CRAFTING CAREERS

Registered Apprenticeship in California's Construction Industry

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NCIC
NORCAL CONSTRUCTION INDUSTRY COMPLIANCE

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Executive Summary

Since 1937, registered apprenticeship programs have been key to workforce development, combining rigorous classroom and on-the-job training. California leads the nation, registering one in five new construction apprentices. These programs offer industry-specific skills, competitive wages, and tuition-free training, creating a steady pipeline of qualified workers long-term career pathways. Registered apprenticeships help address labor shortages, boost economic mobility, and strengthen the construction industry overall.

Key Findings

- California has the largest registered apprenticeship system in the country with the greatest number of construction apprentices.
- California's construction apprenticeship programs are diverse, spanning 30 trades with nearly 60,000 apprentices enrolled in about 170 different programs.
- Apprenticeship programs are run by either Joint Apprenticeship Training Committees (JATCs), which are administered cooperatively by employers and trade unions, or Unilateral Apprenticeship Committees (UACs), which are administered by employers or trade associations.
- Though unions represent just 17.7% of California's construction workforce, union-affiliated JATCs run 87% of construction apprenticeship programs and train 93% of registered construction apprentices.
- In 2023, the last year with available data, there were 10,352 construction apprentice graduates. Consistent with enrollment, 93% of construction apprentices in CA graduated from a JATC program.
- Construction apprentices have better graduation rates (60.1%), on average, compared to California undergraduates (50.4%).
- Latina and Latino apprentices make up the largest racial/ethnic group of all CA construction apprentices, 66%, followed by white, Black or African American, Asian/Pacific Islander, Filipino, and Native American apprentices.
- 96% of all females, 94% of all Latina and Latino, and 95% of all Black or African American construction apprentices are enrolled in JATC programs.
- Registered apprentices complete an average of 600 hours of in-class instruction and over 6,000 hours of on-the-job training.
- Construction workers who have gone through an apprenticeship program may earn up to about 33% more than those who were not apprentices.
- From start to exit, JATC program apprentices receive higher pay increases: an 89% average pay increase compared to 75% for UAC apprentices.
- JATC wages have kept pace with inflation in the last decade while UAC's have decreased by 12%.

Registered apprenticeship programs—particularly JATCs—stand out as a critical workforce development model for the fast-growing construction sector. This study highlights their effectiveness not only in the scalable training of a workforce to meets industry demands, but also in facilitating and expanding access to high-quality jobs. Policies that support and encourage investment in these programs can help ensure sustained wage growth, economic mobility, and a steady pipeline of trained workers ready to meet California's growing demand for skilled construction workers.

About the Author

Larissa Petrucci, PhD, is a Policy and Research Analyst at NorCal Construction Industry Compliance. She earned a Doctorate in Sociology from the University of Oregon. Her primary research area is public works construction, with a focus on labor compliance and enforcement, project labor agreements, and construction apprenticeship. Larissa can be contacted at lpetrucci@norcalcic.org.

About NCIC

NorCal Construction Industry Compliance (NCIC) is a joint labor management organization committed to paving the way to a level playing field for contractors and workers by promoting equitable contracting, and ensuring compliance with all applicable state and federal labor laws governing the construction industry. Learn more at norcalcic.org.

Introduction

The Basics of Registered Apprenticeship

As the fourth largest economy in the world, California helps drive economic growth across the country. The construction industry is especially important to California's economy, contributing $129 billion (3.7%) to the state's GDP[1] and employing nearly 4% of the state's workforce.[2] Demand for construction is rising, especially as billions of federal and state dollars have been allocated for infrastructure and energy system modernization, affordable housing development, and climate change adaptation. To meet the growing demand for these high-quality public works projects, California's construction industry needs a stable supply of sufficiently skilled trade workers.

The system of registered apprenticeship has been a longstanding approach to workforce development in construction. Established in 1937, the current registered apprenticeship system requires programs to meet minimum training, curriculum, and on-the-job hour thresholds to develop a highly skilled workforce. This registration system ensures consistent training within and across crafts and programs based on standards established by the Department of Labor, providing graduates with portable, industry-recognized credentials that can be used to build a long-term career in the skilled trades. California established its own state registered apprenticeships in 1939, including a California Apprenticeship Council which oversees today's registered apprenticeship programs.

To be eligible for construction apprenticeship programs, applicants typically need to be at least 18 years old, possess a high school diploma, GED, or equivalent, and demonstrate legal work authorization. Applicants often go through a rigorous application process, including passing an aptitude test and interviews. All registered programs adhere to minimum standards for on-the-job training hours and classroom instruction and curriculum, with some trades requiring specific prerequisites, such as completing algebra courses and being able to distinguish colors. Many programs take as long as 5 years to complete.

California apprenticeship programs are run primarily through Joint Apprenticeship Training Committees (JATCs) – funded and administered in partnership between employers and labor unions – and Unilateral Apprenticeship Committees (UACs) – which are funded and administered entirely by employers, often through employer associations. JATCs are generally funded through "cents per hour" contributions negotiated during the collective bargaining process, while UAC contributions are voluntary. This distinction matters, because industry workforce development is a long-term proposition that is often at odds with contractors' short-term business imperatives. In other words, the UAC model offers contractors an incentive to forego long-term investments in order to win short term work where the lowest bid wins.

Apprenticeship program costs are covered entirely by the JATC, UAC, and other state-funded grants. Students are provided with a tuition-free opportunity to earn while they learn. As apprentices complete their programs, employers are afforded access to a stream of qualified workers who have undergone industry-specific training.

Workers often join apprenticeship programs for the opportunity to earn competitive wages while gaining a clear path to career advancement. Going through an apprenticeship program is also shown to reduce the chances of long-term unemployment.[3] In fact, research shows that, because apprenticeship programs do not require the same financial investment or accrual of debt as college, they can provide more opportunities for upward mobility to low-income individuals.[4] Ultimately, registered apprenticeship programs provide workers with structured career pathways, hands-on training, and industry-recognized credentials.[5]

California Apprenticeship Policies

California has the largest apprenticeship system in the county with the greatest number of registered construction apprentices. California leads the nation in new apprenticeship training as well, registering one in five new construction apprentices across the country between 2015 and 2021.[6] The state's success in registered apprenticeship is largely the result of several policies that support and expand apprenticeship programs and work opportunities for apprentices, especially for workers who have been historically under-represented in the construction workforce.

For example, California's prevailing wage laws support construction apprenticeships by requiring contractors on covered public works projects—irrespective of whether the contractor is signatory to a collective bargaining agreement—to hire apprentices at a set ratio with journey-level workers.[7] Some projects must also comply with California's Skilled & Trained (STW) requirement, which was created to prioritize a highly qualified and trained workforce on certain public projects. STW rules help maintain high industry standards by requiring a mix of apprentices, experienced workers, and those who have completed formal training programs. By enforcing these standards, the state promotes a stable supply of qualified construction workers while also reinforcing the value of apprenticeship programs.

Contractors on covered public works projects must also contribute to an apprenticeship training fund set at an hourly contribution rate. If a contractor participates in a CA Department of Apprenticeship (DAS) approved apprenticeship program, their contributions go directly to the program. Otherwise, funds go to the California Apprenticeship Council (CAC) fund. Managed by the Division of Apprenticeship Standards (DAS), the CAS fund helps to cover training and education expenses for apprentices, recruitment costs, and administrative requirements like monitoring and ensuring compliance with state apprenticeship standards.

California offers several programs to expand access to apprenticeships. Overseen by the California Workforce Development Board and funded through state resources, the High Road Construction Careers (HRCC) program supports pre-apprenticeship by fostering partnerships between union building trades councils, workforce boards, community colleges, and local organizations. These programs, which follow the nationally recognized Multi-Craft Core (MC3) curriculum, help prepare individuals—particularly those historically under-represented in construction occupations like women and other gender minorities—for registered apprenticeship. By introducing participants to the industry's culture, skills, and expectations, pre-apprenticeship can improve readiness, reinforce career interest, and importantly, provide an increasingly in-demand construction industry with access to new workforce supply pools.

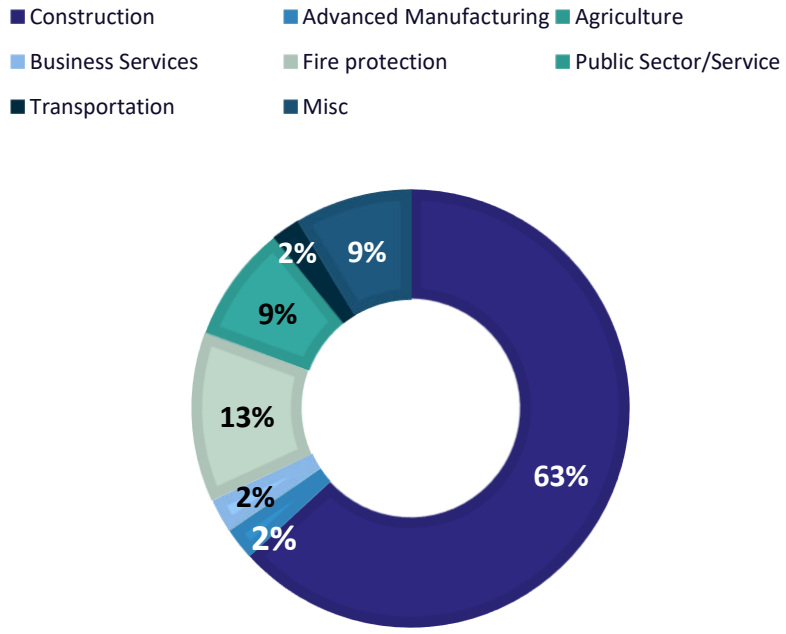
There are also grants available to boost participation in the trades. For example, the Equal Representation in Construction Apprenticeship (ERiCA) grant—which focuses on the recruitment of more women into trades careers-- has been a significant resource funded by DAS. During its first round, the grant provided childcare resources as well as outreach and recruitment.[8] Ultimately, California apprenticeship policies and programs consistently reflect the state's commitment to growing the construction workforce and delivering a stable supply of skilled and trained trade workers to the construction industry.

California's Construction Apprenticeship Programs

The golden state boasts the greatest number of registered apprentices in the country. For comparison, California and Texas have nearly the same amount of construction workers (668,430 in California in 2023 and 639,170 in Texas), but California enrolls almost twice as many apprentices (58,995 in California compared to 32,625 in Texas).[9]

According to the Division of Apprenticeship Standards (DAS), California's construction apprenticeship programs currently train 58,995 apprentices and 819 pre-apprentices. Construction apprentices remain at the heart of California's registered apprenticeship system, representing nearly two-thirds of the 96,300 apprentices in the state.

FIG 1. SHARE OF CA REGISTERED APPRENICES, BY INDUSTRY



Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

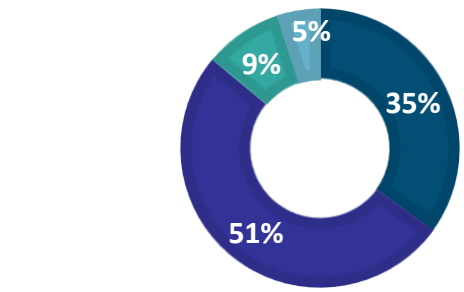
These nearly 60 thousand construction apprentices are registered in 171 programs across 30 building and construction trades. The number of programs per trade varies greatly: electrical and plumbing trades are among the most common, with over 30 programs each, in addition to carpentry, laborers, sound and communications technicians, sheet metal, and plumbing HVAC apprentices, which have 10 or more programs for each craft.

Programs in California are run and funded by various committees or associations, which can be broken down into two main groups: Joint Apprenticeship Training Committees (JATCs), funded through privately negotiated contracts between employers and labor unions, and Unilateral Apprenticeship Committees (UACs), which are voluntarily funded by employers, often through employer associations. JATC's fund the vast majority, nearly 9-in-10, of all construction apprenticeship programs (149 out of 171 programs) in California, even though only 17.7% of California's construction industry is unionized.

In effect, JATC programs take on a greater responsibility for training and employing construction apprentices and investing in the workforce. Research shows this investment pays off: union contractors are far less likely to suffer from labor shortages, and delivery superior safety[10], productivity, and project efficiency outcomes than the non-union sector.[11]

JATC's train apprentices in 149 programs in all 30 of the available trades, while UACs operate just 22 programs across 11 trades. Most programs have a fairly large number of enrolled apprentices: 51% of programs have between 100 and 500 apprentices, and about 5% of programs have more than 1,000 apprentices.

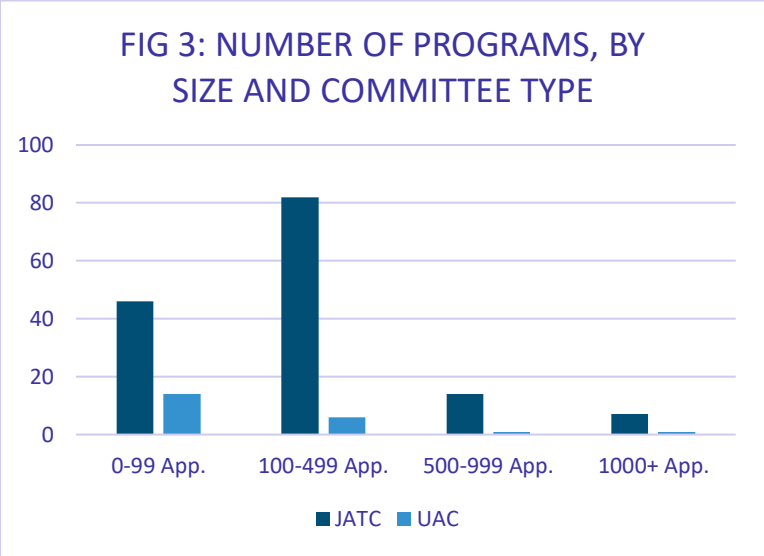
FIG 2. SHARE OF PROGRAM SIZE, BY NUMER OF APPRENTICES PER PROGRAM



Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

While program size (number of apprentices enrolled per program) varies across crafts and program type, JATC's tend to run larger programs than UAC's: JATCs have a median of 176 apprentices compared to a median of 88 in UACs per program, and an average of 366 apprentices per JATC program compared to an average of 195 apprentices per UAC program. As shown below, most UAC programs enroll between 0-99 apprentices, while the majority of JATC enroll between 100-499.

The top five trades with the highest overall number of enrolled apprentices are carpentry, laborers, electricians, drywall/lathers, and plumbing.



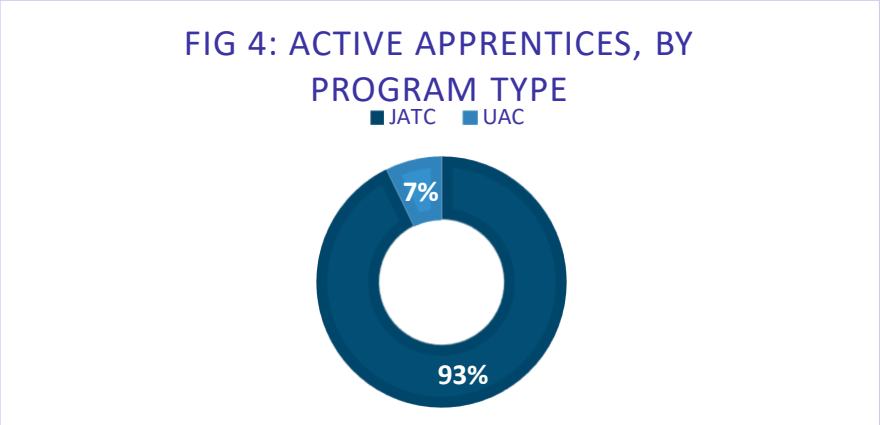
Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

This data highlights the critical role JATCs play in shaping the construction apprenticeship landscape in California. Their broader trade coverage and higher enrollment capacity underscore their impact on workforce development, and training for California's future.

Enrollment and Graduation in California Construction Apprenticeship Programs

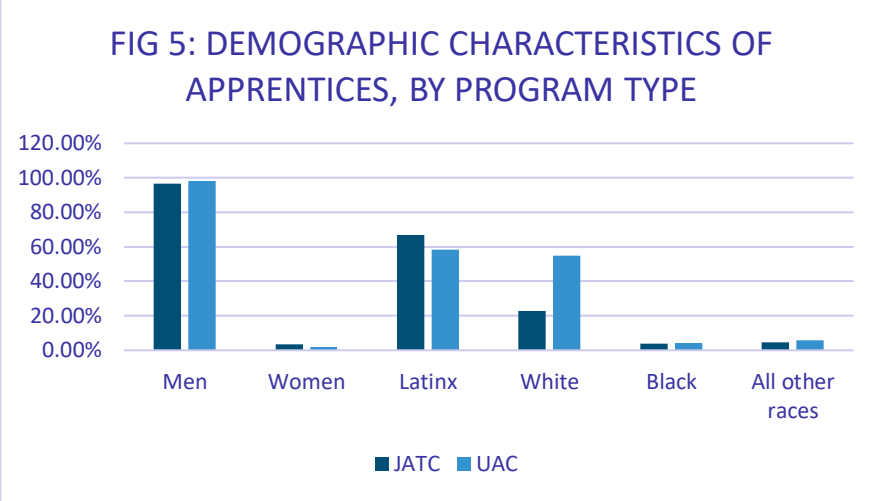
Like many states around the country, California is facing a labor shortage driven by a growing demand for housing and infrastructure projects, exacerbated by trade and anti-immigration policies that have outsized impacts on project costs and workforce stability.[12] In no small part due to their consistent investments in apprenticeship training, the union segment of the construction industry has been more resilient in the face of these challenges, relying on high job quality and rigorous recruitment to attract new workers.[13] Still, as contractors aim to grow the construction workforce, creating greater access and retention for demographic groups like women who have been underrepresented in construction can not only expand access to new labor supply pools but also ensure these career-sustaining jobs are more equitably distributed.

JATCs train 93% of all apprentices currently enrolled in construction programs. Overall, Latina and Latino apprentices make up the largest racial/ethnic group of all construction apprentices in California, (66.1%), followed by white apprentices (23.4%), black or African American apprentices (5.8%), and Asian/Pacific Islander apprentices (2.5%). Filipino and Native Americans each make up 0.8% of all apprentices, and 0.8% did not identify their race or ethnicity. Men continue to make up most of all apprentices in construction at 96.6%.



Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

There are a range of factors that have contributed to women's historically low representation in the construction industry, including absence of role models in the field, the legacy of cultural stereotypes that distort perceptions of the industry workforce, lack of supportive programs such as childcare or hardship funds, and workplace harassment can push women out of careers. However, unions, community colleges, and contractor associations have made increased effort to support women in the trades. For example, the Carpenters Training Trust Fund for Northern California was recently awarded $2,000,000 for a childcare support program.



Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

Notably, JATC programs have delivered superior racial/ethnic diversity as well as gender diversity compared to UAC programs, as shown in the figure below. Table 1 below shows the number of apprentices in all programs, broken down by program type, sex, and racial/ethnic group.

Over 96% of all female apprentices, 93.6% of Latina and Latino apprentices, and 94.5% of Black or African American apprentices in CA are enrolled in JATC programs.

JATCs not only account for the most enrollment of apprentices but also expanding the industry's access to historically under-represented labor supply pools, fostering greater racial and gender diversity than UACs. These differences highlight the importance of JATCs in addressing the industry's long-term labor supply needs and promoting greater access to apprenticeship opportunities.

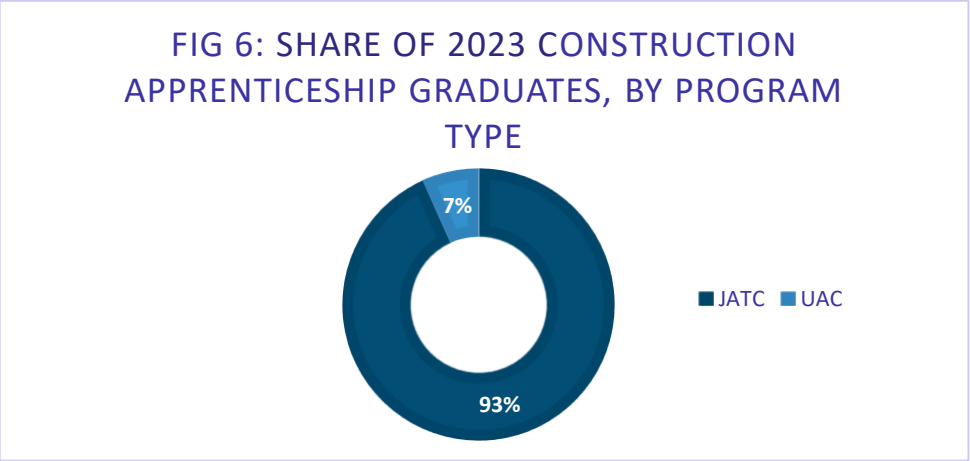
Table 1. Total Apprentices by Sex, Race/Ethnicity, and Program Type

Active Apprentices	Total for All Programs	JATC	UAC	JATC Share of All Apprentices
Male	54,564	52,369	4,195	92.6%
Female	2,055	1,977	78	96.1%
Latina/o	38,983	36,481	2,502	93.6%
White	13,799	12,442	1,357	90.2%
Black or African American	3,395	3,207	188	94.5%
All other Races	2,367	2,141	226	90.5%

Source: Author's Analysis Division of Apprenticeship Standards database of registered apprentices, 2024.

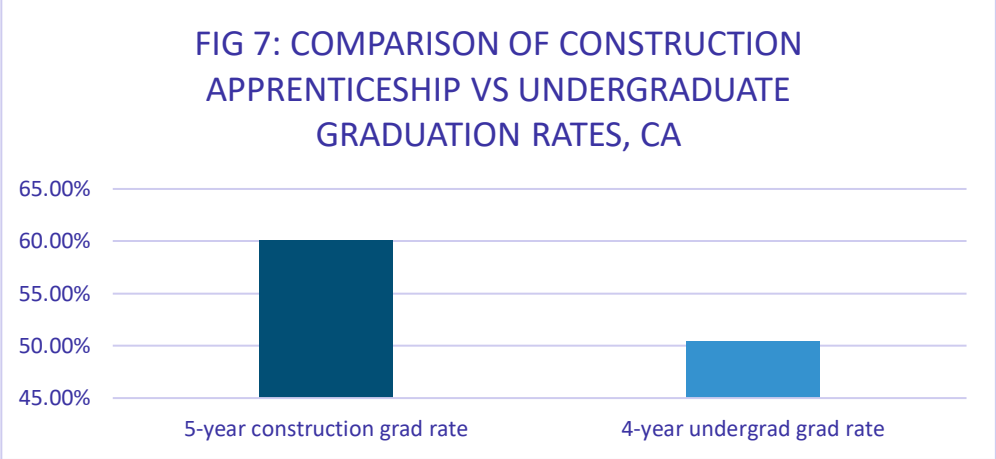
In 2023, the most recent year with available data, the DIR Completion Dashboard reported that 10,525 apprentices in the construction industry had completed their programs. Of these, 691 were enrolled in UACs, and the remaining 9,834 were enrolled in JATCs. In other words, as shown in Figure 6, 93% of apprentice graduates came from JATCs, consistent with JATC's share of enrollees.

Graduation rates have also consistently increased in the last ten years. For example, in 2013 there were only 4,498 construction apprenticeship graduates, and by 2023 there were 7,272. This means that between 2013 and 2023 there was a 62% increase in construction workers who graduated from an apprenticeship program. This increase reflects the positive impacts of California initiatives, prevailing wage requirements on public works projects that require apprenticeship contributions, and the use of tools like Project Labor Agreements, which specifically require training fund contributions to go to the applicable JATC of each trade. Because JATCs train and graduate most of California's apprentices, policies that promote investment in these programs play a role in addressing the industry's long-term workforce supply needs.



Source: Author's Analysis Division of Apprenticeship Standards Completion Dashboard, 2023.

Construction apprentices also have higher graduation rates, on average, compared to bachelor's degree programs in California. As shown in figure 7, the five-year graduate rate for construction apprentices (the average length of apprenticeship programs) is 60.1% compared to a four-year graduate rate of 50.4% among California undergraduates. Construction completion rates reflect how these programs suggest that apprenticeships may offer a more direct and attainable path to career success for many workers.

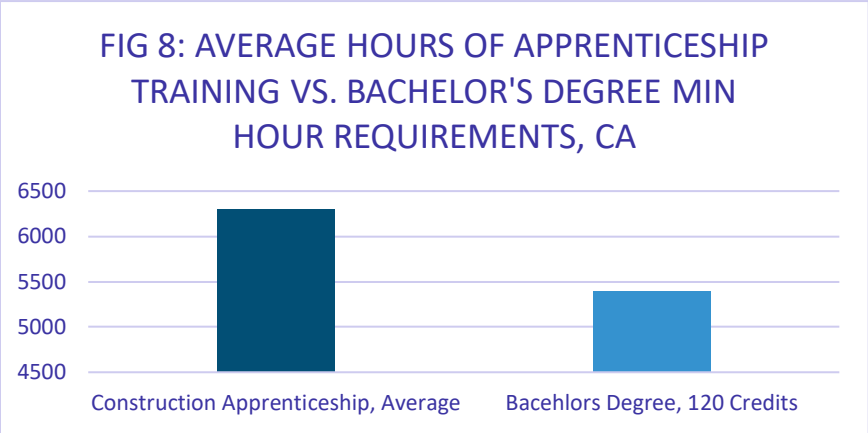


Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard) and Perez and Gomez, 2024.[14]

Training and Hours

Registered apprenticeship programs ensure that the workers building our communities' critical infrastructure are highly trained with appropriate skills, following rigorous safety standards. Students attend hundreds of hours of classroom training and thousands of on-the-job hours. Because registered apprenticeship programs are regulated by the California Department of Labor, there are minimum hours requirements that programs must provide for their students.

Apprentices must complete a minimum of 133 hours "of related and supplemental instruction" and 2,000 hours of on-the-job training.[15] However, construction apprenticeship programs in California require much more, completing an average of 600 hours of in-class instruction, and over 6,000 hours of on-the-job training.



Source: Calapprenticeship.org | Based on UC bachelor's degree credit requirements, see https://academic-senate.berkeley.edu/coci-handbook/2.3.1

As shown in Figure 8, construction apprenticeships require more training hours than bachelor's degrees in California, on average. Construction apprenticeship programs typically take between three to four years to complete, with some programs requiring as many as five years. Apprentices are incentivized to complete their hours not only to gain the skills necessary to be successful in their respective crafts, but to earn higher wages.

Unlike higher education, apprenticeship programs are tuition-free. Given that 3.8 million Californians hold over $142 billion of student loan debt,[16] opportunities for career pathways with training programs that are financially viable are essential for workers to access good paying careers within in-demand industries.

Wages and Benefits

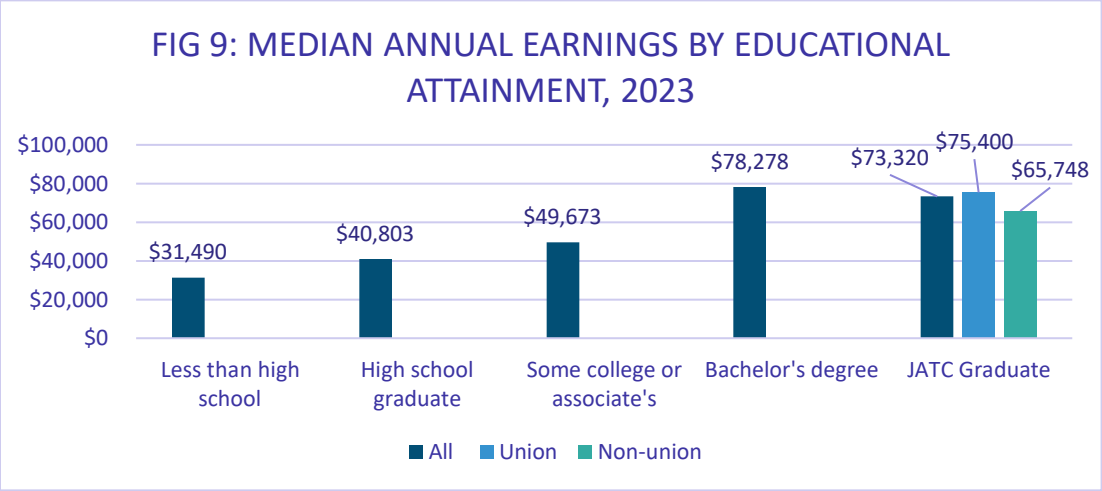
As work has become increasingly precarious, with fewer careers providing workers with a means to meet the rising cost of living, construction apprenticeships offer more workers pathways to a family-sustaining livelihood and even upward economic mobility. In 2023, elevator repair workers, boilermakers, iron and steel workers, plumbers, pipefitters, steamfitters, and electricians all earned hourly mean wages above the average for all U.S. occupations.[17]

The median hourly wage in construction is 19% higher than the median hourly wage for all California occupations.

On top of having a higher median wage than all occupations overall, in 2024, the average hourly wage of the top ten construction occupations in California was $15.64 per hour higher than the average hourly wage of the top ten non-construction occupations that did not require a college degree.[18]

Apprenticeship programs help create a pathway to sustainable careers while also providing workers the opportunity to "earn while they learn." Wages in apprenticeship programs are determined by the number of hours the apprentice has worked and are set as a percentage of journey-level wages, increasing as the apprentice completes more hours throughout the program. This earn-while-you-learn model distinguishes construction career training from most other industries, especially for workers who either wish to avoid student debt or who are working to pay off their loans after disappointing job prospects post-graduation.

As shown in Figure 9, JATC graduates earn about 80% more than those with a high school degree in California on average, and nearly comparable earnings to those with a bachelor's degree. These outcomes show that apprenticeship programs are a practical and useful tool for expanding access to good jobs and offering workers a chance to earn competitive wages.



Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard) and author's analysis of American Community Survey 1-year estimates, 2023 Median Earnings in the Past 12 Months.

Though construction workers are not required to graduate from a construction apprenticeship program, research suggests that there is increased earnings potential for those who do.[19] Additionally, there is evidence that apprentices are also good both for the economy and for the construction industry. For example, research has linked robust apprenticeship programs with lower youth unemployment rates[20]. Graduates of apprenticeship programs have also been linked to better workplace safety outcomes and higher levels of workforce productivity, and improved workforce retention rates.[21]

There may be some indications of this in California. Table 2 compares the exit wages of a sample of workers who have completed an apprenticeship program to the journey-level wages of all construction workers in California, whether or not they completed an apprentice program. Importantly, these wages likely do not include the additional health, and pension benefits that union workers and those working on covered prevailing wage projects earn.

Table 2. Comparison of Apprenticeship Graduates to CA Top Ten Construction Craft Workers

Occupation	Employment Estimates	Mean Hourly Wages, Apprenticeship Graduates	Mean Hourly Wage, All Journey-level	Apprentice Wage Advantage
Top Ten	463,960	$48.68	$36.66	+32.78%
Carpenters	102,870	$51.05	$36.20	+41.02%
Construction Laborers	89,950	$38.57	$30.44	+51.05%
Electricians	72,880	$57.05	$41.60	+37.14%
Plumber/Pipefitter	42,480	$55.70	$37.14	+49.97%
Painters, Construction and Maintenance	34,080	$39.05	$30.10	+29.73%
Operating Engineer	32,690	$52.21	$43.65	+19.61%
Drywall and Ceiling Tile Installer	30,920	$49.34	$37.03	+33.24%
Cement Mason	28,890	$42.41	$33.97	+24.85%
Roofer	18,920	$41.60	$34.03	+22.25%
Sheet Metal	10,280	$59.82	$42.47	+40.85%

Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard) and data from the California Occupational Employment (May 2023) and Wage (2024) Data, Occupational Employment and Wage Statistics Survey Results.

As shown in Table 2, looking at the top ten highest employed construction occupations in California, workers who graduate from an apprenticeship program may experience up to a $12 per hour wage premium, or 32.8% higher wages. This may be attributable to several factors, including the fact that construction apprentices are far more likely to be enrolled in a unionized program, and subsequently more likely to be employed by a unionized contractor post-graduation.

The wage premium for unionized construction workers is well-known, with union workers earning up to 42% more than non-union workers.[22] Between 2021-2022, just 18% of construction workers in California were represented by a union, so it is not surprising to see lower wages among all journey-level workers than apprentices who graduate from primarily union programs (as JATC's make up about 9-10 programs).[23]

The Union Advantage in Apprenticeship Pay

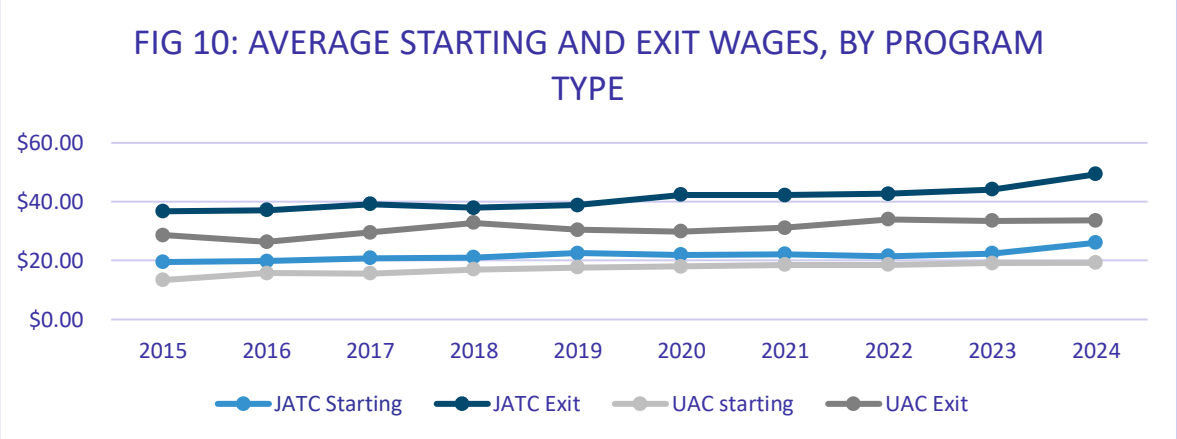
Among apprentices, those enrolled in joint-labor management programs earn more than employer-only programs. This is true of both starting and exit wages. In fiscal year 2024, the average starting wage for JATC programs in the CA construction industry was $26.04, compared to $19.22 for UAC programs. Exit wages also differed based on program type: the average exit wage for all JATC programs was $49.30 compared to $33.58 for UAC programs. Table 3 below shows the starting and exit wages of crafts with JATC and UAC programs.

Table 3. CA 2024 Apprenticeship Average Hourly Exit Wages, by Program Type

Occupation	JATC Exit	UAC Exit	JATC Wage Advantage
Laborers	$39.45	$30.48	+$8.97
Electricians	$60.78	$39.70	+$21.08
Carpenters	$54.64	$32.42	+$22.22
Plumbers	$57.95	$45.84	+$12.11
Cement Masons	$43.76	$27.57	+$16.19

Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard).

JATC apprentices in California experience an average 89% increase in pay, compared to a 75% increase for UAC apprentices. This disparity between JATCs and UAC wages has only grown over the years. Figure 10 shows the average starting and exit wages of JATC and UAC programs over the last decade. Between 2015 and 2024 JATC programs have seen their exit wages grow at twice the rate of UACs: JATC exit wages have grown by 34% while UAC programs have only grown 17%. Notably, the UAC 2024 starting wage of $19.22 is lower than the JATC starting wage 9 years earlier, $19.51 in 2015.



Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard)

Though both JATCs and UAC's have increased workers' wages over the years, adjusting for inflation paints a different picture of workers' real wage changes. Over the last ten years, inflation has increased about 35%, meaning $1 in 2015 has an equivalent purchasing power to $1.35 in 2025.[24] As shown in Table 4:

JATC wages have slightly outpaced inflation in the last decade while UAC real wages have gone down.

Table 4. CA Apprenticeship Exit Wages Adjusted for Inflation, by Program Type

Year	JATC Exit (2015 adjusted for inflation)	UAC Exit (2015 adjusted for inflation)	JATC Wage Advantage
2015	$49.04	$38.26	$10.78
2024	$49.30	$33.58	$15.72
Percent Change	+.05%	-12.2%	+45.8%

Source: Author's analysis of 2024 data from the Registered Apprenticeship Partners Information Management System (RAPIDS) on "Apprentices by State," Apprentices by Program Location (https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard). Inflation calculated with the Bureau of Labor Relations Consumer Price Index Inflation Calculator, from December 2015 to December 2024.

These trends suggest that JATC apprenticeship programs not only start workers at higher wages than UAC alternatives but also deliver significantly stronger long-term wage growth. The growing gap in exit wages reflects the sustained commitment of JATC programs over time. Meanwhile, the persistent decline in UAC real wages raises questions about whether these programs adequately support apprentices' economic position.

Conclusion

Strengthening Today's Workforce, Building for the Future

Construction is an increasingly in-demand industry that is vital to the growth and development of California's economy but is also an industry that presents opportunities for workers to gain upward mobility and a clear path into a lifelong career. Registered apprenticeship programs have long been effective as a workforce development tool in construction, ensuring workers can expertly build to the benefit of our communities. Apprenticeship programs are appealing because they attach workers to in-demand career skills through in-depth and rigorous training, and opportunities for advancement free of student debt. This can be especially attractive to workers who face barriers to obtaining a higher education degree, or those who have degrees but have struggled to find employment in a changing job market. Apprentices can earn while-they learn which benefits communities by enabling workers training for careers can spend their hard-earned pay locally instead of to lending institutions.

Registered apprenticeship programs not only prepare tomorrow's workforce but provide *today's* workers with specialized skills that they will need to build careers in the industry. This is especially true for apprentices enrolled in Joint Apprenticeship Training Programs, who earn, on average, an 89% pay increase throughout their training.[25] This is an important feature of registered apprenticeship programs, which require pay increases. Data in this study also suggests that construction workers who have graduated from an apprenticeship program may earn up to 33% more in wages than those who have not. With JATC graduates earning 46% higher wages than UAC graduates. JATC's also institutionalize workforce development through a structured funding model, where signatory contractors must make contributions to training, unlike the voluntary contributions that make up UAC funding. This is especially significant given that only about 18% of construction workers in California work for a union contractor. In other words, despite making up a smaller fraction of the overall workforce, unions play an outsized role in workforce development and training to prevent labor shortages and stabilize the labor market.

California has demonstrated a continued commitment to building more access points into registered apprenticeship programs. Pre-apprenticeship programs are proving to be an increasingly helpful model especially for prioritizing historically excluded workers and creating a meaningful pathway to construction careers. Funding programs like the ERiCA grant help to increase access for underrepresented populations by supporting organizations that offer wraparound services to address barriers to entry and participation such as childcare or transportation. Given recurring concerns about labor shortages within the construction sector, and despite recent federal policies eliminating programs for racial and gender inclusion, policies that ensure women and Black, Indigenous, and people of color have access to high-paying careers are deepening the labor supply pool on which the construction industry depends.

At a policy level, and use of project labor agreements, enforcement of prevailing wage laws also promote more investment in construction workforce development. Registered apprenticeship programs remain a tried-and-true approach to workforce development. As California continued to set ambitious infrastructure goals, registered apprentices are a fundamental avenue for getting adequate pools of sufficiently skilled workers on the job.

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