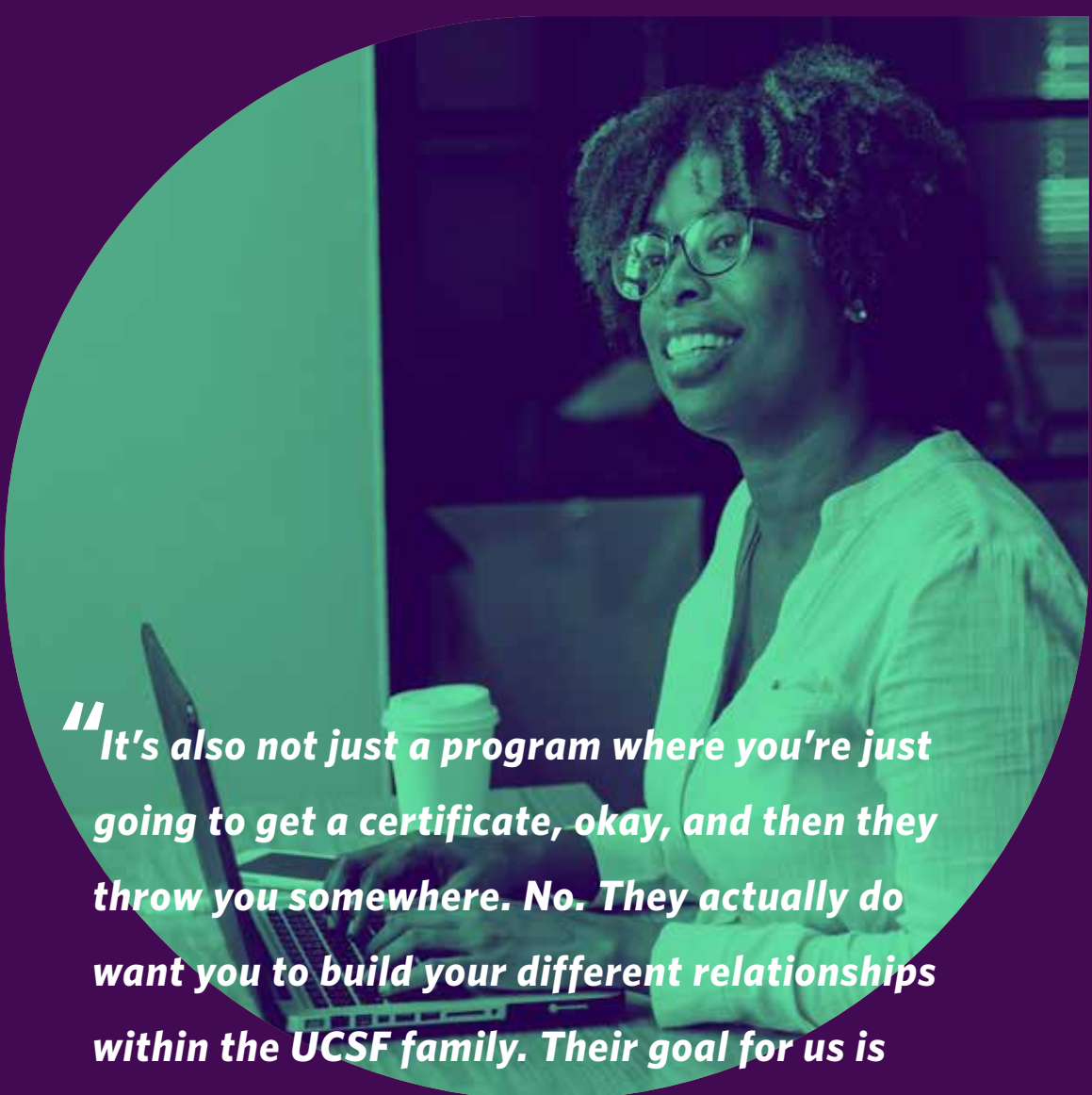
Education and training

Each of the on-ramps that we examined leverages some form of peer-to-peer learning, experiential learning, rapid differentiated feedback, and formative assessments.

On-ramps have a limited amount of time with trainees to elevate basic adult education—literacy and numeracy skills—and higher-order human skills like communication, judgment, and teamwork. Programs generally emphasize basic workplace competencies such as professional dress but also valuable occupational skills like Microsoft Office. In addition, they importantly layer on more technical skills for IT, healthcare, cybersecurity, and other fields. Jewish Vocational Services (JVS) in San Francisco, provides training in healthcare, financial services, and technology. CEO Abby Snay explains:

"Skills breed confidence. When people believe in their skills, they come across better in interviews and on the job." Training models are geared to set learners up for success and contribute immediately in the jobs where they are placed.

A number of on-ramps deliver education and training components at the employer site and incorporate training specific to the employer. In the case of JVS and their partnership with the University of California-San Francisco (UCSF), participants learn at UCSF and are trained on the specific software that medical assistants are expected to use. Curriculum delivery that models the work culture and practices of the specific job can help trainees prepare for specific job tasks and also ease into their new roles by boosting their confidence before they begin their new job.

Education & Training Approaches		
Peer-to-peer	**Learning by doing**	**Continuous practice & feedback**
Participants gain skills not only from program instructors, but also through shared experiences and learning with peers, team-building activities, role play, and teachbacks. Participants are able to hone skills with peers as motivators and accountability partners.	On-ramps emphasize experiential learning through: • Project-based learning • Workplace simulation • Flipped classroom techniques • On-the-job training	Through continuous practice and feedback from instructors, peers, and mentors in low-risk settings, programs are able to accelerate the feedback cycle and prepare participants to overcome potential challenges in the workplace. Activities include peer-reviewed assignments and mock interviews.

"*It's also not just a program where you're just going to get a certificate, okay, and then they throw you somewhere. No. They actually do want you to build your different relationships within the UCSF family. Their goal for us is to get a career job and to grow. It's not just a regular program where you just go and get your certificate, that's it, or do your internship, then basically you're on your own after that. They really want you to work hard, and then network, and then get a long-term career.*"

Supports and navigational tools

On-ramps tend to invest heavily in mentors and case managers and other wraparound services that begin as soon as an individual enrolls in the program. Paying for training is, of course, a challenge, as are affording the additional childcare and transportation costs that come with participating in a postsecondary education program. For all of these reasons, on-ramps build in personal coaching, guidance, accountability, and navigation support.

As an example, JobTrain provides adult basic education, coupled with intensive services that address more personal issues before learners enter career-specific training. This approach is especially critical for highly marginalized populations, such as the formerly incarcerated, a core population of the 190,000 people JobTrain has already educated. "Our theory is, if we can stabilize somebody prior to and during the training, they're going to persist and complete the training program," said CEO Barrie Hathaway.

Another on-ramp, STRIVE, which started in New York City and now operates in 20 cities nationwide, assigns case managers to all learners who work with them throughout the training program, to deal with issues such as mental health, financial stability, and challenging family situations. "We have a good support team behind us," one learner said. "They know life happens behind the scenes, outside of class, or before the class. They always get in touch with us. There's just a strong support network at this program. That's why I think it's very successful." These crucial services and supports help coordinate family life, so that personal challenges are less likely to undercut progress toward and in employment. Learners are taught not only the skills for their chosen job path but also the life skills that are critical to long-term career success and upward mobility.

Supports & Navigational Tools		
Staff mentors	**On-site case managers**	**Referrals to wraparound services**
Staff coordinators manage programs and serve as mentors to help participants navigate the program and respond to their needs as they arise. This may include specialized personnel such as financial coaches.	On-site case managers or social workers ensure participants get personalized, just-in-time support and are connected to the appropriate services to address personal obstacles.	Referrals may be made to local and state agencies as well as CBOs, which offer a range of services to help participants.

Career entry and advancement services

On-ramps are designed so that completers have a solid chance to compete for a specific set of jobs available in the local or regional economy. They are trained to meet the technical and human skills expectations of specific employers with open positions. On-ramps are successful when they have strong relationships with employers experiencing challenges securing a dependable and steady source of employees for jobs where postsecondary degrees are not a prerequisite.

On-ramps typically last fewer than six months before participants begin earning steady salaries—some even pay on day one. Participants are ideally placed in a full-time role upon completion. The programs we analyzed report varying levels of placement rates:

Program	Placement rate (%)
i.c.stars	90
JVS	~90
LaunchCode	55-60
Per Scholas	80
STRIVE International	70

In addition, most on-ramps drive substantial increases in salary compared to pre-program earnings. For example, i.c.stars completers see a 300 percent or greater average increase in salary; LaunchCode completers see a 200 percent increase, and Per Scholas completers see an increase of 400 percent or more.

Career Entry & Advancement Services		
Career connections	**Client services**	**Placement**
Connect participants to recruiters at several companies that are looking for the skills that participants just received training in. Programs often offer ongoing career coaching if participants don't find immediate placement.	Place participants on client projects that allow participants to gain the necessary skills and experiences that employers are looking for. This increases the likelihood of placement if the participant demonstrates key competencies.	Place participants into temporary or permanent positions upon completion of the education and training component. Temporary positions include internships and apprenticeships, where participants are often given a stipend or paid on an hourly basis.

As deft translators between educators and employers, on-ramps not only make it easier for learners to get the training they need, but they also reduce hiring friction for employers by building trust in the quality of the nontraditional talent pool they bring forward. "Employers often struggle to navigate workforce systems and education systems," said Philip Weinberg, CEO of STRIVE. "As providers, we have some work to do to construct and articulate a system that works for our students and the employers."

Direct and tight collaboration with employers makes a huge difference. Roe Falcone, operations director at EDSI, a company that teams up with an on-ramp run by Philadelphia Works, underscores the need to get "employers 100 percent bought into and committed to giving participants an opportunity to get experience." It was EDSI's co-development of the curriculum with Philadelphia Works that was essential for getting that buy-in.

Certain on-ramps leverage a "try-before-you-buy" placement period, so that employers can evaluate the candidates' skills and fit before committing to a full-time hire. They de-risk the hiring process for the employers and often leverage internships and apprenticeships to build in different kinds of placement options.

A number of groups also focus on providing post-placement support for completers, so that new hires can acclimate to the work environment, weather initial difficulties, and understand what it will take to succeed and advance on the job.

For on-ramps to be successful, they must support their employer partners; and employers who hope to hire completers should not expect to be passive recipients of new talent streams. Instead, they have to be strong and active partners with on-ramps. Robert Kress, managing director for security at Accenture, who helped grow Accenture's relationship with i.c.stars, describes this onus on the employer partner: "[I]t is more challenging for some of the i.c.stars and similar folks who join us because they often need a little more mentoring or coaching and guidance just because of their backgrounds. They're typically not from families with business experience or don't have knowledge of what the expectations are to work in a Fortune 500 company, and it's different. It's just a different culture—a different set of expectations." Employers frequently have unspoken expectations and hierarchies on the job that aren't clear to a new hire, particularly to someone with a limited work history. Employers can minimize the friction, though, by providing mentors and helping trainees get acclimated to a new environment and culture and the tacit expectations of their workplace.

"*We're going to get somewhere from here.*

When you start here, we all have different stories and different reasons why we're here now. Just seeing the positive at the end of the road is like, okay, this is amazing. It makes you feel good about yourself and all the time that you're giving into it."

Scaling On-ramps for the Future of Work

On-ramps are demonstrating their ability to serve the most vulnerable segments of our population—the unemployed, the working poor, and other low-wage workers. The results from these programs are heartening: They are connecting Americans to good jobs and promising careers by targeting existing jobs in demand in the local labor market.

By emphasizing basic skills as well as technical knowledge and significant "human" skills development and by providing post-placement support that encourages retention and advancement, on-ramps are crucially developing strong employer partnerships and commitments to hire. The argument that appeals to corporate goodwill is obvious, and the seeds of innovation are there. These models are asking the right questions and providing greatly needed experimentation to determine what works in launching, reskilling, and upskilling working-class adults in America.

At the same time, however, on-ramps are not widespread—with only 65 available in the U.S. to date.[36] They are still in the early phases of development, serving an estimated 100,000 learners out of a target population of 32 million working-class adults with less than a two-year degree.[37] Some programs serve only one to two dozen adults at a time when community colleges, by comparison, serve approximately 1 million working-class adults annually.[38] The field is small; the market limited, if there is even a market yet; and evidence of effectiveness is only beginning to emerge.

In order to connect more working-class adults to better opportunities and build out this crucial part of the learning ecosystem of the future, on-ramps will need to move from niche innovators to large-scale operators. Such a shift entails a hard look at why on-ramps are not proliferating.

There are numerous lessons to learn from the inability of these programs to scale. On-ramps have work to do in building better business cases for themselves so that they can touch and influence more Americans. They need stronger revenue models and other partners in the field to expand their reach.

As daunting as the barriers to scale may be, the opportunities ahead are vast. Employers, impact investors and funders, policymakers, learning providers, and entrepreneurs can take these seeds of innovation and figure out areas for engagement, improvement, and experimentation. With a critical eye toward these obstacles and opportunities, we can figure out how to take what is here and multiply the impact in order to empower the 32 million working-class Americans at risk of being left behind by the future of work.

	Barriers to Growth	Opportunities for Enhancement
1	Unsustainable program economics	Improve the analysis of program economics
2	Misconception that on-ramps are high-risk investments	Implement "try-before-you-buy" outsourced apprenticeship models to reduce risk for employers and develop sustainable revenue streams
3	Difficulty migrating to traditional hiring processes for human resources	Position on-ramps as robust talent pipeline solutions for employers
4	Lack of post-hire support required for program completers to thrive in new roles	Extend support services beyond job placement for retention and advancement
5	Limited evidence of program quality and return on investment	Measure, measure, measure to demonstrate program quality and ROI

1. Improve the analysis of program economics

On-ramp programs we interviewed could not identify which functions—recruitment, training, support services, or placement—were the most expensive to provide. With a few notable exceptions, such as LaunchCode and STRIVE, programs can describe the elements of their administrative cost, but they cannot specify the proportion of costs that are driven, for example, by participant recruitment as opposed to employer engagement. Program directors we interviewed know that their overall costs are high compared to most adult training programs, ranging from $6,000 to $23,000 per learner for a short-term training program. Most, though, have neither analyzed the specific aspects of program design or delivery that drive up costs,

nor have they made this kind of business analysis a strategic priority.

This lack of clarity about cost drivers, of course, makes it difficult to contain costs. Providing high-quality training and a wide range of wraparound services to a high-needs population is no doubt expensive. We were surprised therefore that programs don't know exactly how much the services really need to cost. Instead, they often take the opposite tack and add one intervention on top of others without interrogating which are essential or driving results. On-ramps, according to STRIVE's CEO Philip Weinberg, often worry that "they will lose the core social justice function of their work if they focus intensively on program economics at the expense of program quality, especially for those populations most at risk. There's a lot of anxiety over this."

On-ramps can improve their economics and be better positioned to scale their initiatives by adopting activity-based costing (ABC) and testing innovative revenue models. Understanding which services are the primary drivers of cost and which are most critical for positive outcomes does not have to be a threat to mission.

In fact, activity-based costing can be leveraged to better match economics to mission. ABC is a way to assess the true cost of delivery and create an overhead cost allocation system for all of the activities within an organization. An organization quantifies all activities, including instructional and non-instructional activities, events, actions, transactions, or work-flows—anything that an organization does that triggers a cost related to delivering products and providing services. All activities are accounted for in order to build transparency for all stakeholders around organizational workings, awareness of processes and commitment, and engagement with all hidden liabilities.

Unlike conventional accounting methods, which typically calculate "overhead" based on the number of direct labor hours and materials costs involved in production, ABC is a more holistic method. The data produced enable an organization to think more broadly and strategically about the attributes and

limitations of its business model and priorities for controlling costs and allocating resources.

The benefits for sustainability and alignment of business models with organizational priorities can be significant. Making the investment in ABC accounting methods, while complicated and labor-intensive initially, could enable on-ramps to:

- Expose redundancies and inefficiencies that drive up costs and constrain growth

- Roll up management tools into an enterprise view of activities

- Provide a basis for allocation to program activities which may need further investment or identify those in which the organization may be over-investing

If on-ramps have a better handle on which functions drive up their costs, they will be better positioned to alter programs accordingly while still meeting learners' needs. STRIVE, for example, varies its service mix depending on the target population. All learners receive core training focused on teamwork, ethics, and professional habits as well as occupational training, wraparound services, and career-placement coaching, but the level of each service changes based on the documented needs of the population being served. As an example, formerly incarcerated adults need the most counseling, so STRIVE alters the program mix accordingly.

2. Implement "try-before-you-buy" outsourced apprenticeship models to reduce risk for employers and develop sustainable revenue streams

Hiring comes with risks; recruitment and onboarding employees is expensive—approximately $4,000 per employee—and high churn rates can quickly escalate these costs.[39] Businesses are eager to reduce the risks and costs of bad hires, which they understand in terms of added recruitment costs, productivity problems, and the complexities of letting ineffective workers go. Employers may simply refrain from hiring when they can't easily identify talent, and they are frequently skeptical of the ability of community-based and social justice-focused organizations to deliver a predictable supply of high-quality candidates.

One way to reduce the risk in the hiring process is to build in a "try-before-you-buy" outsourced apprenticeship model, in which the hiring employer acts as a client to the on-ramp. Unlike in traditional apprenticeship models, the employer of record is the on-ramp. Workers are managed by the on-ramp and do work for the client employer, but they do not work on-site at the client's facility. "In these models, apprentices sit at the service provider doing client work, proving their ability to do the job, reducing hiring friction with every passing day until they're hired by clients," says Ryan Craig, author of *A New U*.

Techtonic, a software development company based in Denver, has implemented an outsourced apprenticeship, now certified by the U.S. Department of Labor. Candidates are screened and then put through 12 weeks of training, akin to a coding bootcamp. After learners finish their training, Techtonic "hires" the apprentices, pays them entry-level wages, and pairs them with senior developers to work on projects for its clients.

Not only do apprentices get paid for work, but they also simultaneously develop and hone the skills they will need for long-term career success.

At the same time, Techtonic's client firms have a seamless, low-stakes way of evaluating a candidate's work before committing to full-time equivalent (FTE) employment.

As another example, LaunchCode, a St. Louis-based tech bootcamp, works with people without degrees who are traditionally underrepresented in technology industries and who lack the financial resources to earn technical degrees to break into the field. In addition to its other programs, LaunchCode recently started an outsourced service model in which LaunchCode hires and manages apprentices from its own program and, in turn, charges businesses $35 an hour for services. If, at program's end, the employer hires an apprentice—which is the goal, of course—the employer does not have to pay a placement fee, as LaunchCode's overhead costs have been covered by the hourly service charge paid by employers during the training and pre-hire apprenticeship period.

Both LaunchCode's and Techtonic's outsourced apprenticeship models reduce the risk to employers that are engaging with less conventional talent pools. This approach significantly smooths hiring frictions, while providing consistent revenue for the on-ramps. This is vital because most on-ramps rely heavily on government subsidies and philanthropy. The groups featured in this report receive approximately a quarter to a half of their revenue from philanthropic sources, which makes their business models unpredictable and often unsustainable. These try-before-you-buy models, however, offer new and steady revenue streams that are sustainable, reduce dependence on philanthropy or government, and align program with mission.

Outsourced apprenticeship is one form of creative, long-term revenue that should be explored and tested by more on-ramps, especially because it can ease interactions with more risk-averse human resources (HR) functions. Any manager with a specific talent or work need can bypass HR and contract directly with Techtonic or LaunchCode to fill that need. Once the candidate has proved him or herself, the hiring process becomes more of a formality. This is significant, especially as we consider the challenges in the next section.

3. Position on-ramps as robust talent pipeline solutions for employers

Employers often view their involvement with on-ramps as corporate goodwill, not necessarily good business. To some, social justice-focused employment and training efforts are more about philanthropy and public relations. Employers must perceive on-ramps as talent pipelines and seek buy-in across multiple business units—from the executive leadership down to the hiring managers.

On-ramps often interact with and are seen as the bailiwick of CSR or community relations offices, rather than HR. Such an arrangement marginalizes on-ramps outside of the central hiring function and management structures. This significantly limits the amount of attention and support these programs receive from an employer partner and, ultimately, the ability of the on-ramp to scale up to meet entry- and technician-level hiring needs. As difficult as it may be, on-ramps should work to make a business case for partnership with HR officials and frontline hiring managers.

JVS has worked with both sides of the house—community relations and HR—and has witnessed the difference. The organization's long-standing partnership with the UCSF Medical Center, focused on training medical administration assistants, had been routed through the university's community relations office for years. JVS worked hard to move the partnership to HR and succeeded about a year ago. The difference is striking: "The program was very successful in Community Relations, but moving it under HR brought even greater success, as HR sees this program as an essential component of its talent pipeline," said CEO Abby Snay. "We see this with other healthcare employers as well; the more these training programs and partnerships are grounded in business need, the more they're perceived as business solutions." Becoming a trusted provider and partner on the business side of a firm requires ongoing engagement and attention to improve outcomes and contain costs. JVS's partnership with UCSF remains a work in progress. The on-ramp is still improving its processes, so that more medical administration assistant interns can be converted into FTE employees at UCSF.

STRIVE, one of the largest on-ramps we analyzed, sometimes begins new employer relationships with CSR offices, but quickly makes it clear that the program is designed to meet their clients' core business needs: talent development and recruitment support in specific departments and job categories. For partnerships to succeed, said STRIVE CEO Philip Weinberg, the primary relationship needs to be with HR and must be based on a commitment to providing ROI, not just building goodwill for the company. "It may start as a philanthropic and civic-minded discussion," he says, "but we quickly pivot that conversation to a place where it's [about] providing value to the employer as an employer. It also has this ripple effect of positive benefits, as it relates to the employer as a civic player in the community."

When on-ramps operate outside of the core talent function of a company—as many do—they lose an opportunity to prove and measure their value as a pipeline of qualified and diverse employees. Instead, they are viewed as unrelated to the company's

bottom line. On-ramps run the risk of getting stuck in the "nice-to-do" category. Worse, employers might incorrectly assume that these hires are less skilled because they were brought in outside of the normal hiring processes—that they are less vetted, less talented, and maybe more of a risk.

A strong connection to HR can help, but it's not an easy switch. The opacity of corporate structures frequently makes it challenging to find the right connection and champion within an organization. "It's typically difficult to identify the real decision-makers," said Nick Johnson, COO of LaunchCode. "You can't just go on LinkedIn to find the appropriate contact. Often there are a variety of stakeholders who don't talk to each other and aren't well-aligned. We're left to be the wrangler that brings these folks together."

At the same time, a direct connection to HR is no silver bullet. HR leaders may not actually have authority to make hiring decisions; often, they are not close enough to business operations to know the precise skills that different departments need.

In Johnson's words, HR leaders are not always "good brokers." In order for on-ramps to position themselves successfully within a company, it often takes buy-in at multiple levels: a C-suite leader who champions the initiative top-down; enthusiastic HR department leaders who see the benefit of creating more diverse talent pipelines; and hiring managers who, as key decision makers, know the FTE headcounts and the specific skills required, and can support teams in ensuring successful onboarding and transitions.

On-ramp programs can reframe their services as essential talent pipelines, rather than as social justice initiatives, but the amount of work, outreach to employers, and cultural mindset shifts that such a move requires is substantial. Ultimately, however, the more that on-ramps are incorporated into companies' broader hiring strategies, the better. Without a strong connection to an employer's talent development systems, priorities, and targets, on-ramps will run the risk of being sidelined.

4. Extend support services beyond job placement for retention and advancement

Despite all of the great training in office culture, professional standards, and soft skills, hires can find it difficult to navigate their new work environment. This is true for any new hire, but it is especially true for adults who have had limited employment experience. Even being equipped with all of the right technical skills doesn't ensure an on-ramp completer's success. Given their past work and social experiences, new hires may be especially likely to leave a job when they have a setback. They may also succeed in their first position but find themselves stuck and unable to advance to more secure and better-paid career opportunities.

Employers understand and are concerned about the challenge of churn among on-ramp hires. For the employers we interviewed, a new hire's longevity in a job is a core measure of value. Jennifer Stredler, vice president for workforce at Salesforce.org, explains: "No employee is perfect; even with our best interns,

they're going to have times when they struggle. There are times when small challenges or barriers may create doubt and uncertainty, causing them to question whether they belong. It's very high-stakes." Employers' assessment of the risk associated with hiring through on-ramps is only heightened if they have had bad past experiences with hires quitting early on.

For this reason, a number of on-ramps we analyzed provide post-placement mentoring and support. Patrick Clancy of Philadelphia Works believes that "once employees successfully get to at least six months, they can be successful in both the industry and in the role." Philadelphia Works therefore assigns a case manager to new hires for six months and tracks job retention six and 12 months out post-employment.

But, according to Barrie Hathaway, CEO of the Silicon Valley-based workforce organization JobTrain, it is very difficult for many organizations to staff and pay for post-placement support for learners after they complete the program. "That's where the real gold rings are, at this point," Hathaway says. "We've got the model down in terms of high-result career education training and service provision. We've got that, it works really well. So our leading edge is employer relations and long-term career advancement strategies."

> "No employee is perfect; even with our best interns, they're going to have times when they struggle."
>
> **Jennifer Stredler, Salesforce**

The on-ramps we analyzed excel at placement. On average, 80 percent of their learners secured jobs upon completing the program. Once in the job, however, new hires lose many of those critical wraparound support services. Few on-ramps are able to provide ongoing support post-placement, even though there is significant research evidence that post-placement supports can play a major role in helping new hires acclimate to workplace culture. Continued wraparound services can empower new hires to overcome early challenges and plan for their next steps within the firm or organization.[40]

Of course, employers who partner with these programs should also bear some of the burden of post-placement support of new hires—not just by managing but also guiding their new employees. They need to give new hires substantive projects and constructive coaching and feedback. According to Stredler, however, "A big barrier is that managers are busy and strapped for time. Some also don't recognize the need for coaching and support. They say, 'Oh, I've managed people before. I don't need training.' But we know that training for managers of interns from our programs is critical to their collective success."

Between the on-ramp and their employer partners, continuous support at the workplace for new hires can reduce churn, increase ROI, and build employer trust in the on-ramp and its graduates. This can have significant long-term benefits for the partnership and the new workers as they prepare for success in the workplace.

5. Measure, measure, measure to demonstrate program quality and ROI

Most adult learners, and particularly those who have had limited experience and success in formal education, frequently lack sufficient information to make informed decisions on whether to pursue an on-ramp. They face a barrage of unsubstantiated claims regarding the outcomes they can expect from any given education or training program and can get confused about where to invest their time and money. For-profit and nonprofit providers may charge very different tuition rates, as do short-term credential programs versus longer-term degree programs. Some practitioners, including Per Scholas in New York, have found that potential participants can be skeptical consumers, mistrustful of an offer of "free training," when they may have already been approached by for-profit institutions charging more than $10,000 for a short-term credential.[41] On-ramps can seem too good to be true.

More and better information about program costs, quality, and ROI are needed to sell on-ramps as a robust talent service. At present, on-ramps typically struggle to articulate the value of their programs to their stakeholders, including funders. And employers who primarily see their participation as a social responsibility rather than a business decision are not particularly concerned about quantifying the returns when partnering with on-ramps. The business case is underdeveloped, in part because data on outcome measures, such as long-term participant and completer success, are rarely tracked or reported.

Another challenge is that many employers do not know how to calculate return on investment when it comes to human capital. Lumina Foundation recently conducted a study to help Discover, a banking and payment service company, measure the ROI for its tuition reimbursement program. The study found that employees who use the program get more promotions (a 21 percent increase) and lateral transfers (a 9 percent increase), stay longer (a 0.5 percent increase), and take fewer unplanned absence days (a 0.4 percent decrease) than non-participating employees. Researchers calculated a total benefit of $18.5 million across these four factors. Discover Chief Learning Officer Jon Kaplan explained: "This study helped prove what we already knew: Investing in our employees helps our customers, helps the community, and provides significant business value."

On-ramps are prime candidates for similar education-as-benefit analyses. Funders and on-ramps need to invest in similar forms of measuring what matters, particularly if these programs are to secure the long-term support from employers, funders, and investors. Programs typically measure inputs, such as enrollment, or first-level outputs, such as completion and placement. Although these are important, few track participants' longer-term outcomes: job tenure, career advancement, and salary growth over time.

LaunchCode does, in fact, research the program's benefits to the employer, so it can make the case for its services and for investing in expansion. LaunchCode tracks participants for 18 months after completion and measures job satisfaction. It has found that a majority of employees it places continue with their employers. This is precisely the kind of data employers are hungry for, as they look to increase retention and drive down replacement costs. "If you hire somebody with nontraditional credentials and give them that opportunity," says Haley Shoaf, vice president of impact at LaunchCode, "the longevity of most people and the retention is really high."

On-ramps need to illuminate the successes of these learners and the advantages of hiring nontraditional talent. They must paint a clearer picture of both quality and ROI. This kind of investment is difficult, expensive—and, in the long run, critical. "If I was starting from square one in considering new partnerships, I would first look to research and ask prospective partners about their outcomes. What are the results? And I'd be interested in both quantitative data as well as more qualitative measures. I'd look for partners who value an evidence-based approach, and who are committed to sharing both successes and challenges openly," said Stredler at Salesforce.org.

Better data on performance can help employers understand the risks and rewards of engaging with an on-ramp. Such measures also illuminate for employers the benefits of leveraging these programs, as opposed to leaving positions unfilled. An on-ramp and its employer partners can put quantitative stakes in the ground around how to reduce the time and cost of recruitment, hiring, and training while improving the quality and diversity of the candidate pool.

Innovation for the Sake of Shared Prosperity

As a nation, we have the ability to shape not only the future of work but also the **future of *workers*.** This case study highlights an innovative and promising approach to the challenge of connecting working-class adults to economic opportunity.

At the same time, we must be realistic about the complexities of implementing and growing these models. In a country with 32 million working-class adults, only an estimated 100,000 people leverage on-ramps annually. By comparison, community colleges reach 10 times as many people. As currently designed, on-ramps cannot grow large enough to close the systemic skill gaps in the labor market. They are in the nascent phases of building out sustainable business models and revenue streams and are only beginning to be viewed as potential talent pipelines by client and partner employers in their field.

Changes in the economy, technology, and the future of work will have broad and massive implications, and they will not be distributed equally. These significant developments will make it even more imperative that we scale flexible and targeted programs that meet the needs of both adult learners and employers.

Without deliberate focus on scaling the innovative work of on-ramps, we run the risk that a solution well-suited to a large number of working-class Americans will remain underdeveloped. There is great promise in these seedling efforts, even as we scrutinize the challenges and barriers facing on-ramps. These innovative solutions must spread, so that we do not leave people behind as we face the future of work. Scaling on-ramps to better economic opportunities is the first step to building a more inclusive and equitable learning ecosystem of the future.

Endnotes

1. Bureau of Labor Statistics, "Employment Situation Summary," 2018.

2. We use the term "working-class adults" to refer to the 32 million working-age adults who are not earning a living wage or in a family with enough income to support a family of four. See Appendix 1A.

3. Valletta, Robert G., "Recent Flattening in the Higher Education Wage Premium: Polarization, Skill Downgrading, or Both?," 2017.

4. Ibid.

5. Carnevale et al., *America's Divided Recovery*, 2016.

6. Pew Research Center, *The Rising Cost of Not Going to College*, 2014.

7. Cass et al., *Works, Skills, Community: Restoring Opportunity for the Working Class*, 2018.

8. Chetty et al., "Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States," 2014.

9. Cahalan, Margaret et al., *Indicators of Higher Education Equity in the United States*, 2018.

10. Chetty et al., "Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States," 2014.

11. Weise et al., *Robot-Ready: Human+ Skills for the Future of Work*, 2018.

12. Cass et al., *Works, Skills, Community: Restoring Opportunity for the Working Class*, 2018.

13. Carnevale et al., *College Is Just the Beginning*, 2015.

14. Attributed to the science fiction writer William Gibson, but no one has been able to pin down when or where he said it (Kennedy, Pagan, "William Gibson's Future Is Now," 2012).

15. Information Technology and Innovation Foundation, *How to Reform Worker-Training and Adjustment Policies for an Era of Technological Change*, 2018.

16. Frey, Carl Benedikt and Michael Osborne, "The Future of Employment," 2013.

17. See sidebar on "working class." We use the term "adults" to refer to working-age adults between the ages of 25 and 64.

18. There is no consensus definition on what constitutes a living wage. We define a living wage as $25,000, slightly above the poverty threshold for an family of four and a standard used in the Department of Education's College Scorecard's earnings metric. For more detail, please see Appendix 1 in the full report.

19. Human skills and abilities go by many names: soft, non-cognitive, power, common, transferable, baseline, 21st century, employability, workforce readiness, interpersonal, talent, life, and professional. These are skills like leadership, collaboration, creativity, critical thinking, communication, emotional intelligence, judgment, ethics, and management that are difficult to automate and enable learners to transfer their knowledge across domains. Human skills alone, however, are insufficient for success in the workforce and must be paired with technical skills. Employers are seeking a combination of uniquely human skills plus technical depth. For more information, please refer to Weise et al., *Robot Ready: Human+ Skills for the Future of Work*, 2018.

20. Strada Institute for the Future of Work analysis of data from the U.S. Census Bureau, 2017.

21. Strada Institute for the Future of Work analysis of data from the National Postsecondary Student Aid Survey, 2016. This estimate is based on fall enrollment.

22. See endnote 19. Weise et al., *Robot-Ready: Human+ Skills for the Future of Work*, 2018.

23. LearnLaunch, *The State of Workforce Ed Tech*, 2018.

24. Urdan, Trace, "Filling the Other Skills Gap," 2017.

25. Craig, Ryan, "Employers Seeking To 'Try Before They Buy' Will Change Career Paths For College Grads," 2018.

26. We describe our method for selecting these nine programs in Appendix 1. It is worth noting that we also interviewed leaders and the employer partners of other excellent on-ramps such as Urban Alliance, Year Up, and Genesys Works, which are more geared toward younger student populations as well as Opportunity Youth. There are many similarities in the capabilities and wraparound services provided in those programs, but for the purposes of this report, we narrowed our focus to on-ramps that are tailored to adults 25 and older.

27. Philadelphia Works, as a Workforce Investment Board, serves approximately 30,000 young people and adults annually with a range of programs. In 2017, it piloted a "bootcamp" with Southeast Regional Advanced Manufacturing Partnership to build a talent pipeline into advanced manufacturing careers. We focus on this specific program throughout this report.

28. For a detailed description of each on-ramp, please refer to Appendix 2.

29. Strada Institute for the Future of Work analysis of data from the National Postsecondary Student Aid Survey, 2016. Note: Other postsecondary institutions serve approximately 1.7 million working-class adults.

30. Ibid.

31. Entangled Solutions analysis of on-ramps, 2018.

32. Registered apprenticeships are those registered with and approved by the Department of Labor based on its quality standards.

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36. For more detail, please refer to Appendix 1.

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Appendix 1: Data Sources and Methods

A. Analysis of 32 million working-class adults

In this paper, we use the term "working class" to refer to people who:

- **Have less than an associate degree**

- **Are not earning a living wage**
  There is no consensus definition on what constitutes a living wage. We define a living wage as $25,000, slightly above the poverty threshold for an family of four and a standard used in the Department of Education's College Scorecard's earnings metric.

- **Have a family income of less than $50,000**
  The National Center for Children in Poverty estimates that American families need an income at least twice the federal poverty rate to cover their basic expenses. The cost of living varies across geographies, but $50,000 lies in the middle of the range for areas with high and low costs of living across the United States (National Center for Children in Poverty, "Measuring Poverty," 2018).

Our estimate relies on the U.S. Census Bureau's 2017 American Community Survey (ACS). The ACS is a monthly cross-sectional survey of 250,000 households or 3 million households each year. The ACS includes information about respondents' educational attainment, earnings from employment, and family income.

B. Qualitative analysis of on-ramps

We did a rough market sizing of on-ramps to pull together a list of more than 60 programs. We excluded the employer-led programs, as it was difficult to verify whether these programs served our target population. To narrow down the list, we took a multi-pronged approach:

- We started with the evidence base by examining longitudinal studies that evaluated the impact of programs like Year Up and Per Scholas, and landscape studies that looked at BankWork$, Code2040, Flatiron School, Hack the Hood, Opportunity Junction, and the Stride Center.

- We attended Workday's Opportunity Onramps conference and JFF Horizons to speak to experts, practitioners, and employers. Some of the programs that we surfaced through these conferences include JVS, JobTrain, i.c.stars, Genesys Works, Opportunity@Work, Samaschool, Resilient Coder, and IBM P-Tech.

- Lastly, we wanted to balance our initial list with for-profit providers and workforce boards, so we included organizations like Revature, Techtonic Group, and Philadelphia Works.

We conducted outreach to more than 25 programs and received responses from 12.

Appendix 2: Detailed Descriptions of Select On-ramps

Figure A2.1. On-ramp programs vary in whether they are "full-stack" or unbundled.

ON-RAMP PROGRAMS	SOURCING & SCREENING	EDUCATION & TRAINING	SUPPORT & NAVIGATION TOOLS	CAREER ENTRY & ADVANCEMENT
i.c.stars	■	■	■	■
JobTrain	■	■	■	■
JVS San Francisco	■	■	■	■
LaunchCode	■	■	■	■
Per Scholas	■	■ ▲	■	■ ▲
Philadelphia Works	■	▲	●	▲
Samaschool	■	■	●	●
STRIVE International	■	■	■	■
Techtonic	■	■	●	■

■ = In-house	▲ = Outsource	● = N/A

Source: Entangled Solutions qualitative analysis of on-ramp programs, 2018.

i.c.stars

i.c.stars was established in 1998 by founders motivated to provide a technology-based and community impact education experience for underserved young adults.

i.c.stars recruits learners who are between 18 and 27 years old. Working with learners with high school diplomas or GEDs, with a minimum of six months of work experience (non-consecutive), i.c.stars receives 400–600 candidates for every internship training cycle and accepts 20 participants for each session.

Since 2015, i.c.stars has been piloting and refining its approach to expand beyond its first program in Chicago to Columbus and Milwaukee.

Capabilities	Details	Delivery
Sourcing and screening	Participants are recruited through social media, CBOs, alumni/friends referral, career fairs, and community events. i.c.stars uses a holistic approach in its recruitment process through its multi-step application and assessment process with online and in-person components.	*In-house*
Education and training	i.c.stars's program is a four-month immersive project-based experience and teaches general IT knowledge (e.g. information technology, programming, cybersecurity) and technical, specific skills (e.g. SQL, Python, Javascript, CSS, HTML). Currently, i.c.stars is piloting a cybersecurity track that would include an industry certification, and is exploring adding certifications for front-end development training.	*In-house*
Supports and navigational skills	Students have access to mentoring, counseling, social service referrals, job placement assistance, employer check-ins, and professional development opportunities. All supports continue for 20 months after program completion and are provided by staff and private sector volunteers, who get to know participants and become part of their professional network.	*In-house*
Career entrance and advancement	Corporate clients bring real business challenges for participants to solve by building a software or mobile app prototype. Later, those corporate clients can hire participants directly or find other potential employees from i.c.stars's talent pool.	*In-house*
Business model	i.c.stars is funded through a mix of philanthropy, event-based fundraising, and corporate contributions and grants. Employers can also contribute to i.c.stars by sponsoring specific projects.	

JobTrain

JobTrain's history of serving low-income individuals and families dates back to 1964 when Reverend Leon Sullivan partnered with local businesses and organizations to train unemployed individuals in Philadelphia to start the Opportunities Industrialization Center (OIC). The model quickly expanded to regions around the country, including East Palo Alto, where Father John Sweeny recruited hundreds of community and church leaders to turn a warehouse into a training and placement center called OIC-West. In 2007, the chapter rebranded as JobTrain to "increase outreach to students and potential employers and to enhance [its] overall impact in the community."

JobTrain offers a range of programs for young people, adults, and families. Its six different career training pathways prepare adults with the skills and experiences they need to land a job in a high-demand field. One component that is central to JobTrain's pathway model is the "Job Developer," a dedicated career coach who works with every student as soon as training begins. The Job Developer helps students develop skills such as resume building, mock interviews, job search strategies, and professional etiquette. A graduate of the medical assistant program emphasized the benefits of a Job Developer: "The skills I gained at JobTrain helped me prepare to get a job. The counselors were so helpful. They were always on top of everything, helping me with the next steps in reaching my goals."

Capabilities	Details	Delivery
Sourcing and screening	JobTrain serves unemployed young people and adults, with or without high school diplomas, and those who are at risk of incarceration. The on-ramp is comprised mostly of adults. Almost all are low-income, and 34 percent were formerly incarcerated. To recruit participants, JobTrain works with community partners and receives referrals from CBOs and government agencies.	*In-house*
Education and training	JobTrain has six pathway programs: medical assistant, nursing assistant, culinary arts, Salesforce administrator, carpentry, and construction. Every program includes components of essential skills, technical skills, and soft skills, delivered in a 12–17-week intensive classroom training followed by additional weeks of work-based learning. The work-based learning component varies by program.	*In-house*
Supports and navigational skills	JobTrain offers on-site services to help participants gain access to legal advice, affordable childcare, referrals, and apply to government benefits.	*In-house*
Career entrance and advancement	Different models of career entry are embedded into the program, such as externships and apprenticeships.	*In-house*
Business model	JobTrain is funded through government grants, private donations, and philanthropy. Employers are critical partners, but they do not pay for the program's services. JobTrain is working to improve its business model by clarifying its value proposition to its employer partners.	

JVS San Francisco

Since 1973, JVS has helped more than 85,000 people in the Bay Area build skills and find jobs. In 2015, JVS launched a new initiative called Career Pathway, designed to serve adults facing barriers to employment and built in close partnership with employers in the industries of healthcare, financial services, technology, and trades. JVS provides the training directly or in partnership with community colleges and other partnering institutions.

JVS's education and training components are customized for each employer. EXCEL, JVS's medical administration program, was built in collaboration with UCSF. Although this is highly beneficial for students, the level of customization JVS engages in for each employer adds barriers to scale.

Capabilities	Details	Delivery
Sourcing and screening	JVS recruits working-class, often unemployed, adults who are 18 years old or older and eligible for the JobsNow program (recipients of CalWORKs or Partnership for America's Economic Success). Learners are recruited in person and through social media, direct mail, and referrals from learners and community partners. In-person recruitment sessions typically includes employers, so that potential candidates can hear directly from employers. JVS uses a holistic approach in its recruitment process: four stages of a phone screen, in-person interview, an eligibility screen, and computer assessment.	*In-house*
Education and training	JVS's programs typically include both classroom training and a paid internship. EXCEL, for example, consists of 10 weeks of classroom training and a four-month internship. Learners receive training on technical skills (e.g. medical administration and digital skills), soft skills, and professional skills (e.g. interview preparation). To prepare students for the experience of the occupation, programs are full-time and delivered on both JVS campus and employer sites. Activities emphasize peer learning approaches, as well as role-play and teach-backs to give the learners opportunities to demonstrate the specific skills they have learned.	*In-house*
Supports and navigational skills	Learners have access to mentoring and counseling during the program. Program staff serve both a program management role and a mentorship role, with at least a quarter of their time allocated for coaching and development. On top of that, students are provided with opportunities to interact and engage with employers, who provide additional perspectives on the job-entry process.	*In-house*
Career entrance and advancement	UCSF, the only employer for the EXCEL program, provides a four-month paid internship.	*In-house*
Business model	JVS is funded through a mix of philanthropic and government grants. Employers pay for the internship portion of the program.	

LaunchCode

Back in 2013, Jim McKelvey founded LaunchCode to "help companies find skilled, new talent from all backgrounds and walks of life." Today, LaunchCode has expanded its operation to Kansas City, Tampa, and Miami, and has enabled more than 1,000 career launches.

LaunchCode is an exemplar in its commitment to improving its business model, both to diversify its revenue stream and lower costs. It has shifted from pay-for-placement to pay-for-service to alleviate the hiring friction for its employer partners. In its effort to improve the effectiveness of its program to serve more working-class adults who were working part-time, it shifted to a part-time, blended model, so that students can still work while participating in the program. Compared to the other on-ramps we evaluated, LaunchCode has one of the biggest cohort sizes. LaunchCode is continuing to find strategies to increase student retention rates through its blended and large cohort model.

Capabilities	Details	Delivery
Sourcing and screening	LaunchCode recruits learners who are 18 and older. LaunchCode uses a holistic approach that includes a set of short-answer questions that allow candidates to demonstrate aptitude, drive, and passion, as well as pre-work that reflects an applicant's capability in working on LaunchCode's actual program.	*In-house*
Education and training	The introductory program, Discovery, is a 20–30-hour online curriculum that has become the first point of exposure to LaunchCode, and is delivered in partnership with community partners, such as public libraries. The core program, LC 101, is a 14–24-week program focused on preparing students for careers in software development. It uses a blended, flipped-classroom model.	*In-house*
Supports and navigational skills	LaunchCode has partnerships with community agencies to provide public transportation and parking, legal services, food stamps, healthcare, and employment assistance.	*In-house*
Career entrance and advancement	LaunchCode works with employers to provide apprenticeships and job placement services for the learners. In its new pay-for-service model, LaunchCode employs apprentices for 90 days to work on projects offered by employer partners, while receiving additional on-the-job mentorship from senior software engineers at LaunchCode. After 90 days, the employer determines if they will hire the apprentice as a full-time employee.	*In-house*
Business model	The majority of LaunchCode's operations are supported by employers through its new pay-for-service model. A small percentage of the operations, mostly the education and training, are funded by a mix of philanthropic and government funds.	

Per Scholas

Per Scholas was founded in 1995 with the mission of closing the digital divide in the South Bronx. It has evolved over time to open doors to transformative technology careers for adults from overlooked communities. It has served more than 6,000 learners since its founding and now serves approximately 1,000 students annually. Its enrollment rates are increasing by 37 percent annually.

Per Scholas customizes content depending on specific employer needs, with a special emphasis on work-based learning opportunities that allow students to practice technical skills such as cybersecurity in labs and real-life scenarios.

As it scales to new sites, Per Scholas continues to lower program costs and increase returns on each employer's financial investment. In 2018, Per Scholas launched its pay-for-service model called Platform by Per Scholas, which offers customized training for each specific company. Per Scholas is paid after a student is successfully placed with the employer.

Capabilities	Details	Delivery
Sourcing and screening	Per Scholas recruits learners who are 18 or older. It works with learners with high school diplomas or GEDs. Students are recruited from contacts at public agencies and CBOs, broader community events, social media, and word of mouth, and partnerships with other organizations, such as Year Up.	*In-house*
Education and training	Per Scholas's programs last between 17 and 19 weeks and focus on roles in IT support, cybersecurity, network engineering, and web development. Every program includes technical training, soft skills, and an industry certification like Cisco Cyber Ops and CompTIAA+.	*In-house*
Supports and navigational skills	Students have access to social services through Per Scholas's partnerships with CBOs and other organizations. An important aspect of this is access to financial coaches, who support students with financial planning and management, such as helping students build financial goals or understand student loans, etc.	*In-house*
Career entrance and advancement	Per Scholas provides students with work-based learning experiences, such as "mock Security Operations Centers" training and then matches them to an employer upon completion. The organization also places students in an internship before hire.	*In-house*
Business model	Per Scholas is funded through a mix of funding from philanthropy, government funding, and employers. It is piloting its pay-for-service model in New York and Dallas.	

Philadelphia Works

Philadelphia Works was designated by the city's mayor as Philadelphia's workforce development board and is funded by federal and state workforce dollars. Philadelphia Works has a wide range of education and employment programs to serve 30,000 people annually, covering the entire Philadelphia Metro Area. Specifically, Philadelphia Works piloted a "bootcamp" in 2017 with Southeast Regional Advanced Manufacturing Partnership to build a talent pipeline into advanced manufacturing careers.

Its bootcamp has a unique application process, designed to alleviate barriers to participation. The enrollment process is designed as a "pre-enrollment week" that includes literacy test, mechanical test, soft-skill assessment, and drug test—all delivered in the same location.

Capabilities	Details	Delivery
Sourcing and screening	As a workforce board, Philadelphia Works is uniquely positioned to recruit learners for the bootcamp through referrals from the county assistance offices, and/or applications for public benefits, in addition to CBO partners that serve low-literate adults and learners transitioning from incarceration, out-of-school, unemployment recipients, and single parents.	*In-house*
Education and training	The bootcamp provides an intensive skills training for 3-4 weeks, during which learners learn soft skills, technical skills, and industry-specific skills for one of these areas: healthcare, information technology, construction and manufacturing, business and financial service, transportation and logistics, and early childhood education. The adult basic education component is delivered by Pennsylvania Careerlink, while EDSI supports curriculum design and employer engagement. The education and training components are often delivered at the employer's site.	*Outsource*
Supports and navigational skills	Currently, the bootcamp has not yet formalized its wraparound services, but students have access to career counseling, career development workshops, public assistance and benefits, and financial literacy training through Pennsylvania Careerlink.	*N/A*
Career entrance and advancement	Philadelphia Works connects the successful learners to employers that provide apprenticeship and on-the-job training, supported by EDSI.	*Outsource*
Business model	As a nonprofit workforce board, Philadelphia Works is supported by a mix of federal, state, and local government grants and private donations. For the bootcamp in particular, employers currently do not contribute financially, but they do cover participants' transportation costs.	

Samaschool

Serving nearly 500 students in New York and San Francisco in 2017, Samaschool provides training that is designed to upskill working-class learners to be successful freelancers.

Samaschool works with community partners, such as CBOs, NGOs, and workforce centers, to embed its standards-based curriculum in the partner's training program. Samaschool offers flexible instructional models for a community partner to adapt its core curriculum to fit the partner's needs. The model can be delivered in various formats: instructor-led, self-paced, and blended. To reach a larger target population, Samaschool is currently piloting ways to scale through train-the-trainer models. It also wants to strengthen its impact metrics to better understand how gig work can prepare adults not only for episodic freelance work, but also for long-term career paths.

Capabilities	Details	Delivery
Sourcing and screening	Samaschool recruits learners who are 18 and older—the average age being 30. Students are recruited by the community partners, such as California Community Colleges and San Francisco Public Libraries.	*In-house*
Education and training	Each training program lasts 8–10 hours, with instructor-led, blended, or self-paced learning. For instructor-led and blended learning, Samaschool requires its community partners to provide the facilities, such as classroom, projectors, and computers for students. Employer partners teach the technical skills, and Samaschool teaches work-readiness skills, including independent work, personal branding and marketing, customer service, time management, and finances and taxes. Samaschool measures its impact by looking at the number of learners who pursue independent or contract work.	*In-house*
Supports and navigational skills	Currently, Samaschool does not offer wraparound services.	*N/A*
Career entrance and advancement	Currently, Samaschool does not provide career-entry services for its participants.	*N/A*
Business model	Samaschool is partially funded through its partnerships with CBOs, NGOs, and workforce groups on a pay-for-service model with supplemental funding from grants and in-kind contributions.	

STRIVE International

STRIVE was founded in the 1980s by two Manhattan-based bankers and a social worker who were deeply concerned about chronic unemployment among residents of East Harlem and other urban neighborhoods across the country. Its model combines short-term training focused less on specific technical skills and more on addressing the behaviors and life situations that have kept people unemployed. The program aims for rapid job placement and provides critical, long-term follow-up and support.

STRIVE's core model includes five essential pillars: job readiness, occupational skills training, case management, job placement, job retention, advancement, and follow-up. Depending on the specific populations, such as formerly incarcerated and/or those without high school diplomas or GED, STRIVE adapts parts of its model to serve their different needs. STRIVE has been scaling through its affiliate model: It now operates in 20 American cities and serves more than 2,000 people each year with partners around the country.

Capabilities	Details	Delivery
Sourcing and screening	STRIVE works with learners who are and unemployed or chronically underemployed. The average age of clients is 30. They work with learners with and without high school diplomas, and serve a significant proportion of formerly incarcerated adults. Students are recruited from contacts at public agencies and CBOs, broader community events, social media, and word of mouth.	*In-house*
Education and training	The goal for participants is movement into entry-level and middle-skill positions. The typical training is 12–20 weeks long, starting with a "core workshop" in which participants focus on teamwork, ethics, and professional habits. From that core, STRIVE layers on additional training tailored to certain fields, such as construction or administrative support in healthcare. Some learners participate in paid internships, and all participants work with an employment specialist as the training ends.	*In-house*
Supports and navigational skills	Throughout the program, participants work with case managers to deal with issues of mental health, financial stability, and challenging family situations.	*In-house*
Career entrance and advancement	All participants work with an employment specialist as the training ends and receive extensive help in securing a job.	*In-house*
Business model	STRIVE is funded through philanthropic and government grants. Employers are critical partners, but they do not pay for the program's services.	

Techtonic

Techtonic Academy was founded in Boulder, CO in 2016 to provide opportunities for unemployed and underemployed adults to enter the IT workforce. Techtonic recruits adults without college degrees and those who are underrepresented in the IT workforce: women, people of color, and veterans.

Currently, the program costs $10,000 per student. Techtonic helps students identify and apply for government and nonprofit grants. However, often not all of the costs are covered. This may restrict access to working-class populations and/or place extra burdens on students if they have to cover childcare, housing, transportation costs throughout the program. Nevertheless, this is a unique model, one of the few IT apprenticeships that has been approved by the Department of Labor as a federally registered apprenticeship. Techtonic has served a total of 68 apprentices thus far.

Capabilities	Details	Delivery
Sourcing and screening	Applicants are assessed based on their potential and interest to learn, without any requirement of technical background. Techtonic uses a holistic approach in its recruitment process, including an online application, prework (a series of learning modules, exercises, and assignments to gauge applicant's current skill set), phone screen, and on-site interview. Learners are recruited through referrals from workforce agencies and nonprofit organizations, social media, veteran and workforce events, and a direct online application.	*In-house*
Education and training	Techtonic's training consists of classroom training and workplace training for four to six months total. The 12 weeks of classroom training consists of lectures, exercises, and projects. During the class, students learn software technical skills and soft skills (e.g., creativity, critical thinking, conflict management, goal setting, or how to run an effective and efficient meeting). After the classroom training component, students are placed on Techtonic clients' software development projects and learn from senior engineers. Upon the completion of program, each student will get 39 college credits and Department of Labor-issued Apprenticeship Certificate of Completion.	*In-house*
Supports and navigational skills	Currently, Techtonic does not offer wraparound services.	*N/A*
Career entrance and advancement	Apprentices are employees of Techtonic on day one and can be hired directly by Techtonic's clients. Students are paid $15 per hour for classroom training and $17 per hour during the apprenticeship and are mentored by senior software engineers throughout the training and apprenticeships.	*In-house*
Business model	As a software development services firm, the apprenticeship program is built into its business model.	

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