AFA APPRENTICESHIPS FOR AMERICA

How States are Driving the Expansion of Apprenticeships

State Apprenticeship Policy Scan

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Foreword

Jane Oates, *Senior Policy Advisor at WorkingNation*

As contentious and polarizing as this year's election cycle was, it also shed light on some surprising areas of bipartisan agreement and enthusiasm — particularly when it comes to workforce development policy. Both presidential campaigns highlighted the importance of "alternative" — that is, non-college — pathways to economic mobility.

It's no surprise that these pathways are so popular. With an increasingly volatile labor market, not to mention declining college enrollment and mounting skepticism about the value of the four-year degree, workers and employers alike are in search of faster, cheaper ways to bridge the gap between learning and work. Against that backdrop, models like apprenticeship that combine earning and learning are deservedly receiving increased attention.

This is an encouraging sign for anyone who agrees that the country's workforce system is in drastic need of an update. But having spent time both in federal policy and working at the state level, what I find most encouraging is not the potential for movement at the federal level — but what's already happening to expand access to apprenticeships in states across the U.S.

In states from California to Kansas and Colorado to Alabama, state leaders are thinking boldly and creatively about an approach to apprenticeship policy that opens up the model to new industries and new apprentices. They are setting clear goals and devoting state resources toward meeting them. They are creating new incentives for employers to hire apprentices, like tax incentives or grant programs. Over the past decade, they have driven an impressive increase in the number of apprentices across the country.

Of course, there's still a long way to go. Skepticism notwithstanding, the four-year degree has barely loosened its grip on the labor market, and HR leaders are finding that building a skills-first approach to hiring and advancement is often easier said than done. For all their growth, apprenticeships in the U.S. still lag far behind peer countries like France, Germany, and the United Kingdom.

That's why this report is so important and timely. It sheds light on how the apprenticeship model has grown state-by-state — as well as the specific practical actions that states are taking to facilitate and accelerate that growth. It should be a vital resource not just for state policymakers, but for anyone — researchers, analysts, funders, and practitioners — seeking to understand what it takes to build a workforce system that elevates apprenticeships to their rightful place as a linchpin of economic growth and opportunity. And just as importantly, it should spark conversation and collaboration among stakeholders hoping to fulfill the promise of the apprenticeship model.

In the coming years, let's hope that the United States becomes a country that gives apprenticeships their due. If that future comes to pass, reports like these — and the actions of the state leaders that inspire them — will be an important reason why.

Jane Oates previously served as Assistant Secretary of the U.S. Department of Labor's Employment and Training Administration and held advisory roles in the offices of New Jersey Governor Jon Corzine and U.S. Senator Edward M. Kennedy. She is now a Senior Policy Advisor at WorkingNation.

Introduction

In the last decade, apprenticeships have grown by over 60%. The number of active registered apprentices has grown from 410,000 in 2011 to 667,000 in 2024. Annually, the number of new apprentices has increased at an average rate of 8% a year over the last ten years.[1]

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What's driving this increase? Growing dissatisfaction with the 'college for all' model plays a part. According to a Gallup poll, Americans' confidence in higher education has fallen from 57% in 2013 to 36% in 2023. Facing above-inflation rises in tuition, low completion rates, and growing debt, college enrollment in 2022 was 1.2 million lower than the 2011 peak.[2]

In contrast, awareness of apprenticeships is growing. When parents were asked whether they preferred a three-year apprenticeship that led to a credential and a well-paying job for their child, or a full-tuition college scholarship, the majority opted for the three-year apprenticeship.[3] The vast majority — 92% — of U.S. adults who have an opinion about apprenticeships view them favorably.[4] A January 2023 poll showed 65% of high school students say their ideal post-high school learning should be on the job, through internships or apprenticeships.[5] Recognition of apprenticeships as a viable route to good careers is growing.

With workforce participation below pre-pandemic levels and relatively low unemployment (4.2% in August 2024), there are incentives for employers to look for alternative routes to access skilled labor.[6] From 2014 to 2023, the number of roles advertised without degree requirements has quadrupled.[7] As

of September 2024, there were 8.2 million job openings in the U.S., but only 7.4 million unemployed workers.[8] 70% of U.S. employers report difficulty in filling roles.[9] Talent shortages have material productivity impacts: Korn Ferry forecasts that by 2030, the U.S. could have $1.75 trillion of unrealized revenue from talent shortages, equivalent to 6% of the economy.[10]

A tight labor market encourages employers to seek alternate avenues for sourcing and hiring talent. When unemployment is low, employers tend to invest more in training and retaining their existing workforce.

Apprenticeship intermediaries are also fueling growth. Intermediaries help set up and run apprenticeship programs for employers. They sell the benefits of apprenticeships to employers and help convince them of the return on investment. Intermediaries can be a range of organizations — public, private, non-profit and for-profit — and can take on a range of functions in the apprenticeship ecosystem, from providing advice and support to hiring apprentices and acting as the employer of record. Intermediaries serve as the glue between education and the workforce, and by serving multiple employers and industries, are a key driver of scalability.

Alongside these trends, government support for apprenticeships is increasing. Pre-2015, federal funding for apprenticeships hovered at around $30 million a year. In the Obama administration and under the Trump administration, funding increased to $150 million annually. This grew further in the Biden administration to $285 million in FY 2023: nearly a tenfold increase over the preceding decade.

The increase in federal investment is welcome but still pales in comparison to what is needed. Current funding equates to hundreds of dollars per apprentice, and a fraction of the public funding spent on higher education or the equivalent funding levels spent by international competitors on apprenticeships.

States are also turning the momentum around apprenticeships into a vital talent pipeline. State legislatures doubled the number of bills passed referencing apprenticeships from 2014 to 2023.[11] State executives are bringing prominence to apprenticeships: with 16 governors highlighting apprenticeships in their 2024 State of the State addresses. Governors have led efforts to remove degree requirements from state jobs: Colorado Governor Jared Polis recently launched the National Governors Association's "Let's Get Ready" initiative with a heavy focus on apprenticeships.[12]

The trajectory of apprenticeships in the U.S. is positive. There is, however, room for substantial growth. In countries with prominent apprenticeship systems such as France, England, Canada, Germany, Australia, and Switzerland, 2-3% of the labor force are apprentices. Apprenticeships for America (AFA) believes that, with the right funding system and policy platform, the U.S. can and should reach a similar level. This would equate to two million new apprentices a year: around eight times more than current volumes.

Some states are already paving the way for this dramatic expansion. California has invested substantial state funding into growing apprenticeships in occupations outside of the construction and firefighting trades. The

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Maryland legislature has set an ambitious target for at least 45% of high school students to complete a high-school level apprenticeship program, or industry-recognized credential where apprenticeships are not available, by the 2030-2031 school year. The number of employers sponsoring apprentices in Alabama has increased from 300 in 2021 to more than 500 today. While the expansion of apprenticeships is still nascent when compared internationally, these examples show promising signs of states scaling up apprenticeships.

There is an established body of research on the development of American apprenticeships, including a focus on state activities. This report attempts to build on that research and provide a comprehensive review of the growth of apprenticeships across all 50 states, the District of Columbia, and the U.S. outlying areas over the last decade (2014 to 2024) (for brevity, where we refer to the 'states' we mean all government entities involved in apprenticeships at that level).[13] We focus on registered apprenticeships, apart from youth apprenticeships where we consider some unregistered programs.

The report starts with an examination of the available published data to consider how different states are growing. It then explores the practices, policies, activities, and strategies states are using to expand apprenticeships, before concluding with some considerations on the most promising practices states should be pursuing.

It is intended not as a definitive or comprehensive resource, but as a practical guide for the field and for policymakers. AFA hopes this report proves a useful tool for collaboration between states as they consider changes to their apprenticeship policies.

The report draws on past research, analysis of the published Registered Apprenticeship Partners Information Database System (RAPIDS) data, a scan of legislative, executive, and administrative activity, and a series of interviews and case studies with state apprenticeship leaders.

This report uses RAPIDS data as published from the U.S. Department of Labor (DOL), available at Apprenticeship.gov. As is often the case with fragmented public recordkeeping systems, many have raised issues with the accuracy of RAPIDS data. Some states have their own databases which do not align with the published RAPIDS data. Before 2018, many states

did not report data into RAPIDS. States have also reported data quality issues on gaining access to the database. AFA notes that there appear to be issues with the historical data for D.C., Kansas, Maryland, Minnesota, New York, Rhode Island, and Virginia. Some data fields, such as demographic information, can have low levels of reporting. Archived data covering the 2011 — 2021 period does not correlate with the dataset published for 2014 — 2024. We take 2014 as a baseline year to consistently use the most recent data, noting that this creates an arbitrary cut off point. RAPIDS has undergone reviews and policy changes that have not been documented, and may make comparisons over time less accurate. For example, there have been changes to how occupations are categorized by industry.

Despite these issues, RAPIDS is the official data source, and no alternative sources are widely available or comparable. This report uses an analysis of state level data from RAPIDS to explore the growth of apprenticeship but we note that comparisons over time will not be accurate for some states, and states' own data sources may differ from DOL data. More work needs to be done to improve data quality for the apprenticeship field.

Beyond data, AFA has gathered information on policies and actions states are taking through a scan of legislation and executive and administrative actions. We have consulted state leaders where possible to fact-check this information and understand implementation. We have tried to capture policy actions comprehensively across states. This is, however, a large topic and high-level scan: any omissions are the authors' own. Particularly because apprenticeship is a developing field, and many states are still relatively early in their journey to build an apprenticeship system, we have not attempted to identify the causation of apprenticeship growth or create any sort of comparable ranking among states. We hope that as the field grows, and data becomes more useable, future iterations will be more comprehensive.

AFA would like to thank the following people and acknowledge their help, advice, and support in compiling this report. In particular, we would like to thank Jobs for the Future, New America, and the National Governors Association who shared internal research and data, and the state apprenticeship directors who were interviewed for this report.

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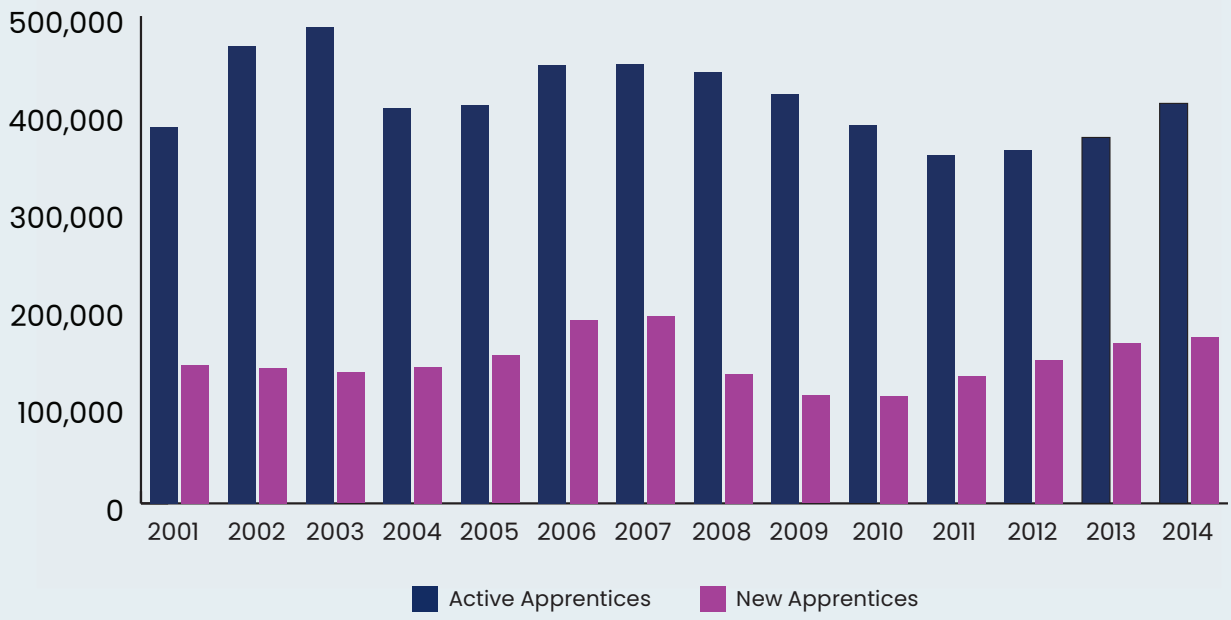
Which States are Growing Apprenticeships?

The number of active registered apprentices in the early 2000s fluctuated from a low of 357,692 in 2011 to a high of 488,927 in 2003:

Number of Active and New Apprentices in the U.S., 2001-2014

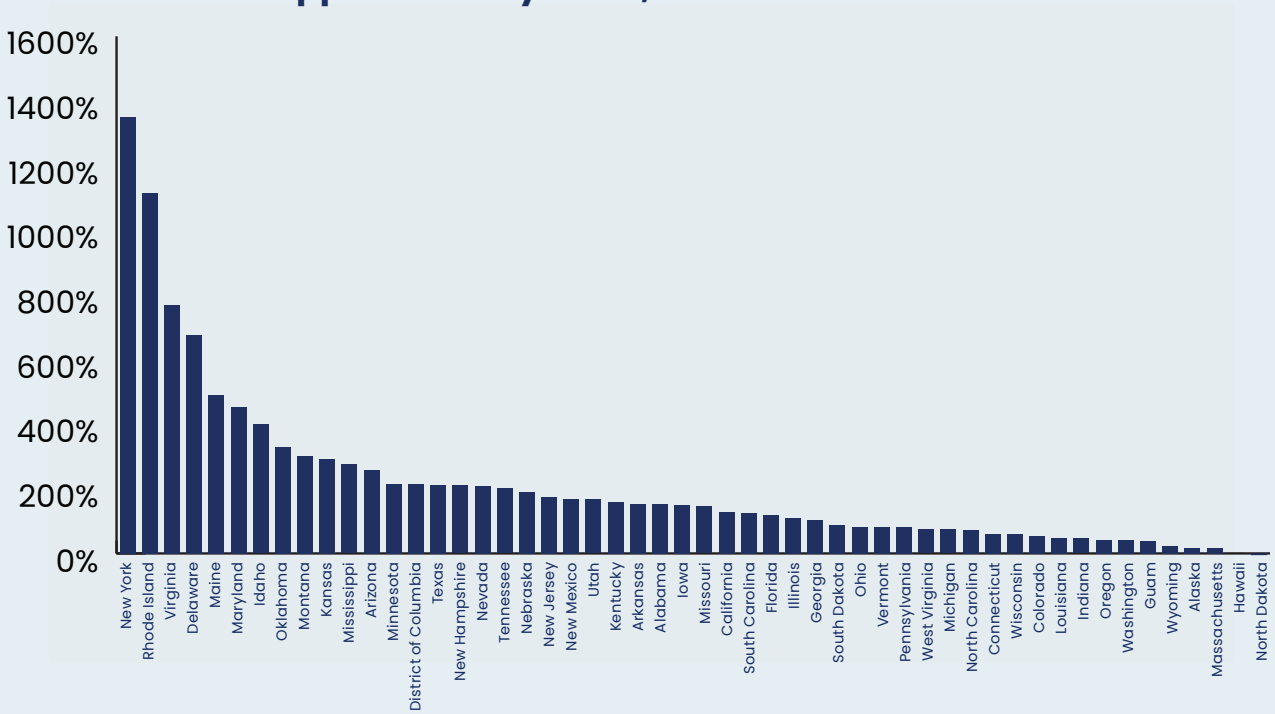


In the last decade, the trend has been consistently positive (with a blip in 2020 caused by the pandemic). Nationally, the number of active registered apprentices has doubled from 2014 to 2023.

This increase has spread unevenly across states: from more than a tenfold increase in new apprentices starting each year in Puerto Rico, New York, and Rhode Island to very little change in Hawaii and North Dakota. Puerto Rico is excluded from the graph below: due to the small number of apprentices in 2014, it has seen over 4000% growth in this period, distorting the graph.[14]

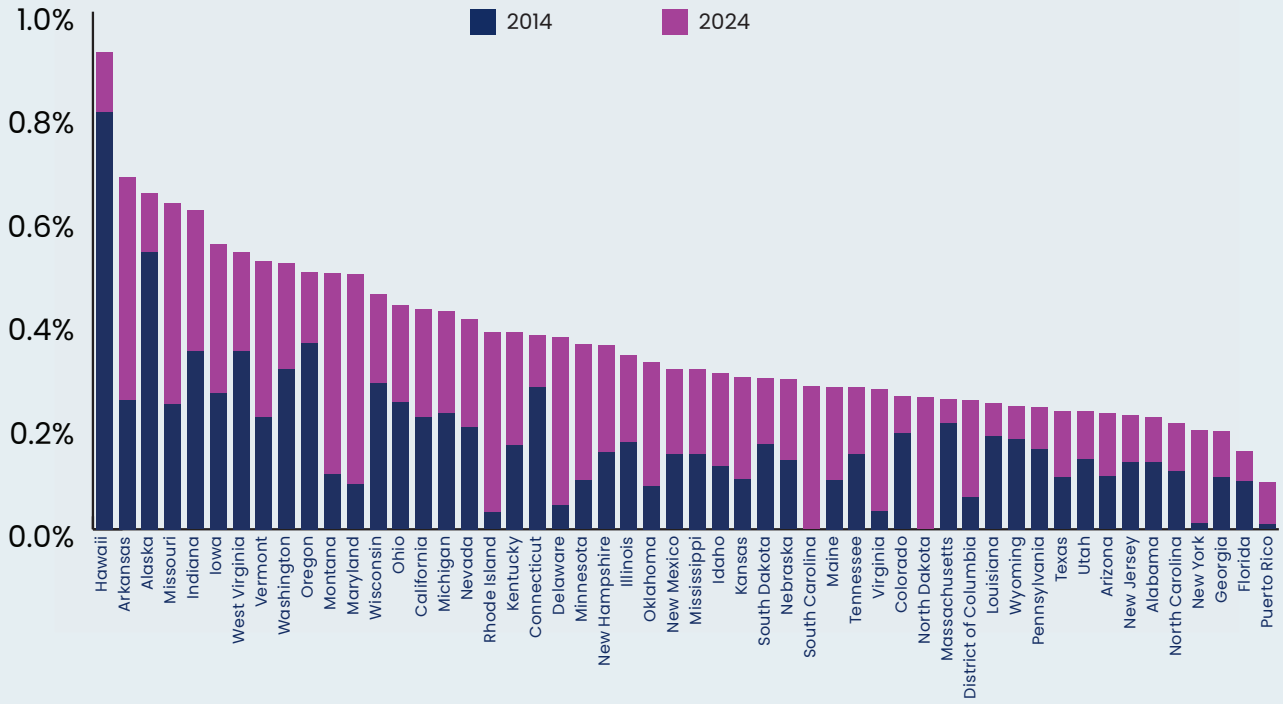
	2014	2023	Total change	% change
Number of new apprentices per year in the U.S.	**149,927**	**286,578**	**+136,651**	**+91%**
Number of active apprentices in the U.S.	**316,493**	**634,923**	**+318,430**	**+101%**

Growth in New Apprentices by State, 2014 to 2023



These numbers do not tell the full story of apprenticeship growth. Even where data exists, a state may be growing its apprenticeships only in proportion to the growth of the labor force, essentially resulting in no proportional gain. To net out changes in the labor force, we use the change in the proportion of active apprentices in the labor force as our benchmark for growth (noting the caveats in the introduction about the accuracy of comparisons over time).

Active Apprentices as % of Labor Force by State, 2014-2024



The top five states for the proportion of apprentices in the labor force in 2024 are

Hawaii (0.92%)

Arkansas (0.68%)

Alaska (0.65%)

Missouri (0.63%)

Indiana (0.62%)

As the graph above demonstrates, there is significant variation in the prevalence of apprenticeships in the labor force: from Hawaii at 0.92% to Puerto Rico at 0.09%. The top five states for the proportion of apprentices in the labor force in 2024 are Hawaii (0.92%), Arkansas (0.68%), Alaska (0.65%), Missouri (0.63%), and Indiana (0.62%).

Some of these states have not seen much growth over the last decade. Hawaii has a high proportion of apprenticeships, but the percentage of active apprentices as a proportion of the labor force increased by just 15% from 2014 to 2024, compared to an

average increase across all states of nearly 200%. The top 5 states that have seen the most growth in apprenticeships as a proportion of the labor force from 2014 to 2024 are Arkansas, Maryland, Montana, Missouri, and Rhode Island.

Given the data issues in RAPIDS, it is difficult to accurately measure change over time. Some states did not report data to RAPIDS from 2014 -2018, and so showed rapid growth because of the arbitrary selection of 2014 as the baseline year for data. Looking at change from 2018 to 2024, the top ten states for growth in the proportion of active apprentices in the labor force are:

These states show that rapid progress is achievable: Oklahoma, Delaware, and D.C. have more than doubled the proportion of apprentices in their labor force over the period.

Despite these promising signs, it is worth noting that even top-performing states are still under 1%, while in England, Germany, and France the figure is between 2-3%. There is still significant room for growth across the board.

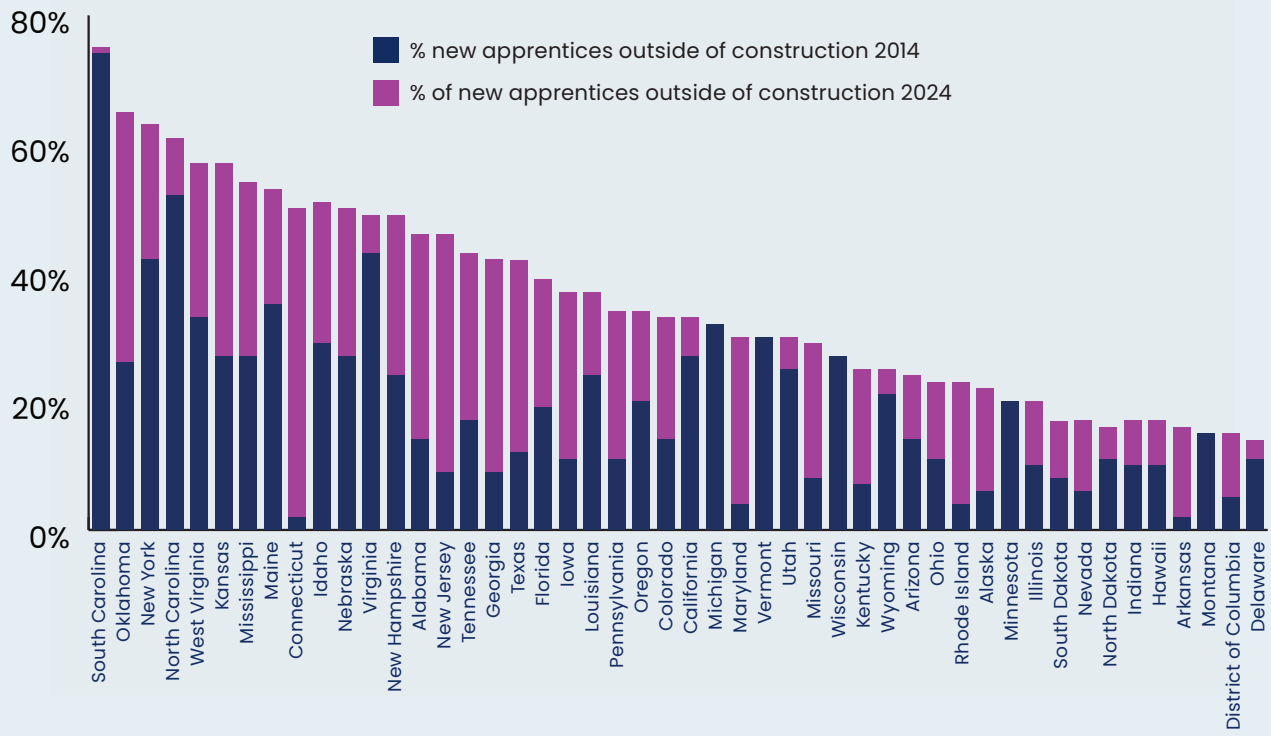
State	Active apprentices as % of the labor force, 2018	Active apprentices as % of the labor force, 2024	Percentage point change from 2018 to 2024
Arkansas	0.37%	0.68%	0.31
Missouri	0.35%	0.63%	0.28
Vermont	0.28%	0.52%	0.24
Oklahoma	0.12%	0.32%	0.21
Delaware	0.17%	0.37%	0.2
Maryland	0.31%	0.49%	0.18
Iowa	0.38%	0.55%	0.17
Montana	0.33%	0.49%	0.17
Idaho	0.16%	0.30%	0.14
D.C.	0.11%	0.25%	0.14

To net out changes in the labor force, we use the change in the proportion of active apprentices in the labor force as our benchmark for growth.

Occupational Diversity

Apprenticeships are traditionally used in the construction trades, and construction continues to dominate. Around two thirds of active apprentices in 2024 are in construction. While surely there is room for more apprentices in the construction trades, other countries demonstrate that apprenticeships is a model that can fill talent shortages for all industries — particularly those with high levels of skills gaps such as healthcare and IT.

Proportion of New Apprentices Outside of Construction, 2014-2023



But some states have expanded rapidly outside of construction: South Carolina, Oklahoma, New York, North Carolina, West Virginia, Kansas, Mississippi, Maine, and Connecticut had a majority of new apprentices starting in occupations outside of construction in 2023.

In 36 states the majority of new apprentices in 2023 were in construction occupations. In Delaware, only 14% of new apprentices in 2023 were outside of construction occupations. But some states have expanded rapidly outside of construction: South Carolina, Oklahoma, New York, North Carolina, West Virginia, Kansas, Mississippi, Maine, and Connecticut had a majority of new apprentices starting in occupations outside of construction in 2023.

While construction is still the dominant industry for apprentices, most states have improved their occupational diversity over the last decade, as shown by the purple bars in the graph above.[15] If apprenticeships are to scale dramatically, it will require both more apprentices in construction and an increase in the penetration of other sectors.

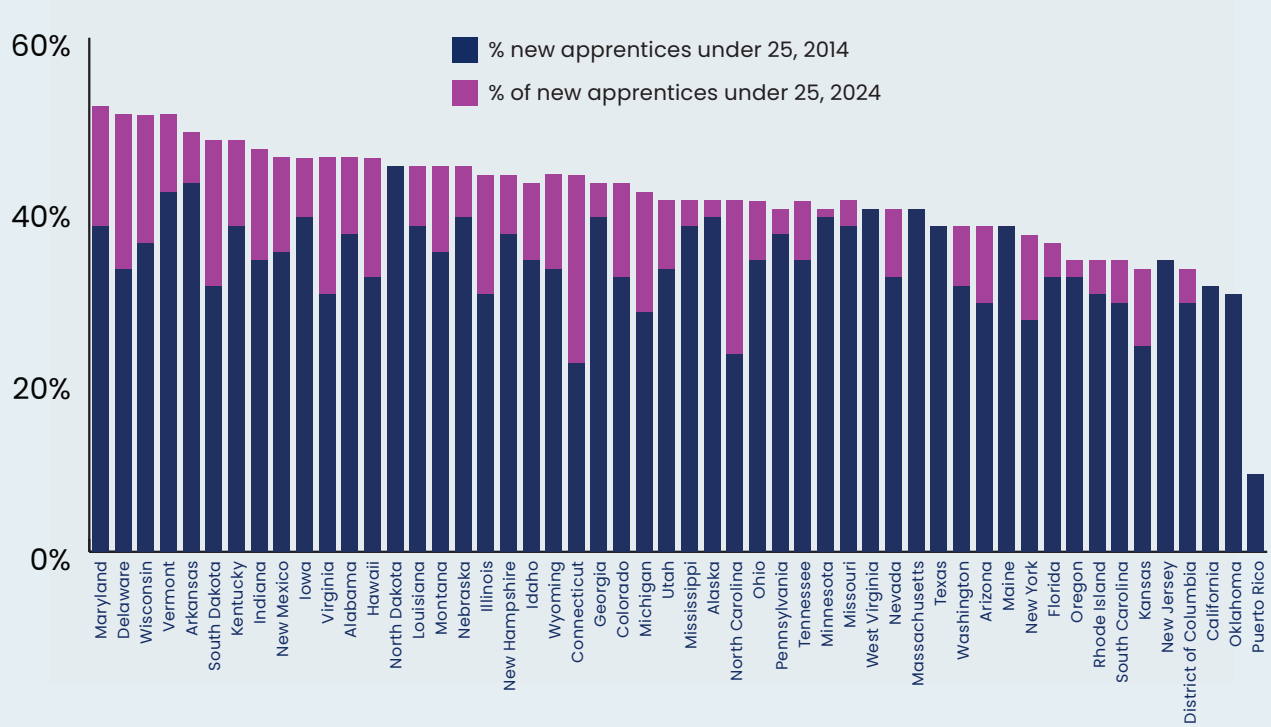
Top 10 occupations for new apprentices in South Carolina, 2023	Top 10 occupations for new apprentices in Delaware, 2023
Motor Transport Operator (Truck Driver)	Electrician (interior)
High Voltage Electrician (Line Maintainer)	Heating and Air Conditioning Mechanic & Installer
K-12 Teacher	Plumber
Ambulance Attendant (EMT)	Construction Craft Laborer
Line Installer-Repairer	Carpenter
Educator and Trainer	Pipe Fitter
Electrician (interior)	Heavy Construction Equipment Mechanic (operating Engineer)
Pharmacy Technician (Pharmacist Assistant)	Elevator Constructor
Early Childhood Educator	Electrician (maintenance)
Machine Operator	Pipe Fitter

Population Diversity

Many international apprenticeship systems such as Germany or Switzerland are focused on youth (usually 16–24-year-olds). In the U.S., the average age of new apprentices is 29.[16] More recently, federal and many state governments are looking in particular at increasing the number of youth apprentices. In 2019, the U.S. Department of Labor (DOL) funded apprenticeship intermediaries to expand opportunities for young people, and in 2020 awarded $42 million in Youth Apprenticeship Readiness Grants to increase the participation of young people.

On average across states, 41% of new apprentices starting in 2023 were under 25. Some states have slightly more participation from young people: Maryland, Delaware, and Wisconsin all have at least 50% of apprentices under 25. These states demonstrate that apprenticeships can work, and are working, for young people. Under-18s are less prevalent: no state has a significant population of apprentices under 18, with the minor exception of Kentucky (4%) and Washington (3%).[17]

Proportion of New Apprentices Under 25, 2014 to 2023



Maryland, Delaware, and Wisconsin all have at least

50%

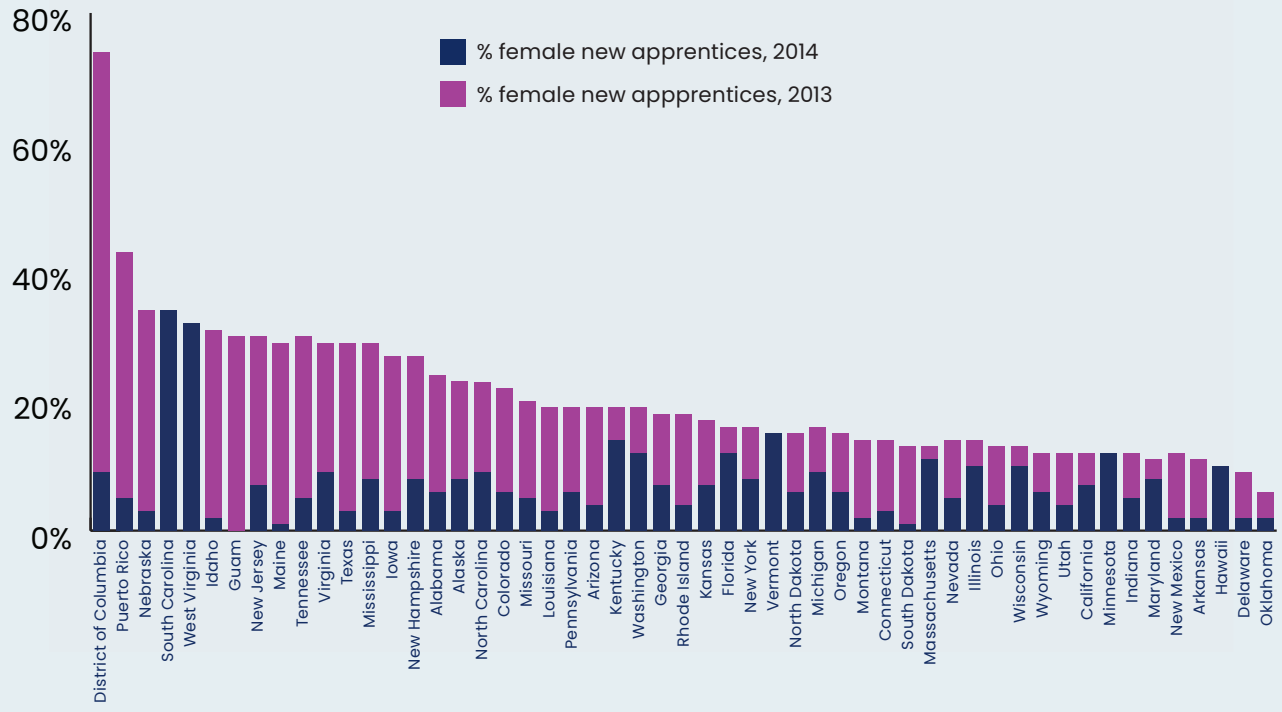
of apprentices under

25

The proportion of youth starting apprenticeships has increased in the last decade in most states, as depicted by the purple bars above. Only Puerto Rico has seen a significant shift away from young people.

Historically, apprentices have been predominantly male. As the workforce ages, especially in male-dominated sectors such as construction, apprenticeships and increasing female participation can both be considered as sources of talent to offset these demographic challenges. Apprenticeships remain largely male today, but with occupational diversity and a concerted effort to add women in construction trades, gender diversity has increased over the last decade. In 2014, just 7% new apprentices were female. This increased to 20% in 2023, with some variability between states. New apprentices remain overwhelmingly male in Oklahoma (93%). At the other end of the scale in D.C., 74% of new apprentices in 2023 were female.

% New Apprentices Female 2014 to 2023



The gender balance of apprentices has improved over the last decade, as shown by the prevalence of red in the graph above. D.C. has gone from 9% of apprentices starting in 2014 being female in 2014 to 74% in 2023. Nebraska has increased the proportion of female new apprentices by 31 percentage points from 2014 to 2023. West Virginia and South Carolina have had minor changes in the last decade but already had a better gender balance than other states in 2014. 36% of new apprentices were female in South Carolina in 2014, and 31% in West Virginia, far higher than other states. South Carolina's higher level of occupational diversity likely explains its success in achieving more gender equity.

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of new apprentices were female in South Carolina in 2014, and

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Racial diversity is difficult to assess due to missing data. Previous research suggests that nationally, Black and Hispanic participation in apprenticeships roughly mirrors these groups' participation in the labor force. Black youth, however, are underrepresented, and in one study Black or African American apprentices had the lowest exit wages compared to those of other groups.[18] Black apprentices are also less likely to complete their programs compared to white apprentices.[19] While there have been federal and state efforts to increase equity in apprenticeships, the racial diversity of apprenticeships has not changed a great deal from 2015 to 2019.[20] More research and better data are needed to understand racial diversity in apprenticeships at the state level.

Conclusion

AFA believes the most accurate indication of apprenticeship growth is the change in the proportion of active apprentices in the labor market. This needs to be contextualized with data on occupation, age, demographics, and race. Data quality is an issue, and these results should be taken as indicative only. From the available data, we conclude:

- Hawaii, Arkansas, Alaska, Missouri, and Indiana have the highest proportion of apprenticeships as a proportion of the labor market.
- The 5 states that have seen the most growth in apprenticeships as a proportion of the labor force from 2014 to 2024 are Arkansas, Maryland, Montana, Missouri, and Rhode Island. This is sensitive to the baseline year: taking 2018 as the baseline, the states seeing the highest growth are Arkansas, Missouri, Vermont, Oklahoma, and Delaware.
- South Carolina, Oklahoma, New York, North Carolina, and West Virginia had the highest proportions of new apprentices in industries outside of construction in 2023. Connecticut, Oklahoma, New Jersey, Georgia, and Alabama have seen the most growth in the occupational diversity of their apprentices over the last decade.
- In Maryland, Delaware, Wisconsin, and Vermont, over 50% of new apprentices in 2023 were under 25. Connecticut, Delaware, North Carolina, South Dakota, and Virginia have seen the highest proportional growth in participation of under 25s in the last decade.
- D.C., Puerto Rico, Nebraska, South Carolina, and West Virginia are the top five states for female participation in apprenticeships.

We have seen that apprenticeships, occupational spread, and the demographics of apprentices have expanded to varying degrees in different states across the last decade. The next section explores the practices states are using to drive these trends.

What are States Doing to Grow Apprenticeships?

State legislators, executives, and administrators have been increasingly busy working on apprenticeship. There have been 963 state bills referencing apprenticeships in the last 3 years alone, and 337 with apprenticeship in the title in the last 15.[21] Governors are highlighting apprenticeships in State of the State addresses (14 references in 2023 and 16 in 2024), and there have been 37 state executive orders concerning apprenticeships over the last 15 years.

Previous research has sought to identify the strategies states can use to grow apprenticeships:

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963

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State strategies to expand apprenticeships identified by previous research:[22]

- Using governors and other state leaders to publicly champion apprenticeships and increase awareness.
- Setting a vision for the growth of apprenticeships and establishing a comprehensive plan to integrate apprenticeships as part of a state's broader workforce strategy.
- Acting as a hub for interagency collaboration on apprenticeships and convening partnerships to develop high-quality programs that address the workforce needs of the state.
- Allocating funding and incentives to grow and sustain apprenticeships. Supporting employers to capitalize on federal programs.
- Growing the capacity to develop, register, and support programs, and providing technical advice to reduce barriers.
- Building a talent pipeline by growing and funding pre-apprenticeship and youth apprenticeship programs.

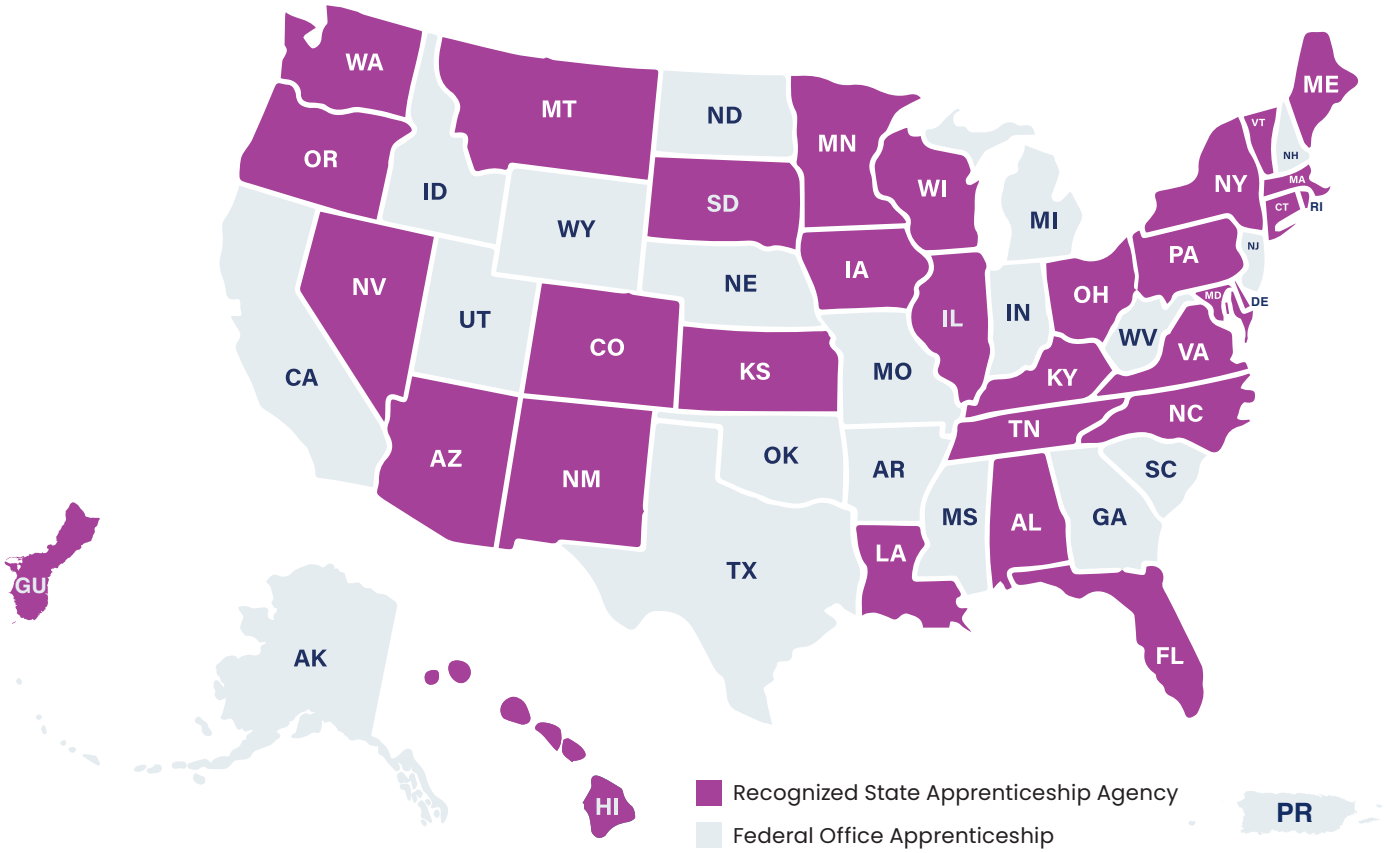
References: Baddour & Hague 2005, Lerman 2014, Hanks & Gurwitz 2016, AIR 2021, NGA 2023

Building on this work, our scan of legislative, executive, and administrative activity explores the practical approaches under these strategies using four categories:

- **Administration:** actions to establish or modify the institutional and regulatory framework for apprenticeships. For example, setting up an apprenticeship council or State Apprenticeship Agency, improving the registration process, setting a goal or target for apprenticeships, or publishing state-specific policy for ratio requirements between apprentices and journeymen.
- **Promotion and Funding:** encouraging employers to hire apprentices. For example, setting up grant or tax incentives, or marketing and advertising apprenticeships directly to employers.
- **Integration:** activity to integrate apprenticeships with other areas of state influence. For example, using state workforces to grow apprenticeships, aligning career and technical courses with apprenticeship related instruction, or bringing apprenticeship programs in line with state licensing or degree requirements for regulated professions.
- **Targeted:** activity to grow apprenticeships in particular industries or with segments of the population.

Administration:

The U.S. Department of Labor's Office of Apprenticeship (OA) oversees the nation's Registered Apprenticeship System. Under the federal regulations that govern apprenticeship programs, states may choose to establish a State Apprenticeship Agency (SAA) which, when approved by the federal government, acts on behalf of the federal office to register and oversee programs in their state. States with SAAs have flexibility on policy, processes, and practices, although federally regulated states can also set up state-specific policies.[23] 30 states, and the District of Columbia, now have an SAA, and Alaska is in the process of establishing one. Wisconsin was the first in 1911 — even before the establishment of a National Apprenticeship System in the National Apprenticeship Act of 1937. 12 states and D.C. made the transition in the 1930s and 1940s. Ohio, Pennsylvania, Maryland, and New Mexico established SAAs in the latter half of the 20th century. More recently, Montana, Maine, Alabama, Colorado, Tennessee, Kansas, Vermont, and Iowa have become SAA states. In the 19 remaining states, the OA oversees apprenticeships and has local field offices that carry out program registration. In the U.S. outlying areas Guam has a State Apprenticeship Agency, and Puerto Rico uses federal registration.[24]



State offices and local federal offices have the same core function: they register and oversee apprenticeship programs and ensure compliance with federal and state rules. SAAs have flexibility in deciding their registration requirements and processes, and over what data they collect. States with SAAs may have apprenticeship councils, which can directly approve programs or act in an advisory role.[25] States without SAAs still tend to have an apprenticeship office but do not interact with the registration of programs.

In this section, we will review the role of these critical offices and key administrative decisions states face as they set up and operate their SAA.

Scaling Apprenticeship: How the State of Alabama Launched a New Statewide Apprenticeship Agency

Alabama's Success Plus, the workforce development initiative announced in 2018, was undeniably ambitious: By 2025, Alabama would add an additional 500,000 highly skilled people to the state's workforce.

Alabama certainly had the people. Its civilian labor market participation rate ranked among the lowest in the nation. Yet the state had been historically unable to connect willing workers to good high-paying jobs. Surveys revealed that too many Alabamians lacked access to affordable childcare or transportation to work or school, or they lacked the right skills for available roles.

"Traditional skills attainment programs like teaching and nursing took so long that they were boxing out people who were willing to gain those skills but didn't have an affordable or accessible vehicle to be able to do it," said Josh Laney, director of the Alabama Office of Apprenticeship. "Our education and training programs have been too slow to adapt to the idea that they need to work for working adults. These were the people we needed to reskill and upskill to make our Success Plus goal."

Enter the Alabama Office of Apprenticeship (AOA), which was created in 2019 to expand the use of registered apprenticeships, promote all types of work-based learning, and create alternate pathways to good jobs for all Alabamians. Less than a year later, it became the first state agency in more than two decades to be recognized as a state apprenticeship agency by the U.S. Department of Labor.

Among AOA's first tasks were to define the terms and the process. By clearly defining 13 different forms of work-based learning — everything from job shadowing and career fairs to internships to apprenticeships — the agency increased understanding and alignment

among employers, educational institutions, students, and job seekers as to the types of available work-based learning opportunities. The agency then developed a continuum — of awareness, exploration, and preparation — to classify the purposes of work-based learning and promote the idea that all three stages were equally important.

"Our state and a lot of states have spent the vast bulk of their money and manpower on infrastructure around technical skills attainment but failed to expand awareness or provide opportunities for career exploration," Laney said. "We didn't want to spend $3 million to stand up a machining lab at a community college and then stand there scratching our heads when nobody signed up for the class."

To calculate statewide and regional employers who needed skilled workers for positions that paid family-sustaining wages, the Alabama Committee on Credentialing and Career Pathways, part of the Alabama Workforce Council, developed a five-part test to determine in-demand occupations for which the AOA could build new apprenticeship programs. To expand awareness and knowledge, the AOA holds an annual competition to highlight best practices in work-based learning programs around the state.

"We're pretty competitive in Alabama. If you can slap a competition onto something, you'll get people to come out," Laney said. "Some of the programs that have emerged recently have been truly amazing. And we've been doing this competition long enough now that we see new programs popping up that were modeled off of previous winners."

As a new SAA state, Alabama benchmarks its apprenticeship count against 2021 figures. The AOA has more than doubled the number of apprentices from 2021 to 2024. However, because the AOA focuses heavily on an employer-driven approach, it uses the number of employers served as its top-line metric. The number of Alabama employers sponsoring apprenticeships has risen from 300 when the agency began its work to more than 500 today.

"In just a few years, we went from no one understanding apprenticeships to having apprenticeships being in the mix of every workforce conversation in the state," Laney said. "Our challenge now is capacity. If we can meet that, we can get even more people the skills they need to move into the labor force and help Alabama's economy grow."

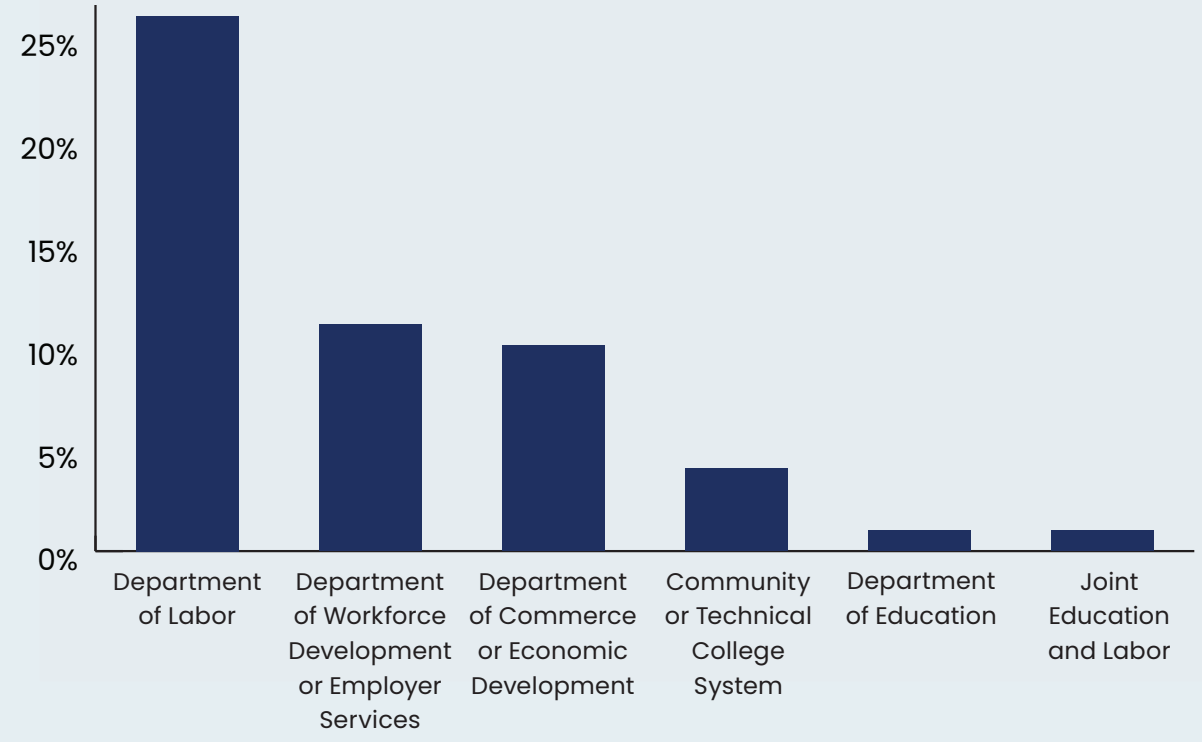
Does OA or SAA regulation affect the rate of expansion of apprenticeships? States with SAAs have grown apprenticeships as a proportion of the labor market at a marginally faster rate than states with federal registration over the last decade. This is not surprising: setting up an SAA is a sign of investment in apprenticeships. SAA states are more likely to have employer incentives such as tax credits, and state budget allocations specifically for apprenticeships.[26]

The transition from a federally regulated state to a State Apprenticeship Agency can be abrupt. While states can have time to prepare, newly created SAAs inherit operational responsibility overnight, with no training or standardized process. Some states have reported significant data quality issues once they gained access to the RAPIDS system. State agencies also need to grapple with multifaceted roles. SAAs are primarily regulatory agencies responsible for overseeing compliance with regulations and carrying out quality control. They also often have responsibility for promoting apprenticeships, can be funding agencies, and carry out a policy function.

Situating apprenticeship offices in the state bureaucracy:

Most state apprenticeship offices (in both federal and SAA states) sit within the state's Department of Labor, but they can also be in Workforce Development or Commerce departments. A handful of states have different arrangements: 4 states operate their apprenticeship programs from the community college system; in Florida apprenticeships are overseen by the Education Department; and the Kentucky Career Center sits within the Education and Labor Cabinet.

Location of Apprenticeship Offices



Apprenticeship Councils:

All SAA states have apprenticeship councils, but their roles can differ. Some SAAs delegate their authority to approve new programs to councils, while other councils are purely advisory. For the states where apprenticeship councils are responsible for approval, this can add an extra step to the approval process that may slow progress.[27] The DOL has issued a notice of proposed rulemaking which, if adopted, would revise state governance arrangements so that apprenticeship councils could act solely in an advisory manner, and not have a direct role in regulation.[28]

California and Colorado have used their governance models to focus on emerging sectors. Colorado legislators passed a bill in 2023 to direct the SAA to establish a State Apprenticeship Council as an advisory council.[29] This Council has two subcommittees: the Committee for Apprenticeship in Building and Construction Trades to advise on apprenticeships in traditional fields, and the Committee for Apprenticeship in New and Emerging Industries, comprised of apprenticeship specialists in non-traditional fields. California has a state office, the Division of Apprenticeship Standards, however, it does not have federal recognition and registers programs both federally and at the state level. California has two advisory councils: the long-established California Apprenticeship Council, active since 1939, and the Interagency Advisory Committee on Apprenticeship, created in 2018. The former covers the trades and the latter non-traditional apprenticeships. The governance approach adopted by Colorado and California allows the states to pursue innovative approaches that work well in non-traditional apprenticeships, such as using competency-based approaches, while continuing to serve apprentices in well-established fields.

These different models show there is no one-size-fits-all approach to governance and administration of apprenticeships. Rather, what matters is how states are implementing their programs. Our scan highlighted a set of activities states are taking to improve the administration of their apprenticeship systems: building partnerships, streamlining processes, and setting targets.

Building partnerships:

State agencies can build partnerships to align policies and create relationships between the local workforce and education systems. Colorado, as a new SAA, has dedicated time and resources to interagency collaboration. The state office educates state agency stakeholders about registered apprenticeship policy, and in return is learning about how wider policy beyond apprenticeship connects. In South Carolina, Apprenticeship Carolina™ has built partnerships across the education, workforce, and employer ecosystem — working with Chambers of Commerce, industry groups, national and local apprenticeship intermediaries, and school districts. Alabama has worked to align the activity of different agencies on apprenticeships, including the Governor's Office, the Alabama Departments of Commerce, Labor, and Education, the community college system, and the higher education system.

Streamlining processes:

State offices can improve the customer journey for apprenticeship programs and applicants. Michigan runs as an OA state and has dedicated resources to helping employers develop and implement registered apprenticeships. Michigan's Apprenticeship Success Coordinators work through 16 Michigan Works! agencies and reduce the time, costs, and effort that employers expend on setting up apprenticeship programs. Maryland's SAA works to minimize the hoops employers need to jump through. Instead of creating new programs every time a new employer joins, the office connects new employers to existing programs that meet their needs, where they exist. For employers with programs outside of Maryland, the agency focuses only on Maryland-specific requirements, removing duplication.[30]

Florida's SAA streamlined its approval process, resulting in the average time taken for approval falling from 9 to 12 months to 4 weeks. The office did this through implementing an electronic documentation system, cutting redundant paperwork, and updating their apprenticeship standards.[31]

Kansas has also introduced a digital process for its apprenticeship council to approve programs, a digital repository of the documents needed for registration, and a simplified EEO affirmative process. These changes have helped Kansas to cut its process down to just 15 days from submission to approval. These efforts show that the regulatory burden of apprenticeships can be dramatically improved.

Intermediaries can also play a role in reducing barriers. South Carolina is an OA state, and in 2007 set up Apprenticeship Carolina as a statewide intermediary. Apprenticeship Carolina works with employers to promote apprenticeships, then helps to draft training standards and program documentation, before handing the registration process to the federal Office of Apprenticeship. Apprenticeship Carolina's expertise and close relationship with the local federal office have significantly improved the process for starting an apprenticeship program and reduced paperwork and friction for employers. The intermediary takes responsibility for promotion: working with employers to engage them in apprenticeships and helping to create partnerships. It does not have a regulatory function but is able to advise employers on requirements and processes.

In other states, intermediaries are helping to make processes easier for employers. In California, the LAUNCH Apprenticeship Network works with community colleges, K -12 districts, and local workforce development boards to support employers to launch apprenticeship programs. Apprenticeship Colorado is establishing a network of recognized Qualified Apprenticeship Intermediaries: organizations that will accelerate high-quality apprenticeship programs across the state.[32]

Setting targets:

Another promising activity states are driving is setting targets to expand apprenticeships. Nine states currently have or have historically had an apprenticeships target. Publicly committing to a target can galvanize activity and focus state and non-state actors on apprenticeships.

State	Target
Alaska	Increase the number of apprentices in training by 50% (3,000) by 2024
Arkansas	10,000 apprentices by 2023
California	500,000 apprentices served by 2029
Kansas	Make Kansas a top 25 apprenticeship state by 2025. Enroll 4,500 apprentices in 2024
Maryland	At least 45% of Maryland high school graduates complete the high school level of a registered apprenticeship or, where apprenticeships are unavailable, another industry-recognized credential by the 2030-31 school year
Massachusetts	1400 apprentices served in target industries (healthcare, tech, and manufacturing) by 2026
Michigan	Increase the number of active registered apprentices by 10% in 2024. Broader goal to have 60% of Michigan's working-age adults with a skills certificate or associates degree by 2030
Missouri	Serve 55,000 new apprentices by 2025
Oklahoma	Increase the number of paid internships and apprenticeships in Oklahoma to 20,000 each year by 2020

Most targets focus on the number of new apprentices, but some states have taken different approaches. Maryland's legislature set a target on apprenticeships as part of a decade-long education reform plan: the Blueprint for Maryland's Future passed in 2021. The Blueprint sets the goal of increasing the number of apprenticeships for high school juniors and seniors so that at least 45% of Maryland high school graduates complete the high school level of a registered apprenticeship or, where apprentices aren't available, another industry-recognized credential, by the 2030-31 school year.[33] Together with existing apprenticeships and those that start after high school, this would translate to about 60,000 active apprentices by 2030-31. This is an ambitious goal which, if achieved, would equate to around 2.3% of Maryland's labor force being apprentices. The target also focuses not just on apprenticeship starts but completion. By focusing on the destinations of high school graduates, the target binds the K12 system to an ambitious goal in apprenticeships.[34] The goal has spurred a legislative workgroup, the Apprenticeship 2030 Commission.[35] The commission has produced an interim report and is due to provide a full report with recommendations for meeting Maryland's apprenticeship target.[36] Maryland, alongside Kansas and Maine, also publishes an annual report on its apprenticeship program.[37] This induces transparency and accountability.

California's target for 500,000 apprentices served by 2029 was originally a campaign commitment from California Governor Gavin Newsom. In 2022, California published a Five-Point Action Plan setting out how it intends to

meet this target.[38] Historically, California has had strong apprenticeship participation in the building and firefighting trades. Meeting this target will require approximately doubling the number of active apprenticeships by 2029. This will need significant growth in the non-traditional areas for apprenticeship, assuming that participation in building and firefighting remains strong. California is targeting expansion in areas such as health care, information technology, education, civil service, and business operations.

Building a More Inclusive Workforce: California's Drive for 500,000 Apprentices by 2029

California has more registered apprentices than any other state, and it has long led the nation in efforts to expand this classic earn-to-learn approach. California raised the bar significantly in 2018, when newly elected Gov. Gavin Newsom announced an ambitious goal of serving 500,000 apprentices statewide by 2029.

At the time, California had nearly 100,000 active apprentices, with most concentrated in the legacy sectors of building trades and firefighting. Since then, California has registered 180,000 new apprentices across all industries. To reach its bold target, leaders in state government, education and business are emphasizing scalability and sustainability without backing away from California's commitment to apprenticeship programs that improve the economic prospects of its residents.

"As we expand apprenticeships, California is focused on expanding high-quality and equitable apprenticeships," said Adele Burnes, deputy chief of the California Division of Apprenticeship Standards. "We use a quality jobs framework with higher wage thresholds for apprenticeships because we don't want to be subsidizing low-wage jobs. Instead, we want to use apprenticeship as a mechanism to uplift people into careers that pay them a family-sustaining wage."

Scaling apprenticeships means expanding them into new industries — such as healthcare, education, information technology, government, business services, and arts, media and entertainment — and new populations. In July, the Division of Apprenticeship Standards awarded California Opportunity Youth Apprenticeship Grants to 51 projects that will develop pre-apprenticeship and apprenticeship programs for youth between 16 and 24 who attend schools in under resourced communities or have disconnected from the educational system. The new Equal Representation in Construction Apprenticeship Grant supports programs that create career pathways for women, non-binary and underserved populations into the male-dominated construction industry.

To engage employers, California is focusing on apprenticeship intermediaries that bring together colleges, training partners, workforce development boards, employers, unions and others within a particular industry or a specific region. Successful examples include Early Care & Education Pathways to Success (ECEPTS), which is building apprenticeship pathways in early care and education in California and other states; and the LAUNCH Apprenticeship Network. Rather than have each of the state's community colleges create their own bespoke programs, Burnes said, apprenticeships can scale more quickly when multiple stakeholders collaborate.

"We're seeing an explosion of programs across California," Burnes said. "But what we really want to see is programs that explode themselves — ones that start with two employers but sign on twenty employers or start with one college, then sign on ten more. We want existing programs to scale in this way because that's where you reduce the friction for employers to hire apprentices and for apprentices to find a program."

To ensure that new programs will flourish, and existing programs will expand, California is investing in sustainability. Launched in 2022, the Apprenticeship Innovation Funding program reimburses program sponsors at a rate of $3,500 per year per registered apprentice. Participating employers must pay their apprentices above the minimum wage for the role and region as set by California's Employment Training Panel.

"The sustainability equation has been really hard for a lot of new and emerging programs to solve," Burnes said. "The Apprenticeship Innovation Funding has the potential to create that core funding infrastructure that can allow programs to go from an initial state or federal grant and become sustainable. I think this approach is truly innovative because it's funding the outcomes we're looking for, which are more high-quality, equitable apprenticeships."

Promoting and Funding Apprenticeships:

A primary role of state apprenticeship offices is to promote apprenticeships with employers. Offices conduct direct outreach with employers and organize high-level marketing and convenings. Legislators and executives are active in promoting apprenticeships at the state level: governors from Alabama, Alaska, Colorado, Indiana, Kentucky, Iowa, Maryland, Wisconsin, California, Vermont, and Washington are vocal advocates. States can use intermediaries to work directly with employers, expanding their reach.

More systemically, states have funding levers they can use to incentivize employers to start and grow apprenticeship programs.

Tax credits:

Tax credits for starting or growing apprenticeship programs are one of the most common interventions states are making to expand apprenticeships. 20 state legislatures have introduced a tax credit for apprentices, and a further 8 have tax measures for training which may cover apprenticeships.

Apprentice Tax Credits

15 States adopted tax credits applied per apprentice

5 States adoped targeted apprenticeship tax credits for particular sectors

8 States adopted broader training tax measures which apprentices may be eligible for

The most common approach, adopted by 15 states, is to credit businesses with a set amount per apprentice — either a flat amount, hourly rate, or a proportion of wages or costs incurred.

State	Annual value of tax credit per apprentice	Stipulations
Alabama	$1,250. Additional $500 for apprentices aged 18 or younger.	Applies for up to 10 apprentices, for up to four years per apprentice. Set to expire December 31st, 2024.
Arkansas	$2,000 or 10% of wages, whichever is less.	Capped at $10,000 per employer. Unused credits may be carried forward for 2 years.
Colorado	$6,300 for 6 months, $1,050 for each additional month of employment up to a maximum of $12,600.	Employers need to employ an apprentice for at least 6 months of the tax year and either have a registered apprenticeship program or be an employer-partner of a registered program. Capped at 10 apprentices per income tax year, and up to 24 months per apprentice. Starting in 2025.
Illinois	Up to $3,500. Additional $1,500 if the business or apprentice resides in an underserved area.	Covers 100% of qualified education expenses.
Kansas	$2,500 for each apprentice, rising to $2,750 in 2026. Additional $500 for apprentices under 18.	Up to 20 apprentices per employer in any tax year. Up to 4 years for each apprentice. Aggregate limit of $7,500,000.
Louisiana	$1.25 for each employment hour of an apprentice.	Not to exceed 1,000 hours per apprentice. Apprentices must be employed for at least 250 hours in the tax year.
Maryland	$3,000 per apprentice, and $1,000 per youth apprentice.	Amounts apply for the first 5 apprentices, $1,000 per apprentice thereafter. Maximum of $15,000 per employer per tax year. Credits can be carried forward.
Michigan	Up to $2,000 per apprentice per year.	For apprentices under 20. Credits cover up to 50% of salary and benefits, and up to 100% of RI costs.
Montana	$750 per apprentice, or $1,500 for apprentices who are veterans.	Credit takes effect once apprentice has completed their probationary period, or after 6 months, whichever is earlier. The tax credit may be applied for each qualified apprentice's training program for length of training program or for up to 5 years.
New York	$2,000 per apprentice for 1st year apprentices, increasing each year up to $6,000 in the 5th year. Additional $3,000 per year for disadvantaged youth apprentices. Additional $500 if apprentice has been trained by a mentor.	
North Dakota	Up to $3,000.	Credit is for 10% of salary costs of qualified apprentices, or up to 5 apprentices employed at any one time.
Ohio	Up to $5,000.	Calculated at the lesser of $5,000 or 15% of wages. Aggregate funding capped at $5 million over a 2-year period.
South Carolina	Up to $4,000 per apprentice and $6,000 per youth apprentice, with a $1,000 retention bonus upon completion for 3 additional years.	Can be carried over for up to 3 years
Tennessee	Up to $2,000 per apprentice.	$2,000 or 10% of wages, whichever is less. An apprentice needs to be employed for more than 1400 hours during a tax year.
Texas	$2,500 per apprentice.	One apprentice per employer, except if the employer hires apprentices from disadvantaged groups. Currently a pilot program until December 2026.

5 states not listed above — Rhode Island, Connecticut, New Jersey, Virginia, and Massachusetts — take a sectoral approach, with targeted credits to expand apprenticeships in areas such as have targeted credits to expand apprenticeships in manufacturing (RI, NJ, MA & CT), healthcare (MA & NJ), tech (MA), construction (VA and NJ), logistics, renewables, transportation, and tourism (NJ). Montana has a tax credit per apprentice, and an additional tax credit for apprentices in construction.

A further 8 states — California, D.C., Georgia, Iowa, Mississippi, Missouri, Vermont, and Virginia — do not have an apprentice tax credit, but have tax measures that provide rebates for workforce training costs which apprentices can be eligible for. Missouri has a tax credit for youth development projects where organizations can receive credit for wages paid to apprentices.[39] In Vermont, college savings accounts, which carry a 10% state income tax credit, can be used to cover the costs of apprenticeship programs.[40]

Tax credits have a mixed reputation as an incentive and can be a blunt tool. Take-up can be low — some employers do not have high state tax liabilities due to other tax arrangements, and so may not be incentivized by further tax breaks. Often there is an added process to apply for tax credits, beyond the procedure of apprenticeship regulation. States report that the low values of many tax credits may mean that they are helpful to small employers, but not attractive to larger employers. Many states set low aggregate limits for their tax credits, resulting in low utilization when demand exceeds the cap. Tax credits are reclaimed at the end of the year and do not help employers cover up front costs, and so may not factor into decision making on starting a program. Where decisions are taken in a firm also matters: a Finance Director may care about a tax credit, however they could have little bearing on the decision of a hiring manager to choose apprenticeships.

But well-designed tax credits can make a difference. South Carolina's tax credit is often cited as a success. From 2007, employers received $1,000 per year per apprentice. While this did not have a significant bearing on the cost base of apprentices for employers, it had a positive signaling effect and helped Apprenticeship Carolina to prove the benefits of the model to employers. Recent legislation increased the value of the credit up to $4,000 per apprentice, and up to $6,000 for youth apprentices. The credits can now be carried forward for three years, meaning the credit acts as an incentive even for employers with low or no state tax liability in the first year. This is seen as a key benefit motivating employers. There is also a completion and retention bonus of $1,000 for apprentices who complete their program and remain with the same employer.

Colorado is introducing an even larger tax credit from 2025. As per HB24-1439, employers in Colorado are eligible for a tax credit of $6,300 if they employ an apprentice for at least 6 months of the tax year, and an additional $1,050 for each additional month of employment up to a maximum of $12,600 per apprentice per tax year. This is more than double the size of existing apprentice tax credits.

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Grant funding:

Unlike in other countries, there are few direct funds at the federal level for employers and intermediaries to start or grow apprenticeships. There has, however, been significant federal funding passed through to the states. Of the $1.5 billion allocated to apprenticeships since 2015, over a third went to state agencies:

Name of federal grant	Fiscal year of award	Amount awarded to state agencies	% of total federal funding
American Apprenticeship Initiative	2015	$43,999,479	3%
State Apprenticeship Expansion Grant 2016	2016 & 2018	$99,898,225	7%
Apprenticeship State Expansion Grant	2019	$72,999,974	5%
Building State Capacity to Expand Apprenticeship Through Innovation	2020	$81,058,912	5%
Youth Apprenticeship Readiness Grant	2020	$13,381,366	1%
State Apprenticeship Expansion, Equity, and innovation grants	2021	$99,188,014	7%
Apprenticeships Building America (ABA1)	2022	$12,714,667	1%
State Apprenticeship Expansion Formula Grants (SAEF1)	2023	$59,364,486	4%
State Apprenticeship Expansion Formula Grants 2024	2024	$87,580,150	6%
Total funding allocated to states		$544,089,240	38%
Other federal funding not allocated to states	-	$959,141,200	62%

States are distributing this funding, alongside federal workforce and state dollars, to grow apprenticeship programs. Competitive grants form the basis of the workforce development system. This approach is common in apprenticeships: at least 7 states use competitive grants to establish new or expand existing apprenticeship programs.

Competitive Grants:

State	Grant name	Description	Amount
California	California Apprenticeship Initiative	Grant funding for community colleges for implementing and expanding apprenticeship and pre-apprenticeship programs in new and innovative areas.	$70m over 2 years
Colorado	Qualified Apprenticeship Intermediary Grant Scale Up Grant	Colorado is introducing a grant for qualified intermediaries to build capacity in 2025. Colorado also has Scale Up Grants: competitive grants to support organizations to develop registered apprenticeship programs.	$600,000 per year for 3 years $699,670 awarded in 2023, another round expected in 2025
Iowa	Iowa Registered Development Fund	Annual competitive grant for apprenticeship programs that create a new program in an eligible high-demand occupations (manufacturing, construction, IT, healthcare, administration), or add an eligible high-demand occupation to an existing program.	$665,000 awarded in 2024
Maine	Funded under the Maine Jobs & Recovery Plan	Grants to 14 organizations to expand or develop new apprenticeships and pre-apprenticeships.	$12.3m
South Dakota	Start Today	Sponsors can apply for a one-time incentive of $15,000 for new programs, and $10,000 for expanding existing programs to new occupations. Funding is also available for reimbursement of on-the-job training costs and related instruction.	$7.9m
Tennessee	Apprenticeship Training Grant	Support for employers interested in starting or expanding an apprenticeship program. Funding covers on-the-job training costs for dislocated workers, and related instruction for the first two years for apprentices and pre-apprentices.	Not available.
Texas	Critical Skills Initiative	Sponsors can apply for funds to defray registration and training costs. Maximum of $500,000 per applicant, equating to $4,000 per apprentice.	$4m

While competitive grants can be useful in covering start-up costs for a new apprenticeship program, or for experimenting with new and innovative approaches, they are unpredictable. Competitive grants are normally short term and so do not sustainably fund programs. They also carry risk for the taxpayer: applicants are often funded based on potential rather than apprenticeship results. Grants tend to go to previous winners who understand the grant writing process, as opposed to the organizations best placed to deliver apprenticeships.

Competitive grants are normally short term and so do not sustainably fund programs.

Internationally, competitive grants are not commonly used in apprenticeships. Instead, developed apprenticeship systems such as Switzerland, France, and England provide per-apprenticeship formula funding on an ongoing basis. Funding is non-competitive and is allocated through a set amount per apprentice. This has the advantage of providing predictability to apprenticeship programs, allowing them to grow sustainably — and giving an incentive for intermediaries to expand, via guaranteed income. The formula funding model also has the benefit of ensuring that public funding is being spent on existing rather than speculative apprenticeships.

Many states are introducing pay for apprenticeship models where they fund sponsors and intermediaries who are delivering apprentices through a non-competitive formula. Most of these formulas run on a per-apprentice basis. Some make payments based on launching programs. While the scale of these funds is not sufficient to meet the size of apprenticeships' potential, the growth of per apprentice funding models is promising.

Many states are introducing pay for apprenticeship models where they fund sponsors and intermediaries who are delivering apprentices through a non-competitive formula.

Formula funding:

State	Grant name	Description	Amount
California	Apprenticeship Innovation Funding	Formula-based fund: eligible applicants receive $3,500 per apprentice and a $1,000 completion bonus.	$135m over 3 years
California	Related and Supplemental Instruction Program	Community College reimbursement fund for the hours of related instruction they provide to apprentices.	$93m in 2023, recurring.
Florida	Pathways to Career Opportunities Grant	Discretionary non-competitive grant for apprenticeship sponsors to set up new, operate existing, or expand apprenticeship and pre-apprenticeship programs.	$14.6m in 2024, recurring.
Iowa	Iowa Registered Apprenticeship Act (84 E)	Annual funding to support training or ongoing costs. Funding is allocated in proportion to the program's share of apprentices in the state.	$3m a year.
Maine	Maine Apprenticeship Program	Employers receive $1,500 on starting a program, and $500 per apprentice to offset training costs.	$400,000 a year
Maryland	Sponsor Apprenticeship Incentive Reimbursement	Rolling reimbursement program, sponsors are granted up to $2,500 to offset RI costs. Capped at 10 apprentices per employer per year, limited to newly registered apprentices.	Not available, funded on an ongoing basis
Pennsylvania	Foundations in Industry Training Grant Program	Reimbursement fund for apprenticeship sponsors of a maximum of $3,000 per apprentice, for up to 3 years. Funding can be used for on and off the job training, and administrative support (limited to 10% of the total grant)	Not available

There are also some alternative state funding models. Some states have sector-specific funds. An example is Connecticut's Manufacturing Innovation Fund Apprenticeship program, a 2 year $7.8 million fund launched in 2015 to grow apprenticeships in manufacturing.[41] Some states use tuition waivers: In Washington state, apprentices at community or technical colleges are eligible for a 50% waiver on their tuition fees.[42] Florida exempts apprentices from tuition where the apprentice is receiving instruction at a school district, in the Florida College System, or at a state university.

Apprenticeship for the 21st Century: Maryland's Effort to Revitalize Its Longstanding Commitment to Apprenticeship

Maryland has long prided itself on having a robust and mature apprenticeship system. Maryland became a state apprenticeship agency in 1962 and has used apprenticeship programs over the decades to help tens of thousands of state residents build stable middle-class lives.

But around the turn of the 21st century, Maryland's apprenticeship system began to stagnate. Automation and modernization came for manufacturing jobs. The automotive industry shuttered its Baltimore plants. Construction took a big hit during the 2008 recession. Government agencies quietly closed their programs because the apprentices they trained and hired years earlier never left.

But a series of events — some intentional, some structural and some by happenstance — have helped Maryland build new momentum for apprenticeships. In 2014, a state economic development commission recommended creating apprenticeships starting in high school to retain and attract employers by expanding the skilled workforce across occupations. The governor and legislature embraced the initiative, based on the Wisconsin youth apprenticeship model.

Chris MacLarion, director of apprenticeship and training for the Maryland Department of Labor, lists some of the factors behind the growth of apprenticeships in Maryland:

- In 2016, Maryland lawmakers, newly interested in increasing apprenticeships, moved the state apprenticeship office from the Division of Labor and Industry to the Division of Workforce Development and Adult Learning. The move signaled that apprenticeships were to become a key part of the state's larger workforce strategy.
- The bipartisan support for apprenticeships from the governor and the legislature has helped Maryland acquire increased federal investment, which has opened the doors for more industries to take part in these programs as well as increased awareness of apprenticeship among employers. In 2018, the state, with a federal grant, embraced a pay-per-apprentice program to scale up apprenticeships by re-imbursing sponsors with up to $2,500 to cover the costs of registration and related instruction: the Sponsor Apprenticeship Incentive Reimbursement program.
- The Maryland legislature has also explored ways to remove licensing and exam barriers for apprenticeships programs to ease the transition into permanent roles. In

addition, the legislature's support for apprenticeships has helped Maryland increase federal investment, which has opened the doors for more industries to take part in these programs.

- Most significantly, in 2021, as part of its public school reform plan, the Blueprint for Maryland's Future, the legislature set the goal that 45% of Maryland high school graduates would complete the high school elements of a registered apprenticeship. Together with existing apprenticeships and those that start after high school, this would translate to about 60,000 active apprentices by 2030-31. This has focused widespread attention on how to meet the goal, leading to the creation of the Apprentice 2030 Commission of legislators, agency officials, and business and labor leaders, to develop a plan to do so. The Commission will report at the end of this year.
- Local and regional talent shortages have spurred Maryland employers to seek new lower-cost avenues for recruiting and training talent. And as the national confidence in college has waned and more employers and states embrace skills-based hiring, more Maryland residents are receptive to following alternate paths directly to high-paying in-demand jobs.
- Community colleges are on board. When MacLarion joined the apprenticeship office in 2016, none of the state's 16 community colleges sponsored apprenticeship programs. Today, it's 10.
- Technology — especially social media, online marketing and video conferencing platforms — have helped spread the word to companies and prospective apprentices and made it easier for MacLarion' s office to meet with employers. MacLarion said it helps to have a charismatic governor who's a staunch advocate for apprenticeship. Every time Gov. Wes Moore posts on LinkedIn about apprenticeships, the number of calls to his office spikes.
- A significant investment in new staff — from two full-time employees in 2016 to 26 today — allows Maryland's apprenticeship office to cover much more ground. The office is now better equipped to vet program proposals, gauge employer demand ("If there's no employer interest, there's no apprenticeship," MacLarion said) and accelerate registrations of programs that meet state qualifications. Because the office now has one staff member assigned to each county and no one is responsible for more than two counties, staff members can better know their territories, respond more quickly to business needs, and check in at least twice a year with each program.

This increased efficiency is a point of pride, MacLarion said, and it shows up in Maryland's apprenticeship data. In 2016, Maryland registered just four new apprenticeship programs,

and existing programs had 7,340 apprentices. In 2023, Maryland registered 41 new programs, and the statewide apprentice population now stands at an estimated 12,200.

"We're building high-quality programs within the regulations that produce training, careers and higher wages for Maryland residents," MacLarion said. "But there was no one watershed moment here. It's largely a result of a series of things that we methodically put in place to allow us to build this infrastructure — and most importantly sustain it."

Public Procurement:

A common lever used to grow a talent pipeline in the construction industry is setting training requirements in public procurements. 14 states and D.C. have apprenticeship requirements on public works procurements. States are using four different methods to increase apprenticeships via procurement:

- Setting selection criteria: to be eligible to bid, vendors need to offer apprenticeship programs. In California, all public works contracts over the value of $30,000 carry an obligation to hire apprentices.
- Setting targets within contracts: a requirement for a set number of labor hours to be completed by apprentices written into the contract. In Oregon, contracts with state agencies over the value of $3 million specify at least 12% of labor hours must be completed by apprentices, increasing to 15% in January 2027.
- Setting requirements for apprentices but allowing vendors to buy their way out: if they don't have apprentices, vendors instead pay into training funds. In Delaware, contractors without apprentices pay into a state fund which is then used to promote apprenticeships. In Maryland, contractors need to confirm they have apprenticeship programs for each craft in a project or pay into a State Apprenticeships Fund which is used to promote apprenticeships.
- Preferential bidding: some states use the selection process to preference vendors with apprenticeships. Hawaii considers bids at a discounted rate if a vendor employs apprentices.

states and D.C. have apprenticeship requirements on public works procurements

Methods Used to Grow Apprenticeships via Public Works Procurement

5 Apprenticeships used as an eligibility criteria

7 Contracts contain targets for use of apprentices

2 Contracts require apprenticeships or contractors need to pay into state apprenticeship funds

1 Contractor with apprenticeship programs receives preferential consideration

These efforts are bearing fruit: states using procurement rules to promote apprenticeships have grown the proportion of apprentices in their labor forces at a faster rate than those who do not set requirements. So far, however, states' efforts have been confined to construction contracts. This is not the case internationally: in England, all public contracts need to assess contractors' use of apprenticeships.[43] This approach could also work in the U.S.: states could require apprenticeships from vendors in large scale IT contracts, for example. There are promising efforts at the local level. In 2023, New York passed legislation to enable New York City authorities to use procurements to grow apprenticeships in areas of spending beyond construction, such as technology and human services.[44]

Integrating apprenticeships with other state activities

States are well placed to work across agencies to make the most of apprenticeships. Some common practices we found are: growing apprenticeships in state workforces; using skills-based hiring; and integrating apprenticeships and education.

Growing apprenticeships in state workforces:

Internationally, as apprenticeship systems develop, governments use public sector adoption to drive growth. Public sector apprenticeships appeal both as a significant employer — around 14% of the U.S. labor force work in the public sector — and as a trailblazer. Australia offers a government apprenticeship program, and England has experimented with setting a target of 2.3% of the public sector being apprentices. At the federal level, the Biden-Harris administration issued an Executive Order on Scaling Apprenticeship in March 2024 which called on federal agencies to increase their use of apprenticeships.

At least five states and D.C. have active programs to grow apprenticeships amongst departmental and agency staff:

- Expanding State and Local Public Sector Apprenticeships is part of California's Five Point Action Plan to advance apprenticeships, published in July 2022. The state is highlighting best practice and early pilots where state and local agencies are using apprenticeships to meet talent needs.
- Colorado Governor Jared Polis issued an executive order in 2022 to direct

state agencies to develop registered apprenticeship programs. This resulted in the state submitting 103 new programs to the DOL. In 2023 Colorado issued another executive order to increase the number of registered apprenticeship programs in state agencies by 50% by June 2024.

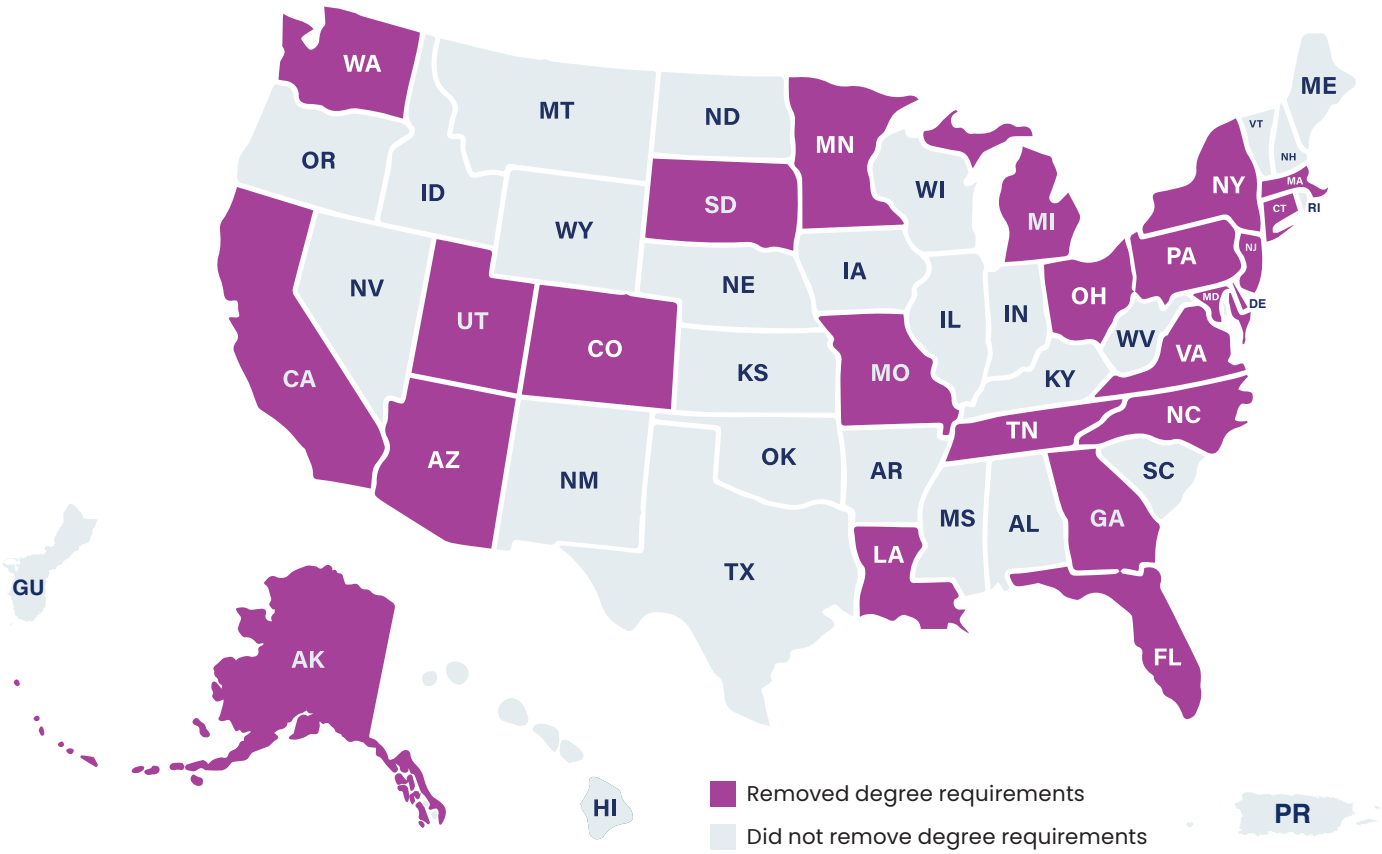
- D.C. passed a law in 2019 to promote pathways to government employment, including setting up apprenticeships in District government employment.
- Kentucky has launched an apprenticeship program for the public sector, with an initial four programs and promising early results.[45]
- Maine started an initial 2-year apprenticeship program for correctional officers and is working to establish apprenticeship programs in Health and Human Services, Transportation, and Labor.[46]
- In Maryland, the legislature enacted language in the 2022 and 2023 budget bills to direct state agencies in health, public safety and corrections, and transportation to conduct studies on their workforce shortages, and how apprenticeships can be used to alleviate them. The Maryland Department of Budget and Management is now working systematically with all state agencies. The Maryland Apprenticeship 2030 Legislative Commission is also exploring recommendations for public sector apprenticeships. Governor Wes Moore also launched a Public Sector Apprenticeship Innovation Fund with $3 million to provide grants to public sector entities to create and expand apprenticeship programs.[47]

Using skills-based hiring:

Recently, there has been lots of attention given to expanding skills-based hiring practices. While traditional hiring focuses on education, qualifications, and experience, skills-based hiring focuses on the skills and competencies applicable to the role. 23 states and D.C. have issued legislation, executive orders, or administrative policies to remove degree requirements from state jobs.
Many of these efforts are recent, and states are still in the process of implementing their approach to hiring without depending on degrees as a labor market signal. Apprenticeships can help states accelerate the implementation of skills-based hiring practices: they certify competence in occupational skills and can provide a framework for assessing eligibility outside of the typical process. The National Governors Association is leading work to support states to implement skills-based hiring through its *Skills in the States* Community of Practice.

Licensing requirements:

In some occupations such as nursing, degrees are traditionally required for licensing purposes. Licensed occupations represent around 1 in 4 jobs in the U.S. States are passing legislation to enable apprentices to earn a license during their training. Some of this legislation is occupation-specific, such as for cosmetologists, electricians and plumbers. Some is general: Alabama legislation allows people who complete apprenticeships to receive licenses, provided they complete any required examinations and pay any licensing fees.[48]



Integrating apprenticeships and education systems:

Internationally, there are high levels of integration between apprenticeships and higher education. In England, Degree Apprenticeships (available at undergraduate and graduate levels) have grown exponentially since their introduction in 2015. Learners earn a salary and work while gaining a degree and graduate with no student loan debt. 44,000 learners started a degree apprenticeship in England in the 2023-24 academic year, 15.8% of all apprenticeship starts, mainly in areas such as business, administration, and law.[49] Germany also has a growing number of apprenticeship programs that allow learners to earn a degree. In the Swiss dual apprenticeship system, professional colleges and applied universities offer degrees to their apprentices.

This model is also emerging in the U.S.. In 2020, Reach University was formed to pioneer the apprenticeship degree in America. Reach's programs have expanded from California to cover six states: Alabama, Arkansas, Louisiana, Colorado, Texas, and Tennessee. In 2024, Reach launched the National Center for the Apprenticeship Degree (NCAD) to systematically advance the model.

Integration can also happen earlier in the education system. 3 states: Alabama, Illinois and Pennsylvania reference apprenticeships in their high school graduation requirements.

Effective in 2027-28, students in Alabama may demonstrate college and career readiness through the completion of an apprenticeship. In Illinois students may substitute an apprenticeship for course requirements. Pre-apprenticeships may be used in Pennsylvania to demonstrate proficiency.[50]

Community college involvement in apprenticeship is also growing. Some of this has been spurred by federal activity. In 2015, the DOL formed the Registered Apprenticeship Community College Consortium to encourage community colleges to grant college credits to apprentices. Some community colleges have also received competitive grants to expand their apprenticeship offerings. The number of community colleges sponsoring apprentices has grown since 2015, although remains a small fraction of apprenticeship (3%), representing opportunity for expansion.[51] Some states are looking to community colleges to grow apprenticeships. California has provided funding for community colleges to create or expand apprenticeship programs in areas where they are not established and also provides funding to cover RI costs in community colleges. Colorado has legislated to align career and technical education in the community college system and apprenticeships, providing funding for joint staffing between the bodies responsible for CTE and apprenticeship.[52] In 2023, Rhode Island passed legislation to instruct colleges to determine how to award credit for on-the-job apprenticeship experience, the Apprenticeship Pathway to Earning a Bachelor's Degree Act.

Connecting College and Apprenticeship: How Rhode Island Integrated Apprenticeship as a Statewide College Completion Strategy

Rhode Island's public colleges and universities have long had robust systems for conducting prior learning assessments and awarding credit for prior learning. In 2023, the state's legislature authorized construction of a pathway for another set of nontraditional learners: apprentices.

Signed into law in June 2023, the Apprenticeship Pathways To Earning A Bachelor's Degree Act instructed public postsecondary institutions to award academic credit for coursework and on-the-job experience in registered apprenticeship programs. State policymakers believe Rhode Island colleges should recognize the educational value of apprenticeships — intensive experiences with strict standards that impart knowledge and skills that apply directly to careers. By awarding academic credit for apprenticeships, Rhode Island wants to accelerate progress toward its college attainment goal of 70%.

"We want Rhode Islanders to have bachelor's degrees," said Greg Ebner, assistant commissioner of academics and student affairs for the Rhode Island Office of the Postsecondary Commissioner. "And we want to make that process easier for people who are already in the workforce."

The legislation gave Rhode Island's three public postsecondary institutions — the University of Rhode Island, Rhode Island College and the Community College of Rhode Island — until Jan. 1, 2024, to submit new policies governing how they should award credits for registered apprenticeships. As spelled out in the legislation, the Rhode Island Board of Education convened a workgroup to advise it on implementation. Organizations represented in this working group were the Department of Labor and Training, which oversees apprenticeship programs in the state; the Office of the Postsecondary Commissioner; the state's three public colleges and universities; the State Apprenticeship Council; and construction trades.

The three colleges hit their deadlines, and the new credit policies were in place for the Fall 2024 semester. Ebner said his office should get data in early 2025 on the numbers of learners taking this new college pathway.

The workgroup is continuing to meet and discuss what Ebner calls a more aspirational goal: of crafting fully articulated systems of awarding credit for each approved registered apprenticeship in Rhode Island that can fully realize the potential of this approach. By more formally connecting higher education and apprenticeships, current and former apprentices can begin a bachelor's degree program knowing exactly how many academic credits they're starting with — and exactly what they need to do to complete college.

"The legislation came down fast and furious, and it took a lot of effort by a lot of people to compile and implement these policies as quickly as we did," Ebner said. "But having watched the articulation process between community colleges and universities for established degree programs, achieving a full articulation of every approved apprenticeship in the state will be a multiyear project. We want to take the time to get it right."

Targeted approaches to growing apprenticeships:

Unlike in other countries, apprenticeships in the U.S. remain dominated by the trades, which make up around two-thirds of apprenticeships. Many states are focusing on increasing apprenticeships in 'non-traditional' occupations: occupations outside the construction trades. These efforts take different forms. States are taking advantage of federal industrial strategy; intervening in particular sectors; and targeting specific populations such as youth and veterans.

Federal industrial policy:

The Biden administration passed three major pieces of legislation setting a new industrial strategy: the Infrastructure Investment and Jobs Act (IIJA) passed in 2021, the CHIPS and Science Act (CHIPS) passed in 2022, and the Inflation Reduction Act (IRA) of 2022. All three have implications for apprenticeships.

The IIJA commits a $1.2 trillion investment in high-speed internet, public transit, and key infrastructure projects. States have discretion to invest some of this funding in workforce development, including apprenticeships and pre-apprenticeships. Some spending carries apprenticeship requirements. The National Electric Vehicle Infrastructure Program, a $5 billion program to build electric vehicle charging stations, requires technicians to either undertake a training course or be active or former apprentices, and all projects with more than one electrician must have an apprentice.[53] The act also encourages states to develop human capital plans and identify their workforce needs for transportation and public infrastructure, giving states an opportunity to consider the role of apprenticeship models in these sectors.[54]

The CHIPS Act allocates $280 billion to increase semiconductor production. Two provisions are particularly relevant for apprenticeships: applications for competitive grants need to secure commitments to provide workforce training from regional education, higher education, and training providers; and the act contains a $200 million CHIPS for America Workforce and Education Fund.

The IRA makes the largest federal investment in clean energy in U.S. history and provides tax incentives for employers to hire apprentices. Employers can only receive the full tax credits if they: meet prevailing wage requirements; have at least 15% of labor hours completed by a registered apprentice; and comply with federal or state requirements for apprentice-journeyperson ratios. If they do not meet any of these requirements, the tax credits are capped at 20% of the full value.[55]

These acts are recent, and states are just beginning to use these investments to boost their apprenticeship programs. These early efforts are not without challenges. While well-intentioned, the IRA tax credits have meant an influx of employers unfamiliar with apprenticeships trying to register programs. State agencies need to respond to this influx: Maryland has seen a rise in new requests for apprenticeship programs due to the IRA

from businesses that haven't previously had apprentices. To support these firms, the state has connected them to established efforts, reducing the time and administrative requirements of creating new programs.[56] This can, however, be a complicated issue — some employers could see their programs purely as an IRA requirement, and relax their commitments once they are no longer working on IRA projects.

State interventions in nursing and teaching:

Two areas of recent growth are apprenticeships in nursing and teaching. Nursing apprenticeships allow students to work while completing their training programs and licensing requirements. Healthcare apprenticeships are popular in European apprenticeship systems. In the U.S., Illinois, Maryland, South Dakota, Texas, Washington, and Nevada have designed nursing apprenticeship models. As of September 2024, there were over 8,500 active apprentices in nursing occupations.

Top 10 states for nursing apprenticeships	No. of active apprentices in nursing occupations, September 2024
Ohio	683
Texas	600
Iowa	446
Indiana	418
Kentucky	337
Tennessee	314
South Carolina	304
Virginia	278
Missouri	248
Florida	242

Teaching is another high growth area. Tennessee was the first state to register a teaching program in 2022.[57] 44 states and outlying areas now have a program registered, with Massachusetts being the most recent.[58] As of September 2024 there were over 3,000 active apprentice teachers.

Top 10 states for teaching apprenticeships	No. of active teacher apprentices, September 2024
Tennessee	558
Iowa	540
Nevada	515
Missouri	313
South Carolina	278
Texas	177
South Dakota	160
New Hampshire	127
Kansas	93
Michigan	77

In teaching and nursing, states are increasingly using apprenticeships to help meet their acute workforce needs. Apprenticeship intermediaries are playing an active role in growing these programs. Early Care & Education Pathways to Success (ECEPTS) is a DOL Industry Intermediary across the country and a sponsor of registered apprenticeships for occupations within the Early Career & Education industry. With over 500 registered apprentices, ECEPTS has been recognized as one of the fastest-growing apprenticeship sponsors in California and is supporting the development of ECE programs in other states, bringing its unique expertise in both early childhood education and workforce development to grow the field.

Youth apprenticeships:

Mature apprenticeship systems in other countries often focus on youth. In Switzerland around two thirds of young people choose apprenticeships when they are 16-18 years old. In the German system, apprenticeship acts as a transition between school and the workplace: most apprentices are between 16 and 19, although some may start at an older age. Traditionally in England and France apprentices were aimed at school leavers, however both countries have recently seen increasing take-up from older learners.

Many states, influenced by the German & Swiss model, are focusing on youth: 20 states now have a formal definition of youth apprenticeship.[59] Approaches differ. Some youth apprenticeships offer paid employment, while others have lighter work requirements and use more of an internship model. Typically, youth apprenticeship programs serve 16–24-year-olds, although some are targeted exclusively at high school-age learners. Some states are using registered apprenticeship programs while others do not register youth apprenticeships and set different time and RI requirements that fit with high school schedules. Note that only registered youth apprenticeships are reflected in RAPIDS and will be included in the data in this report, and so many unregistered youth apprenticeship programs, such as in Wisconsin, will not be represented in the earlier analysis.

The Partnership to Advance Youth Apprenticeship, a coalition led by New America, sets out guiding principles for youth apprenticeship:

- Career-oriented: learning is structured based on knowledge, skills and competencies that lead to careers with family-supporting wages.
- Equitable: Learning is accessible to every student, with targeted support for those adversely affected by long-standing inequities in our education system and labor market.
- Portable: Learning leads to postsecondary credentials and transferable college credit that expand options for students.
- Adaptable: learning is designed collaboratively to be recognized and valued across an industry or sector.
- Accountable: student, employer and program outcomes are monitored using transparent metrics to support improvement.[60]

State legislators are increasing their focus on youth apprenticeship. Promising state activities include[61]:

State	Notable interventions on youth apprenticeship
Alabama	In 2019, Alabama defined youth apprenticeships as programs designed specifically for 16–18-year-olds, inclusive, registered by the Alabama Office of Apprenticeship, and connected to an adult apprenticeship.
Colorado	Colorado has established the Career Development Incentive Program: school districts and charter schools are eligible for up to $1,000 for each high school student who completes a qualified industry credential program, internship, residency, construction pre-apprenticeship or apprenticeship program, or qualified advanced placement course. Colorado partnered with Careerwise, founded in 2016, to serve as a youth apprenticeship intermediary, address the skilled worker shortage, and work with schools to prepare students for jobs together with employers. The model has now spread to Washington D.C. and New York City. Colorado legislated in 2023 to create a pilot program to increase awareness of registered apprenticeships among high school students through apprenticeship navigators.[62] In 2024, S.B. 24-104 assigns the state apprenticeship agency to work with the community college system to align the high school CTE system and registered apprenticeships in at least one target industry — infrastructure, manufacturing, education, or health care, by July 2026.
Georgia	In Georgia, coordinators play a key role in bringing together youth apprenticeship programs locally. Funded by a state appropriation of $3 million, coordinators at 347 schools recruit students, work with employers, match apprentices to openings, design learning plans, and administer and monitor the programs.[63]
Indiana	Indiana has codified youth apprenticeship as a structured work-based learning program with competency-based education and at least two semesters of RI eligible for academic credit, at least 650 hours paid experience on the job, and culminating in an industry recognized credential. More recently, CEMETS iLab Indiana was established as a coalition of business, education, government, and nonprofit leaders that have developed an apprenticeship model in Indiana for high school students, based on the Swiss apprenticeship model.
Kentucky	Employers often face extra barriers or regulatory requirements when hiring young people under 18. in 2013, Kentucky set up the Tech Ready Apprentices for Careers in Kentucky (TRACK) program in 2013 to create a pipeline leading into registered apprenticeships. The Department for Education partners with a staffing agency that acts as the employer of youth apprenticeships, to alleviate the potential liabilities and requirements for employers that are associated with employing people under the age of 18. The program uses existing CTE structures to give students advanced standing in apprenticeships.

Maryland	Apprenticeships are a focus in the Blueprint for Maryland's Future. At the initiative of the legislature, Maryland is in the process of shifting high school students from youth apprenticeships which complete at the end of high school into a program that starts in high school and continues as registered apprenticeships.
Utah	In 2024, Utah legislators passed S.B. 122 to create a study to design a framework for expanding youth apprenticeship opportunities for students. Bringing different state agencies together, the study will make system design recommendations to increase youth apprenticeship programs and take-up by May 2025.
Wisconsin	The requirements of registered apprenticeships — at least 2000 hours on the job and 144 hours of related instruction — are difficult to fit with high school. Wisconsin has the oldest youth apprenticeship program in the U.S., which began in 1991. The state has legislated to create a distinct (unregistered but formalized) model, with a requirement of 450 or 900 hours on the job (depending on whether the apprenticeship is one year or two) and 2-4 high school courses serving as the related instruction.[64]

Conclusion

The states that have rapidly grown apprenticeships over the last decade have established governance and administrative approaches that make life easy for the different actors in the apprenticeship system, using intermediaries to reduce friction for employers. They have incentivized employers through innovative tax policy and formula funding approaches. They coordinate with other agencies and integrate education and workforce policy. And they have targeted non-traditional populations and occupations for growth.

The diffusion of the apprenticeship model is uneven: some states have made rapid progress in expansion over the last decade — showing that swift progress is possible. Apprenticeships, however, remain outside of the mainstream in much of the country, and even the most developed state systems lag international competitors. This means there is room for rapid expansion with the right funding and policy levers.

There is lots of promising practice to build upon. Across this scan, AFA believes five practices stand out and should be considered a pre-requisite for states looking to grow — and diversify — apprenticeships:

1. States which have **set targets for apprenticeship growth** have seen rapid progress. Setting targets is a zero-cost activity that can galvanize stakeholders around a central challenge and bind in agencies and actors across the state. States should consider learning from each other about how to set ambitious, stretching targets for apprenticeship growth.

2. Most states have allocated some grant funding for sponsors to incentivize them to establish or expand apprenticeships. Competitive grants do not appear to have had much impact on apprenticeship growth. The most promising models are those that adopt a **pay-for-apprenticeship, formula-based funding approach.** States looking to fund outcomes and grow apprenticeships in a sustainable way should consider

adopting these models. Funding should be sufficiently scaled to the size of the ambition of growing apprenticeships.

3. Many states are making progress on working with employers **and reducing the bureaucratic friction** in starting apprenticeship programs. States should consider partnering with intermediaries to expand the scale of this activity and reach new employers in non-traditional industries.

4. Many states are using **procurement rules** to grow apprenticeships in construction industries. There is no reason this approach cannot be adopted across other areas of public procurement, such as technology or services contracts. States should consider setting apprenticeship requirements across their contracted services and leveraging state dollars to grow apprenticeship.

5. States are making efforts to **expand apprenticeships in state agency workforces.** States should consider setting hiring rules and targets which prioritize the consideration of apprenticeships to alleviate talent shortages in state agencies.

AFA believes that apprenticeships represent untapped potential: with the right conditions exponential growth is possible and the U.S. apprenticeship system could grow to two million starts a year. If this exponential growth is to be realized, state governments will play an increasingly leading role in the system — as regulators and stewards of the institutional framework that intermediaries, education providers, employers, and apprentices operate within, and as innovators.

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[15] There is limited occupational data for Guam, Puerto Rico, Washington, New Mexico, Massachusetts. They are not included in this graph.

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Apprenticeships for America
601 Pennsylvania Avenue, South Building, Suite 900
Washington, DC 20004
202.979.1718

www.apprenticeshipsforamerica.org