



OFFICE OF RESEARCH AND EDUCATION ACCOUNTABILITY

AN OVERVIEW OF REGISTERED APPRENTICESHIPS IN TENNESSEE



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Introduction

In recent years, states, including Tennessee, have explored many strategies to combat labor market challenges. Apprenticeships is a strategy which has become a popular policy topic related to this effort. This report provides an overview of registered apprenticeships in Tennessee – what they are, how they work, and how many individuals participate in them.

Registered apprenticeships are a work-based learning model (certified by the U.S. Department of Labor, or USDOL) that combines supervised on-the-job training, paid work experience, classroom instruction, and mentorship.^A This model allows apprentices to obtain formal training in a desired occupation while receiving work experience and pay from an employer. The Tennessee Office of Apprenticeship (TOA), part of the Tennessee Department of Labor and Workforce Development (TDLWD), oversees and assists apprenticeship programs in the state.

TOA is a part of Apprenticeship TN, a marketing initiative launched in 2020 to raise awareness of registered apprenticeship opportunities for employers and workers in every area of Tennessee. This initiative includes the Tennessee Workforce Development System (TWDS), a consortium of state agencies that play a role in supporting apprenticeships, including the Departments of Labor and Workforce Development, Human Services, Correction, Education, and Economic and Community Development as well as the Tennessee Board of Regents and Tennessee Higher Education Commission.

Funding for registered apprenticeships in Tennessee comes from a variety of sources. The federal government supports apprenticeships through grants, with the most recent being awarded in June 2023. The state government funds apprenticeships through various avenues, including through the state Office of Apprenticeship, apprenticeship training grants, on-the-job training grants, the Grow Your Own Center (a collaboration between the Tennessee Department of Education and the University of Tennessee System to bolster teacher apprenticeships), and Governor’s Investment in Vocational Education grants (competitive grants to facilitate partnerships between relevant stakeholders to address skills gaps in the state). Additionally, state funding for apprenticeships can originate from other agencies in the TWDS consortium for agency-specific apprenticeship initiatives.

After reviewing apprenticeships in Tennessee, OREA came to several conclusions:

- Total active registered apprentices have almost doubled since 2014. The total grew especially rapidly from federal fiscal year 2021 through federal fiscal year 2023 when the number of active apprentices grew by a total of 2,076.^B
- The growth in Tennessee’s active apprentice population has been greater than projected since the creation of the Office of Apprenticeship and the Apprenticeship TN initiative.
- Despite recent growth among Tennessee’s registered apprentice population, various limitations remain including a general lack of awareness and early up-front costs that reduce the ability of small and rural businesses to create registered apprenticeships.
- Apprenticeships in Tennessee are concentrated in a few industries and occupations.
- Roughly half of apprentices who begin a program complete their apprenticeships.
- Wages have grown consistently since 2014.
- Tennessee’s Grow Your Own registered teacher apprenticeship initiative is a model for other states.
- There are opportunities to develop other calculations of apprenticeship program performance, collect additional data, and evaluate outcomes.

^A Apprenticeships can be registered or unregistered. The focus of this publication is on registered apprenticeships, though some sections of the publication include general references to unregistered apprenticeships. Unregistered apprenticeships are not certified by the United States Department of Labor or its state affiliates, such as the Tennessee Office of Apprenticeship.

^B Active apprentices refers to apprentices currently active in a registered apprenticeship program at the end of the federal fiscal year.

OREA included one policy consideration in the report. The Tennessee Office of Apprenticeship could develop other calculations of apprenticeship program performance, collect additional data, and enhance the evaluation of apprenticeship programs.

Research methods

Data

This report relies on data from the U.S. Department of Labor Registered Apprenticeship Partners Information Database System (RAPIDS). RAPIDS is maintained by the U.S. Department of Labor’s Federal Office of Apprenticeship. RAPIDS data includes a breakdown of demographic and general information regarding the apprentice population across the United States.

This report uses data exclusively from the *Apprentices by State Workload* category of RAPIDS.^C In this category, apprentices are most likely to participate in programs monitored and assisted by Tennessee’s Office of Apprenticeship within the TDLWD and could be impacted by policy and legislation made in Tennessee, while other categories of apprentices counted in RAPIDS may not.

This report utilizes USDOL data from federal fiscal years 2014 through 2023, though data from 2013 was included for some analyses. Years presented in exhibits are based on the federal fiscal year.^D For example, data from October 1, 2013 through September 30, 2014, is displayed as 2014. The USDOL updates this data quarterly, sometimes leading to updated counts.

The data in this report reflects only registered apprentices.^E

Interviews

This report also includes insights gained from interviews with apprenticeship stakeholders. Interviews were conducted with employers in the education and construction fields, sponsors from the education field and from a community college, and state administrators from the TDLWD to understand these stakeholders’ experiences with programs as well as the strengths and weaknesses of apprenticeship programs and their administration in Tennessee.

Apprenticeship background

What is an apprenticeship?

An apprenticeship is generally defined as “an arrangement in which someone learns an art, trade, or job under another.” In the United States, many, but not all, apprenticeships are registered apprenticeships. A registered apprenticeship is a work-based learning model that combines supervised on-the-job training, paid work experience, classroom instruction, and mentorship.

Key terms:

Registered Apprenticeship Program – a work-based learning model (administered and certified by the USDOL or its affiliates) that combines supervised on-the-job training, paid work experience, classroom instruction, and mentorship.

Sponsor – the entity responsible for the overall operation of a registered apprenticeship program. A sponsor may be a single business, a consortium of businesses, an industry association, a community college, or other group or entity. Sponsors collaborate with the other partners involved in a registered apprenticeship program.

Employer – the business or entity that employs the registered apprentice. Employers pay apprentices and either provide on-the-job training or the funding for apprentices to receive training from another entity.

^C Other categories can result in different counts of registered apprentices.

^D USDOL RAPIDS data is based on the federal fiscal year which operates from October 1 to September 30. All counts from RAPIDS data which are referenced in this report are based on the federal fiscal year rather than the state fiscal year (July 1-June 30) or the calendar year.

^E General references to unregistered apprenticeships are included in some sections of this publication, but all data presented is for registered apprenticeships only.

Registered apprenticeships are full-time positions with an employer that, in Tennessee, generally take six years or less to complete and end in a credential. They have a structured training plan, with a focus on mastering certain skills an employer needs to fill an occupation within their organization. Registered apprenticeships are validated and registered by the USDOL or its affiliated state agencies, which in Tennessee’s case is the TOA located in the TDLWD.

The length of registered apprenticeships varies based on employer and occupation. Some apprenticeship programs require a minimum number of hours before completion. Other programs do not require a minimum amount of time but require apprentices to demonstrate certain competencies.

Apprenticeships are distinct from internships or work-based learning programs, although these terms are sometimes used interchangeably. Internships are generally short-term (one to six months), do not result in a credential, may not be paid, and do not have the same levels of formal mentorship and structure. Work-based learning programs are a combination of classroom training and on-the-job learning. Apprenticeships are a form of work-based learning; however, not all work-based learning programs are apprenticeships. This report references only apprenticeships and does not include other work-based learning programs, credentials, or internships.

Apprenticeships also differ from traditional university and community college pathways to employment, though both result in a credential. Universities and community colleges are generally focused on classroom-based learning rather than work-based learning. Their programs last a set amount of time (two or four years) based on the number of credits required and are overseen by different agencies and organizations such as the Tennessee Higher Education Commission (THEC), Tennessee Board of Regents (TBR), university boards, and accrediting institutions. Apprenticeships are pathways to employment that blend employer-facilitated training, on-the-job work experience, mentorship, and classroom instruction. The classroom instruction component of an apprenticeship may be provided at a university, community college, technical school, or through the employer themselves. Additionally, education expenses for apprenticeships are paid by the employer rather than the apprentice, and apprentices are paid while working and completing classroom instruction.

Exhibit 1: Comparing learning models

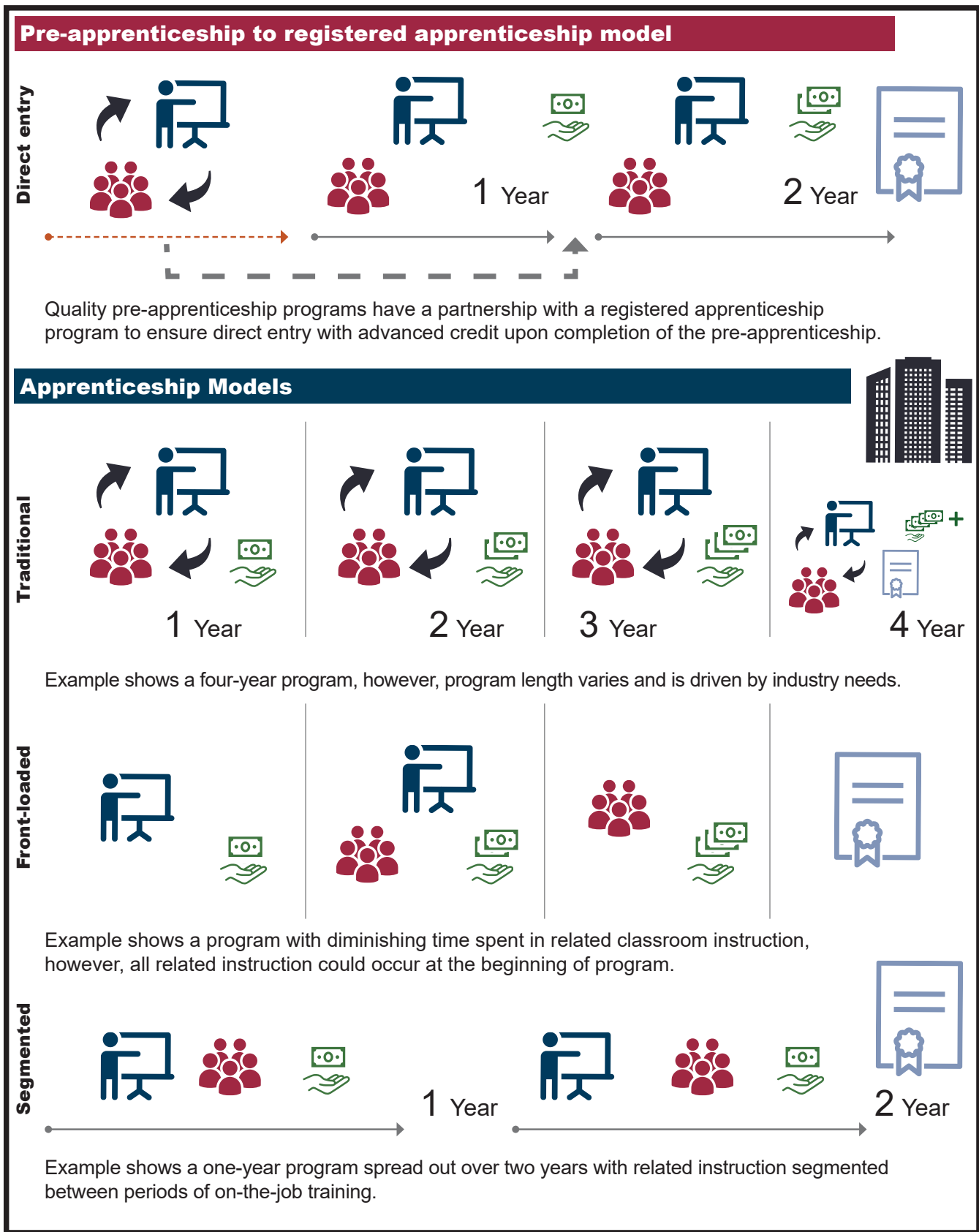
Learning Model	Length	Paid	Credential upon completion	Oversight
*Registered apprenticeship	0-6 years, generally	Yes	Yes	USDOL (Tennessee Office of Apprenticeship)
Unregistered apprenticeship	Unknown	Yes	Unknown	Employer
+Pre-apprenticeship	0-1 year	Optional	Sometimes	USDOL (Tennessee Office of Apprenticeship)
Internship	1-6 months	Optional	No	Employer
Traditional university or college degree	2-6 years	No	Yes	THEC, TBR, UT system, university boards of trustees, and accrediting bodies

Notes: *Registered apprenticeships are paid apprenticeships that are full time and certified by the USDOL, resulting in a credential. +Pre-apprenticeships are also paid and certified by the USDOL but are generally part time, shorter than full apprenticeships, and may not result in a certification. Source: OREA.

USDOL (or its state affiliates, like the TOA) oversees registered apprenticeship and pre-apprenticeship programs. Pre-apprenticeship programs are generally shorter (one year or less) than registered apprenticeships and are focused on preparing individuals for apprenticeships.^F Traditional apprenticeship programs are full-time programs designed for individuals aged 18 and over. Apprentices in each of these programs can be either new hires specifically for an apprenticeship or existing employees who require additional training or upskilling.

^F Pre-apprenticeship programs are not counted in RAPIDS data and thus are not counted with registered apprenticeships in this report. For an explanation of RAPIDS, see the research methods section on page 3.

Exhibit 2: Registered apprenticeship programs generally follow one of three models: traditional, front-loaded, and segmented



Key

- Related instruction
- On-the-job training
- Rewards for skill gains
- National credential
- Business involvement

Source: U.S. Department of Labor.

While USDOL and its affiliates oversee registered apprenticeship programs, not all apprenticeships are registered. Many businesses in Tennessee maintain unregistered apprenticeships administered without oversight by the TOA. Businesses can maintain unregistered apprenticeships either out of deliberate choice or because they are unaware of the opportunity to register. Unregistered apprenticeship programs are not overseen by the state and do not receive state assistance or financial support. Unlike registered apprenticeship programs, unregistered programs do not always result in a credential.

Registered apprenticeships generally include partnerships among business partners, educational institutions, public workforce systems, state offices of apprenticeship, and other organizations. Among the partners is a “sponsor” that is responsible for the general operation of the registered apprenticeship program. The sponsor also collaborates with the other partners to create registered apprenticeship programs and to develop and train apprentices. An employer may play more than one role in an apprenticeship program (e.g., the employer may provide training and paid employment for the apprentice, the employer may sponsor the registered apprenticeship program, etc.).

Registered apprenticeship programs exist in many variations and formats, and their length varies by industry, occupation, and employer. USDOL provides three approved apprenticeship models: traditional, front-loaded, and segmented. Each model ends with the apprentice obtaining a nationally certified credential, as shown in Exhibit 2.

Technical administration of apprenticeships

To register its apprenticeship programs, a sponsor must submit a written description of its proposed programs to the USDOL (or its state affiliate). Next, the USDOL (or its state affiliate) determines if the program complies with the minimum standards for an apprenticeship program and, if so, the program is given provisional approval for one year.

After one year, programs that meet the necessary requirements and standards can be permanently approved. Programs that do not receive permanent approval may be granted temporary approval, which subjects the program to future review or deregistration if requirements are not met.

Apprenticeship programs are reviewed at the end of their first full training cycle (e.g., after two years for programs lasting two years) and at least once every five years afterwards. However, some Tennessee stakeholders interviewed for this report indicated that the USDOL review of their programs never occurred.

The responsibility for apprenticeship program review and approval passed from USDOL to the TOA within TDLWD in May 2024. In December 2023, prior to the transition, TOA noted it would have a backlog of required apprenticeship program reviews that had not been conducted by the USDOL.

A brief history of Tennessee apprenticeships

Policy history

The USDOL has overseen and promoted apprenticeships since 1937. Tennessee established the Tennessee Office of Apprenticeship (TOA) in July 2019 as part of TDLWD’s Workforce Services division. USDOL and the TOA are the primary government oversight and assistance providers for apprenticeships in Tennessee.

The state office comprises one state apprenticeship director, three regional directors (one for each Grand Division of the state), and several staff members who are involved in assisting and implementing office initiatives and tasks. Employees in the TOA work directly with employers, communities, associations, and organizations to develop and implement new apprenticeship programs.

The TOA maintains the state's Apprenticeship TN initiative, a marketing initiative launched in 2020 to raise awareness of registered apprenticeship opportunities for employers and employees across Tennessee. Apprenticeship TN is an effort from the Tennessee Workforce Development System (TWDS). TWDS is a consortium of state agencies that play a role in supporting apprenticeships, including TDLWD, Human Services, Correction, Education (TDOE), and Economic and Community Development as well as TBR and THEC.

In 2021, the General Assembly passed the Tennessee Registered Apprenticeship Program Act (Public Chapter 397) to grant the TOA the necessary powers to carry out certain technical assistance, monitoring, and program approval duties previously carried out by the USDOL. After assuming these duties, the TOA officially transitioned from its former status as an affiliated Office of Apprenticeship to an affiliated state apprenticeship agency. This designation allows the TOA to carry out technical and administrative assistance previously handled by the USDOL.

The Tennessee Registered Apprenticeship Program Act also created the Tennessee Apprenticeship Council (TAC). TAC is comprised of stakeholders in government (including representatives from TDLWD, TDOE, TBR, and THEC) and in the community (including representatives from employers and employee unions). TAC meets quarterly to discuss topics such as the creation of new apprenticed occupations, information and data provided by outside organizations, and other similar topics.

Also in 2021, the General Assembly amended state law (Public Chapter 206) to require that each public high school (including charter schools) designate a person to serve as the point of contact among registered apprenticeship programs, students, families, and the high school. These points of contact are compiled into a publicly available list published by TDOE. According to a statement made by the bill sponsor during legislative debate, the goal of this legislation was to expand apprenticeship opportunities and pipelines as well as to increase awareness of potential options for students, although this goal was not included in the bill text or public chapter. Based on a review of the information published on TDOE's website, 433 of the 520 public and charter high schools have designated apprenticeship training program contacts as of 2023. The remaining 87 public and charter high schools (16.7 percent) do not have a designated point of contact.

State and federal funding for apprenticeships in Tennessee

The state and federal governments fund and support apprenticeships in Tennessee in several ways.^G One common funding avenue for registered apprenticeships is through various grant programs. Generally, state and federal grants are allocated to local workforce development boards that then disburse the grant funding to employers and other partners.^H Grant funding often comes with certain requirements (e.g., funding must be used for tourism and hospitality-related apprenticeship opportunities) as well as goals that must be met (e.g., the creation of a given number of new apprentice positions in a specific field by a given date).

Tennessee Office of Apprenticeship funding

In fiscal year 2023-24, the Tennessee General Assembly allocated \$2.2 million in state funds to the TOA, through TDLWD, and the office's initiatives, such as apprenticeship training grants. Roughly \$592,000 of the funding was allocated for employee payroll and benefits. The office has funding for eight full-time employees, with a ninth covered by federal grant funding. Approximately \$1.5 million of the \$2.2 million was allocated by the state to local workforce development boards in the form of training grants. The local workforce development boards then disburse the grant funding to employers and other partners in the region. Employers can receive up to \$2,500 in grant funding for registered apprentices in their first and second year of an apprenticeship and up to \$1,500 for registered apprentices in their third and fourth years. Employers

^G There are likely other sources of funding for apprenticeships in Tennessee, but due to the number of agencies involved, it can be difficult to identify each funding source.

^H Local workforce development boards are comprised of representatives from relevant stakeholders in a given region of the state. Boards are responsible for developing partnerships, regional workforce planning, and administering programs in the given area.

can receive grant funding for two years of a registered apprentice's program. In other words, only employers that did not receive grant funding for apprentices in their first and second years may receive grant funding for apprentices in their third and fourth years.

Additionally, in the 2024 legislative session, the legislature approved the Governor's proposed Rural Health Initiative which allocates \$6.4 million of funding for registered apprenticeships and other opportunities related to rural healthcare.

State grants

In 2019, the state created the Governor's Investment in Vocational Education (GIVE) Initiative (later referred to as GIVE 1.0) to distribute \$25 million in competitive grants to address skills gaps across the state. The funds were allocated by THEC through a competitive application process. Some of these grant funds were allocated for apprenticeships and other forms of work-based learning projects. From December 2019 through December 2022, \$25.7 million in GIVE 1.0 grants were awarded to local collaboratives by way of TCATs and community colleges in all three Grand Divisions.

In 2021, Tennessee began a second round of GIVE grants (referred to as GIVE 2.0). In December 2021, \$24.9 million in GIVE 2.0 grants were awarded to 27 projects across the state. GIVE 2.0 grants ran through June 2024. A portion of the approximately \$50 million total in GIVE 1.0 and GIVE 2.0 funding has benefitted apprenticeships, though a precise accounting is unavailable at this time.

Selection for a third round of GIVE grants will take place in July 2024, and contracts will begin in August or September 2024.

In addition to GIVE grants, state funds are used for on-the-job training grants, which can be used for apprenticeships or other on-the-job training methods. These funds are allocated by the TDLWD before being dispersed by local workforce development boards. The funding can be used to cover up to 50 percent of the wages of an on-the-job trainee (including apprentices) during a contractually agreed upon period of time.

Federal grants

USDOL awards grants to assist states to expand and build apprenticeship programs across the country. TDLWD administers three grant programs:

- ***Apprenticeship State Expansion*** – In July 2019, USDOL awarded \$1.4 million to TDLWD through the Apprenticeship State Expansion grant program. The goal of the state, which was met and exceeded, was to use the funding to create 800 apprentices and 80 apprenticeship programs. The grant targeted healthcare and social assistance, transportation, distribution and logistics, advanced manufacturing, and information and technology sectors.
- ***Building State Capacity to Expand Apprenticeship through Innovation*** – USDOL awarded TDLWD \$450,000 from its Building State Capacity to Expand Apprenticeship through Innovation grant program in June 2020. Tennessee had three goals for this funding: develop structures to ensure apprenticeship quality, increase apprenticeship capacity in Tennessee, and improve data sharing.
- ***State Apprenticeship Expansion Formula Grants*** – In June 2023, TDLWD (through the TOA) received \$746,000 in the USDOL's State Apprenticeship Expansion Formula grants program. The funds are being used to build apprenticeship opportunities in targeted sectors including tourism, leisure and hospitality, advanced energy (electrical vehicle manufacturing), construction, public sector, and healthcare.

Each of these grants is distributed similarly to state grants. The TOA allocates funding to local workforce development boards who then disburse the funding to employers and similar partners. Throughout a grant’s lifecycle, the Office of Apprenticeship must submit verification to USDOL indicating progress towards the goals of the grant.

USDOL can also allocate grants to entities in Tennessee aside from the state government by allocating grants to an intermediary organization or similar program. For example, in 2023 USDOL awarded \$20 million for the Scaling Apprenticeship Readiness Across the Building Trades Initiative grant to TradesFutures in partnership with the National Urban League. Some of this grant funding was allocated to three Tennessee-based programs: East Tennessee Apprenticeship Readiness Program (Oak Ridge), Music City Construction Careers (Nashville), and Chattanooga Apprenticeship Readiness Program (Chattanooga).

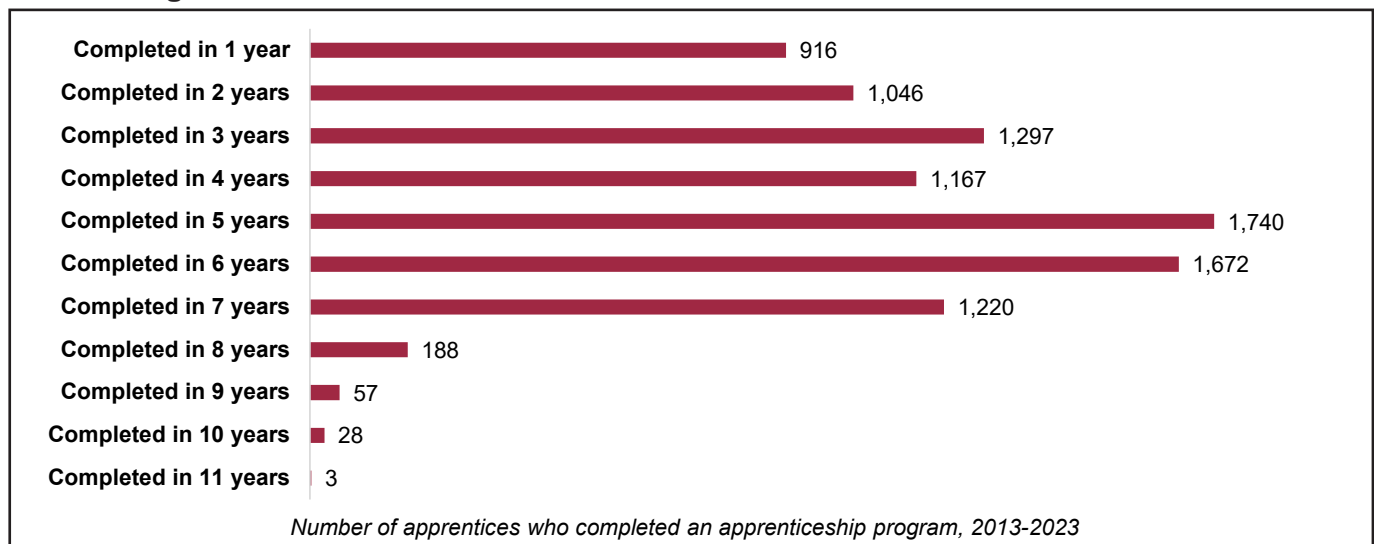
State of apprenticeships in Tennessee

Structure and administration of apprenticeships

No official data is available about common apprenticeship program structures. However, some stakeholders in the state identified the traditional format (classroom and work experience simultaneously) as the most common format used by employers and sponsors. The front-loaded and segmented structures are less common. Additionally, one stakeholder identified competency-based programs, rather than completed hours, as a preferred method although many registered apprenticeships continue to use completed hours for programs.

Most apprenticeship programs in Tennessee are completed within five years. However, on average, apprenticeship programs in Tennessee last for roughly four years. See Exhibit 3 for a full distribution of apprenticeship program lengths.

Exhibit 3: Most apprentices complete their apprenticeship program in five years or less from 2013 through 2023



Source: OREA analysis of USDOL RAPIDS data.

Those who exited apprenticeships prior to completion, on average, did so after two to three years. However, most apprentices who canceled apprenticeships (or who had their apprenticeship canceled by their employer) did so after two years or less of their program.

Teacher apprenticeship initiative in Tennessee

Tennessee's Grow Your Own registered teacher apprenticeship initiative is a model for other states. A Grow Your Own initiative is a partnership between school districts and educator preparation providers (EPPs) to expand its teacher pipeline, which most states have in some format. Tennessee's Grow Your Own initiative began in 2020 and evolved into a unique statewide effort to address teacher shortages by creating new pathways to the teaching profession through registered apprenticeships.

The first round of Tennessee Grow Your Own programs began in August 2020 with a partnership between the Clarksville-Montgomery County School System and Austin Peay State University. These partnerships were designed to provide teacher candidates with an accelerated, free path to become full-time teachers in three years while concurrently working as salaried teaching paraprofessionals or teachers-in-residence. The program expanded in October 2020 and again in June 2021.

The USDOL approved Tennessee as the first state to establish a permanent registered teacher apprenticeship program in January 2022 with the Clarksville-Montgomery County School System and Austin Peay State University. (The program was quickly expanded to include Lipscomb University.) This registered teacher apprenticeship is an application of the Grow Your Own model as districts and EPPs utilize the apprenticeship to develop local employment pipelines into schools. Since this innovation was implemented in Tennessee, it has been used as a model for more than 20 other states to create their own registered teacher apprenticeships.

In May 2022, TDOE and the University of Tennessee System established the Tennessee Grow Your Own Center with \$20 million in federal funding. The Grow Your Own Center connects learners with coursework providers from many Tennessee colleges and universities. The center, which provides technical assistance for local teacher apprenticeship models, is expected to centralize and strengthen the state's 65 existing Grow Your Own programs of study.

As of January 2024, the Grow Your Own registered teacher apprenticeship model included 11 EPPs – the institutions of higher education and other organizations that recruit, train, and produce licensed teachers – that were partnering with more than 70 K-12 school districts.¹

The initial partnerships between the Clarksville-Montgomery County School System and Austin Peay helped apprentices progress toward elementary and special education teaching certifications. Following this partnership, the number of those in teacher apprenticeship programs steadily grew across the state. In the first year of national approval (2022), Tennessee had a total of 158 active apprentices training to become teachers. By the following year (2023), the total number of active teacher apprentices had increased to 687.

Apprenticeship expansion to the public sector

While most apprenticeships are in the private sector, the number in the public sector has expanded in recent years. In addition to the teacher apprenticeships in K-12 public schools previously described other public sector employers in Tennessee – such as the City of Kingsport, Shelby County Prisons, and the University of Tennessee-Knoxville – have created apprenticeship programs.

At the state government level, the TDLWD created a boiler inspector apprenticeship in 2023 to address an ongoing labor shortage for that position in the department. OREA did not identify any other apprenticeship programs at the state level, however. One reason for this, according to the TOA, is that certain HR-related policies hinder the expansion of apprenticeship programs in state government.

¹Seven of the 11 approved programs had active apprentices as of June 2024.

Some states are making efforts to expand and remove barriers to apprenticeships in state government, such as Kentucky and Idaho. In 2018, Kentucky began apprenticeships across its state agencies as a way to address labor shortages and introduce new talent to state government. The program pulled prospective apprentices from varying educational backgrounds ranging from high school students to college and vocational school students. Participating state entities included the Department of Community Based Services, the Commonwealth Office of Technology, the Department of Juvenile Justice, the Governor’s Office of Early Education, and the Transportation Cabinet.

In 2023, Idaho took a step to remove a barrier to apprenticeships in its state government by allowing agencies to hire apprentices without counting them as full-time equivalent employees against the agency when measuring full-time equivalent employee caps. This allows Idaho state agencies to employ and train apprentices (within budget) without having to decide between immediate productivity and efforts to improve long-term stability.

Role of Tennessee’s public colleges and universities in apprenticeships

Tennessee Colleges of Applied Technology (TCATs) and community colleges (CCs) play important roles in the apprenticeship process in the state. TCATs and CCs can serve as both sponsors and employers in registered apprenticeship programs, though both institutions primarily serve as sponsors. Nine out of 24 TCATs and 11 of the state’s 13 community colleges operate as either a sponsor or employer for registered apprenticeship programs in Tennessee. Additionally, several public universities are also sponsors for registered apprenticeship programs, including the University of Tennessee-Knoxville, University of Memphis, and Tennessee State University. These technical colleges, community colleges, and universities are key to providing the required educational experiences for many registered apprenticeships.

Additionally, TBR created a Center for Apprenticeship to support and provide resources to its institutions for apprenticeships. The center is focused on:

1. increasing college and employer awareness of apprenticeships;
2. brokering new industry partnerships to expand apprenticeships;
3. pursuing federal, state, and private funding to grow apprenticeships; and
4. developing other policies to support apprenticeships programs.

Apprenticeship data from Tennessee

Tennessee apprentice population totals

From federal fiscal year 2014 through federal fiscal year 2023, the number of total active registered apprentices in Tennessee grew from 4,300 to 8,423.¹ Tennessee’s active apprentice population has grown consistently since 2017, with the most significant growth occurring between 2021 and 2023. Tennessee’s rate of growth runs counter to that for the nation, as apprenticeship growth slowed nationally over the same time period.

Another way to observe the apprenticeship totals in a year is by examining the total number of apprentices served

Data definitions:

Active apprentices – those currently active in a registered apprenticeship program at the end of the federal fiscal year.

New apprentices – those who began a registered apprenticeship during the federal fiscal year.

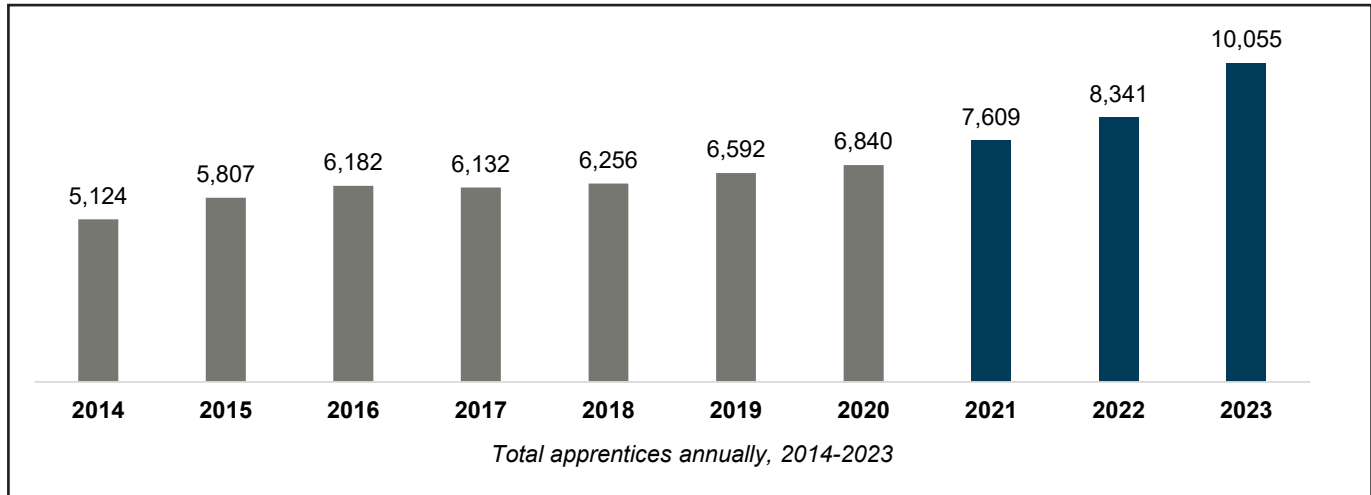
Completer apprentices – those who completed a registered apprenticeship during the federal fiscal year.

Total apprentices served – total apprentices who were active at some point during the federal fiscal year.

¹Data in Tennessee is based on the Apprentices by State Workload category of USDOL RAPIDS data. Using other categories will result in different counts of registered apprentices.

in a given federal fiscal year. This count includes all new apprentices during the year, total completer apprentices, active apprentices, apprentices whose apprenticeships were canceled during the year, and any other apprentices who were in registered apprenticeship programs during the year. These totals are larger than active counts for each given year and reflect similar growth patterns to the active apprentice counts. This growth can be seen in Exhibit 4.

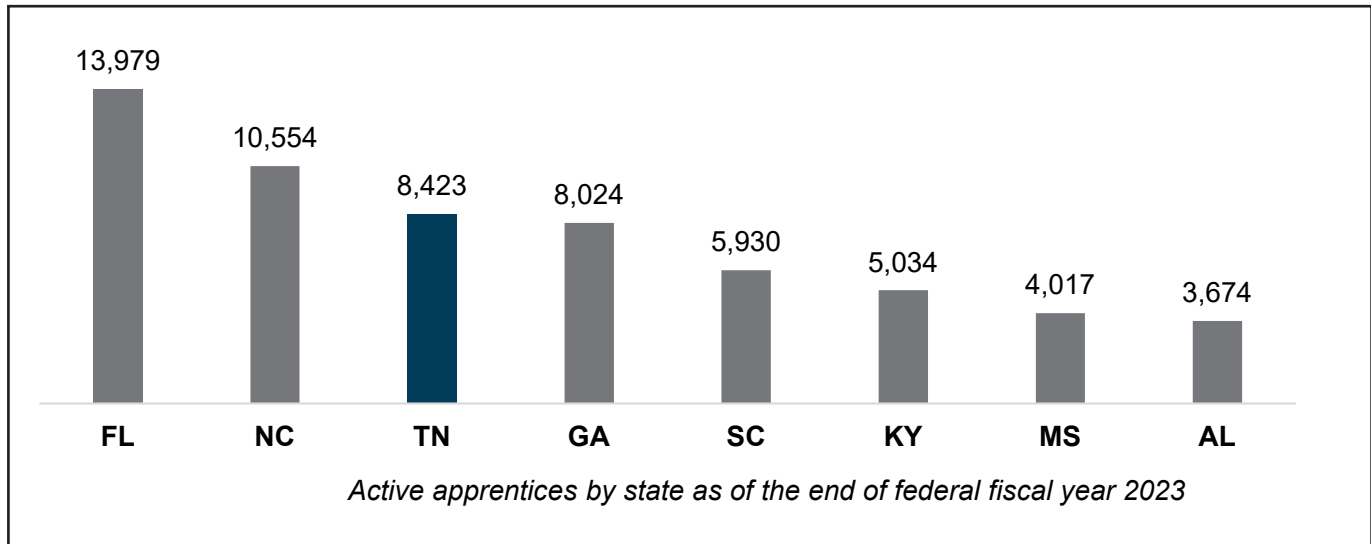
Exhibit 4: Total apprentices served increased rapidly from 2021 through 2023



Note: Counts are taken at the end of each federal fiscal year.
 Source: OREA analysis of RAPIDS data.

As of 2023, Tennessee had the third highest number of active apprentices out of eight states in the region, behind Florida and North Carolina.^K

Exhibit 5: Tennessee had the third highest total number of active apprentices in the region in 2023

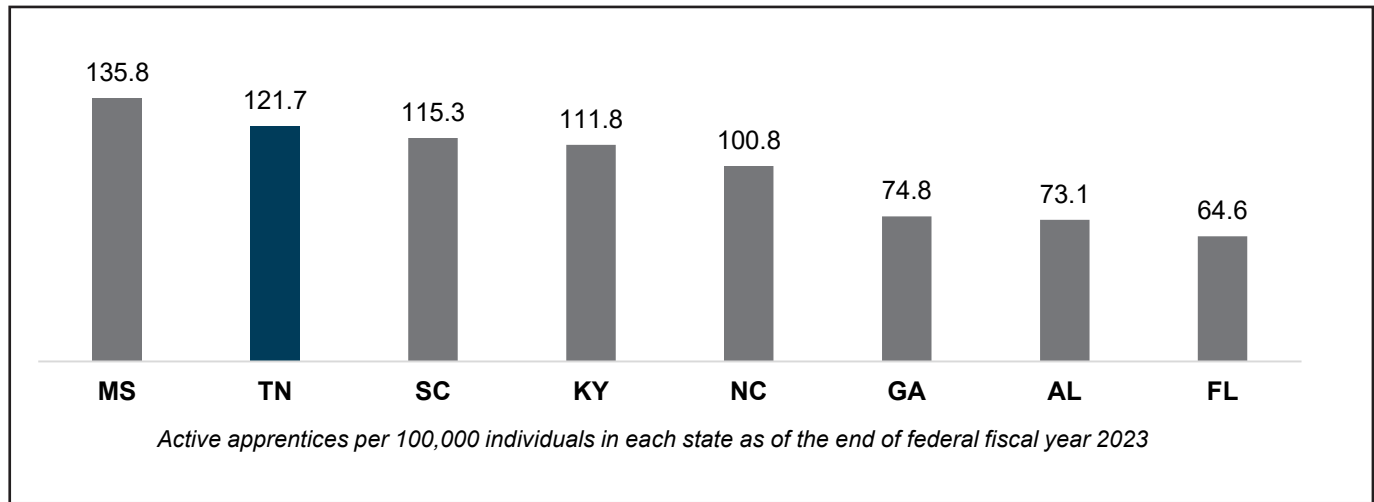


Source: USDOL RAPIDS.

Adjusting for population, Tennessee has the second largest active apprentice population in the region behind Mississippi, indicating that Tennessee has more active apprentices per capita than other more highly populated states in the region like Florida, Georgia, and North Carolina.

^K The region includes Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Kentucky, as determined by USDOL.

Exhibit 6: Tennessee had the second highest number of active apprentices per 100,000 in the region in 2023

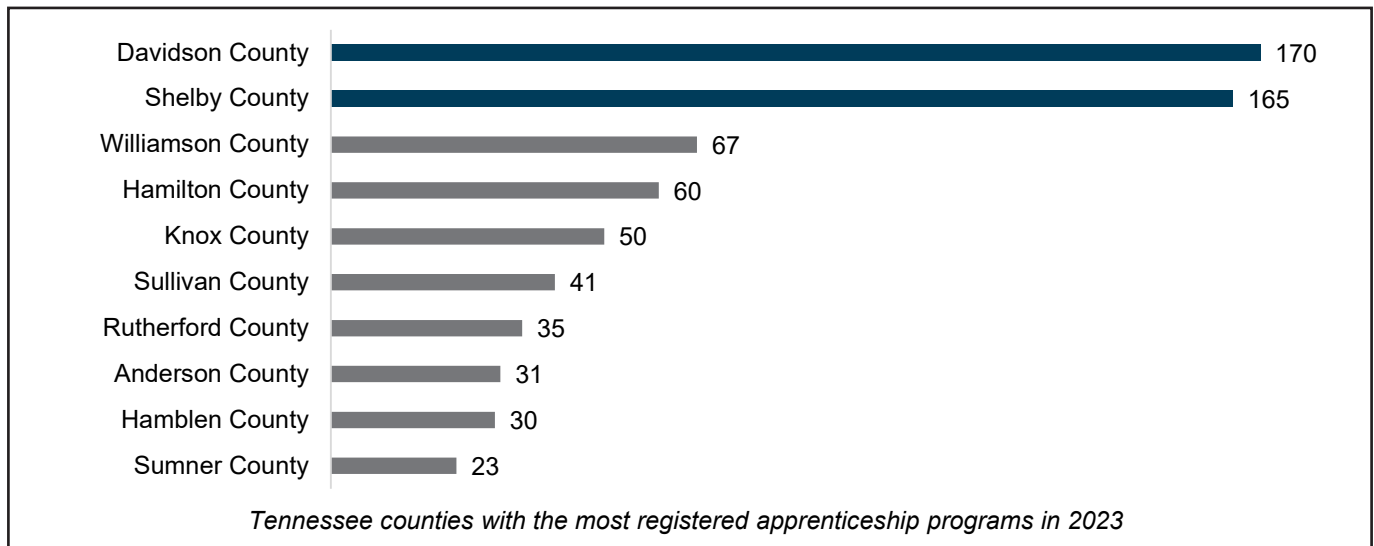


Source: USDOL RAPIDS and Census Bureau American Community Survey.

Registered apprenticeship programs exist in counties across Tennessee

As of June 2023, Tennessee had 914 total registered apprenticeship programs in the state provided by 544 employers.^L Fifty-eight counties in Tennessee had an employer with at least one registered apprentice program, while 37 did not have a program. The counties in Tennessee with the highest total number of registered apprenticeship programs were Davidson County (170) and Shelby County (165). Exhibit 7 shows the 10 counties with the highest total number of programs.

Exhibit 7: Davidson and Shelby counties have the highest number of registered apprenticeship programs



Source: Apprenticeship TN – Find a program.

In 2023, Middle Tennessee had the most total registered programs of any Grand Division in the state with 371 (41 percent of all registered apprenticeship programs), followed by East Tennessee with 289 (32 percent), and West Tennessee with 254 (28 percent).^M

^L This total is not an exhaustive list of all employers because some employers choose not to make themselves publicly visible as registered apprenticeship employers.

^M Percentages do not add to 100 due to rounding.

That same year, the most common occupational programs in the state were electrician (interior), certified nurse assistant, K-12 teacher, tool and die maker, and plumber. Twenty-two occupations had 10 or more registered apprenticeship programs across the state. However, more than half of all occupations had only one registered apprenticeship program.

While there are over 900 approved registered apprenticeship programs across Tennessee, not all have active apprentices. Although exact totals are unknown, approximately 48 percent of registered employers did not have an active apprentice in their registered programs as of mid-2023.

In addition to registered apprenticeship programs, as of December 2023, Tennessee had 84 pre-apprenticeship programs maintained by 40 separate employers. Employers may maintain multiple programs.

Registered apprentices come from many industries and occupations but are generally concentrated in a few

Industries

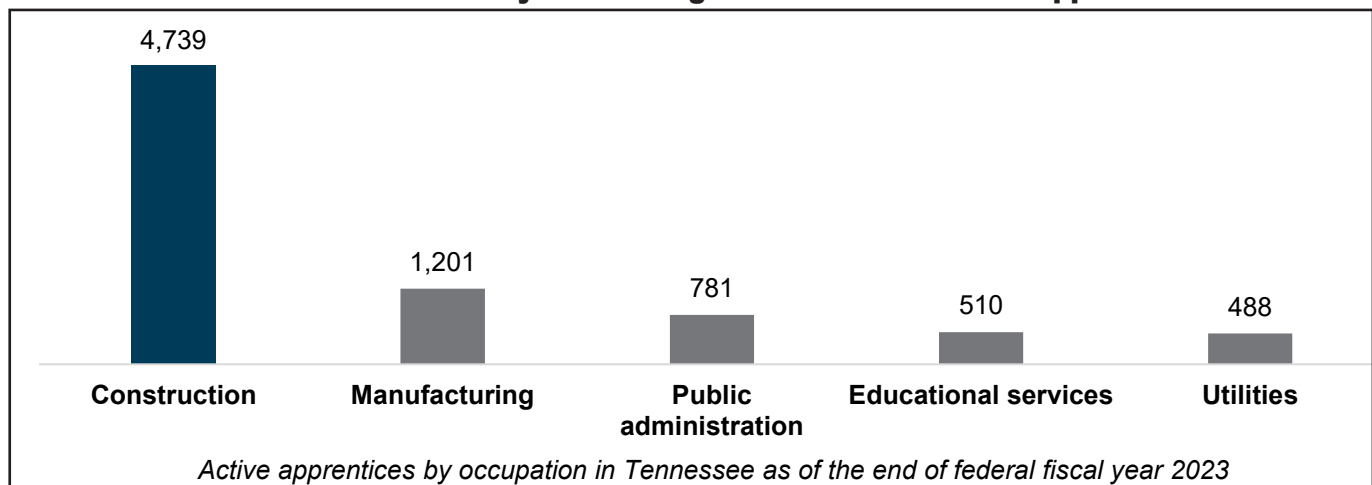
Exhibit 8: Examples of occupations found in the largest industries in Tennessee

Industry	Example occupations
Construction	Electrician, pipe fitter, carpenter, millwright, and plumber
Manufacturing	Chemical operator, sheet metal worker, elevator constructor, electromechanical technician, and tool and die maker
Public administration	K-12 teacher, electrician, water systems operation specialist, police officer, and boilermaker
Educational services	Electrician, carpenter, pipe coverer and insulator, cosmetologist automotive technician, and industrial maintenance mechanic
Utilities	Electrician, line installer/repairer, line erector, transformer repairer, and substation electrician

Source: OREA analysis of RAPIDS data.

The largest industries in 2023, by total number of active apprentices, were construction (4,739), manufacturing (1,201), public administration (781), educational services (510), and utilities (488). These five industries accounted for 91.6 percent of all active apprentices in 2023, with construction and manufacturing alone accounting for 70.5 percent of all active apprentices. This indicates that most apprenticeship opportunities are concentrated in five industries despite there being 20 available industries for apprenticeship. However, opportunities have proportionally diversified in recent years while continuing to grow overall. In 2014, these five industries accounted for 98.3 percent of active apprentices, while construction and manufacturing accounted for 75.4 percent.

Exhibit 9: The construction industry had the highest number of active apprentices in 2023



Source: USDOL RAPIDS.

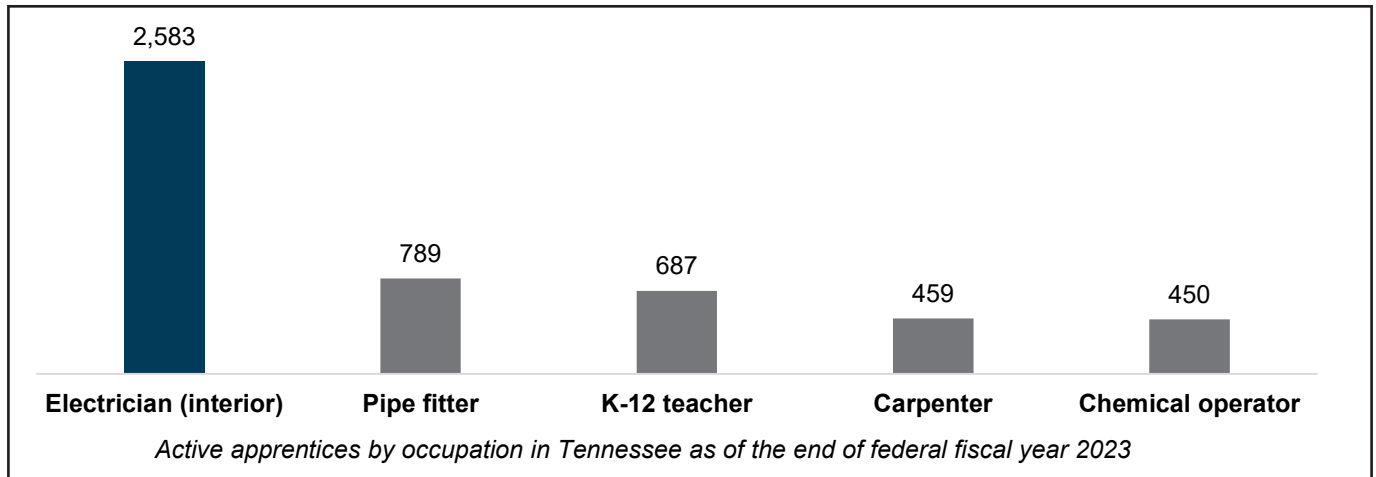
Apprenticeships in each of these top five industries grew substantially from 2014 through 2023. Active apprentices in the construction industry grew by 89.1 percent, in the manufacturing industry by 63.6 percent, in educational services by 174.2 percent, in public administration by 45.2 percent, and in utilities by 84.9 percent.

Since 2020, each of the top five most apprenticed industries increased in active apprentice population. Active construction apprentice totals grew by 29.7 percent, manufacturing grew by 20.5 percent, public administration grew by 92.8 percent, educational services increased by 37.1 percent, and utilities increased by 42.7 percent.

Occupations

The occupation with the most apprentices each year from 2014 through 2023 was electrician (interior). With 2,583 apprentices, electrician (interior) accounted for more than three times the number of apprentices as the next highest occupation in Tennessee in 2023. The next highest occupation every year other than 2016 was pipe fitter, which reached 789 apprentices in 2023. Other occupations that have consistently had some of the highest number of active apprentices in the state include plumber, carpenter, chemical operator, sheet metal worker, structural steel worker, millwright, elevator constructor, and K-12 teacher.

Exhibit: 10: Electrician (interior) apprenticeships accounted for more than three times the next highest occupation in 2023



Source: USDOL RAPIDS.

Similar to industries, most apprenticeship opportunities are concentrated in a few occupations. Thirty-one percent of all active apprentices in Tennessee are in training to be electricians (interior), while another 36.6 percent come from an additional six occupations. Thus, 67.2 percent of all active apprentices are concentrated in seven occupations. The remaining 32.7 percent of active apprentices come from more than 200 available occupations. (Tennessee has at least 249 occupations available across all registered programs in the state.)

Tennessee’s apprentice population has become more diverse while maintaining growth in most demographics

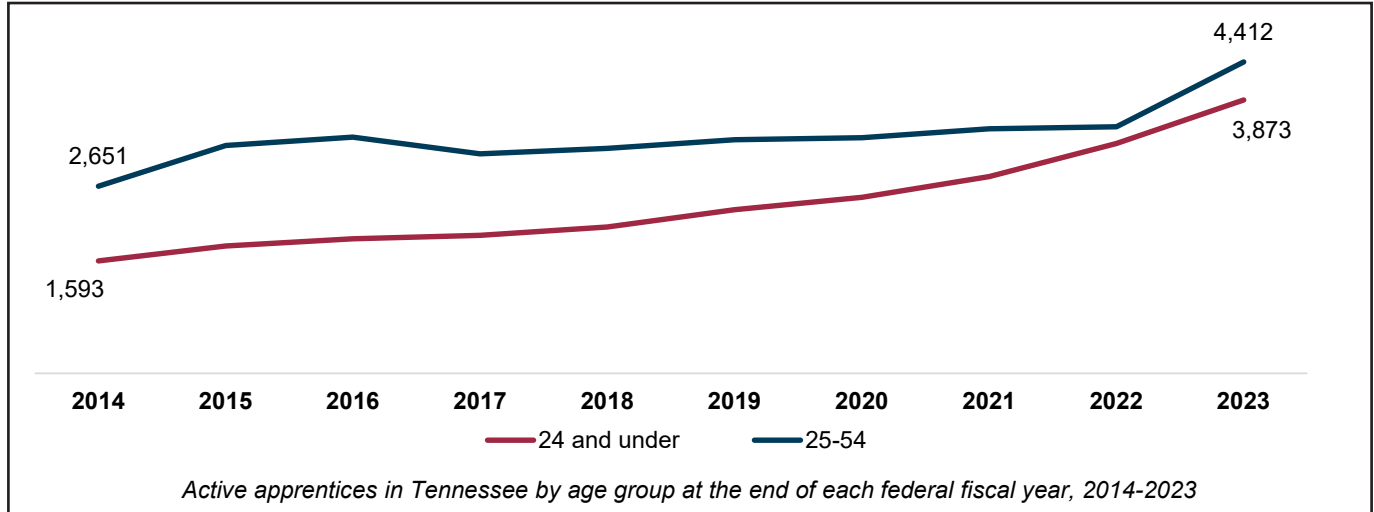
Age

Each age group included in USDOL apprenticeship data saw increases in their total population counts from 2014 through 2023. Apprentices aged 24 and under increased from 1,593 in 2014 to 3,873 in 2023. Total apprentices aged 25-54 increased from 2,651 in 2014 to 4,412 in 2023. The number of apprentices aged 55 and over increased from 56 in 2014 to 134 total in 2023.

The average registered apprentice in Tennessee is a male aged 25-54 with a high school degree, working in construction or manufacturing.

From 2014 through 2018, active apprentices were largely (60-63 percent) aged 25-54. However, from 2019 through 2023, apprentices between 25-54 declined as a share of the apprentice population from 58 percent in 2019 to 52 percent in 2023 (with a low of 51 percent in 2022). Most of the shift went to the 24 and under group, which increased from 37 to 46 percent between 2014 and 2023. Despite these changes, the overall number of apprentices in each age group grew during this time period.

Exhibit 11: While those aged 25-54 have historically been the largest age demographic, the number of apprentices aged 24 and under has generally grown faster since 2014

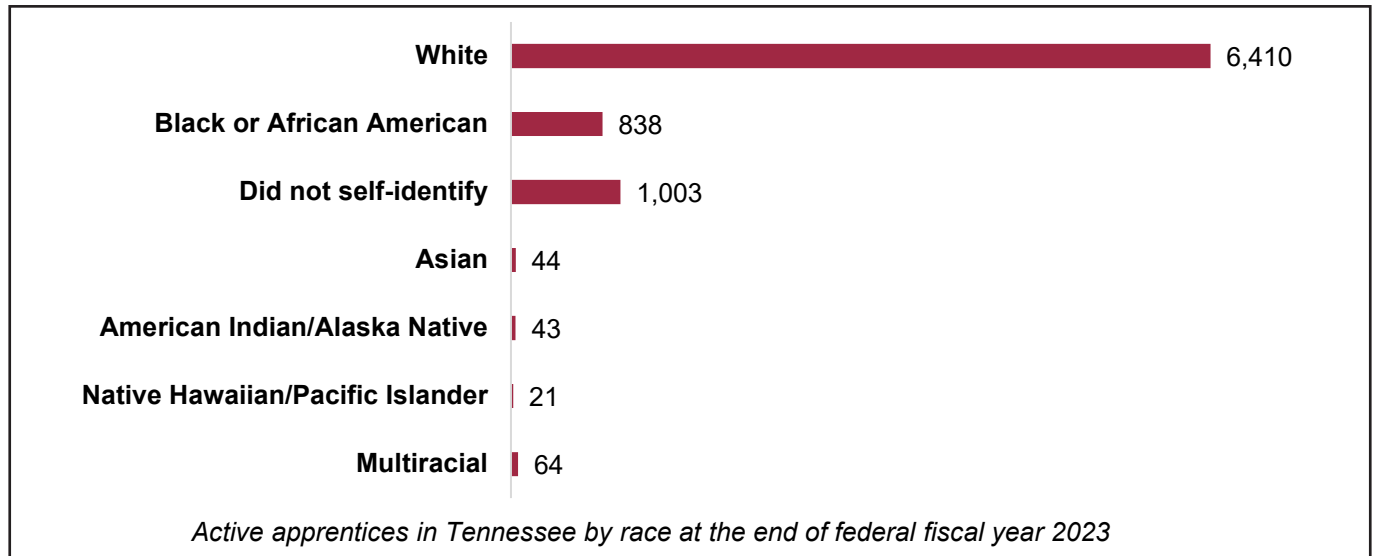


Note: As of 2023, 134 active apprentices were 55+ and four did not self-identify.
Source: USDOL RAPIDS.

Race

Apprentices in Tennessee have largely been – and continue to largely be – White. As of 2023, 6,410 active apprentices were White (76 percent), 838 were Black (10 percent), and 1,003 did not identify as any race (12 percent). The remaining active apprentices (172) identified as Asian, Native American, or Multiracial.

Exhibit 12: Active apprentices in Tennessee are predominantly White



Source: USDOL RAPIDS.

Hispanic or Latino apprentices were the fastest growing major racial or ethnic group among apprentices over the past decade, with a 540 percent increase from 2014 through 2023. There are 621 active Hispanic or Latino apprentices as of 2023.^N

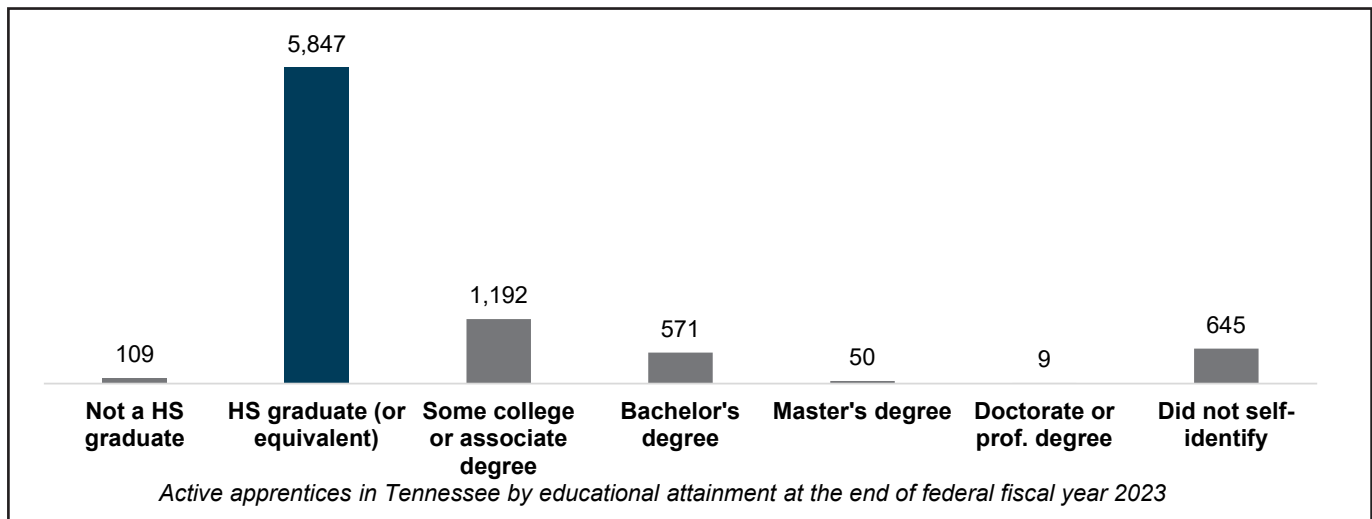
Veterans

The proportion of active apprentices in Tennessee who are veterans has fluctuated between a high of 10 percent (2017) and a low of 6 percent (2023). The overall number of veterans who are active apprentices was lowest in 2014, when 374 apprentices were veterans, and highest in 2023, when 533 apprentices were veterans. Of note, more recent veteran numbers may not be wholly accurate as the number and percentage of individuals choosing not to identify as either a veteran or non-veteran has increased in recent years.

Education

As of 2023, most apprentices (5,487 or 69 percent) have a high school diploma or its equivalent as their highest level of degree attainment. Those with some college or an associate degree account for 14 percent of active apprentices (1,192 total), while 7 percent (571 apprentices) have a bachelor’s degree. Those that do not have a high school diploma account for 1 percent (109 apprentices). Those with a master’s or doctorate degree account for less than 1 percent (50 and nine apprentices, respectively). Some did not report their level of education (8 percent, 645 active apprentices).

Exhibit 13: The highest level of education attained for most apprentices in Tennessee is a high school degree or its equivalent



Source: USDOL RAPIDS.

The number of apprenticeships with a bachelor’s degree or higher has grown substantially since 2020. From 2014 to 2019, there were no individuals with a bachelor’s degree or higher in apprenticeship programs in Tennessee. By 2023, however, the number of apprentices with a bachelor’s degree or higher had increased to 630.

Union status

Apprentices come from both union and non-union employers. In 2023, there was a 50/50 split, with 4,223 apprentices in unions and 4,200 who were not. The percentage of apprentices in a union has declined since 2014, when 56 percent of apprentices were in unions and 40 percent were not (5 percent did not specify if they were in a union or not).^O Since 2014, the percentage of apprentices who are in a union has hovered between 56 percent and 49 percent each year.

^N Ethnically Hispanic or Latino apprentices can be classified as any racial group. As such, the number of Hispanic or Latino apprentices cannot be added together with racial categories like White, Black, or Asian to create the total.

^O Percentages do not add up to 100 due to rounding.

Apprentice wages

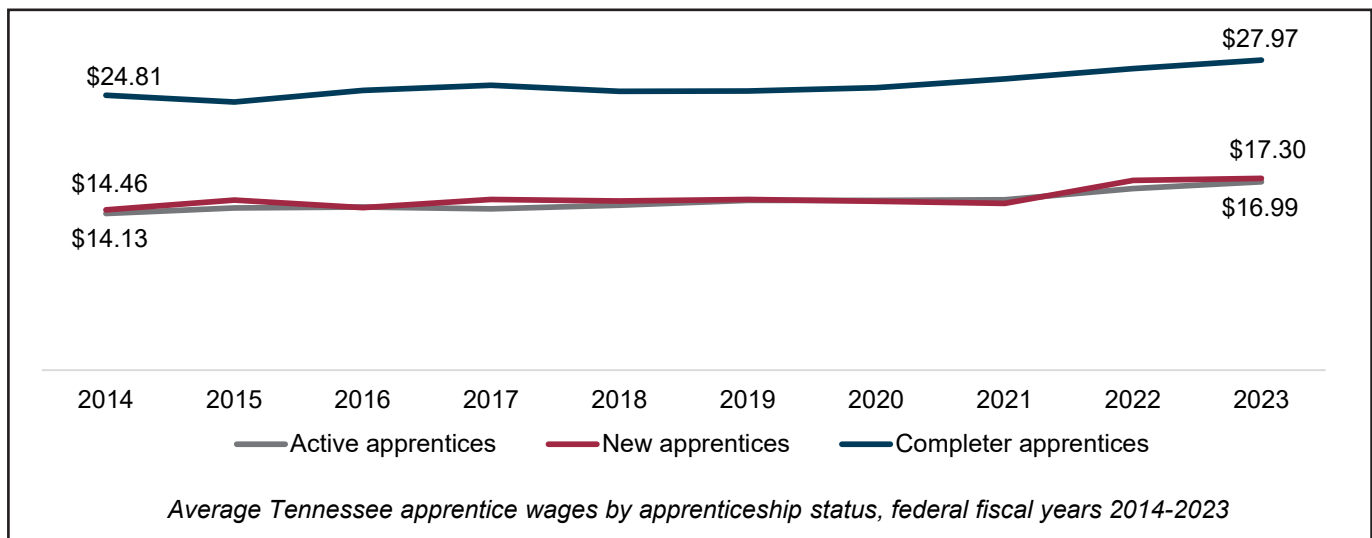
The average wage among active apprentices in Tennessee in 2023 was \$16.99 an hour. New apprentices were earning \$17.30, while completer apprentices (i.e., apprentices who completed their apprenticeship during the relevant federal fiscal year) were earning \$27.97 an hour. Since 2014, completer apprentices have consistently earned roughly \$10 more an hour than other subgroups of apprentices. Hourly wages have consistently grown over time in Tennessee. From 2014 through 2023, hourly wages for active Tennessee apprentices grew from \$14.13 to \$16.99.

Wage growth occurred in most demographics between 2014 and 2023. For example, wages for male apprentices from 2014 through 2023 increased from \$14.10 to \$17.51, for White apprentices from \$14.07 to \$17.15, for Black or African American apprentices from \$14.12 to \$16.14, for Native American apprentices from \$15.45 to \$17.82, and for Hispanic apprentices from \$14.23 to \$16.76.

Unlike other demographic groups, the wages for female apprentices decreased from 2014 through 2023 from \$14.94 to \$14.47. Wages for female apprentices were highest in 2015, at \$17.51.

Apprentice wages have grown evenly across new, active, and completer apprentices

Exhibit 14: Hourly wages for completer apprentices were approximately \$10 higher than those for new or active apprentices



Source: USDOL RAPIDS.

As with other apprentice subgroups, completer apprentices have experienced average hourly wage growth, rising from \$24.19 in 2014 to \$27.97 in 2023 for an increase of 13 percent. During the period between 2014 and 2023, wage growth was fairly steady, and wages have grown every year since 2018.

New apprentices have also experienced wage growth over time. In 2014, new apprentices made an average of \$14.46. By 2023, the average wage had increased to \$17.30 (20 percent growth). New apprentices saw especially large increases in average wages between 2021 and 2022, when wages grew from \$15.05 to \$17.30.

The growth of wages for both new and completer apprentices is reflected in the overall active apprentice population wages from 2014 through 2023. In 2014, active apprentices in Tennessee made an average of \$14.13 an hour. In 2023, that amount was \$16.99 an hour (20 percent growth).

Apprentice wages have generally grown since 2014 in the top five industries for apprenticeships

Wages in the industries with the most apprentices generally increased between 2014 and 2023. Four of Tennessee's five largest apprenticeship industries (construction, manufacturing, utilities, and educational services) increased by 26-28 percent. Public administration apprenticeship wages are the outlier of the top five, declining by 36 percent from 2014 through 2023.

Tennessee's apprentice population compared with other southeastern states

Tennessee's apprenticeship programs are similar to other states in the USDOL region in some ways but different in others.^p A few of the similarities Tennessee apprenticeship programs share with those in other Southeastern states include:

- apprentice population age – slightly more apprentices are aged 25-54 than 24 and under;
- education – high school graduate or equivalent is the most common highest level of educational attainment;
- industry – construction and manufacturing are the largest industries in the state; and
- occupation – electrician is the occupation most commonly chosen by apprentices.

Additionally, Tennessee shares similar gender demographics with other states in the region. The apprentice populations of neighboring states include only slightly more female apprentices than Tennessee.

Tennessee is different from the region when it comes to the racial breakdown of its apprenticeship programs. Tennessee's apprentice population is comprised of 76 percent White participants, while 64 percent of apprentices in neighboring states are White. A smaller percentage of participants in Tennessee apprenticeship programs are Black or African American (10 percent) than in neighboring states (20 percent).

Tennessee apprentices also differ when it comes to union status. In Tennessee, union status is split evenly between apprentices who are part of a union and those who are not. In the rest of the region, union apprentices account for roughly 36 percent of apprentices, while 46 percent are not union apprentices (19 percent do not identify union status).

Tracking apprenticeship completion rates in Tennessee

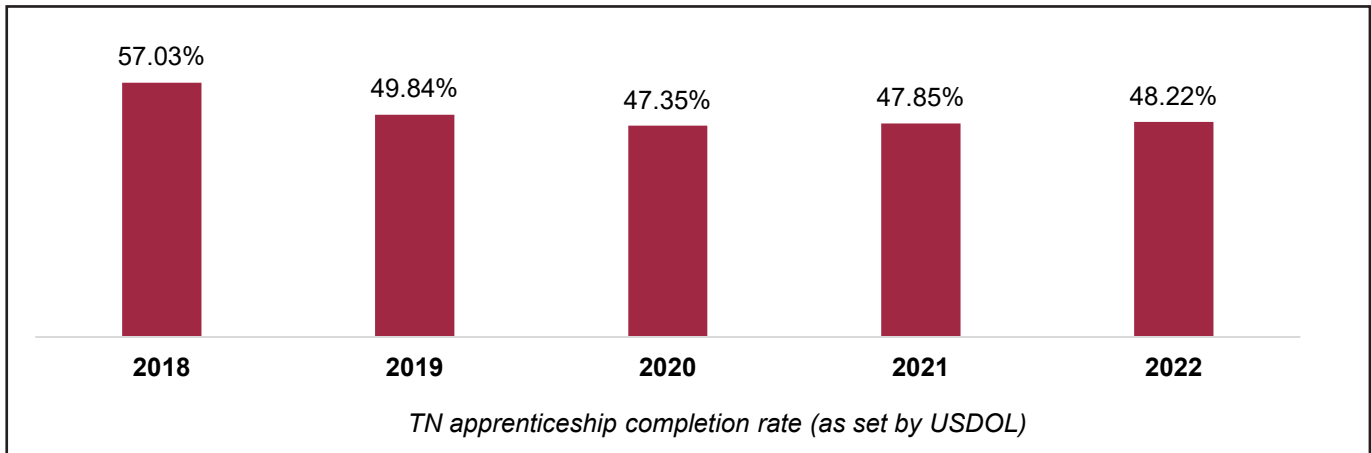
Neither USDOL nor the TOA tracked official completion rates for apprenticeship programs until recently. Tracking apprenticeship rates is challenging and complicated for multiple reasons. For one, apprenticeship programs vary in length. Some may last for six years, while others may last four years or less. Thus, applying a standard time frame (e.g., four years) to all programs would exclude those that last longer than the standard. In addition, using a standard time frame would not account for apprentices who do not complete their program on time (e.g., an apprentice may take additional time to complete a two-year). Accounting for whether apprentices complete their programs on time is its own challenge, however, because it requires keeping track of the projected completion date for every registered apprentice.

In 2024, USDOL began making official completion rates for 2018 through 2022 available to state administrators. However, the USDOL's completion rate excludes apprentices who cancel their apprenticeship during the probationary period. Excluding such apprentices inflates apprenticeship completion rates and obscures those employers, industries, and occupations with a consistently high number of apprenticeship cancellations.

The USDOL completion rate for 2018 through 2022 fluctuated between 48 percent and 57 percent. According to USDOL, completion rates during these years peaked in 2018 at 57 percent, as shown in Exhibit 15.

^p According to the USDOL, the Southeast region includes Tennessee, Kentucky, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi.

Exhibit 15: Excluding those who cancel at the beginning of an apprenticeship, between 48 and 57 percent of apprentices complete their program

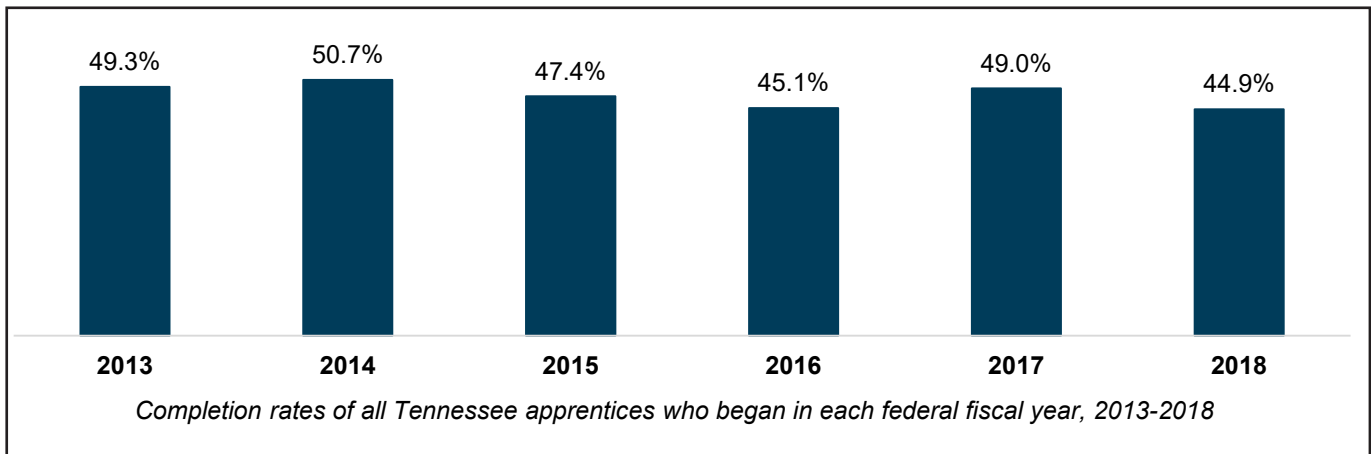


Note: USDOL completion rates exclude apprentices who cancel the apprenticeship during the probationary period.
 Source: USDOL RAPIDS.

For the purposes of this report, OREA created a completion rate calculation using data from the USDOL. OREA’s completion rate calculation does not exclude apprentices who cancel their apprenticeship during the probationary period. This calculation is subject to some of the same limitations as the official USDOL completion rate calculation, however, as it does not measure on-time completion and does not capture the reason why some did not complete their apprenticeship program.

Exhibit 16 shows the percentage of apprentices from each federal fiscal year, beginning in 2013, who had completed their apprenticeship by the end of the 2023 federal fiscal year (end of September 2023). In general, the percentage of apprentices who complete their apprenticeships each year is between roughly 45 percent and 51 percent.

Exhibit 16: Between 45 and 51 percent of those who began an apprenticeship between 2013 and 2018 completed their program



Notes: (1) Many apprentices who started their programs in 2019 and beyond may not have yet completed their apprenticeships and thus 2019 through 2023 are not included in this analysis. (2) The 2018 completion rate may increase slightly in the future as the last remaining apprentices who started that year complete their apprenticeship or end it for another reason.
 Source: OREA analysis of USDOL RAPIDS data.

Apprentice population growth since the creation of the TOA and Apprenticeship TN

Since the creation of the TOA and the Apprenticeship TN initiative in July 2019, the number of apprentices in Tennessee has consistently increased, although the number of apprentices began to climb prior to the office's creation. The growth since the creation of the office is evident from the number of active apprentices each year, the number of completer apprentices each year, and the number of new apprentices in each year except for 2020 during the COVID-19 pandemic.

The growth of active apprenticeships in Tennessee has been in contrast to regional trends in recent years. On average, active apprenticeships in surrounding states declined during the 2020-2021 period, followed by moderate growth in the years after 2021. In contrast, Tennessee's active apprenticeship population has grown every year since 2017, including during the COVID-19 pandemic, with substantial growth from 2022 through 2023.

While analyzing the Tennessee Office of Apprenticeship and the Apprenticeship TN Initiative, it is valuable to estimate the impact of the office and the initiative on the growth of apprentices in Tennessee. Three estimation methods indicate that the creation of the TOA positively impacted the growth of apprenticeships in Tennessee. The first method uses the average annual growth of active apprentices from 2014 to 2019 to project the number of apprentices in 2020 through 2023. Using this method, the estimated total of active apprentices in 2023 is 6,804. A second estimation method uses the annual growth of apprentices from 2017 through 2019 to project the number of apprentices in 2020 through 2023. This method results in an estimated total number of 6,156 apprentices in 2023. Finally, a third method uses the average annual growth of the USDOL Southeast region (excluding Tennessee) to project the number of apprentices in Tennessee from 2020 through 2023.^Q The estimated total from this method is 5,957 in 2023.

The actual number of active apprentices in 2023 was 8,423, which is between 24 and 41 percent higher than the estimated total of any of the three methods used above. Given this finding, it is likely that the growth of Tennessee's apprenticeship programs from 2020 through 2023 can be attributed in part to the creation of the TOA.

Conclusions

Through data analysis and interviews with stakeholders, OREA identified several conclusions about apprenticeship programs in Tennessee.

Active registered apprenticeship totals have grown rapidly in recent years. From 2014 through 2021, the number of active apprentices grew by 2,047 total. From 2021 through 2023, the number of active apprentices grew by 2,076 total, similar to overall growth in the previous seven years. Substantial growth has been seen among new and completer apprentices as well, especially among new apprentices. Growth has also been consistent across multiple industries, occupations, and apprentice demographics.

The growth in Tennessee's active apprentice population has been greater than projected since the creation of the TOA and the Apprenticeship TN initiative. Based on projections, the growth of total apprentices has been greater since the creation of the initiative and the TOA. Tennessee's actual active apprenticeship growth was as high as 41 percent above projections based on growth rates among regional neighbors. While not conclusive, this points to the initiative and the office potentially creating a positive impact on the number of active apprentices in the state.

^Q According to the USDOL, the Southeast region includes Tennessee, Kentucky, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi.

Despite recent growth among Tennessee’s registered apprentice population, various limitations remain.

Two such limitations, identified in interviews, include a general lack of awareness and early up-front costs that reduce the ability of small and rural businesses to create registered apprenticeships.

During interviews with OREA, stakeholders ranging from employers to education providers stated that a major factor limiting apprenticeship growth is a lack of awareness among both employers and prospective apprentices. This lack of awareness among relevant parties slows the growth of apprenticeship programs in Tennessee.

Stakeholders also noted that early up-front costs and staffing limitations prevent some businesses from creating apprenticeships. Such costs include additional pay for mentors and classroom-related expenses. In addition to the financial costs, stakeholders cited difficulties in finding mentors and the challenge of finding the time necessary to create a registered apprenticeship program. These up-front costs often discourage employers, especially smaller and rural businesses, from creating apprenticeships. This challenge, in turn, may limit the opportunities available to potential apprentices in Tennessee.

Apprenticeships in Tennessee are concentrated in a few industries and occupations. Seventy-one percent of apprentices come from two industries: construction and manufacturing. Another 21 percent come from three other industries: public administration, utilities, and educational services. The remaining 16 industries account for the remaining 8 percent of apprentices.

Additionally, 30.6 percent of all active apprentices in Tennessee are in training to be electricians (interior). Another 36.6 percent come from six occupations, meaning that 67.3 percent of all active apprentices are concentrated in seven occupations. The remaining 32.7 percent of active apprentices come from more than 200 available occupations.

While apprenticeship opportunities have grown overall and diversified since 2014, there is potential for additional diversification.

Roughly half of apprentices who begin a program complete their apprenticeships. From 2013 through 2018, the completion rate ranged from roughly 45 to 51 percent. This rate is based on OREA analysis of Tennessee’s apprenticeship data and differs from the federal metric created by RAPIDS. Completion rates for 2019 to the present remain uncertain as many apprentices who began their apprenticeships during these years have yet to complete their programs. Thus, evaluation of whether completion rates increased with the creation of the TOA and the Apprenticeship TN initiative remain to be seen.

Wages have grown consistently since 2014. Each of the three types of apprentices measured by USDOL (new, completer, and active) has seen wages increase since 2014. New apprentices have seen wages increase from \$14.46 to \$17.30 an hour (20 percent growth). Completer apprentices have seen wages increase from \$24.81 to \$27.97 (13 percent growth). Active apprentices as a whole have seen wages increase from \$14.13 to \$16.99 (20 percent growth).

Tennessee’s Grow Your Own registered teacher apprenticeship initiative is a model for other states.

Grow Your Own initiatives are partnerships between school districts and EPPs to create new pathways to the teaching profession. Tennessee’s Grow Your Own initiative began in 2020 and evolved into a unique statewide effort to address teacher shortages by creating registered apprenticeships.

The initiative has expanded in its initial years, but its efficacy remains largely unknown at this time. Future analyses of the initiative’s quality and effectiveness could be factored into decisions about the level of state funding for the initiative.

There are opportunities to develop other calculations of apprenticeship program performance, collect additional data, and evaluate outcomes.

Regarding the calculation of apprenticeship program performance, the official completion rate calculation for registered apprenticeship programs, created by USDOL, excludes apprentices who cancel their apprenticeships during their program's probationary period. While this calculation avoids penalizing employers during their program reviews, excluding these apprentices inflates the completion rate and obscures those employers, industries, and occupations with a consistently high number of apprentice cancellations at the inception of the apprenticeship. In addition, the percentage of apprentices who complete their programs on time is not currently tracked, nor is how close those who complete their program late come to on-time completion.

Retention rates and other post-completion outcomes are also not currently tracked in Tennessee or in most other states. The retention rate is the percentage of apprentices who, after completing their apprenticeship, remain with the employer where their apprenticeship took place. Other post-completion metrics include the percentage of apprentices who remain in the same industry following the completion of their apprenticeship program and hourly wages for apprentices in the years following their apprenticeship. The absence of such data is a barrier to conducting full evaluations of registered apprenticeship programs.

Full evaluations of registered apprenticeship programs would also assess the amount of public funding invested in apprenticeships and the return on that investment. The TOA reviews the distribution of public funding for apprenticeship programs to local workforce development boards, which then award the funding to employers and other partners, but the office does not currently track data points that could be used for future evaluations, such as the amount of state and federal funding distributed to apprenticeship programs, the geographic location of grant recipients, and funding amounts by industry and by occupation.

Policy consideration

The Tennessee Office of Apprenticeship could develop other calculations of apprenticeship program performance, collect additional data, and enhance the evaluation of apprenticeship programs.

In early 2024, the USDOL began making official apprenticeship completion rates for states available for the 2018 through 2022 period. The calculation of apprenticeship completion rates is a step forward, but the TOA may wish to develop and maintain a different completion rate calculation that includes registered apprentices who cancel their apprenticeship during their program's probationary period. These individuals are currently excluded from the official completion rate calculation created by the USDOL. Excluding such apprentices from the calculation inflates apprenticeship completion rates as well as obscures those employers, industries, and occupations with a consistently high number of apprenticeship cancellations. In addition to developing and maintaining an alternative completion rate calculation, the TOA could develop other calculations of apprenticeship program performance useful for determining where future support and funding might be targeted.

The TOA could also begin collecting data to supplement what the USDOL already requires states to collect. All states must report the following data each year to the federal government: apprenticeship status (new, completer, and active), apprenticeship location, demographic information for apprentices, and the number of apprentices by industry and by occupation. While useful, this data is limited, and the state could go further.

Utah, Kentucky, and Florida stand out from other states in terms of the registered apprenticeship data they collect, monitor, and publish. Utah publishes an Apprenticeship Annual Report, which includes data on all registered apprenticeship programs (including new ones), the overall completion rate, funding sources, grant outcomes, and current state efforts, among other indicators. The annual report addresses challenges facing

apprenticeships in the state and includes recommendations for improvement. Florida produces a similar report that covers multiple topics in depth. Kentucky collects data on a number of outcomes for apprentices after they complete their registered apprenticeships, including median wages, employment rate, and the percentage who remain in the same industry post-completion. This information is maintained on a public dashboard. Kentucky does not, however, maintain completion rates and some other relevant statistics about registered apprenticeships.

The TOA could begin collecting the following data for registered apprenticeship programs and/or apprentices:

1. Overall and on-time completion rate (including all apprentices who begin a program rather than excluding early canceling apprentices)
 - a. This metric could be measured overall, by relevant demographic group, by employer, by sponsor, by industry, and by occupation. As noted previously, TOA may wish to develop a completion rate calculation that includes all registered apprentices who being an apprenticeship including those that cancel their apprenticeship during their program's probationary period, similar to the rate developed by OREA.
2. Post-completion outcomes in the years following the end of apprenticeships (for both completers and non-completers), including:
 - a. Apprentice retention rates with their employer post-completion or after canceling the apprenticeship, as well as the retention rate within the same industry post-completion. Retention rate by occupation might also be tracked, though certain nuances should be noted. For example, a positive outcome for an individual apprentice, such as being promoted to a different occupation with the same employer, could produce a negative outcome in terms of the retention rate by occupation.
 - b. Wages in the years following an apprenticeship for both completers and non-completers.
3. Recipients of state and federal funding
 - a. Funding amount by geographic location, by industry, by occupation, etc.

Improved data collection and monitoring could bolster the TOA's efforts to evaluate outcomes and ensure accountability for grant funding. For example, the office currently reviews the distribution of apprentice program-related funding to local workforce development boards but does not evaluate outcomes or the effectiveness of this funding after it is allocated to the local boards. The Tennessee Office of Apprenticeship could begin requiring enhanced data reporting from the local workforce development boards as well as from the employers and other partners that ultimately receive the funding to enable more evaluation of apprenticeship programs.

A full completion rate, which includes all apprentices who begin an apprenticeship, could be helpful if actively monitored and made publicly available. Understanding the completion rate of apprentices in Tennessee – as well as which demographics, industries, occupations, and regions excel and struggle – could assist with evaluations of effectiveness and provide useful data to policymakers.

Additional data could be collected to gauge employer satisfaction and apprentice satisfaction and to conduct return on investment-related analyses, such as calculations of the amount of public funding spent per apprenticeship program completed. This data and other indicators of registered apprenticeship program performance identified by the TOA could be used to guide future programmatic, policy, and funding decisions as well as for public reporting purposes.

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