

TRAINING THE GOLDEN STATE

AN ANALYSIS OF CALIFORNIA APPRENTICESHIP PROGRAMS



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ABOUT THE AUTHOR:

Dan Calamuci received his Bachelor of Arts degree from The George Washington University, and his Masters of Science in Labor Studies from the University of Massachusetts-Amherst. Calamuci has been a labor and economics researcher for nearly two decades, with a concentration on the construction industry since 2007. He has provided testimony to numerous public bodies, including the City of San Francisco, the City of Stockton, Alameda County, and the California State Senate. A San Francisco resident, Calamuci was appointed by the San Francisco Municipal Transit Authority to the Geary Community Advisory Committee.

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TRAINING THE GOLDEN STATE

AN ANALYSIS OF CALIFORNIA APPRENTICESHIP PROGRAMS

Currently training over 67,000 students, registered apprenticeships in California’s construction industry are critical to ensuring the State maintains a highly skilled and productive construction workforce. Primarily supported by employers and construction trade unions, apprenticeship programs help California contractors recruit, train and retain workers and ensure that they will have a stable skilled workforce for years to come. For thousands of California workers, apprenticeship is the “escalator to the middle class” providing an opportunity to build a stable, family supporting career that is not dependent on a college degree. With a combination of on site and classroom training, apprenticeship offers an opportunity to “earn while you learn” to California’s diverse workforce, at no cost to taxpayers.

KEY FINDINGS

- Construction industry apprenticeships enroll more students than any single college or university undergraduate program in California
- There are two types of construction apprenticeship programs— “joint” programs administered by trade unions and funded by specified per hour contributions from participating employers and “employer only” programs that are principally funded by voluntary contributions from employers.
- Joint apprenticeship programs train 92% of California’s apprentices
- Two-thirds of California apprentices are people of color
- Joint apprenticeships train 97% of female construction apprentices
- Joint apprenticeship invests hundreds of millions per year in training, while also spending more on training per student than “employer only” counterparts.
- Because of increased wages and lack of student debt, a construction apprenticeship can be a better option for many young people than a more traditional undergraduate program.
- Graduates of joint apprenticeship programs earn more money immediately upon completion than graduates of “employer-only” programs.



APPRENTICESHIP IN CALIFORNIA

The current system of registered apprenticeship in the United States was established in 1937 through the National Apprenticeship Act, which established minimum standards for the certification of programs and graduates. The California Apprenticeship Council was established with passage of the Shelley-Maloney Labor Standards Act of 1939, which oversees apprenticeship programs in the State to this day.

Apprenticeship is supported by a tri-partite system of business, labor, and government. Key to the continued success of the State's apprenticeship programs are California's strong prevailing wage laws and regulations. Labor Code Section 1777 requires that contractors on publicly funded construction projects employ a minimum number of apprentices in relation to the number of journeypersons on the site. The induced demand created by prevailing wage law is key to ensuring successful outcomes for students and programs. Requiring contractors to employ apprentices means that students have ample work opportunities, thus acquiring the on-the-job skills they will need for an eventual career in the construction industry.

While construction apprenticeship programs vary by craft, all share some essential features. Programs are a combination of both class time and job site time, with apprentices required to complete a specified number of class and work hours.

As apprentices complete a specified amount of work and classroom hours, wages and contributions to various benefit funds increase.

Registered apprenticeships are supported by training fund contributions from participating employers which allow them to be offered at no-cost to participants. Joint programs are typically funded via a cents per hour contribution from union signatory employers (the amount will vary based on the collective bargaining agreement). Employer-only programs have no such dedicated funding stream, and instead are reliant on voluntary contributions from participating employers. Research shows that the voluntary nature of the employer-only apprenticeship funding model can create an incentive for large swaths of the industry to forego long-term workforce development investments in order to win short-term bids (Littlehale, 2019).

As apprentices complete a specified amount of work and classroom hours, wages and contributions to various benefit funds increase. The typical apprenticeship takes three to four years to complete. Upon completion, journeypersons have transferrable skills, allowing them to work for any employer in their craft, in any area of the country.



WHO TRAINS TOMORROW'S WORKFORCE

JOINT PROGRAMS LEAD THE WAY

Registered apprenticeships in the construction industry are “the largest privately-financed system of higher education in the country (Philips, 2014). According to the Division of Apprenticeship Standards (DAS), approximately 67,467 California residents were actively enrolled in an approved apprenticeship program in 2020 (DAS, 2020).

In the construction industry, apprenticeship programs can largely be divided into two categories. Joint (sometimes referred to as “union” or “union affiliated”) apprenticeship programs are funded, governed, and managed by both employers and labor unions. Employer-only, or “unilateral” programs are primarily funded through voluntary contributions and managed exclusively by employers, usually through small non-union employer associations such as the Associated Builders and Contractors.

The largest programs in California are exclusively joint apprenticeship programs. Table 1 below shows the top ten programs in California, ranked by active students as of February, 2020.

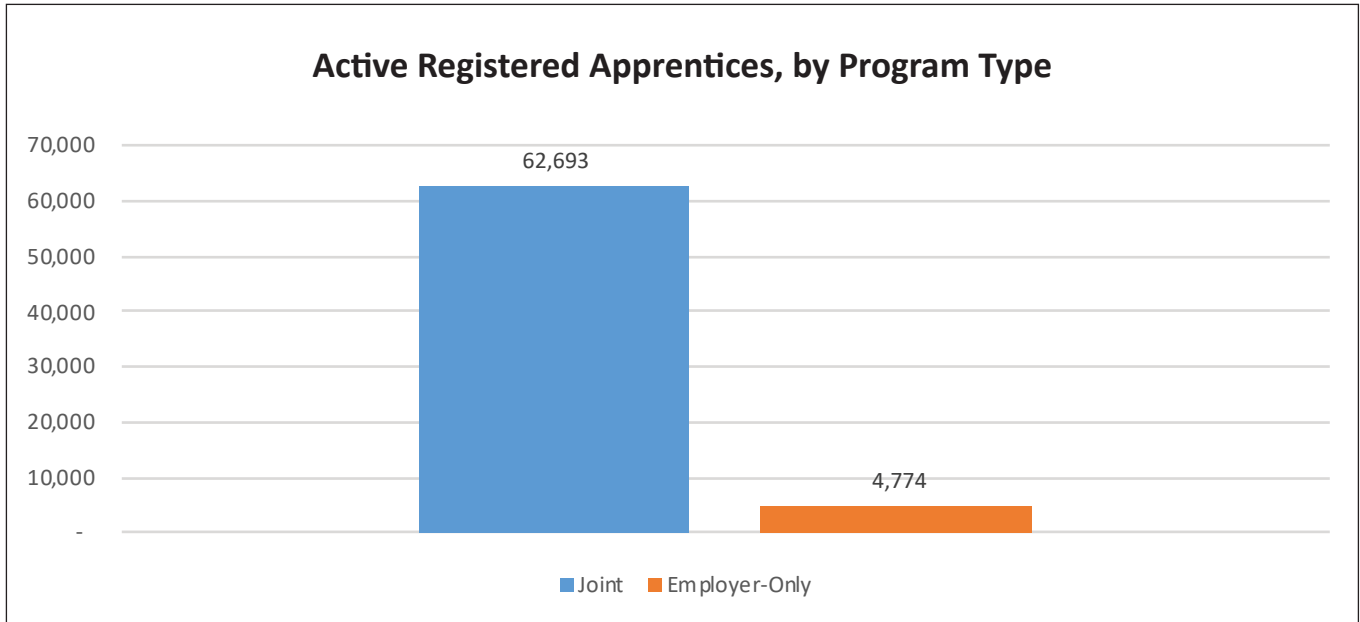
Table 1:

RANK	PROGRAM	LOCATION	ACTIVE APPRENTICES, 2020
1	Southwest Carpenters Training Fund	Los Angeles	13,962
2	Carpenters Training Committee for Northern California	Pleasanton	6,347
3	Laborers Training and Re-training fund Southern California	El Monte	3,957
4	California Ironworkers Apprentice Training	Pasadena	3,730
5	Laborers Training and Re-Training for Northern California	San Ramon	4,826
6	Apprentice and Journeyman training of Southern California Plumbing, Heating, and Piping Industry	Van Nuys	2,629
7	District Council 16 Northern California	San Leandro	2,161
8	Los Angeles Electrical Joint Apprenticeship	Commerce	1,833
9	District Council 36 Southern California	Commerce	1,253
10	Operating Engineers, Northern California	Alameda	1,165

Source: Author’s Analysis: Division of Apprenticeship Standards database of registered apprentices, 2020



While a handful of employer-only programs do operate in a few crafts, joint programs train most of California's apprentices. The chart below shows joint apprenticeships train 92% of California's construction apprentices. Further, while joint apprenticeships operate in every construction craft, employer-only apprenticeships are limited to a handful of occupations (primarily the electrical, carpentry, laborer, and plumbing crafts).



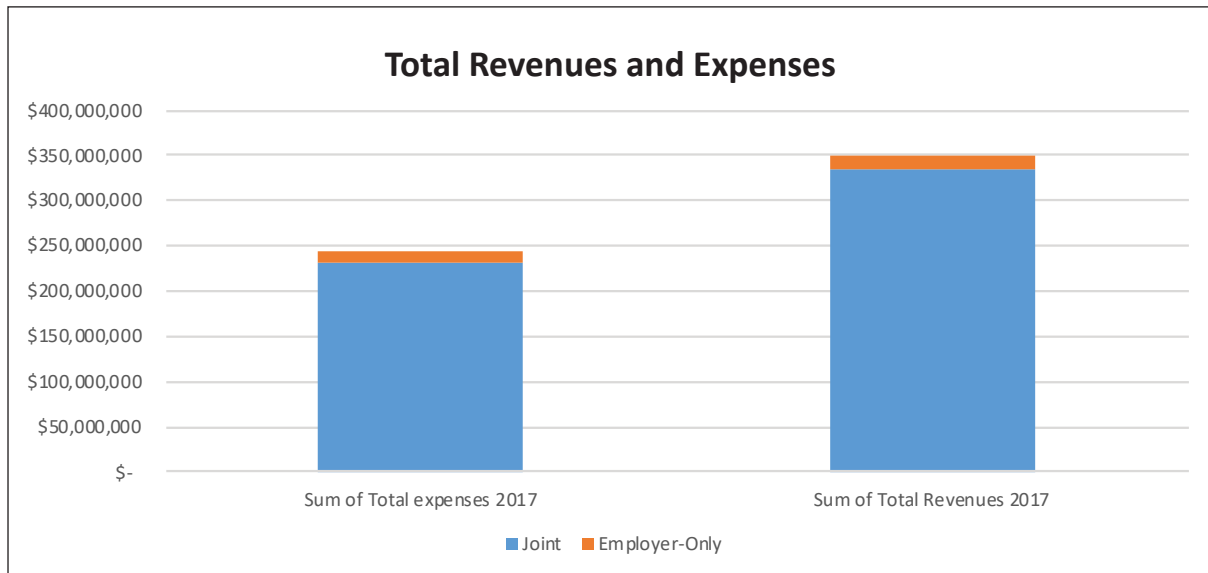
Source: Author's Analysis: Division of Apprenticeship Standards database of registered apprentices, 2020

Unlike their employer-only counterparts, joint apprenticeships are located in every region of the State. For example, while the employer-only Northern California A.B.C. Carpentry apprenticeship has only one space for classroom and shop instruction (Livermore), the jointly administered Carpenters Training Committee for Northern California has recently invested approximately \$50,000,000 on two new state of the art training centers, and now operates in Pleasanton, Fairfield, Morgan Hill, and Fresno.



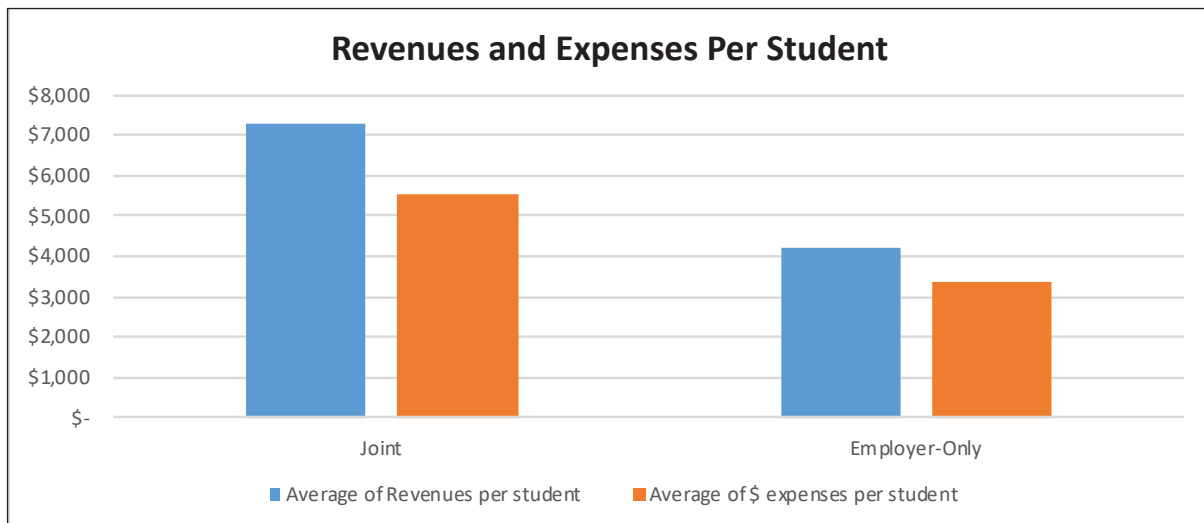
INVESTMENTS IN CALIFORNIA'S FUTURE

Funded primarily via hourly contributions from participating employers, construction apprenticeship programs, in particular joint apprenticeship programs, invest hundreds of millions of dollars per year to train the overwhelming majority of California's construction apprentices. Using data compiled from IRS Form 990, it is estimated that in 2017 (the last year complete data was available), construction apprentice programs had total revenues of \$351 Million in 2017, and \$264 Million in expenses. As shown below, joint apprenticeship program revenues and expenses were nearly 20 times the revenue and expenses for employer-only programs.



Source: Author's Analysis, 2018 IRS Form 990 Filings

Classroom time and job-site time should be the same in both joint and employer-only programs. However, revenues and expenses per student are higher amongst the joint programs than the employer-only programs, demonstrating the strong commitment to training by construction unions and their signatory contractors.

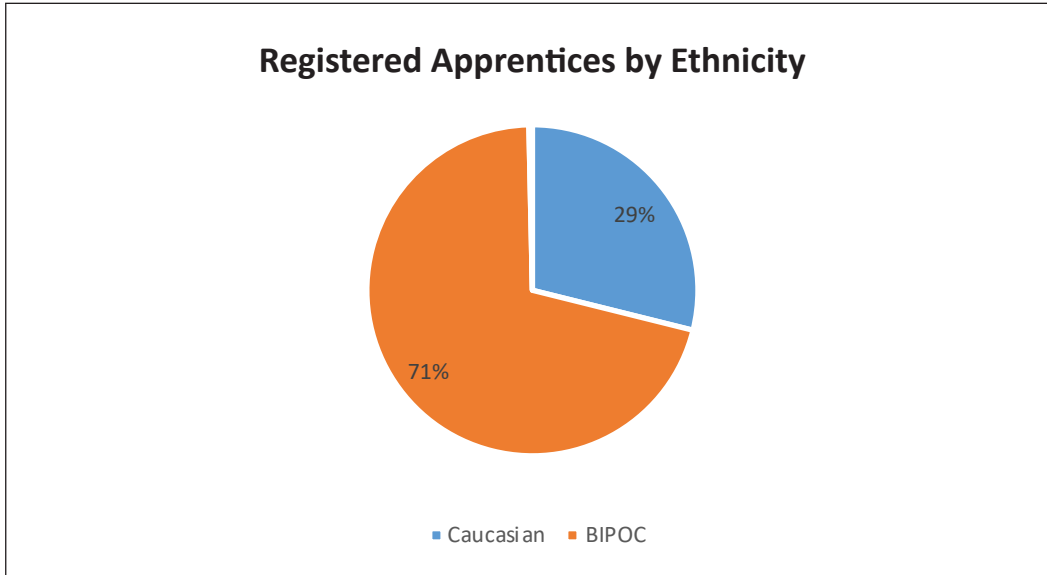


Source: Author's Analysis, 2018 IRS Form 990 Filings, Division of Apprenticeship Standards database of registered apprentices, 2018



WHO ARE CALIFORNIA'S APPRENTICES?

California's construction apprenticeships reflect the diversity of the State, both in its geography and ethnic diversity. Data from the Division of Apprenticeship show that in 2020, 71% of apprentices identified as BIPOC (Black, Indigenous, or Person of Color), with 29% non-Hispanic white. By way of comparison, California's overall population is 36.6% non-Hispanic white, according to 2018 estimates from the US Census.



Source: Author's Analysis: Division of Apprenticeship Standards database of registered apprentices, 2020

FROM HELMETS TO HARDHATS

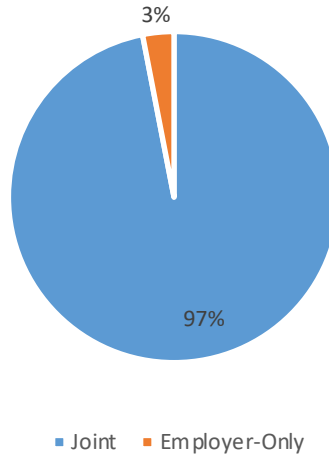
Construction apprenticeships and the construction industry have long been pathways to the middle class for returning veterans. For example, through the "Helmets to Hardhats" program, transitioning active duty military, veterans, National Guard and Reservists are connected with construction careers and offered direct entry into apprenticeship programs. The relationship between "Helmets to Hardhats" and joint apprenticeship programs means that the overwhelming amount of veterans being trained in construction apprenticeship programs are trained via joint programs.

WOMEN IN THE TRADES

Joint apprenticeships are stepping up to meet the challenge of bringing more women into the ranks of the construction workforce. Starting with joint apprenticeship affiliated pre-apprenticeship programs, which often require that female students make up at least 20% of enrollees, joint apprenticeships now train 97% of female apprentices in California, even though joint apprenticeships train 92% of all apprentices. In other words, while joint programs are committed to expanding the ranks of female apprentices, the employer only programs have failed to promote gender diversity in the construction trades.



Women in Apprenticeship Programs



Source: Author's Analysis: Division of Apprenticeship Standards database of registered apprentices, 2020

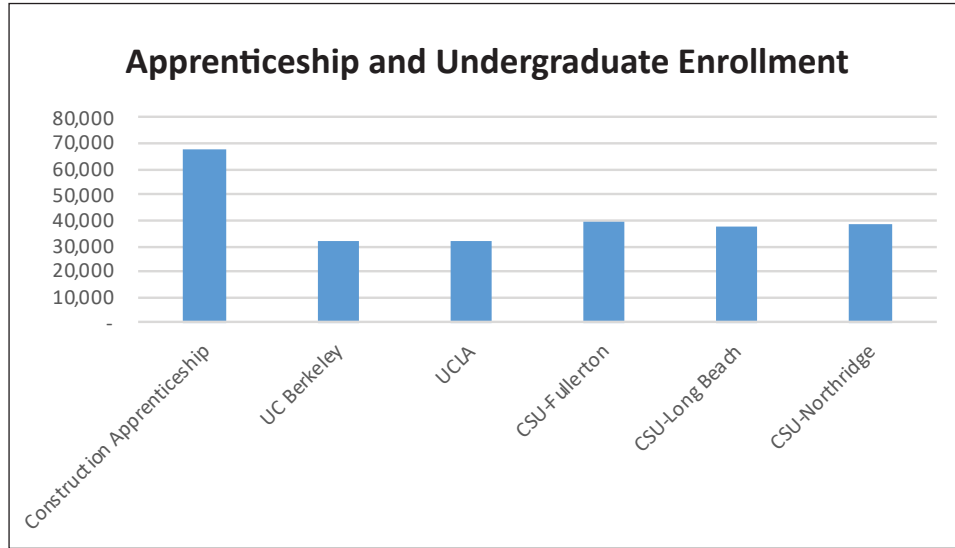
Many unions and apprenticeship programs also offer specific programs, or work with community partners that aim to attract and retain more women to the construction industry. Organizations such as Tradeswomen Inc., BOOTS from the Southwest Carpenters, and Sisters in the Brotherhood (affiliated with the Carpenters Union) recruit female apprentices, support them through their training, and offer resources from members and employers to help build a more inclusive and equitable construction industry.

The California Legislature has also recognized the importance of increasing opportunities for women in the construction industry. The 2017 Road Repair and Accountability Act (Senate Bill 1, 2017), which was strongly supported by construction unions and signatory contractors, included \$25 Million to recruit and retain more women in construction industry pre-apprenticeship programs (Wiltz, 2018).



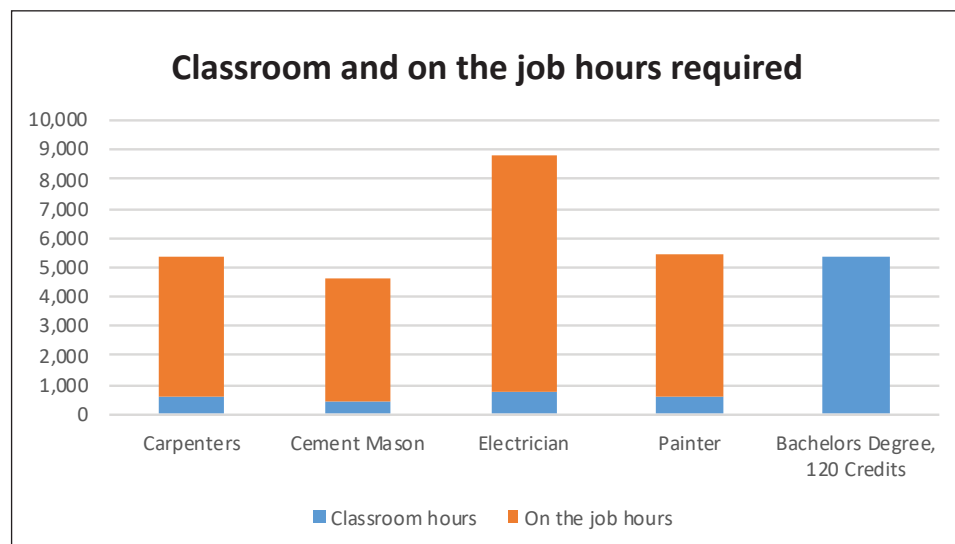
CONSTRUCTION APPRENTICESHIP COMPARED TO UNIVERSITY-LEVEL EDUCATION

Taken as a whole, construction apprenticeship programs are one of the largest secondary education programs in the State. The combined enrollment of all apprenticeship programs is larger than the undergraduate populations of UCLA, CSU Fullerton, and other major UC and CSU campuses.



Sources: CSU Fact Book, 2019, University of California InfoCenter, Fall Enrollment at a Glance, 2019

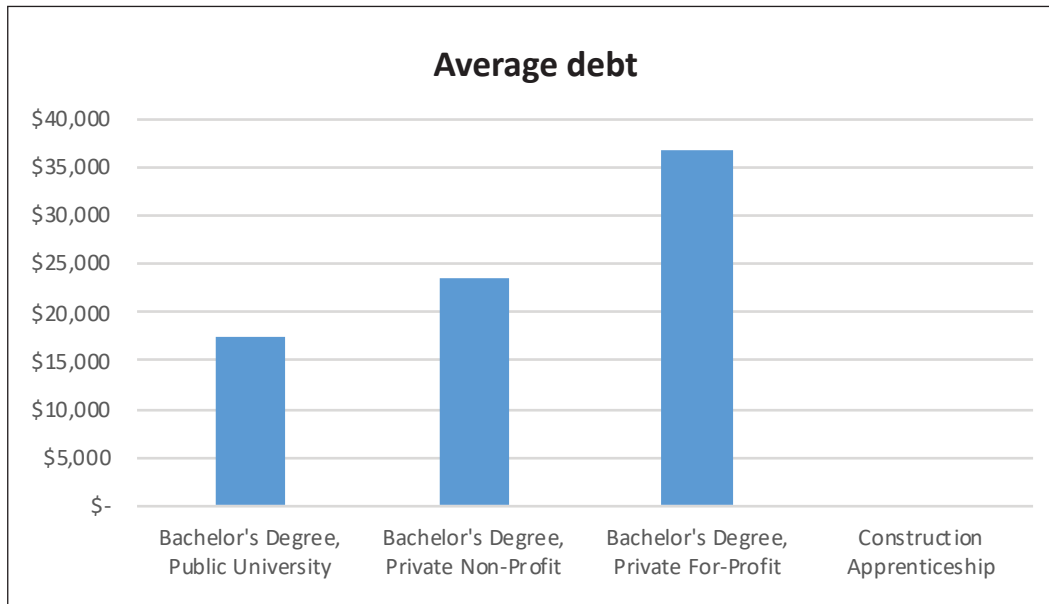
Like undergraduate-level education, almost all apprenticeship programs require a certain amount of classroom training. Unlike most undergraduate programs, apprenticeship programs require a significant amount of on the job training, offering apprentices an opportunity to develop the hard skills that will be crucial as they begin their construction careers. In most cases, apprenticeship programs require the same or more training hours than does a bachelor's degree.



Source: Division of Apprenticeship Standards



A crucial distinction between college/university level education and registered apprenticeships in the construction industry is student debt. College and university students are often forced to take on student loans to pay for their education, debt that must be paid back, with interest, for years after graduation. By contrast, construction apprentices have only a small amount of upfront costs, which can typically be paid back quickly because apprentices are earning a living wage while completing on-the-job training.



Source: Johnson, 2019

For many young people, a construction apprenticeship can be a better option than a four-year degree. In addition to completing a program without carrying any student loan debt, construction apprentices often will earn credits that can be applied towards a college degree. For example, apprentices who complete the Carpenters joint apprenticeship in Northern California receive up to 42 college units, only 18 shy of an Associate's degree (which could then be applied towards a Bachelor's degree).



THE APPRENTICESHIP PREMIUM

While empirical research on outcomes for apprenticeship students and graduates is scant, most evidence points towards increased earnings for workers who enter and graduate from a registered apprenticeship program. The most comprehensive review of apprenticeship in the United States is the 2012 report from Mathematica Policy Research, prepared for the U.S. Department of Labor. The study examined apprenticeship programs and outcomes in ten states (not including California) with differing labor market characteristics and unionization rates. On average, apprenticeship participants earned \$124,000 more in wages and benefits over their careers. Apprenticeship also reduced the chances a construction worker will endure long term unemployment (Reed et al., 2012).

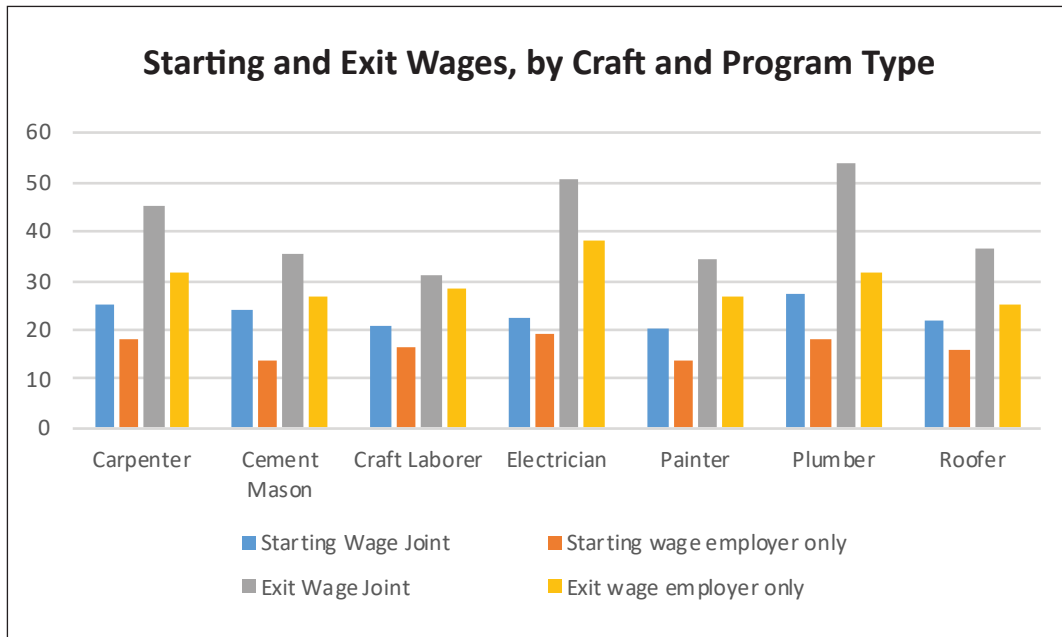
Data from the Department of Labor’s Registered Apprenticeship Sponsor Information Database (RAPIDS) shows almost immediate earnings increases for construction workers who complete apprenticeship programs.

CRAFT	AVERAGE STARTING WAGE (USD)	AVERAGE OF EXIT WAGE (USD)	% INCREASE
CONSTRUCTION CRAFT LABORER	20.68	31.10	50%
ELECTRICIAN	21.84	47.93	120%
CARPENTER	24.89	44.08	77%
PLUMBER	25.74	50.26	95%
SHEET METAL WORKER	22.68	50.90	124%
OPERATING ENGINEER	27.10	41.50	53%
PAINTER (Const)	19.96	33.62	68%
CEMENT MASON	22.74	34.52	52%
DRY-WALL APPLICATOR	22.09	43.43	97%
ROOFER	21.06	34.87	66%
IRONWORKER	19.72	37.36	89%

Source: Authors Analysis of DOL Employment and Training Administration RAPIDS database, FY2020 Q3



Department of Labor data also shows a premium for apprentices who graduate from joint apprenticeship programs. In crafts where there are both joint and employer-only apprenticeship programs, apprentices who graduate from a joint program earn an average of 37% more than graduates of employer-only programs.



Source: Authors Analysis of DOL Employment and Training Administration RAPIDS database, FY2020 Q3. Adjusted for inflation and reported in 2020 dollars.



TRAINING FOR THE FUTURE

Since the great recession, California's construction labor market has been tight, particularly in the residential construction industry. In 2017 construction employment in the trades was 25% lower than 2006 levels. The existing labor force has grown older, while the flow of immigration has dramatically slowed. Meanwhile, the non-union construction sector has failed to invest in any viable and scalable form of workforce development (Littlehale, 2019).

California's system of registered apprenticeships in the construction industry is a counterpoint to the low wage, low training investment model that exists in the non-union and residential construction industry. Just as importantly, apprenticeship is a win-win for all Californians. Offering increased wages and mobility for workers, ensuring the State has the construction workforce necessary to meet future demands, and giving contractors and the building industry the security of knowing they are employing the best trained, safety-conscious, and productive workers possible, apprenticeship is a key part of California's economic engine.

To ensure continued success support for apprenticeship and policies that induce demand for apprentices are an important part of policymaking for all state and local bodies. Elected officials should consider whether proposed construction projects, both public and private, will employ contractors who will properly hire apprentices in accordance with prevailing wage law or because of collective bargaining agreements. Policies that require apprenticeship employment can be a part of any state or local funds

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that subsidize private construction projects. Staff and elected officials can incorporate strong apprenticeship language into long term land use planning, recognizing that any future growth or development cannot be inclusive or equitable if opportunities in future construction are not also inclusive and equitable.

For over 100 years, a partnership between labor, contractors, and government has helped produce an extraordinary apprenticeship system within California's construction industry. It is a program that has brought millions of workers and their families into the middle class, opened up opportunities for traditionally underserved communities, supported veterans returning to the workforce, and helps ensure California's growing economy can benefit everyone. It is a statement that California is committed to its current and future workforce, and to ensuring that California has the resources it needs to build through the 21st century and beyond.



WORKS CITED

The California State University. *2018 Fact Book*

Johnson, H., 2019. *New Federal Data Sheds Light On Student Debt In California* [online] Public Policy Institute of California. Available at: <<https://www.ppic.org/blog/new-federal-data-sheds-light-on-student-debt-in-california/>> [Accessed 10 September 2020].

Littlehale, Scott., 2019. *Rebuilding California: The Golden State's Housing Workforce Reckoning* [online] Smart Cities Prevail. Available at < https://www.smartcitiesprevail.org/wp-content/uploads/2019/01/SCP_HousingReport.0118_2.pdf> [Accessed 1 October 2020]

Philips, Peter (2014). *Kentucky's Prevailing Wage Law: An Economic Impact Analysis*. University of Utah

Reed, Debbie; Albert Yung-Hsu Liu; Rebecca Kleinman; Annalisa Mastri; Davin Reed; Samina Sattar; and Jessica Ziegler. (2012). *An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States*. Mathematica Policy Research. Submitted to the U.S. Department of Labor Employment and Training Administration (DOLETA).

University of California. *Fall Enrollment at a Glance*. [online] Available at: <https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance> [Accessed 10 September 2020].

Wiltz, Teresa., 2018. *Women at Work: 'Pre Apprenticeships' Boost Female Construction Workers*. [online] Pew Charitable Trusts. Available at: < <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/03/19/women-at-work-preapprenticeships-boost-female-construction-workers>> [Accessed 10 September 2020].





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