APPRENTICESHIPS FOR AMERICA

How Community Colleges Can Help Scale US Apprenticeships: Evidence from the Field

Authors

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Photo credit: Lake Region State College

Appreciation

Apprenticeships for America gratefully appreciates the interviewees from the 18 colleges that were part of this study. They offered their time and thoughtful responses to what must have seemed like an endless array of questions from the AFA team. AFA draws inspiration from their daily efforts to broaden pathways to opportunity for their students and partners.

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Executive Summary

Apprenticeship in America remains massively under-scaled. Relative to its prevalence in other countries, apprenticeship represents a tiny fraction of the labor market and a niche talent development strategy. But given increasing interest in alternative education pathways alongside traditional higher education, apprenticeship is getting more and more attention in the United States. Apprenticeship offers a low- or no cost educational opportunity, a paid on-the job learning experience, as well as mentoring and support to ensure individuals successful completion of the program and transition to the workforce. Based on wage gains and job retention, it is the gold standard for workforce development. And because it starts with a real job, apprenticeship programs can help bridge the gap that sometimes exists between traditional academic programs and the evolving skills required by employers.

Growing apprenticeship to levels seen in other countries will require significant effort and investment. However, community colleges seem well-positioned as a rare bit of low-hanging fruit: institutions that might act as an accelerator of apprenticeship. Geographically wide-spread and already operating at scale, the American community college offers considerable assets as a partner, incubator, and manager of apprenticeship programs.

In this report, Apprenticeships for America offers an examination of the role community colleges can play in scaling apprenticeship programs in the United States. The primary objective of this research is to enumerate how community colleges can effectively contribute to the expansion of apprenticeship, thereby enhancing workforce development and regional economic growth. The research represents a comprehensive review of past studies and data, as well as the findings from a series of semi-structured interviews with administrators, faculty members, and staff from 18 community colleges actively engaged in apprenticeship programs.

Community colleges we surveyed play a multifaceted role in the apprenticeship ecosystem, including delivering related technical instruction (RTI), advising on on-the-job training, engaging and organizing employer partners, recruiting

1. **Diverse Engagement Levels:** The 18 community colleges studied demonstrate varying levels of engagement in apprenticeship programs, from small, niche programs to large-scale initiatives. This variation is driven by local labor market demands and the specific needs of regional employers.
2. **Employer Engagement**: Successful apprenticeship programs rely heavily on strong employer partnerships. Community colleges employ various strategies to engage employers, including direct outreach, leveraging existing relationships, and utilizing state funding incentives. However, consistent employer recruitment remains a significant challenge.
3. **Consistent Staffing is Key:** While the colleges surveyed used a range of organizational approaches to their apprenticeship programs, consistent staffing both advanced external relations and employer engagement as well as the necessary relationship management and departmental engagement within the college.
4. **Funding Models:** Sustainable funding for apprenticeship programs is elusive. Community colleges must often take a braided approach, combining state and federal grants, workforce development funds, corporate sponsorships, and philanthropic contributions. Some states, like California, offer specific funding initiatives to support apprenticeship expansion.
5. **Support Services**: Comprehensive support services for apprentices, including financial aid, academic and career guidance, administrative assistance, and material support, are hallmarks of the programs we surveyed. These services address barriers to participation and enhance the overall effectiveness of apprenticeship initiatives.
6. **Barriers:** Key barriers to scaling apprenticeships include the misalignment of funding models with apprenticeship needs, the administrative burden of managing programs, and the challenge of recruiting sufficient employer partners.

AFA suggests several recommendations to advance the scaling of apprenticeship efforts in community colleges. First and foremost, we recommend the creation of reliable, ongoing funding streams at federal and state levels to support apprenticeship programs. We encourage an exploration of how eligibility criteria for Pell Grants and GI Bill benefits might be modified to better support learning under apprenticeship. We also encourage community colleges to develop apprenticeship efforts that leverage and transcend their more traditional roles as training providers to include such activities as acting as group apprenticeship sponsors, managing all aspects of the apprenticeship process for multiple employers to streamline implementation.

Community colleges are uniquely positioned to scale apprenticeship programs in the United States, addressing critical workforce needs and providing valuable career opportunities for students. By leveraging existing infrastructure, fostering employer partnerships, and securing sustainable funding, community colleges can play a transformative role in expanding apprenticeships. Implementing the recommended policies and practices can enhance the capacity of these institutions to deliver high-quality apprenticeship programs, ultimately benefiting students, employers, and the broader economy.

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Foreword

Earl Buford, *President, Council for Adult and Experiential Learning*
Anne M. Kress, *President, Northern Virginia Community College*

From their earliest origins, community colleges have been a cornerstone of America's workforce development strategy. For more than a century, these institutions have opened doors for people to learn new skills, retrain for emerging fields, and chart pathways to social and economic mobility.

This report from Apprenticeships for America highlights a timely and meaningful opportunity for community colleges and employers to collaborate more closely through the practice of apprenticeship. Apprenticeships offer a powerful solution: they provide real-world training, reduce turnover, and build clear pathways for workers while aligning educational outcomes with industry needs. Done right, these partnerships can drive enrollment growth, give employers direct access to talent, and help local communities respond more nimbly to economic demands.

A growing number of innovative community and technical colleges are beginning to tap into the power of registered apprenticeship to create new pathways to economic opportunity and career placement. Over the past decade, these community colleges have proven themselves as effective partners in developing and scaling apprenticeship programs. The data presented here underscores their ability to act as intermediaries between learners and employers, bridging the gap between education and employment. The report outlines actionable recommendations to expand these efforts, including urging colleges to play a more prominent role in managing and sponsoring apprenticeship models.

But the full potential of apprenticeships can only be realized if employers and colleges come together in meaningful ways. Breaking down old assumptions about apprenticeships being solely for the trades—and showing their value across sectors like technology, healthcare, and finance—will be critical. The report also reveals public policy barriers that impede—or at least discourage—the kind of collaboration required for this to succeed at scale. Funding, governance and accountability metrics can all work to advance apprenticeship—or diminish it.

Ultimately, apprenticeships aren't just about addressing short-term labor market pain points. Done right, they can create real opportunities for individuals, whether they are starting their careers or pivoting mid-stream. By pairing education with hands-on experience and a paycheck, apprenticeships open up new paths to social mobility and economic stability. That's a vision worth investing in.

Introduction

Community colleges are popular vehicles for such disparate goals as free college and mass higher education, open entry and flexibility, credits that transfer to a BA, college credits for high school students, and providing valuable skills in the workplace. However, their role in the evolving US postsecondary education system is facing new challenges. Enrollment at the nearly 1,000 public 2-year colleges, which peaked in 2010 at 7.2 million full-time and part-time students, has since shifted to about 4.5 million. Noncredit workforce education enrollments have been one of the few areas of consistent growth. Among those entering in 2018 and seeking a 2-year Associates (AA) degree, only about 30 percent graduated within three years. For Black men, this figure was less than 20 percent.

While community colleges primarily grant AA degrees, emphasize general education, and facilitate transfers to BA degrees, their role in upgrading America's workforce is extensive and growing. Many community colleges have long contributed to the development of skills for the workplace. In the 2020-21 academic year, two-year public colleges awarded about 700,000 certificates, which are earned in career-linked programs of a year or less in such occupational fields as health professions, business fields, and engineering. In comparison, about 1 million students earned AA degrees at two-year colleges. In addition, community colleges often provide short-term, noncredit courses in job-focused programs (Jacoby 2021). Estimates indicate that one in five community college students are participating in these job-focused noncredit programs. Many colleges offer customized training, usually short-term, to employers to address specific skill needs. Overall, Jacoby (2021) estimates that 54 percent of total community college enrollments are "job-focused", although the percentage varies widely among community

52%

of community college enrollments are "job-focused"

colleges from about 32 to 93 percent. Federal and state policymakers have tried to expand the amount of community college workforce activity. One example was the expenditure of $2 billion through the trade adjustment assistance program to fund 256 grants to community colleges to increase their capacity to educate and train the local labor force.[1] A good deal of funding under the WIOA program flows through community colleges, largely in non-credit degree programs. The importance of work- or career-based education has inspired community college leaders and higher education policy makers to reassess the role, funding, and performance metrics of these institutions. As a major provider of learning directly relevant to the labor market, community colleges have the advantage of scale, ongoing state and federal support, and the combination of academic and technical coursework.However, community college career programs suffer from low completion rates, frequent skill mismatches, minimal counseling, inflexibility in developing and changing curricula, and the limited use of work-based learning.

Many countries rely less on colleges and universities for skills-based learning and more on learning in the context of work as an apprentice. The US has lagged far behind in apprenticeships compared with other countries, such as Australia, Austria, England, France, Germany, and Switzerland. Apprenticeship programs offer many advantages over purely academic postsecondary education programs. Since apprenticeships depend on employer demand, mismatches between skills taught and supplied and skills demanded in the workplace are unusual. Apprenticeship provides workers with a full salary so that participants can earn while they acquire valued skills. Apprentices learn in the context of real work settings and attain not only occupational skills but other work-related skills, including communication, problem-solving, allocating resources, and dealing with supervisors and a diverse set of coworkers. Evidence suggests high returns to apprenticeship for workers and for most employers (Katz et. al 2022; DeLaRosa et. al 2022).

Given the advantages of apprenticeship and the large number of community colleges, can expanding the use of apprenticeship by community colleges help widen economic opportunities for workers and increase productivity of employers?

Collaboration between community colleges and apprenticeship programs makes sense for several reasons. Worker success in occupations requires that they gain not only content knowledge about their field but also other skills used in the context of the occupation as well as on other jobs. For many occupations, community colleges are well-positioned to provide the academic-based instruction but cannot deliver the necessary nonacademic skills and occupational expertise. These require learning in the context of productive work and real operations, the type of learning that comes with apprenticeship training.

For community colleges, apprenticeships assure relevance for their students and allow students to document their abilities to perform in the workplace. In addition, they allow overcrowded, strained community colleges to

> **Apprenticeships assure relevance for their students and allow students to document their abilities to perform in the workplace."**

offload some of their education and training to effective work-based learning under skilled supervisors. For apprenticeships, community colleges can provide college credit and a college framework.

The federal government has taken a few actions that link apprenticeship policy and community colleges. In 2015, as part of the increased interest in apprenticeship, the Department of Labor formed the Registered Apprenticeship Community College Consortium to encourage community colleges to grant college credits for apprenticeship. Since then, some community colleges have received competitive grants under several Office of Apprenticeship grant programs and the Labor Department awarded $20 million to the American Association of Community Colleges (AACC) to support the Expanding Community College Apprenticeship (ECCA) Initiative.[2] While these grants stimulated over 30,000 new apprenticeships, they do not offer a strategy or steady funding stream for community colleges to pursue a major apprenticeship strategy.

Some community colleges have become *sponsors* of apprenticeship programs, a responsibility that requires ensuring an occupational program is registered, seeking out available public funding for their programs, maintaining and reporting data, signing up multiple employers, and overseeing the work-based learning and related instruction of apprentices.

To understand the extent to which community colleges play the role of sponsor, we tabulated information drawn from the official data set maintained by the Department of Labor's Office of Apprenticeship (the Registered Apprenticeship Partners Informational Database System, or RAPIDS). As of 2023, 541 community or technical colleges were identified as registered apprenticeship sponsors. However, only 208 of these colleges have an active apprentice. The overall number of apprentices in these programs (about 15,500) represent only a small fraction (about 3 percent) of all civilian apprentices.

The number of community college sponsors with active apprentices has seen a steady increase since 2016. Starting from just 30 sponsors with active apprentices, the number climbed to over 200 by 2023. This growth (Figure 1) illustrates a rise in interest from community colleges in maintaining active apprenticeship programs. The count of active apprentices also closely mirrors the trends observed in the number of active sponsors, with significant growth in active apprentices over the decade (Figure 3). These trends highlight the broadening involvement of community colleges in apprenticeships over time.

Figure 1. **Community college program sponsors with active apprentices**

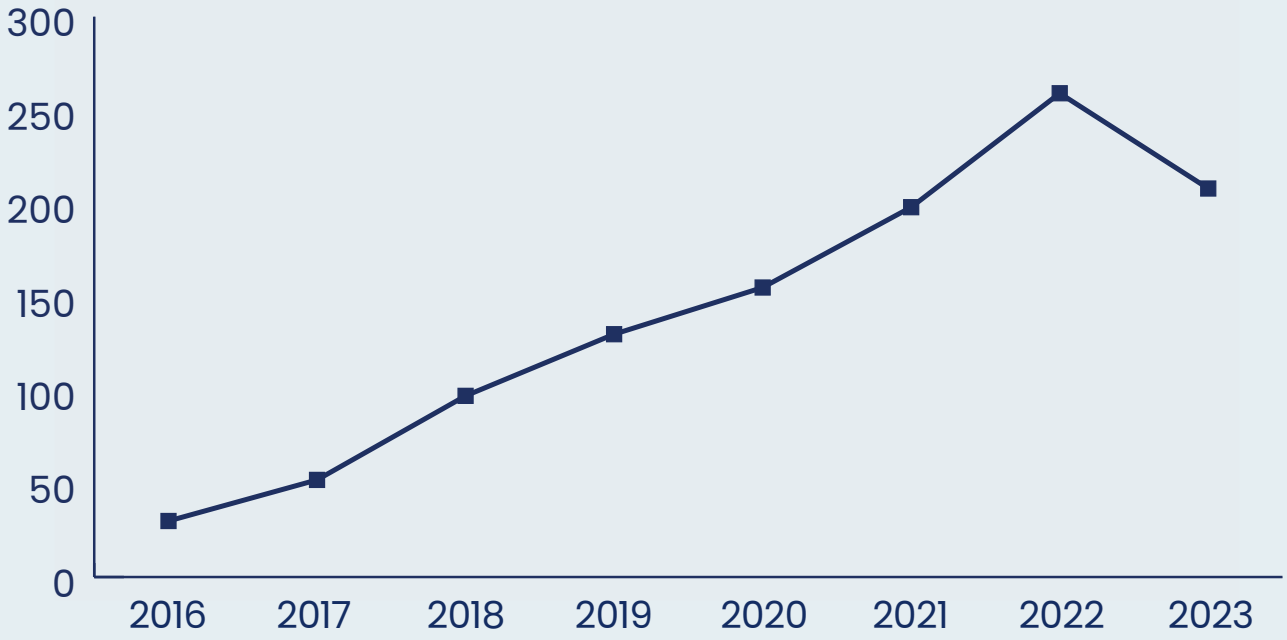
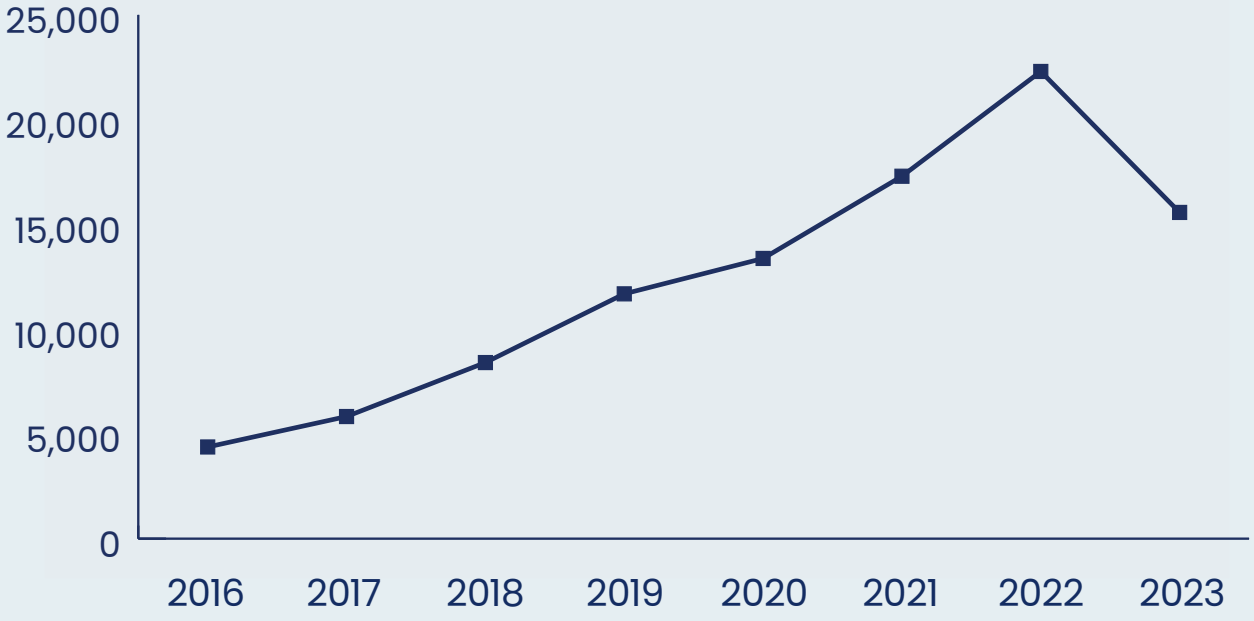


Figure 2. **Active apprentices in community college sponsored programs**



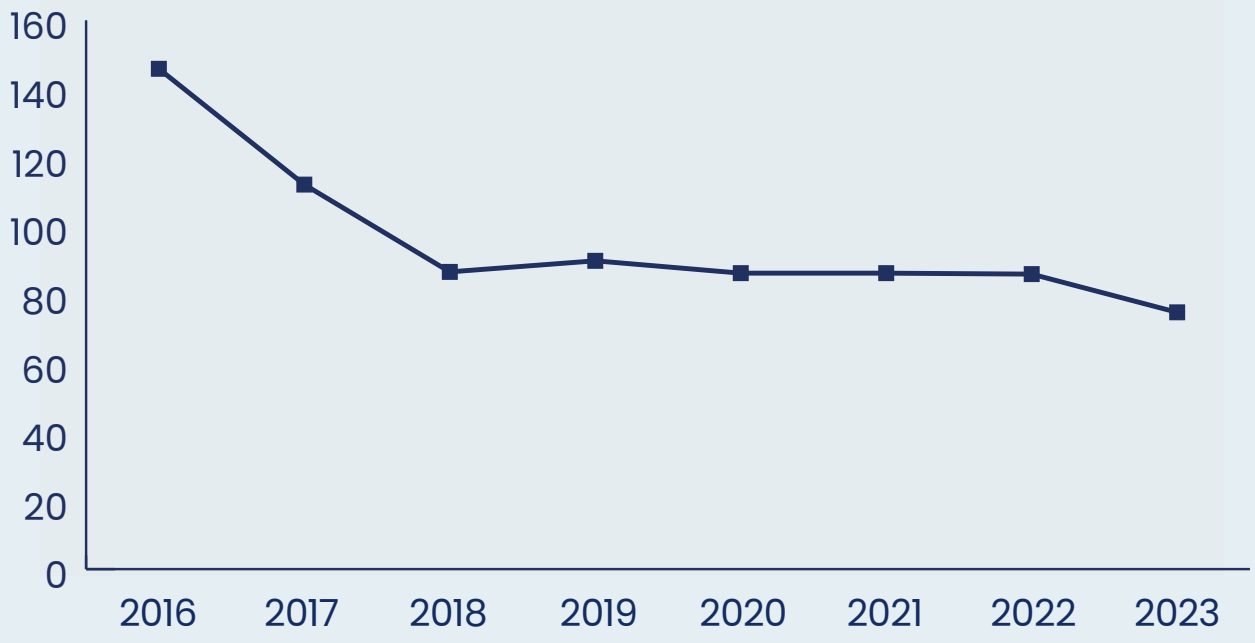
Despite the increase in active sponsors over the last decade, the average number of apprentices per sponsor has decreased over time (Figure 3). Significant variation exists in the scale of these programs, with some programs sponsoring large numbers of apprentices while others maintain more modest apprentice numbers. This pattern of decreasing apprentice count per active sponsor indicates that while more colleges are participating, many are doing so on a smaller scale.

These figures suggest that a meaningful number of community colleges already participate in registered apprenticeships but the low scale of many of their programs and the large number of colleges that do not sponsor an apprenticeship program indicates room for major growth.

This paper examines the potential for widening the role of community colleges in expanding apprenticeships. We draw on past research about existing activities by community colleges linked to apprenticeship. But our main contribution is to report in detail on selected colleges with significant apprenticeship efforts to describe how apprenticeships operate. We interviewed key players at the colleges about how they started programs, how they build on relationships with employers and students, and what barriers they have faced in expanding apprenticeships. We conclude with a set of recommendations for policy and practice that could stimulate community colleges to scale apprenticeships in the US.

"This pattern of decreasing apprentice count per active sponsor indicates that while more colleges are participating, many are doing so on a smaller scale."

Figure 3. **Average Apprentice Count per Sponsor**



Past Research

2.1 Community Colleges, Workforce Functions and Apprenticeship

Community colleges serve a range of functions, from helping students earn low-cost credits near home that can transfer to a four-year university, to improving basic skills in English and math, to preparing for careers by earning Associate's (AA) degrees or certificates relevant to occupational fields. National information captures the percentages of AA degrees and certifications in career-focused fields. For example, of the 1 million AA degrees awarded, only about 41 percent were in liberal arts and sciences or multidisciplinary studies. Most of the remaining 59 percent were in occupational fields, with health professions accounting for nearly 18 percent of all degrees. Even higher percentages of certificates were awarded in occupational fields.

While the data on degrees awarded suggest a strong propensity for students to pursue job-related fields, until recently, we lacked data on the involvement of community colleges in job-related or occupation-related instruction. In 2020, Opportunity America, Lumina Foundation and Wilder Research surveyed all the public two-year colleges to determine the extent to which colleges served functions related to preparing students for job-related fields (Jacoby 2021). About 600 provided some response and 477 provided more robust responses. As with the degree and certificate data, the survey found 54 percent of students in job-related fields, including 20 percent in noncredit programs and 34 percent in for-credit programs. The other 46 percent of students divided into noncredit remedial programs (15 percent) and for-credit academic programs (31 percent). The non-credit workforce programs were usually short-term, with 63 percent under 100 total hours and only 13 percent at 300 or more hours.

Community college administrators described their engagement with employers in various ways. While colleges reported having large numbers of employer partners, the types of relations varied. Some employers (*sponsors*)

donate to the college but rarely hire students. Other employers (*advisers*) serve on advisory committees but also do little or no hiring from the colleges. What Jacoby calls *partner/customers* collaborate to develop programs and actively seek workers with skills taught at the college. The fourth category of community college-employer relationships are *contract training* clients that pay colleges for customized instruction. These courses are usually open only to company employees and are sometimes offered on-site at the company. About 28 percent of the employer engagements involved contract training. Of the others, the most common college relationship is with adviser employers, at 46 percent; sponsors make up 14 percent; and partner/customers make up 37 percent of the relationships.

Despite these employer-community college relationships and the scale of community colleges, the skill shortfalls and skill mismatches remain widespread, including in sub-BA fields. According to a Manpower report, at least two-thirds of US employers experienced difficulty in finding skilled workers, especially in skilled trades such as electricians and welders. A Deloitte study in 2018 found that nearly 90 percent of executives in manufacturing companies report a talent shortage in manufacturing. A survey of 600 HR professionals revealed that 69 percent said their organization has a skills gap in 2023, up from 55 percent in a similar survey in 2021. In Springboard's survey of over 1,000 professions in large companies, 80 percent reported that a lack of skills at their company is negatively impacting business performance. Shortages are common in professional fields as well, such as nursing and elementary and secondary teachers.

One reason for the skills mismatch is that the graduates of community colleges are falling short of the expectations of employers. While 84 percent of business leaders in a recent survey (Fuller and Raman 2023) said they hired from community colleges, only 26 percent strongly agreed and 36 percent agreed that their local community college was producing work-ready employees. The authors found few cases where students graduated in high numbers from programs that pay good wages with local employers. To succeed, it often took one or more local employers providing apprenticeships, influencing the curriculum, training faculty, and providing access to the latest technology.

Many of the skill shortfalls that employers cite relate to the application of knowledge. As Kuzmina explains, "…skills refer to the ability to apply the proper knowledge in a given situation. Whereas employees can pick up knowledge through studying, skills must be performed. The skills needed for a particular job could be mental (e.g., coding ability), physical (e.g., fitness required for a physical role), or soft skills such as communication and emotional intelligence." Classroom work cannot replicate the workplace context and the limited amount of experiential learning shortchanges many students.

Apprenticeships offer a solution by emphasizing work-based learning and experience under a well-qualified mentor. Apprenticeships can substitute for or complement the occupational skill development community colleges offer. Since every apprenticeship requires some classroom instruction or related technical

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instruction (RTI), community colleges can play a natural role by becoming the **provider of RTI for apprenticeships**. Apprenticeship programs have long used community colleges for this purpose. Data from a 2007 survey (Lerman, Eyster, and Chambers 2009) found that 31 percent of apprenticeship sponsors used community colleges for RTI, and another 27 percent turned to public technical schools. Although sponsors sometimes used more than one source for RTI, community colleges were clearly playing a role in a high share of apprenticeship programs in 2007. Moreover, apprenticeship sponsors largely found their RTI satisfactory or better. Since the survey was representative of apprenticeship sponsors, not community colleges, the data do not show what share of community colleges offered RTI to one or more apprenticeship programs.

Community colleges can add additional value to their work on apprenticeship programs by **recruiting apprentices**. The 2007 survey found that sponsors typically used more than one source of recruitment and the most common (66 percent) was current employers. Still, the second most common recruitment source, at 41 percent, was community colleges or public technical schools.

In recent years, some community colleges have further widened their roles in apprenticeship beyond RTI and student recruitment to include **engaging employers and organizing programs**, becoming group apprenticeship sponsors, and providing employer subsidies.

Until 2015, the Federal investment in apprenticeship was quite modest, about $30 million for the entire country. The construction occupations that dominated US apprenticeship were viewed as largely privately funded. The Obama Administration started, and the Trump and Biden Administrations continued, providing additional funding for apprenticeships, largely through grants and contracts. The first grants, awarded for the American Apprenticeship Initiative (AAI), amounted to about $175 million over three to five years. Of the 45 AAI grantees, 11 were community colleges, one of which also offers BA programs. In addition, one grant provided funding to Apprenticeship Carolina, a project located in the technical college system office. The colleges received grants of $3 million to $5 million over three to five years. Each grantee proposed to stimulate new apprenticeships, especially by recruiting employers who had no programs. A key goal was to diversify the occupational range beyond construction. The last year and a half of the project overlapped with the COVID pandemic, making recruitment difficult; the project ended in September 2021.

Although the results varied by college, 7 of the 11 colleges met their goals. Two

solid performers were Los Rios Community College with 1,877 apprentices and Florida State College of Jacksonville with 1,628. South Seattle College stimulated 907 apprenticeships but fell short of their 1,000-apprenticeship target, while Macomb Community College generated 877 apprenticeships, well above their 600-apprenticeship target. The South Carolina State Technical Education system office, working with all the state's technical colleges, performed best, adding 2,165 apprenticeships, more than double its 1,000-apprenticeship target.

South Carolina's Apprenticeship project drew on a history of employer outreach under Apprenticeship Carolina well before the AAI grant[3]. Its approach relied on hiring consultants with a sales and business background and teaching them about apprenticeship. The apprenticeship consultants were effective at helping businesses see the value of apprenticeship and were knowledgeable enough to build and draft apprenticeship standards that both met employers' needs and could be registered quickly. By focusing the program development process on the needs and interests of the employer and leveraging the existing capabilities of the state's community college system, Apprenticeship Carolina avoided the need to invest resources in new intermediaries, group programs, or partnership organization. Consultants traveled regularly to meet with employers to understand their training needs, often with representatives of one of the technical colleges. Most participating employers received grants of up to $2,500 per apprentice, mainly to offset the costs of RTI.

Harper College focused on financial services, cybersecurity, and advanced manufacturing. It hired a head of outreach, part-time outreach staff, an academic coach, and a data specialist. But, partly because of the COVID pandemic, Harper fell short of their limited goal of 348 apprenticeships, stimulating only 203. Like some other colleges, Harper spent time and resources coming up with skill standards for the occupations targeted for apprenticeships. Ideally, nationally available skill standards, such as those developed by Urban Institute, would have reduced this burden, allowing more resources for recruiting employers.

One performance indicator for the colleges and other grantees is how much they spent divided by the number of apprenticeships they added (cost per added apprentice). The Labor Department generally provided grants of either $3 million or $5 million based on the apprenticeship targets applicants specified. However, once the grants were approved, grantees were not penalized for failing to meet their targets nor rewarded for exceeding them. Still, the cost per apprentice is a reasonable measure of the cost-effectiveness of the grants. For the community colleges, the amounts ranged from a low of $2,664 for Los Rios Community College District to a high of $25,800 for Central New Mexico Community College. The median college cost per apprentice was about $6,000. Overall, the 11 colleges spent about $39 million and stimulated 8,434 apprentices, implying an average cost of $4,637 per apprentice. The South Carolina technical college system office performed even better on this measure, spending about $5 million, adding 2,165 apprentices, at a cost per apprentice of $2,278.

These figures are based on grants that might be considered incremental revenues added to an existing organization. Since community colleges already have an infrastructure with available classes, majors, and some links to employers, the colleges might be expected to perform well on the cost per apprentice measure. On the other hand, colleges with little experience in dealing with apprenticeship and facing some institutional resistance might fail to reach expectations. While many community colleges have employer partners who commit to hire or interview graduates, turning these relationships into employer-sponsored apprenticeships can prove difficult for community colleges focused on course work and degrees.

A recent study by Palmer et. al (2023) examined how several community colleges built apprenticeship programs, sometimes with external intermediaries. New Hampshire drew on the Apprenticeship Carolina model, by creating ApprenticeshipNH in the system office of the community college system. Staff at ApprenticeshipNH recruit employers, create skill standards, and register programs while the colleges largely deliver RTI. Another example is the consortium approach, in which several colleges collaborate to develop a specialized unit aimed at expanding apprenticeship. Although four Texas colleges initially participated in TexasIT, two of the colleges dropped out. Still, TexasIT placed apprentices in 11 different IT roles and has reached two-thirds of its 5,000-apprentice training target. San Jacinto College was especially effective in reaching employers. While Colorado's Arapahoe college offers apprenticeships in several fields, creating cybersecurity pathways involved contracting with the intermediary CyberUp. Intermediary staff at CyberUp and Arapahoe staff combine to sell employers on apprenticeship, partly by offering to cover the costs of RTI for apprentices. Another IT example comes from Howard Community College (HCC) in Maryland. Without using an outside intermediary, HCC launched its IT apprenticeships with AT&T in 2019, with funding from the American Association of Community Colleges. Currently, HCC offers IT apprenticeships in four fields. The final example from Palmer et al. is the Coastal Alabama Community College apprenticeship program in nursing. In this case, employers were anxious to participate, given the nursing shortfall in Alabama. The college started with one employer but now has 30 that take part in the program, which includes a Practical Nursing Apprenticeship and an associate degree Nursing Apprenticeship.

Without data on the number of apprenticeships created, it is hard to know how much progress the colleges in the Palmer study achieved. However, all the colleges used startup grants to develop new apprenticeship initiatives. As the Palmer study points out, it may be hard to sustain these efforts without ongoing funding. The study highlights the variation among colleges in the range of functions they perform. A central and difficult function is persuading employers to adopt the apprenticeship model for recruitment and training. Some of the colleges in the study turned to other entities to undertake this function, while others managed to attract employers. Becoming a group sponsor is another capability that only a few colleges performed. Overall, no one model emerges from these early experiences.

2.2 Typical Funding Mechanisms for Community Colleges and Students

The funding for community colleges varies widely from state to state and even institution to institution. However, there is a general pattern that defines schools' provision of instruction for college credit.

First, community colleges generally operate with much smaller per-student budgets than public four-year colleges. A recent study by the Community College Research Center at Columbia using 2017 data found the average community college had less than half the instructional budget per student compared to four-year colleges or universities.[4]

Second, while state and local revenues significantly underwrite the costs of for-credit instruction, this amount has been declining over time. The CCRC study calculated state and local funds as comprising, respectively, 33 and 20 percent of a college's total revenue. These funds are awarded for each full-time equivalent student enrolled and are often referred to as "FTE funds".

Finally, tuition payments from students comprise just 17 percent of revenue according to the CCRC study. This is net of federal financial aid (18 percent), which about matches this amount.

This general model poses several challenges for community colleges interested in pursuing roles in apprenticeship.

The funding system is generally geared toward "for-credit" instruction, though some states provide funding for noncredit instruction. Credit-bearing instruction refers to college courses that earn students college credit hours. It entails requirements for state, accreditor, and institutional review and approval processes as well as conditions of instructional delivery, such as how courses are enrolled, who can teach a course, where and when. The slow pace of these processes and the constraints on instructional delivery often drive employers and colleges to pursue other funding approaches when considering related instruction for apprenticeships, but there are few ready funding models to pay for this activity.

The funding system rewards large scale enrollment, often separate from student outcomes. Colleges that enroll students at scale are financial winners, even if those students do not complete their studies or successfully put their education to work in good careers. Contrast this with apprenticeship programs, which have superior student outcomes in terms of completion and earnings, but often operate at relatively lower levels of scale. The general funding model provides few incentives for community colleges to operate these programs. While some states are working to re-set funding arrangements to better reward student outcomes, these efforts are limited to a handful of states and generally apply to a small part of the state funding formula.

The funding system generally pays the same amount for every student and every course. This means a general requirement English course (a so-called "chalk and talk"

session) that might enroll 40 students is far more profitable than smaller classes with expensive lab equipment and specialized instructional needs. Again, the general funding model acts as a disincentive for colleges considering the sort of instruction associated with apprenticeship.

Financial aid systems are geared to student tuition payments, not covering student costs. Federal financial aid formulas are very much geared to an individual's circumstances and the tuition owed. An apprentice, however, typically does not have a student tuition payment; instead, tuition payments are likely to be covered by an employer. This means that two equivalent students taking similar courses will have very different financial aid supports depending on whether the course is being taken as related apprenticeship instruction or not.

For these and many other reasons, the various state funding formulas for community colleges are poorly suited for apprenticeship.

2.3 Beyond the General Funding Model

In response to the challenges of the funding models, many colleges and employers opt for non-credit instructional funding which can be far more flexible and appropriate to apprenticeships. Generally, funds for this activity comes from four sources:

- *Competitive grants* represent grants from state, federal or other sources that require institutions to apply for funds and commit to outcomes. These funds are time-limited and there are no guarantees for renewal.
- *Specialized funding pools* are funds made available to community colleges for apprenticeship, business support, incumbent worker training, or other purposes that can be used to off-set costs of related instruction. The funds are often very limited, and many require significant effort to access and utilize these funds.
- *Student tuition* pays for about one-third of the costs of career-related noncredit programs.[5]
- Finally, there are *direct employer payments or contract training funds*. Employers may seem a logical payor. But apart from joint union-employer funding systems, experience has shown — both in the US and internationally — that reliance on employer funding alone for instruction limits the scale and scope of apprenticeship.

A 2019 report from New America reviewed several state efforts to address the challenge of funding apprenticeship instruction.[6] Many of the examples cited either required credit-bearing instruction regimes or represented explicit short-term and unsustainable apprenticeship "start-up" funding. However, three state efforts (in California, Texas, and Wisconsin) offered direct reimbursement to college apprenticeship instruction. Wisconsin's funding offered $1,000/apprentice and the California and Texas policies offered colleges a fixed rate per hour of instruction. These funding strategies, when funded sufficiently and continuously, work well in the apprenticeship context as they provide colleges and employers with a predictable funding source for training activity.

Since then, both colleges and policy makers have continued to develop funding strategies for apprenticeship instruction. Colleges have increasingly seen themselves as packagers of financing, using a range of funding streams in a way that is largely invisible to the apprentice and sponsor. New America's 2023 report on community college apprenticeship intermediaries[7] cites the example of the New Hampshire Community College System that taps both for-credit instructional funding as well as non-credit customized job training funds.

In addition, new state funding strategies are offering both flexibility and sustainability. California's Related and Supplemental Instruction Reimbursement (RSI) now has a companion funding arrangement in California's Apprenticeship Innovation Fund (AIF) which offers a training support window with a per-instructional hour funding component. In Washington State, a new WA Grant for Apprenticeship offers up to $3,000 per year in targeted tuition support for community college students in apprenticeship programs. Indiana will shortly offer similar grants of up to $5,000.

Apprenticeship Components and the Role of Community Colleges

3.1 Methodology

3.1.1 Identifying Colleges

AFA sought to identify community colleges that actively engage in intermediary functions beyond solely providing related technical instruction for apprentices. Specifically, we sought colleges that engage in apprenticeship intermediary functions such as paperwork management, funding coordination, employer and apprentice recruitment, job placement, and program management. Following the identification phase, AFA identified 18 community colleges for their active involvement as intermediaries in apprenticeship initiatives. The 18 colleges are:

- Alamo Colleges District
- Bay Area Community College Consortium
- BridgeValley Community and Technical College
- Cuyahoga Community College
- Dallas College
- East Central College
- Foothill College
- William Rainey Harper College
- Ivy Tech Community College
- Lake Region State College
- LAUNCH Apprenticeship Network (FoundationCCC)
- Lorain County Community College
- Macomb Community College
- Northern Virginia Community College
- Pima Community College
- Texas State Technical College
- Trident Technical College

3.1.2 Research Methodology

To learn how community colleges interacted with apprenticeship, lead researcher Tamar Jacoby conducted semi-structured interviews with key stakeholders from the selected community colleges. A total of 20 in-depth interviews were carried out with administrators, faculty members, and staff who were directly involved in apprenticeship coordination. These interviews delved into the operational mechanisms, challenges, and success factors associated with the intermediary role of community colleges in apprenticeship programs.

In addition to individual interviews, a focus group session was convened with a subgroup of attendees from the Apprenticeships for America annual conference who had specifically signed up for a Community College discussion session. The subgroup included some college officials who were in the initial sample and others not interviewed in the first stage of the study. The focus group employed open-ended questioning techniques and facilitated open discussions, allowing participants to share insights, exchange best practices, and collectively address challenges faced by community colleges in their intermediary roles.

The research aimed to address several key questions, including:

1. What motivates certain community colleges to extend their role beyond providing related technical instruction to become apprenticeship intermediaries?
2. What are the distinguishing characteristics of effective community college apprenticeship intermediaries?
3. How do community colleges navigate various functions associated with intermediary roles, including employer recruitment, apprentice program development including skill standards, RTI, and registration support, funding coordination, job placement, and program management?

The interviews focused on the potential roles of community colleges in building and sustaining apprenticeship programs.

Colleges may perform one or more functions as intermediaries (between apprentices and employers). For this paper, we categorize the variety of activities of community colleges:

- Delivering related technical instruction (RTI),
- Advising on the development of "on the job" training,
- Engaging and organizing employer partners,
- Recruiting apprentices,
- Supporting student apprentices,
- Obtaining and packaging funding, and
- Managing apprenticeship programs.

Second, we considered the factors that helped determine how the colleges performed these functions, such as institutional strategies and challenges. The analysis involved a thorough examination of interview transcripts. Qualitative information extracted from these transcripts was systematically organized based on the predetermined categories, allowing for the identification of emerging themes and patterns within the data.

While the selected sample of community colleges provided valuable insights into intermediary practices, the findings are not generalizable to all community colleges nationwide. The qualitative nature of the study offers a window into the practices of 18 colleges with experience in performing functions linked to apprenticeship programs. The colleges vary by state and the lessons from one college may not be applicable to others. Still, the college examples as leading practitioners highlight the feasibility of a major role for community colleges in apprenticeship.

3.2 Apprenticeship Functions Served by Community Colleges: A General Framework

Community colleges can serve as apprenticeship intermediaries and thereby contribute to the expansion of apprenticeships in the US. We classify the functions that 18 leading edge community college perform, as described by officials at the respective colleges.

Delivering RTI. Community colleges exhibit versatility in delivering Related Technical Instruction (RTI), either independently or in collaboration with third-party training providers. This delivery may take place on the college premises, at the employing company's facilities, or coordinated through relevant trade unions**.** The flexibility of RTI provision enables customization to suit specific employer requirements, although standardized programs remain prevalent. Furthermore, some enterprises opt to dispatch their own personnel to community colleges to act as instructors.

Advising on the Development of On-the-Job Training. On-the-Job Training (OJT) refers to a hands-on learning approach where apprentices gain practical skills and experience directly in the workplace. It involves supervised tasks and responsibilities relevant to the apprentices' field of study, allowing learners to apply theoretical knowledge in real-world settings. Some community colleges and employers collaborate closely to ensure that OJT experiences align with curriculum requirements and meet the needs of the local labor market. By integrating classroom instruction with practical training, OJT plays a

crucial role in preparing apprentices for success in their chosen professions.

Engaging and Organizing Employer Partners. Colleges can play a pivotal role in engaging employers and organizing apprenticeship programs. This process often begins with building trust among potential employer partners and may take upwards of a year, leveraging methods such as cold calls, direct mail campaigns, recruitment events, and media advertising, to attract potential employer partners and convey the advantages of apprenticeships. Specialized staff will often undertake the task of employer outreach, employing a mix of tactics to effectively communicate the value of apprenticeship opportunities.

Registration of these programs with either the Department of Labor or relevant State Apprenticeship Agencies is a key function. Registration signifies that a program meets prescribed standards and is officially recognized, which can be advantageous for both apprentices and employers seeking formal qualifications. (It should be noted that not all apprenticeship work described in the 18 colleges was formally registered. Non-registered programs can offer greater adaptability to the specific requirements of employers and emerging industries and can become registered over time.)

To aid employers, community colleges will sometimes offer group sponsorship, where the college acts as the registered sponsor with the Department of Labor, streamlining the administrative process for employers. This arrangement can make the initiation of apprenticeships more accessible to employers.

Recruiting Apprentices. While employers typically lead in the apprentice recruitment and selection processes, community colleges can play a pivotal role in facilitating these efforts. Leveraging hiring events, informational sessions, and targeted outreach, colleges endeavor to attract prospective apprentices and match them with suitable employers. Some institutions extend their outreach efforts to non-college youth, offering preparatory skills training to enhance their employability and readiness for apprenticeship opportunities.

Supporting Student Apprentices. Community colleges provide comprehensive support services aimed at nurturing the academic and professional growth of apprentice students. These services encompass academic counseling, tutoring, coaching, and other kinds of case management, addressing both educational and personal development needs. Material support, including textbooks, uniforms, tools, and financial assistance, is often extended to alleviate practical barriers to apprenticeship participation. Moreover, technological solutions such as dedicated applications facilitate tracking academic progress, milestones, and other program-related benchmarks, enhancing the overall apprenticeship experience. Ceremonial events and celebrations further foster a sense of belonging and recognition among apprentice students, reinforcing their integration within the college community.

Obtaining and packaging funding. Sustainable funding mechanisms are pivotal for the viability and continuity of apprenticeship programs within community colleges. The institutions can leverage a

diverse array of funding sources, including state and federal grants, workforce development funds, corporate sponsorships, and philanthropic contributions. Employer contributions, student financial aid, and institutional funding also play instrumental roles in sustaining apprenticeship initiatives. Additionally, specific state funding initiatives cater to non-registered earn-and-learn programs, acknowledging the diverse landscape of apprenticeship offerings.

Managing Apprenticeship Programs. The management of apprenticeship programs represents a labor-intensive and multifaceted endeavor for community colleges, necessitating dedicated personnel and robust coordination mechanisms. Designated staff members, often employed full-time, oversee various aspects of program management, including relationship cultivation with employer partners and comprehensive support for apprentice students. Coordination between colleges and companies encompasses scheduling, mentoring, RTI development, and financial management, ensuring the seamless integration of classroom instruction and on-the-job training. Regular check-ins and communication channels are established to foster collaboration and address any challenges promptly, underscoring the commitment to program efficacy and student success. Community colleges serving as group sponsors are responsible for collecting and reporting data and for monitoring how well employers and others are teaching apprentices the skills mandated in the registration documents.

Results

4.1 How Colleges Fulfilled Apprenticeship Intermediary Functions

The 18 community colleges in the study all undertook apprenticeship-related functions well beyond supplying education courses for RTI. Although the scale of activity in each function varied across the colleges, the results document that all took part in the range of tasks required to build and sustain local apprenticeship programs. Like many community colleges, the schools in this study viewed linking students with quality career opportunities as a high enough priority to work closely with employers on combining academic and work-based learning in an occupational field. While not all such programs used the registered apprenticeship model, local employers hired and helped train participating students and interacted with colleges on curricula.

Note in Table 1 that the only function in which fewer than 18 colleges participated was in recruiting and placing students in apprenticeship. Likely, apprenticeships in the three colleges not reporting this function were for incumbent workers, for whom worker recruitment and placement are unnecessary. Overall, these community colleges report undertaking a wide array of apprenticeship-related functions, indicating the feasibility of community colleges in expanding apprenticeships. Yet, even in these colleges, apprentices make up a small share of the student body.

> **[T]hese community colleges report undertaking a wide array of apprenticeship-related functions, indicating the feasibility of community colleges in expanding apprenticeships. Yet, even in these colleges, apprentices make up a small share of the student body."**

Table 1: Number of College Participating by Function	
Function	Of 18 CCs
Delivering RTI	18
On-the-Job Training	18
Engaging and Organizing Employer Partners	18
Recruiting and Placing Students in Apprenticeships	15
Supporting Student Apprentices	18
Funding	18
Ongoing Role in Program Management	18

Delivering RTI. Providing courses for the classroom component of apprenticeships has long been a common role for community colleges. As noted above, community colleges supplied RTI for nearly one-third of apprenticeship programs in 2007. Thus, it is no surprise that all 18 community colleges offer or arrange Related Technical Instruction (RTI) for apprentices. Their delivery methods differ in interesting ways. While as expected many provide training on campus (in-house), others partner with employers to train at workplaces or other sites (employer-site). There are also cases where colleges act as connectors, ensuring apprentices receive their instruction from third parties (brokered).

In providing RTI, colleges often must go beyond providing places for apprentices in regular classes. Often, courses must accommodate the work schedules of apprentices. As a Lorain College representative stated, "Companies will come to college at all different times asking for RTI (off-semester, etc.) and the college just has to make it work." Several colleges reported customizing RTI to meet specific employer requirements, demonstrating the flexibility and responsiveness of community colleges to workforce needs. Macomb Community College highlighted the customization of RTI for each employer, indicating a tailored approach to apprenticeship training, while Northern Virginia Community College served as an RTI provider for Amazon, showcasing the ability of community colleges to engage with large employers on specific training needs.

Still, it remains ideal from a college perspective that apprentices increase the number of students in existing courses or that apprentices are a large enough cohort for a specialized course. Harper College attracts sufficient tuition funding from employers (nearly $18,000 per apprentice for two years) to provide its own degree within apprenticeship programs of under 200 apprentices. Of its 600+ apprentices, East Central College educates most apprentices with existing staff but still farms out about 30 percent of the RTI while Ivy Tech's Ft. Wayne campus provides RTI for nearly all its 9,500 apprentices. In some cases, Ivy Tech allows another provider to use its labs (as in welding). Another interesting case is Dallas County Community College, which hosts over 3,000 apprentices and supplies 85 percent of the RTI. For some specialized training, Dallas credentials an expert from the employer who subsequently provides required RTI. Similarly, Texas State Technical College relies on a Tesla employee who offers the RTI at the college. But, in its program for Bombardier, Texas State delivers the RTI for its jet aviation assembly apprenticeship.

California community colleges engage in collaborations such as the Bay Area Community College Consortium and the Launch Apprenticeship Network, both backed by the State of California. Colleges in both networks typically handle all the RTI internally and have financial incentives to do so. Other colleges, such as Alamo college, farm out most of their RTI.

Some but not all the RTI involves for-credit courses. All the Lorain County Community College courses for RTI are credit courses, as are all the Harper College courses. Gaining college credit for required RTI can be valuable to apprentices in some but not all cases. However, tailoring RTI to credit courses can be difficult for scheduling and for having the appropriate instructors. Available data do not capture the extent to which RTI includes college credit.[8]

Engaging and Organizing Employer Partners. All 18 participating community colleges have demonstrated an active commitment to organizing employer programs for apprenticeships, employing a varied array of strategies that respond to the diverse needs of their regional and sector-specific contexts. These institutions use everything from direct outreach efforts to the strategic use of state funding incentives.

Initiating contact with potential employer partners marks the beginning of the engagement process. Sometimes colleges proactively seek out employers to partner with, while other times the employers seek out the colleges, with a large portion of the colleges employing both strategies at different points. Dallas College leverages its longstanding relationships and utilizes grants to enhance engagement, demonstrating a proactive approach in building and maintaining employer relationships. In contrast, the LAUNCH Apprenticeship Network (FoundationCCC) still employs a door-to-door strategy in about half of their cases, illustrating varied methods of initiating contact across institutions. One interesting case is Harper College, which initially used a door-to-door approach but has since developed a business strategy team that crafted a unified message for engaging employers. This clear and consistent messaging has shifted the dynamic to where employers now proactively seek partnerships with the college. Similarly, Ivy Tech has leveraged the power of word-of-mouth advertising, finding that companies often follow the lead of their industry peers, thus creating a positive feedback loop that enhances recruitment efforts. On the other hand, Macomb College enhances its visibility and appeal to potential partners through diverse advertising channels, including radio ads and billboards, supplemented by grants that serve as an initial hook for employer engagement. Trident Technical College has a dedicated team focusing on employer recruitment, employing a mix of phone calls, door-to-door outreach, and now benefiting from increased inbound inquiries as the college's reputation grows.

Successful engagement strategies hinge on understanding and addressing the specific needs of employers. Alamo College prioritizes identifying employer pain points early in the process. This is complemented by a solution-oriented approach where the focus shifts from merely discussing apprenticeship programs

to offering concrete solutions tailored to these needs. Cayuhoga Community College takes a consultative approach, ensuring that the solutions proposed align well with the actual desires of employers, moving beyond a generic apprenticeship pitch to a more nuanced understanding of employer requirements. Similarly, Lake Region State College actively learns about employer needs and offers a variety of solutions; apprenticeships are just one option. Lake State found that in some cases, these needs can be addressed by adapting existing programs or by developing new ones based on proven models. Additionally, Trident Technical College assigns industry-specific consultants who maintain continuous communication with employers to foster participation and create positive experiences.

Community colleges are also positioned well to act as central organizers and partners in apprenticeships for their employers. For instance, Cuyahoga Community College and Dallas College manage regulatory, administrative, and oversight aspects of apprenticeships. This arrangement simplifies the process for smaller businesses that may lack the resources to independently sponsor apprenticeships, ensuring consistent training quality and standards across different employers and industries while helping to scale best practices for reduced costs.

Addressing skepticism towards apprenticeships is a common challenge across colleges. East Central Community College reported that some manufacturers and employers are not familiar with apprenticeship, and that it is necessary to correct for this lack of familiarity to secure company programs.

Addressing skepticism towards apprenticeships is a common challenge across colleges.

Bay Area Community College Consortium tackles this by changing perceptions about the value of apprenticeships, highlighting their role in succession planning and cultural enhancement within organizations. BridgeValleyCommunity and Technical College faces similar challenges, employing a strategic approach that emphasizes the benefits of each training model without immediately labeling them as apprenticeships, thus easing employers into the concept.

The strategies employed by different colleges to engage and organize employers in apprenticeship programs highlight a complex landscape of challenges and innovative solutions. While each institution adopts unique approaches based on their specific contexts and employer bases, common themes emerge around understanding employer needs, matching resources effectively, and overcoming skepticism.

Recruiting Apprentices. Community college apprenticeship intermediaries play a crucial role in both the recruitment and placement of apprentices. Among the 18 community colleges surveyed, all demonstrated active engagement in recruitment initiatives, with 15 also participating in placement activities. This highlights the integral part these colleges play in bridging the gap between education and workforce requirements.

Community colleges employ a variety of strategies to recruit apprentices, which can be categorized into internal and external methods. For instance, Alamo College illustrates this diversity by engaging in both internal recruiting, where employer partners upscale incumbent workers, and external recruiting conducted by the college itself. Similarly, BridgeValley CTC focuses on both incumbent workers of the employers and the existing student body of the college, ensuring a wide recruitment net.

Another key strategy involves targeting specific demographics to bolster recruitment efforts. The LAUNCH Apprenticeship Network (FoundationCCC) employs a balanced approach by focusing equally on incumbent workers, community college students, and program development. This strategy not only increases the pool of potential apprentices but also promotes apprenticeship growth through the expansion of educational programs. East Central CC reports that a significant 95 percent of their apprentices are incumbent workers, indicating a prevalent trend of utilizing existing workers as a primary resource for apprenticeship programs.

Furthermore, community colleges also deploy various outreach and engagement strategies to attract potential apprentices. Dallas College, for instance, actively engages with the high school population within Dallas County through job fairs and other events, reaching approximately 30,000 high school students enrolled in dual credit and early college programs. Harper College takes a different approach by placing a call for students to apply for apprenticeships, with the only requirement being that the student must demonstrate college readiness before receiving extensive support in job placement, including resume preparation and interview coaching.

Special events and programs also play a crucial role in recruitment efforts. Trident Technical College, for example, holds annual information sessions followed by a celebratory signing day for new apprentices, creating a sense of commitment around the apprenticeship process. Pima Community College uses its career development coordinators to organize hiring events and information sessions, although they find recruiting apprentices more challenging than recruiting employers.

Overall, community colleges are instrumental in the recruitment and preparation of apprentices, employing a range of strategies that reflect their critical role in the apprenticeship ecosystem. These efforts not only facilitate the transition of students into the workforce but also enhance the capacity of the colleges to meet the growing demand for skilled labor through robust apprenticeship programs.

Supporting Student Apprentices. All 18 community colleges provided robust support to student apprentices, with some offering services that went beyond academic guidance to encompass areas such as career counseling, personal development, and material needs. These services not only facilitate smoother transitions into professional environments but also enhance the overall effectiveness of apprenticeship programs.

Financial support emerges as a fundamental component, with institutions like Alamo College offering essential services including

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transportation assistance, gas cards, paid testing fees, and uniform provision. Similarly, BridgeValley CTC's Ascend program provides financial aid for immediate needs such as childcare and transportation emergencies, directly addressing potential barriers to continuous education and training. At Cuyahoga, the allocation of work readiness funds and technology resources specifically for apprentices underscores the targeted approach to financial aid, ensuring that apprentices have the necessary tools and support to succeed.

Academic and career guidance is another pillar of support critical to the apprentice experience. Dallas College exemplifies this through the establishment of a mentorship model where each apprentice is paired with a mentor from the organization to aid in adapting to the work culture. Additionally, an apprentice relationship manager acts as a coach, offering a personalized touch to case management. Harper College also incorporates a comprehensive coaching system that supports students through academic tasks such as purchasing books, registration assistance, and regular academic encouragement through nudges about homework and grades.

Administrative and logistical support is crucial for navigating the often-complex systems of higher education. The Bay Area Community College Consortium, for example, assists students with the intricate California community college application system, enhancing accessibility and easing the enrollment process. Cuyahoga has innovated with a custom app that simplifies record keeping for students by enabling them to enter hours directly, streamlining what can often be a cumbersome administrative process.

Specialized services tailored to the unique needs of apprentices form a significant aspect of support structures. Pima College and Trident Technical College provide wraparound services that comprehensively cover everything from enrollment procedures to the provision of work boots, ensuring that apprentices have what they need to start and continue their training successfully. Trident goes further to include mental health services and an urgent needs fund, which supports students with necessities like electricity, rent, and groceries, thereby mitigating any external pressures that might affect their academic and professional commitments.

Regular check-ins, such as those conducted by Lake Region State College, allow institutions to preemptively address concerns and ensure that both apprentices and employers are satisfied with the progression of the training.

Overall, the varied and comprehensive support services provided by community colleges

By addressing financial, academic, administrative, and specialized needs, the support services provided by these institutions play a pivotal role in the successful integration of apprentices into the workforce.

not only help mitigate the challenges faced by apprentices but also enhance their ability to succeed in their respective programs. By addressing financial, academic, administrative, and specialized needs, the support services provided by these institutions play a pivotal role in the successful integration of apprentices into the workforce.

Obtaining and Packaging Funding. The pursuit of sustainable funding models was a common theme across the colleges, with a mix of state and federal grants, workforce development funds, and employer contributions supporting the financial viability of apprenticeship programs. Efforts to establish self-sustaining models were noted, reflecting the ongoing challenge of securing reliable funding sources for apprenticeship initiatives. Trident Technical College, for instance, demonstrates success in these efforts. Having gained recognition within South Carolina for addressing critical workforce needs, the college used its popularity to tap into the South Carolina Workforce Industry Needs Scholarship, which covers tuition, fees, and materials for students in critical workforce programs. This funding source, while generous, does not always cover all costs, especially for non-credit training like the Certified Nursing Assistant and patient care technician courses. Consequently, the college must integrate other funds, including philanthropic donations, to ensure all expenses are met for each student.

Lorain College's approach to funding is similarly multifaceted. It combines company contributions with grants and state funding to support their apprentices. This complex funding tapestry ensures that all costs are met, from tuition paid by students utilizing Ohio funds and Pell Grants to wages paid by employers. Moreover, the college has innovated a work-based learning model that harnesses state funding and tuition revenue to support short-term training programs, effectively creating a self-sustaining framework that diminishes reliance on continual grant funding.

This kind of "braided" funding approach to sustaining apprenticeship programs, while often successful, can be time consuming and resource intensive. Cuyahoga Community College, for instance, has confronted hurdles in scaling their apprenticeship efforts, primarily due to the administrative demands of management with limited staff. Even with the introduction of government apprenticeship grants in recent years, the funding often lacks comprehensive resources, such as technical assistance, management, and tuition benefits — elements that are crucial to draw employer interest and effectively manage programs. Cuyahoga's approach, which includes appointing specific staff to oversee manufacturing apprenticeships and a team for construction, has proven beneficial. Nonetheless, the institution acknowledges that the ability to

increase staff through additional funding would likely lead to an expanded capacity to serve more apprentices and companies.

State-specific funding initiatives, such as those in California, demonstrate the potential for state-level support to incentivize apprenticeship expansion, offering a model for other states to consider. The California Apprenticeship Initiative (CAI) serves as a prominent example of state-level support driving the expansion of apprenticeship programs. Exclusively available to community colleges, CAI grants are designed to fuel innovation in the apprenticeship space, encouraging the development of non-traditional apprenticeships beyond the classic trades. As exemplified by its role in the Bay Area Community College Consortium, these grants are targeted at fostering new and inventive programs that broaden the scope of apprenticeship opportunities. Funding can be utilized in a variety of ways, such as providing stipends for faculty to create new curricula, covering travel and professional development costs, and supporting non-profits and intermediaries that assist with recruitment and placement. The State of California's flexible stance on the use of these funds reflects a clear objective to encourage the growth of non-traditional apprenticeships, demonstrating a model for how state support can be pivotal in diversifying and strengthening apprenticeship programs.

Managing Apprenticeship Programs. The ongoing management of apprenticeship programs was another critical function fulfilled by all 18 community colleges. These colleges have developed robust management structures to facilitate smooth operations and ensure program success.

Many community colleges appoint dedicated personnel who are tasked with the comprehensive management of apprenticeship programs. For instance, Alamo College has a full-time senior advisor dedicated to student success, who handles everything from screening applicants to managing student support services like transportation and fee assistance. Similarly, Macomb employs full-time, non-grant funded apprenticeship coordinators who serve as the primary contact for students and employers, illustrating a commitment to providing stable and ongoing support.

Record-keeping and compliance with state and federal guidelines are another critical aspect managed by these institutions. Cuyahoga Community College, for example, developed an app with the aid of an ECCA grant to meticulously track data necessary for compliance, such as hours worked and alignment with classroom training. Staff at the Bay Area Community College Consortium dedicate considerable effort to maintaining records like grades and attendance to meet the requirements of state audits and secure reimbursement under related supplemental instruction programs.

Effective scheduling and time management are essential for aligning apprentices' work commitments with their academic schedules. Dallas College exemplifies this through its collaboration with employers to devise schedules that balance time between work and classroom learning, ensuring that students

can fulfill the requirements of both settings without conflict. This synchronization of schedules is pivotal for the smooth running of apprenticeship programs and helps in reducing the dropout rates often associated with scheduling conflicts.

Moreover, ensuring the quality of these programs involves regular evaluations and oversight. Lake State Region, for instance, conducts regular evaluations of both employers and apprentices, and has developed a quality management program to ensure that all program details are accurate and complete. They have also created a mentorship guide and provide mentorship training to employers, enhancing the quality of guidance provided to apprentices.

Financial and operational management is also a cornerstone of effective apprenticeship programs. Harper College, for example, manages all billing internally, ensuring that funds are appropriately allocated and that financial transactions support the seamless operation of the program. This internal management is crucial for maintaining financial integrity and transparency.

Trident Technical College represents a model of high-intervention management, where the day-to-day administration is acknowledged as the most challenging aspect of running apprenticeship programs. Trident ensures alignment between work-based learning and college instruction, supplemented by comprehensive student support services that offer personal guidance and regular reminders for students to manage their academic and work commitments effectively.

Overall, the management of apprenticeship programs at community colleges involves a dynamic and multifaceted approach. From dedicated personnel and rigorous record-keeping to effective scheduling and robust oversight, these elements collectively ensure that apprenticeship programs not only meet required standards but also support the success and advancement of students.

4.2 Number of Apprentices, Mix of Apprenticeship Occupations:

AFA's analysis of community colleges serving as leaders in the apprenticeship intermediary space reveals a system rich in diversity both in terms of apprentice numbers and occupational fields. AFA found a spectrum of engagement, with some institutions such as Alamo College actively enrolling over 200 participants in healthcare-related apprenticeships; while others, like Lake Region State College, manage smaller, more concentrated programs. These figures illustrate the tailored approach colleges take to address the niche demands of their local labor markets and industry partners.

Interestingly, interviews with the Bay Area Community College Consortium and LAUNCH Apprenticeship Network (FoundationCCC) illustrated an intercollegiate collaborative approach, pooling resources to standardize and expand apprenticeship offerings across multiple campuses. This model illustrates a strategy to maximize reach and efficiency within a shared labor market, indicating a forward-thinking approach in apprenticeship program design.

The array of apprenticeship occupations represented in these programs demonstrates the adaptive nature of community colleges. While traditional trades such as manufacturing and construction maintain their prevalence at schools like Macomb Community College and Cuyahoga Community College, there is a palpable shift towards sectors traditionally less associated with apprenticeships. Dallas College's healthcare consortium and Ivy Tech Community College's venture into advanced manufacturing and engineering exemplifies this evolution. This adaptability is critical, as it ensures that community colleges continue to play a useful role in workforce development, equipping students with skills that are in high demand.

Moreover, some colleges have demonstrated striking scalability in their apprenticeship offerings. Dallas College, for instance, has over 3,000 active apprentices within its consortiums, spanning education, manufacturing, logistics, services, and healthcare sectors. Such figures not only indicate the substantial impact of their programs on local workforce development but also illustrate the potential for community colleges to manage large-scale apprenticeship initiatives.

In addition to serving immediate workforce needs, community colleges also play a vital role in the long-term economic development of their regions. Colleges such as East Central College in Missouri prepare apprentices in industries like manufacturing, while also pioneering healthcare programs, indicating a proactive stance in workforce preparation. This proactive approach is crucial in areas where rapid technological advancements and shifting industry paradigms dictate the need for an agile and future-ready workforce.

The data further indicate a strong gender representation in apprenticeship programs at some colleges. For example, Trident Technical College reports that 37 percent of its apprentices are female, which is significantly higher than the national average of 7 percent reported by the Department of Labor for youth apprenticeships. This demonstrates community colleges' effort to not only broadening the participation in apprenticeships across different fields but also ensuring diversity and inclusivity within these programs.

In summary, Community colleges are not only accommodating a wide range of apprentice numbers but are also adept at catering to a diverse mix of occupations, from traditional to emerging fields. Their ability to pivot and adjust to labor market dynamics is an indispensable asset in scaling apprenticeships.

Their ability to pivot and adjust to labor market dynamics is an indispensable asset in scaling apprenticeships.

Lessons from These and Other Colleges

5.1 Implications for Policy

Can community colleges play a major role in scaling American apprenticeships? If so, what policies and practices can achieve this outcome? Given recent declines in community colleges enrollments, these questions are particularly urgent. A strong shift in strategy toward linking academic with work-based learning, jobs, and careers could potentially reinvigorate community colleges, enhance careers, and improve productivity. Moreover, if half or more of the learning occurred at the workplace, an apprentice-oriented strategy could reduce the institution's costs as well.

What are the orders of magnitude of a possible shift? Currently, new entrants into community colleges amount to almost 725,000 students seeking a degree or certificate. If half of this group studied while part of an apprenticeship lasting an average of two years, the number of apprenticeships in the US would more than double from the current 640,000 level. The shift would increase retention, lower the net costs of higher education to students and the schools, and potentially increase the attractiveness of community college.

Community colleges have long delivered related technical instruction for apprenticeships. Some have longstanding relationships with large German companies, such as Central Piedmont Community College[9], Chattanooga State Community College, and technical colleges in South Carolina. Michigan's Kellogg Community College works with several US manufacturers.[10] And, several community colleges provide courses as part of the Federation of Advanced Manufacturing Education (FAME) program.[11] The good news is that classes related to apprenticeship occupations already are a part of community college curricula. However, providing cost-effective RTI still requires coordination with prospective employers and ensuring courses are updated.

While valuable, the long practice of delivering RTI still places community colleges in a passive mode. What lessons can be derived from this study's 18 community colleges about moving colleges to become active participants in expanding apprenticeship?

First, while no single model stands out, all the colleges engaged in a wide variety of functions to be able to incorporate apprenticeships. Nearly all colleges in the study provided RTI, recruited employers and apprentices, offered supportive services, obtained financing, and helped manage employer programs. Second, with a few exceptions, even these colleges are unable to reach a scale in which even 20-25 percent of students participate in apprenticeship programs. Probably the biggest constraint is the need to catalyze employer demand. Apprenticeships are jobs, requiring employers to offer positions that involve productive work alongside training and education.

Notwithstanding the close connections between local employers and community colleges, recruiting and organizing employers is a major challenge. In some cases, employers take the lead to build or expand apprenticeship programs. However, this strategy cannot attract the large numbers of employers required to achieve scale. Apprenticeship Carolina, operating in the South Carolina technical college system office and working with Trident Community College, pioneered the teaming of highly capable consultants familiar with apprenticeship and technical college experts in relevant fields to market apprenticeship to employers. However, colleges are often on their own or must rely on the limited resources of their state apprenticeship agencies. Some colleges devote a full-time employee to head up this effort, recognizing that several meetings with prospective employers are needed before the employer is ready to start a program. The use of advertising and financial incentives sometimes plays a role in college's recruitment strategy. Still, from first contact to success takes time, often as much as a year. Some colleges have achieved a good deal, especially as group sponsors, but moving to scale will require added funding and incentives.

Recruiting employers and engaging in other key functions raise costs that community colleges are not currently equipped or willing to bear. Some motivated and energetic colleges devote time and money to apprenticeships. But increasing the number of colleges active in apprenticeship and building scale within colleges will require new mechanisms or incentives.

Community colleges currently pull together funding from a wide variety of sources, many of which are one-off and not directly linked to apprenticeship. The sources include state and federal grants, WIOA funds, state training grants to companies, foundation funding, and local organizations such as the Chamber of Commerce or Rotary Club. A few colleges have found self-sustaining sources, but most do not have a reliable and ongoing funding stream for existing and expanding apprenticeship related activities.

Some motivated and energetic colleges devote time and money to apprenticeships. But increasing the number of colleges active in apprenticeship and building scale within colleges will require new mechanisms or incentives.

5.2 New Policy Tools

A genuine effort to expand apprenticeships in community colleges will require new resources. Klor de Alva and Schneider argue (2018) that committed community college leaders themselves should lobby the federal government to increase funding for apprenticeship programs substantially, citing the much larger commitment to apprenticeships in other countries.[12] Additional funding and other policies that expand employer demand for apprenticeships in any way is likely to yield increased activity by community colleges, at least in supplying RTI. Such policies include simplifying the registration process, developing skill standards, and marketing campaigns for apprenticeship.

Policies that stimulate colleges to go beyond the RTI function could include new federal, state, and local approaches, such as direct and ongoing incentives. AFA has proposed a federal "pay per apprentice" fund in which organizations that work with employers to create new programs or expand existing programs would receive $3,500 for each apprentice employed for at least 60 days and an additional $1,000 for completion. Such an incentive plan would give colleges a major reason to recruit employers to start and to help them implement programs and hire apprentices. For example, an apprenticeship consultant hired by the college who stimulated 100 apprentices in a year would generate $350,000, not counting any additional revenues for completion. With as few as 300 apprentices per year, the college could fund an office for recruiting employers and managing programs with a $900,000 budget. As colleges became increasingly adept at recruitment and as their employers continued new programs, their cost per apprentice would decline but their revenue per apprentice would remain constant.

When colleges develop added apprenticeships, they attract additional tuition and some added state and local dollars for their delivery of RTI courses. States could enhance the incentives for apprenticeship by counting apprentices as full-time equivalent (FTE) students for purposes of reimbursements. States commonly reimburse community colleges for some percentage of the cost of a full-time equivalent (FTE) student. Suppose the reimbursement rate were 35 percent of the costs of an FTE (say, $11,000) but that much of the actual and accredited learning (say, 70 percent) for an occupation program took place at the work site in an apprenticeship. If the costs of the community college instruction fell to only 30 percent of the normal costs of a FTE, but the state continued the 40 percent subsidy, then colleges could provide the classroom component of apprenticeship at no cost to employers.

Currently, the Pell Grant program spends about $27 billion per year. Over half of Pell recipients are in public two-year or for-profit colleges, often in career-focused education programs. Loan programs that are very costly to the federal government also support students in these programs. Allowing students to use Pell grants for apprenticeship costs would save significant sums for the government and generate higher earnings gains. Although Pell grants are currently not well-suited for apprenticeship, Pell eligibility criteria could be modified to allow apprentices to use prorated Pell grants for the off-job RTI component

of their training. Also, one could raise the income protection allowance for students with apprenticeship earnings or treat any individual participating in a full-time apprenticeship as an independent student.[13]

The GI Bill already provides housing benefits and wage subsidies for veterans in apprenticeships, however funding levels for college and university expenses are far higher than for apprenticeship. Offering up to half of the GI Bill's per-recipient college benefit to reimburse employers for the off-job education and training when hiring a veteran into an apprenticeship program could be accomplished by amending the law. However, unless the liberalized uses of Pell grants and GI Bill benefits are linked with the intermediary incentive campaign to sell and organize apprenticeships, the take-up by employers is likely to be limited.

A range of employer incentives for creating apprenticeships are embedded in the Infrastructure Act, the Inflation Reduction Act and the Chip Act. Community colleges that gain expertise on these incentives themselves or in connection with intermediaries could substantially increase apprenticeships in high paid positions.[14]

Apprenticeship Intermediary Efforts of Community Colleges

Apprenticeships for America identifies an ecosystem of robust apprenticeship intermediaries as a critical factor that has driven apprenticeship growth in places like England, France, and Australia. As community-focused institutions already in relationship with a region's employers, capable of providing technical instruction, and possessing facilities and funding resources to support apprenticeship, the community college would seem a key part of the scaling solution for apprenticeship in the United States.

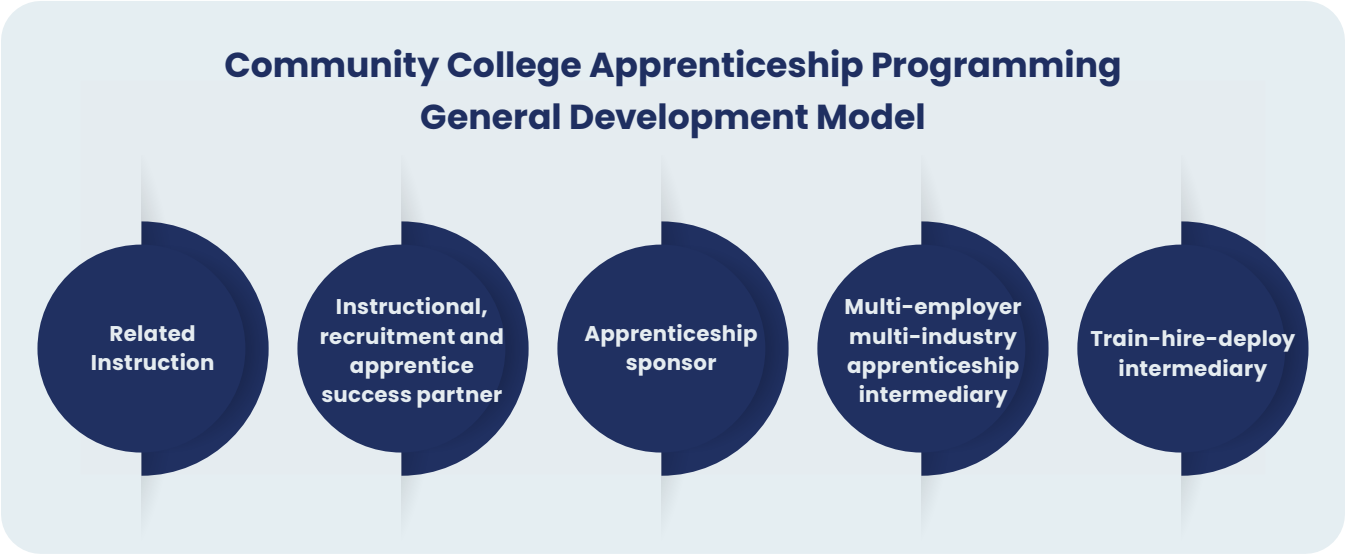
And the expansion of apprenticeship programming at community college suggests the opportunity for growth is not just theoretical. The colleges discussed here and the aggregate data from RAPIDS are proof points for this idea. Yet the overall rate of adoption of apprenticeship programming remains modest among the country's community colleges. This is because, until now, apprenticeship has not fit well in the institutional funding or operational models of community colleges.

In this section, Apprenticeships for America offers its perspective on what the development pathway for apprenticeship efforts in community colleges might look like.

6.1 A General Framework

Community colleges operate in wildly different contexts and start with a range of missions. Many view their role primarily as academic preparation and transfer institutions. Others start with an economic and workforce development mission. Regardless, a review of the 18 colleges interviewed for this study suggests a general developmental framework.

Start with related instruction. All community colleges have a core competency in the design and delivery of classroom instruction. Indeed, community colleges are already widely represented as related technical instruction providers for apprenticeships in the United States. With classrooms, equipment, faculty, course catalogs, and instructional funding resources, many apprenticeship efforts



will benefit simply by leveraging existing community college offerings.

Community colleges will have higher impact and more relevance when they can begin to customize classroom instruction to the needs of an apprenticeship program. Such efforts may include streamlining existing course content, developing specific instruction relevant to the apprenticeship, incorporating instruction for particular industry credentials, redesigning curricula to leverage the on-the-job training experience, utilizing industry expertise by bringing in adjunct faculty and guest instructors, tailoring the scheduling and location of instructional delivery, and packaging the funding for this activity into a mix of general tuition/FTE funding, special grant resources, and employer-paid assessments. Community colleges that can efficiently and effectively undertake these customization efforts will find themselves sought-after partners in apprenticeship programming.

AFA's interviews with the colleges in the study suggests the critical role of an individual staffer or small department to serve as an integrator in this work. These people connect deans, department heads, customized training departments, grant offices, and others in responding to the technical instruction needs of an apprenticeship program. When one or more individuals can sustain this work year after year and develop deep and effective relationships across the institution, community colleges move from transactional vendors to strategic partners in apprenticeship.

Broaden services and supports consistent with the institution's strengths. Beyond general instructional capacity, most community colleges bring other organizational expertise. For institutions with an academic focus this may mean the ability to develop degree pathways for apprentices or ensuring that apprenticeship experience articulates to college credit for further education. For institutions with a strong workforce development capacity, this may mean connecting apprenticeship efforts to broader industry talent development efforts or supporting apprenticeship recruitment efforts. And for institutions with a strong student

> **[I]nterviews with the colleges in the study suggests the critical role of an individual staffer or small department to serve as an integrator in this work."**

success orientation, this may mean providing apprentices with supports to promote retention and completion.

Regardless, almost every community college has some level of expertise, often tightly bound up in its mission, that can add value to its role as an apprenticeship partner. The colleges interviewed for this study repeatedly shared different ways their institutions added services and value to their apprenticeship roles. The range of additional services suggests this stage of development is highly context specific and requires colleges to undertake a careful and frank assessment of their capabilities.

Add sponsorship role. Community colleges significantly add to their value proposition when they adopt an apprenticeship sponsor role. Virtually unknown prior to 2015, the number of community colleges acting as apprenticeship sponsors has expanded dramatically in the last 10 years. With this additional role, community colleges relieve employer partners from the burden of completing registration and reporting paperwork. As community colleges repeat these activities, they can develop expertise and efficiency that would elude most one-off apprenticeship sponsors. As an end-to-end apprenticeship intermediary, a community college can effectively manage all aspects of the apprenticeship and thereby better assure quality control and attainment of outcomes for apprentices, employers, and other stakeholders. In acting as apprenticeship sponsors, community colleges can develop apprenticeships for their own employees, especially in such fields as information technology, accounting, maintenance, and social support.

The colleges interviewed for this project all act in sponsorship roles to some degree. However, many apprenticeship efforts may begin as unregistered activities and evolve toward registration. In other cases, the project may best advance under a separate sponsor, be it an individual employer, a regional trade group, or a national sponsor.

Extend sponsorship role to include multi-employer sponsorships in multiple industries and occupations. Community colleges can further extend their apprenticeship efforts and impact when they expand their sponsorship role by developing and offering multi-employer sponsorship. In this way, colleges initiate apprenticeship programs and engage employers proactively. This approach gives colleges the opportunity to spread some of the fixed costs of registration and program development over a larger number of employers and apprentices. But it requires colleges to also develop a more sophisticated employer engagement effort that includes "selling" apprenticeship along with other solutions.

Our interviews with colleges in this study suggests one power of adopting a group sponsorship role in multiple industries is that it expands the

> **[T]he number of community colleges acting as apprenticeship sponsors has expanded dramatically in the last 10 years. "**

services that can be presented to employers. It also provides an opportunity to immediately respond to an employer need or opportunity, rather than working through a lengthy development process for each apprenticeship.

Or, perhaps, all of the above all at once. While this paper suggests a development path for community colleges interested in exploring apprenticeship, the colleges interviewed demonstrated a remarkable uniformity in embracing almost all aspects of the apprenticeship intermediary function. This suggests there is a lot of synergy among these functions.

6.2 Organizational Structure and Dynamics

For community colleges that aspire to scale their apprenticeship work, the question of organizational structure can be tricky.

For many schools, situating apprenticeship work in the schools' contract training and workforce development department may seem the obvious answer. These departments have built-in marketing and employer outreach functions. They begin with a culture of serving employer needs. They generally operate with greater flexibility. Yet these department rely on "soft money" funding and often will not or cannot sustain efforts through inevitable ups and downs, making it difficult to build the expertise that apprenticeship requires. They are walled away from the richer academic departments of the institution that live off steady FTE funding and tuition dollars. And the workforce functions, at least for most comprehensive community colleges, are viewed as ancillary to the mission of the institution — important, perhaps, but not quite central.

Alternatively, apprenticeship programs might be situated in the college's main academic organizational structure. In so doing, apprenticeships are mainstreamed in the institution and given standing equal to — or at least nearly so — other degree programs. Apprenticeship programs also have ready access to faculty and facility resources. These institutions generally work to ensure apprenticeship programs offer academic credit and articulate to degrees or certificates. The challenge for this approach is to avoid overwhelming apprenticeship program design with unproductive academic requirements unrelated to the needs of the employer and occupation.

Occasionally, an academic department will find itself engaging in the development and operation of apprenticeships, particularly when there are faculty with deep industry connections. These departments can more readily leverage instructional resources, can connect apprenticeship to credit-earning coursework, and may have access to sustained resources. However, these efforts are often tied to the relationships and energy

of a particular faculty member and the interest and capacity to grow apprenticeship beyond the occupational areas of the department are limited.

Finally, community college presidents have been known to drive apprenticeship development under the auspices of leadership initiatives that span departments and divisions. This would seem to be the best of all worlds — until the president leaves, as statistically he or she will within 5-6 years. At that point, the initiative may be orphaned and/or folded into an existing administrative structure.

Most of the community colleges in this study followed the general pattern of situating their programs under the school's workforce development division. Only a handful housed apprenticeship under the auspices of the academic division or provost. The sample size does not allow much in the way of drawing conclusions from whether a particular organizational approach better promotes scale, but the following impressions emerge:

- Consistent staffing is critical. Given the short-term tenure of community college presidents and other leadership roles, the persistence of one or several staff seem central to building the cross-departmental relationships and arrangements that power apprenticeship. These individuals sustain apprenticeship efforts through leadership transitions and reorganizations and steadily grow the capacity of the institution. Patricia Corley at Dallas Community College noted in a separate interview how critical it is to "engage and gain buy-in from your leadership and other departments. Without leadership buy-in and a team that is passionate about apprenticeship programs, your project will face more of an uphill battle to reach success."[15]

- Technical colleges such as Trident and Lake Region are more likely to house apprenticeships in the academic function. By mission and experience, these schools manage occupational need and academic structure. Still within the sample was proof that comprehensive community colleges such as Macomb Community College can do so as well and achieve a measure of scale.

- External factors are critical. As important as internal factors are for developing and scaling apprenticeship activities in a community college, a review of the apprenticeship development activities of these colleges showed repeatedly how external relationships with regional workforce and economic development entities, employer associations, and trade unions were a critical part of the developmental story.

Without leadership buy-in and a team that is passionate about apprenticeship programs, your project will face more of an uphill battle to reach success "

> **[E]xternal relationships with regional workforce and economic development entities, employer associations, and trade unions were a critical part of the developmental story. ”**

6.3 Special Cases

While a general developmental framework offers a useful roadmap, the role of context in these efforts looms large. For these reasons, AFA calls out a few alternative developmental pathways that may be more applicable to particular institutions and circumstances.

Academic-focused Transfer Institutions. For community colleges more focused on degree attainment and transfer for their students, apprenticeship may seem an odd fit. But an increasing interest in “degree apprenticeship” may present opportunities to leverage academic strengths for integrating college degree and transfer pathways as part of the design of related instruction. In fields as diverse as healthcare, engineering, and education, degree apprenticeships are emerging as vehicles to offer earn-and-learn college degree opportunities for students wishing to advance in their careers.

Workforce Development-focused Institutions. Some community colleges see their roles as leaning heavily on employer services and career advancement for students. These institutions are likely to move quickly through the development framework presented here as they can leverage extensive employer relationships and program development activity. These institutions should consider how the development of apprenticeship-adjacent programming, such a pre-apprenticeship programs, industry-recognized credentials, incumbent worker training on-ramps for apprenticeships, and credit-for-prior learning can accelerate their apprenticeship efforts and enhance value to apprentices and employer partners.

Institutions Focused on Student Success. Finally, for community colleges with a highly developed student success ethos, they may find themselves with opportunities in advancing apprentice retention and success. Given the level of employer investment in apprentices, better outcomes on apprenticeship completion can offer a compelling value proposition.

6.4 Barriers … and Opportunities

This paper has enumerated the many challenges to community colleges seeking to develop robust apprenticeship advancement efforts. Community colleges need to commit to developing new capacities. Apprenticeship often requires a level of flexibility and cross-institutional collaboration that stretches the typical community college. The general community college funding model offers a range of disincentives and is poorly suited to apprenticeship, often requiring community colleges to engage in entrepreneurial finance strategies. For these reasons, some — perhaps

many — community colleges will choose to ignore or marginalize any apprenticeship efforts.

However, as this paper has noted, traditional community college tuition and financing methods can be made to better support apprenticeship. Be it FTE funding, Pell, and GI Bill tuition assistance, modest adjustments can better connect these funding sources, improve outcomes for students, and (in many cases) reduce costs to the taxpayer. A new apprenticeship financing effort that pays for successful enrolment and completion in apprenticeship roles would provide a base of funding for community colleges to invest in the sustained development and growth of their apprenticeship efforts.

For the community colleges ready to do the work, the rewards can be significant.

AFA has observed how the depth of partnerships developed through apprenticeship yields rewards to community colleges. Faculty frequently report their engagement on apprenticeship strengthens their general pedagogy and instruction. Employers engaged through apprenticeship efforts frequently become partners with community colleges in other ways and vice versa.

Apprenticeship also offers a way for community colleges to address the skepticism of students that has driven enrollment declines in recent years. It is demonstrably connected to an employment outcome. It doesn't entail incurring student debt. And it offers an alternative pedagogy for students who are looking for an alternative to traditional classroom-only instruction.

Finally, apprenticeship uniquely answers those questioning the value of higher education institutions and their outcomes. It positions community colleges and their leaders as proactive problem solvers.

Appendix Tables On 18 Community Colleges

Table A.1 Number of Colleges Undertaking Key Functions	
Delivering RTI	18
Advising on the Development of On-the-Job Training	18
Engaging and Organizing Employer Partners	18
Recruiting Apprentices	15
Supporting Student Apprentices	18
Obtaining and Packaging Funding	18
Managing Apprenticeship Programs	18

Table A.2 Number and Mix of Apprenticeships by College		
College Name	**Number of Apprentices**	**Industries/Occupations Focused On**
Alamo Colleges District	210 active, 170 graduated, 470 recipients of grant funded service as participants	Information Technology, Allied Health, Transportation, Communication, Energy, Banking and Finance, Advanced Manufacturing, Sales, Management, Hospitality, Skilled Trades (Construction, Plumbing, Carpentry, etc.)
Bay Area CC Consortium RT	Not specified	Varies
BridgeValley CTC	About 85 (300 broadly, if including paid externships)	Healthcare, IT, Advanced Manufacturing Technician Work
Cuyahoga CC	About 80 active plus 3,500-5,600 in construction annually	Industrial Machinery Mechanics, Millwrights, Machinists, Tool and Die Makers, Construction (Union Trades), Manufacturing (Machining, Millwright, Maintenance)
Dallas College	3,000+ active (5000+ over four years)	Early Childhood Paraprofessional and Educator Apprenticeships, Health Care Emerging Leader Residency, Biomedical Equipment Technician, Clinical Informaticist, Registered Nurse Residency, Patient Care Technician, Certified Medical Office Assistant, Sterile Processing Technician, MRI Technologist, Healthcare, Manufacturing, Business, Education
East Central College	679 (615 registered, 64 unregistered)	General and Operations Managers, Medical and Health Services Managers, Network and Computer Systems Administrators, Industrial Engineering Technologists, Technicians, Nursing, Machinists, Welders, Logistics
Foothill College	Not Specified	Air Conditioning & Refrigeration Technology, Air Conditioning Mechanic, Inside Wireman (formerly General Electrician), Plumbing and Pipefitting Apprenticeship, Plumbing Technology, Sheet Metal Building Trades, Steamfitting & Pipefitting Technology, Test, Adjust, and Balancing (TAB) Technician, Residential Electrician, Sound & Communication Installer, Sheet Metal Air Conditioning Specialist
Harper College	172 active, 467 since 2015	Financial Management, IT Support, Electro-Mechanical Technology, Graphic Design, Health Careers, Industrial Maintenance Mechanic, Marketing and Sales Management, Mechatronics Technician, Supply Chain Management

Table A.2 Number and Mix of Apprenticeships by College		
Ivy Tech CC	1,500 registered excluding construction, about 8,000 in construction	Building Trade Industrial, Manufacturing, Construction, Healthcare
Lake Region State College	22	Information Security, Computer Support, Electrical and Electronic Engineering Technology, Nursing
LAUNCH Apprenticeship Network	500+ active, 1000 served since 2018	Automotive Industrial Tech, IT, Healthcare (Nursing, Community Health), Education, Human and Social Services
Lorain County CC	300-400	Emergency Medical Technicians, Electricians, Industrial Machinery Mechanics, Machinists, Microelectronics, Data Analytics, Cyber and Information Security
Macomb CC	715	Advanced Manufacturing, Construction, Trade, Manufacturing, Industrial Safety
Northern Virginia CC	About 30 active, 200-300 in last 5 years (numbers dropped when Amazon pulled out)	IT
Pima CC	16 Active, 10 more in process	Food Service Managers, Industrial Engineering Technologists and Technicians, Photonics Technicians, Health Education Specialists, Cooks Restaurant, Carpenters, Electricians, Plumbers Pipefitters and Steamfitters, Automotive Service Technicians and Mechanics, Heating Air Conditioning and Refrigeration Mechanics and Installers, Water and Wastewater Treatment Plant and System Operators, Construction, Applied Tech, Healthcare, IT
Texas State Technical College	120	Aerospace Assembly Mechanics, Sheet Metal Assembly
Trident Technical College	About 200 active, 535 to date	Computer User Support Specialists, Computer Programmers, Cooks Restaurant, Air Conditioning and Heating, Automotive, CAD Technician, Criminal Justice, Culinary Arts, Electrician, Engineering Technician, Hotel Operations, Industrial Mechanic, Machinist, Nail Technician, Small Business/ Entrepreneurship, Welding

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Endnotes

[1] https://www.urban.org/policy-centers/cross-center-initiatives/building-americas-workforce/projects/trade-adjustment-assistance-community-college-and-career-training

[2] https://www.apprenticeship.gov/investments-tax-credits-and-tuition-support/expanding-community-college-apprenticeship-virtual#awardee_list

[3] See Copson et al. 2021 for more detail on the operations of several grantees.

[4] https://ccrc.tc.columbia.edu/media/k2/attachments/public-funding-community-colleges.pdf

[5] https://opportunityamericaonline.org/ccsurvey/

[6] https://www.newamerica.org/education-policy/reports/solid-foundations-four-state-policy-approaches-supporting-college-connected-apprenticeships/

[7] https://www.newamerica.org/education-policy/reports/community-colleges-and-apprenticeship-the-promise-the-challenge/

[8] The American Council on Education (ACE) offers a process for assessing how RTI and other components can qualify for college credit.

[9] https://www.urban.org/research/publication/building-sustainable-apprenticeships-case-apprenticeship-2000

[10] https://www.aei.org/wp-content/uploads/2018/05/Apprenticeships-and-Community-Colleges.pdf?x85095

[11] See Jacoby and Haskins (2020) for a description and analysis of the FAME apprenticeship programs.

[12] https://www.aei.org/wp-content/uploads/2018/05/Apprenticeships-and-Community-Colleges.pdf?x85095

[13] I am grateful to Diane Jones for making these suggestions.

[14] https://www.washingtonpost.com/opinions/2024/04/30/phoenix-biden-chips-fabs-workers/

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