



# CONSTRUCTION REGIONAL PROGRAM ADVISORY

**LOS ANGELES COMMUNITY  
COLLEGE PROGRAM LOOK BOOK  
FEBRUARY 28, 2024  
11:00am - 1:00pm**

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# MEETING AGENDA

<b>Date and Time</b>	<b>February 28, 2024, from 11:00am – 1:00pm</b>
<b>Occupation Focus</b>	<b>Construction</b>
<b>Opening Remarks</b>	<p>Welcome and Introductions   Alicia Nyein, LAEDC</p> <p>Los Angeles Regional Consortium Overview   Dr. Narineh Makijan, LARC</p> <p>Human Centered Economic Development   Jermaine Hampton, LAEDC</p> <p>Construction Demand Data   Matthew Skyberg, LAEDC</p> <p>Construction Supply Data   Luke Meyer, COE</p>
<b>Discussion Topics Moderated by Jared Lopez and Jose Pelayo</b>	<p><b>State of the Industry</b></p> <ul style="list-style-type: none"> <li>○ What do community colleges need to know about the current state and emerging trends of the Construction industry in LA County?</li> </ul> <p><b>Workforce Development</b></p> <ul style="list-style-type: none"> <li>○ What are your most important workforce needs and challenges at the moment?</li> <li>○ What training, credentials, and certifications are in high demand? What soft skills are particularly important for success?</li> <li>○ What challenges do you face in up-skilling your current workforce? What opportunities for professional development or ongoing education do your current employees need?</li> <li>○ How will technology (e.g., automation and AI) affect your workforce needs and employee skill requirements?</li> </ul> <p><b>Building Equitable Talent Pipelines</b></p> <ul style="list-style-type: none"> <li>○ How can community colleges help you address your workforce gaps and needs? What does the ideal construction curriculum look like to you?</li> <li>○ What hiring positions would best benefit from a short-term certificate program? Dual-enrollment programs? Internships?</li> <li>○ How can our programs better address diversity and inclusion within the construction industry?</li> <li>○ How can you work with community colleges to develop equitable talent pipelines? What would an ideal partnership look like for you?</li> </ul>
<b>Curriculum Review and Feedback Poll</b>	Community College Representation Feedback Poll
<b>Closing Remarks</b>	Next Steps and Adjournment   Jermaine Hampton, LAEDC

# LOS ANGELES COUNTY ECONOMIC DEVELOPMENT CORPORATION

The Los Angeles County Economic Development Corporation, a non-profit organization, champions equitable economic growth across the Los Angeles region.

LAEDC is committed to developing a competitive regional workforce because we know that a robust workforce and our economic growth as a region should not be separated from each other. We bring industry leaders and educational partners together within the economic development process. We want our education infrastructure to train the next generation of the workforce and ensure they receive relevant training and can join the industry of their choice. We know there needs to be an alignment between industry and our educational systems.

## Vision

A reimagined Los Angeles regional economy – growing, equitable, sustainable, and resilient – that provides a healthy and high standard of living for all.

## Mission

Reinventing our economy to collaboratively advance growth and prosperity for all.



Funded by the California Community Colleges Chancellor's Office under the Strong Workforce Program (SWP) as a Los Angeles Regional Project.

The Los Angeles County Economic Development Corporation (LAEDC) was founded in 1981 as a nonprofit, public-benefit organization to harness the power of private sector in collaboration with L.A. County, to guide economic development and create more widely shared prosperity. LAEDC collaborates with all stakeholders in the region including education, business, and government. Learn more at [www.LAEDC.org](http://www.LAEDC.org).

## Contact Information



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# LOS ANGELES REGIONAL CONSORTIUM

Los Angeles Regional Consortium, as a consortium of LA’s 19 community colleges, is working collectively to deliver on a promise that California community colleges are accessible and affordable to all who seek opportunities to realize a better future. LARC serves to coordinate, collaborate, organize, and facilitate interaction in the region to ensure workforce training is provided to all in a way that is accessible, efficient, responsive, data-driven and improves outcomes. We collaborate with K-12 partners, high-road employers, and priority industries to align impactful curriculum and workforce training programs, creating a seamless pathway for college and career readiness.

To learn more please visit [www.losangelesrc.org](http://www.losangelesrc.org)

## Mission

Our mission is to bridge the gap between LA’s workforce and the employers fueling our cutting-edge economy. This will not only close the supply and demand gap, but also increase economic and social mobility for LA County residents.

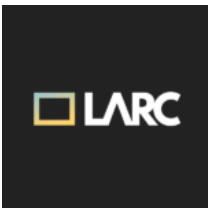
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# CENTER OF EXCELLENCE FOR LABOR MARKET RESEARCH

The Los Angeles Center of Excellence for Labor Market Research (COE) hosted at Mt. San Antonio College represents expertise in labor market analysis with a focus on research design, educational and training program mapping, and identifying skill sets for emerging occupations as well as geospatial analysis. The COE maintains strategic alliances with research organizations whose relationships and technical expertise enhance COE research efforts and with industry associations that assist in validating research findings, ensuring that the most recent industry and labor market conditions are captured. COE studies are used to inform policy discussions, industry-wide legislative efforts, and regional workforce and economic development strategies, as well as guide program and resource development efforts by the California Community Colleges. These reports can be accessed at [www.coecc.net](http://www.coecc.net).

## Mission

The mission of the center is to research, analyze and present information on regional economic and workforce needs, customized for Community College decision making and curriculum planning.

## Contact Information



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# INDUSTRY REPRESENTATION

**Michael H. Anderson, AIA-NOMA, President & CEO, Anderson Barker Architects**



Michael, a distinguished architect, author, and visionary, leads the Accelerated Housing and Transit Development (AHTD) Project, an extensive initiative aimed at revitalizing underserved communities across Los Angeles County. This transformative project involves pursuing Climate Funding to convert BIPOC single-family homes into fourplexes, providing a home for families and creating three income-generating units for additional family members. Spanning 24 Metro transit stations, the project includes infrastructure enhancements and has received positive feedback from the Secretary's Office at the U.S. Department of Transportation.

With a notable 45-year career in economic development, Michael is a registered architect specializing in transit, aviation, schools, urban design, and redevelopment projects. His notable accomplishments include the LA Clippers Intuit Dome Plaza and Buildings, Metro MLK Jr. Transit Station in Compton, Charles R. Drew University Grand Entrance Plaza, and LAX Terminal 9. Committed to enhancing the quality of life for all community members, Michael is also an accomplished author, having authored "Urban Magic – Vibrant Black and Brown Communities Are Possible" and the "Metro Crenshaw/LAX Transit Corridor – Joint Development Study."

**Praful Kulkarni, DBIA, AIA, Director of Integrated Services, CannonDesign**



Praful has dedicated his career to sparking change within the AEC industry. As a young architect, he recognized the fragmented nature of traditional design and construction and the inefficiencies that came with it. He founded his own integrated firm in response—gkkworks—to unite design excellence and construction innovation. In 2018, gkkworks merged with CannonDesign, strengthening one of the most progressive integrated design firms in the world. Praful is a champion for single-source collaborative design and delivery methods that help ensure certainty in project cost, schedule and quality outcomes. He has a pulse on the latest innovations within the industry— specifically, he is a tireless advocate for

progressive design-build and its ability to foster heightened levels of collaboration across owners, designers, and builders. He currently serves on the Board of Directors for the Construction Management Association of America (CMAA), a 16,000-member-strong organization dedicated to promoting excellence in construction management. He has also held numerous leadership positions, including National Chair of the Design-Build Institute of America (DBIA) and President of the DBIA Western Pacific Region. While he was the Chair of DBIA, he initiated Progressive Design-Build (PDB) delivery methodology as a universal practice.

**Veronica Soto, Senior Advisor for Workforce Development and Economic Impact, Los Angeles World Airports \$30 Billion Capital Improvement Program**



Veronica Soto is the Senior Advisor for Workforce Development & Economic Impact for the Los Angeles World Airports \$30 billion Capital Improvement Program. Previously, she also served as the Inclusivity & Workforce Development Administrator for the Landside Access Modernization Program. She possesses over 25-years of experience developing public agency economic and workforce development programs that promote diversity and economic inclusion based on high standards of equity, open competition, and transparency on capital programs with a combined value of over \$60 billion.

Veronica’s commitment to creating connections between industry and youth is also long-standing. She led the effort to launch the HireLAX Youth Program for Angelenos ages 18 to 24 to help cultivate a skilled workforce and address high unemployment among youth of color. She also created the ACES Engineering Pathway Program to increase the diversity of students entering the design and construction industry by eliminating barriers to higher education and providing paid internship experience on major capital projects.

**Joss Tillard-Gates, Director of Community Affairs, Clark Construction Group**



As the Director of Community Affairs covering Southern California, Joss Tillard-Gates ensures Clark Construction maximizes its opportunities to partner with small and diverse business entities for each of its projects, in addition to supporting workforce development programs throughout the region. Joss also

shares responsibility in business development, client relationships, strategic business planning and represents Clark Construction in a variety of public engagements. Prior to joining Clark Construction in 2022, Joss's career included leading affordable housing policy in Southern California for Enterprise Community Partners, serving as a registered lobbyist for Los Angeles County, and acting as the legislative director for the Office of the Member of the Board of Equalization, 3rd district. Joss serves as a volunteer Board Member of Crete Academy charter school in the Crenshaw District and takes advantage of every opportunity to give back to communities in Los Angeles.

**Darrell Torres, Senior Director – Preconstruction, Skanska**



As a preconstruction professional, Darrell Torres has more than two decades of experience in the construction industry in California and Colorado in both developer and general contractor roles.

As Senior Director of Preconstruction in Skanska's LA office, Darrell acts as a key leader in the entire work acquisition process, including management, coordination, and delivery of the preconstruction phases of projects with extensive client contact. In addition to his day-to-day departmental leadership role, he leads or assists in the preparation of proposals for new business and presentations to clients, as well as attends, organizes and participates in business meetings, industry events and conferences to promote the firm in the markets they serve.

Darrell's diverse range of project expertise includes residential, office/mixed-use developments, higher education, healthcare, and cultural buildings. Representative projects include the Santa Clara mixed-use development in Silicon Valley, the Promenade Apartment Homes program in Irvine, Cedars-Sinai Marina del Rey Replacement Hospital, CSU Long Beach Horn Center, and the new 347,500 square-foot Permanent Collection Building for the Los Angeles County Museum of Art.

# HEAVY AND CIVIL CONSTRUCTION DEMAND DATA

Billions of dollars will be flowing into the Los Angeles region in upcoming years for infrastructure projects through various funding streams. The Infrastructure Investment and Jobs Act (IIJA) (a.k.a. the Bipartisan Infrastructure Law (BIL)) funding will go toward public transit projects, wildfire preparation, bridge and road repair, and electric vehicle charging networks. It will also invest in the areas of climate action, zero-emission vehicle deployment, social equity, goods movement and multi-modal transportation. State transportation funding provided by Senate Bill (SB) 1, the Road Repair and Accountability Act of 2017, is being used by local agencies and Caltrans to fix roads and bridges, reduce traffic delays, improve goods movement, and increase options for transit, intercity rail, and active transportation. In the upcoming years, SB 1 and IIJA funding are expected to contribute to the development of \$6.59 billion of currently planned projects in Los Angeles County. Additionally, in early December 2023 the Biden administration awarded a combined \$6.1 billion to the California High-Speed Rail Authority and Brightline West, covering a significant portion of the project cost for the new Vegas corridor. Moreover, additional development related to the upcoming 2028 summer Olympic and Paralympic games will also occur. Significant employment opportunities will be associated with these projects as they come online. Many of these projects fall into the category of heavy and civil construction. As such, we have selected this industry for as one of this year's program advisories.

## Industry Definition

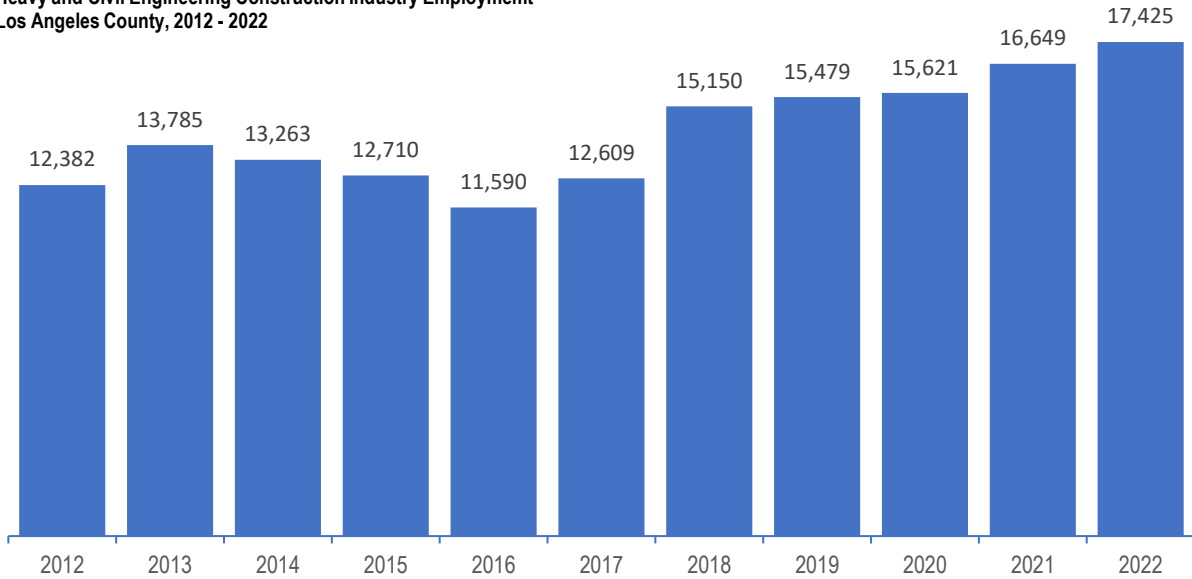
Heavy and Civil Engineering Construction (defined as NAICS 237) is one of three subsectors in the construction sector. This overview excludes the other two subsectors, Construction of Buildings (NAICS 236) and Specialty Trade Contractors (NAICS 238). The Heavy and Civil Engineering Construction industry includes establishments whose primary activity is the construction of entire engineering projects and specialty trade contractors, who generally are performing activities or requiring skills and equipment that are specific to heavy and civil engineering construction projects not normally performed on buildings. In addition to new projects, this subsector includes work on additions, alterations, or maintenance and repairs. Establishments in this subsector are classified based on the types of structures that they construct.

The Heavy and Civil Engineering Construction subsector includes three main industries: Utility System Construction (NAICS ); Land Subdivision (NAICS )(establishments engaged in servicing land and subdividing real property into lots, for subsequent sale to builders which may include excavation work for the installation of roads and utility lines.); Highway, Street, and Bridge Construction (NAICS ); and Other Heavy and Civil Engineering Construction (NAICS ), which includes all other activities in this subsector outside of highway, street, bridge, and distribution line construction, such as projects involving water resources (e.g., dredging and land drainage), development of marine facilities, and projects involving open space improvement (e.g., parks and trails).

## Current Landscape

### Construction Employment Los Angeles County, 2012 - 2022

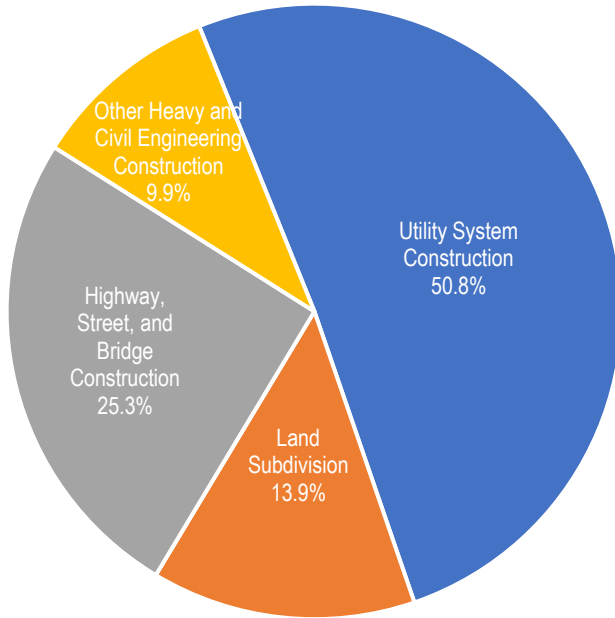
**Exhibit 1-1**  
**Heavy and Civil Engineering Construction Industry Employment**  
**Los Angeles County, 2012 - 2022**



Source: CA EDD, Lightcast

- Heavy and Civil Engineering Construction has employed over 15,000 people since 2018, exceeding 17,000 in 2022. Payroll employment fell by 15.9 percent (just under 2,200 jobs) between 2013 and 2016 but has experienced continued growth since, from 2016 through 2022 heavy and civil engineering construction employment grew by 50.3 percent, adding more than 5,800 net new jobs over the period. Designated as an essential industry early on in the COVID-19 pandemic, Heavy and Civil Engineering Construction employment was not negatively impacted; jobs in the industry continued to grow during the pandemic and have seen an increased rate of growth since.

**Exhibit 1-2**  
**Employment Distribution for Heavy and Civil Engineering Construction**  
**Los Angeles County 2012**

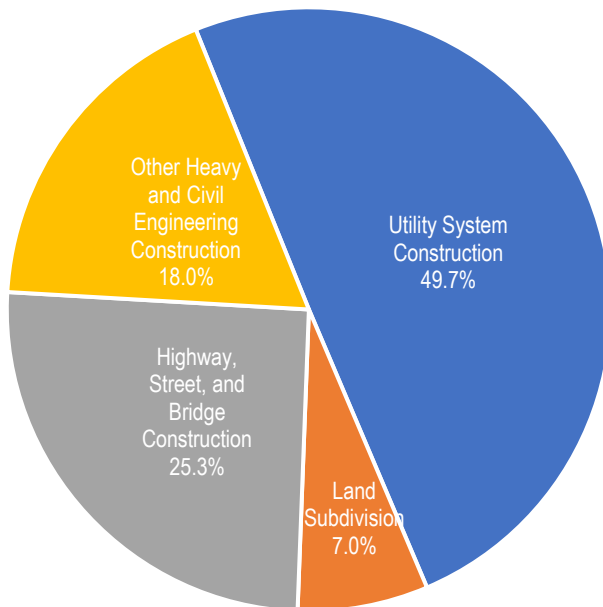


Source: CA EDD

**Employment Distribution 2012 - 2022**

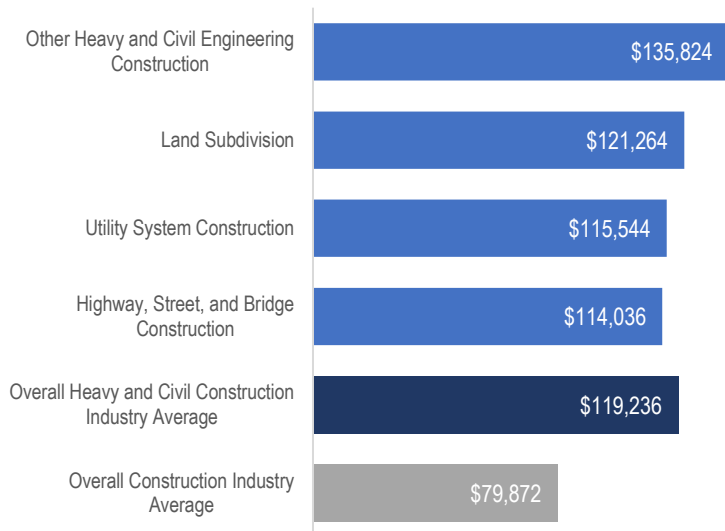
- Utility System Construction has been the largest industry by employment share since 2012 followed by Highway, Street, and Bridge Construction, accounting for approximately 50 percent and 25 percent of all payroll workers in the Heavy and Civil Engineering Construction industry respectively. The employment share of both industries has remained constant over the last decade (between 2012 and 2022). The employment share of Other Heavy and Civil Engineering Construction has nearly doubled in 2022 compared to 2012 at the expense of jobs in the Land Subdivision industry; payroll jobs in the Land Subdivision industry in 2022 are half of what they were in 2012.

**Exhibit 1-3**  
**Employment Distribution for Heavy and Civil Engineering Construction**  
**Los Angeles County 2022**



Source: CA EDD

**Exhibit 1-4**  
**Average Annual Pay in Heavy and Civil Construction Industries**  
**Los Angeles County 2022**

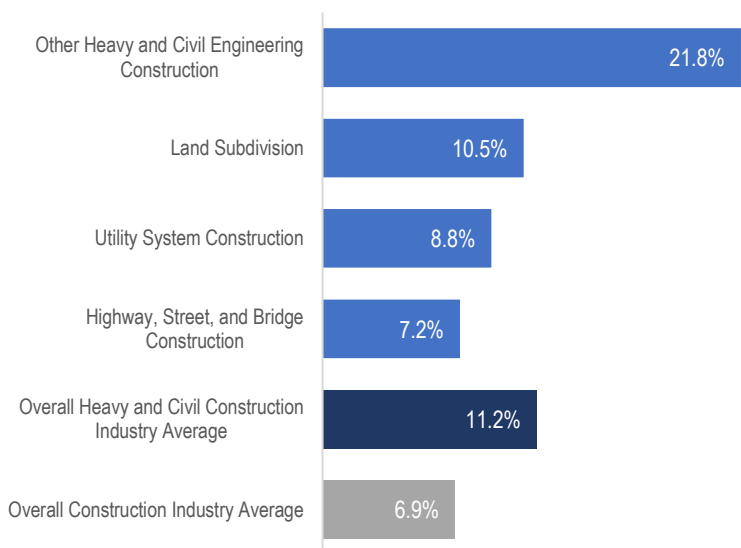


Source: QCEW, CA EDD

**Average Annual Pay**

- All four industries in Heavy and Civil Engineering Construction have average annual earnings in excess of the MIT living wage of \$44,138 in Los Angeles County (single person); moreover, each have earnings that are at least three times that of the living wage.
- Across the subsector, the industry with the highest average annual wage is Other Heavy and Civil Engineering Construction, at over \$135,000 per year, more than 3 times the living wage threshold.
- In 2022, the average annual wage in:
  - Los Angeles County was about \$84,000 per year
  - the construction sector was \$79,872 per year.
  - the Heavy and Civil Engineering Construction subsector was \$119,236 per year.

**Exhibit 1-5**  
**Real Wage Growth in Heavy and Civil Construction Industries**  
**Los Angeles County 2012-2022**



Source: QCEW, CA EDD

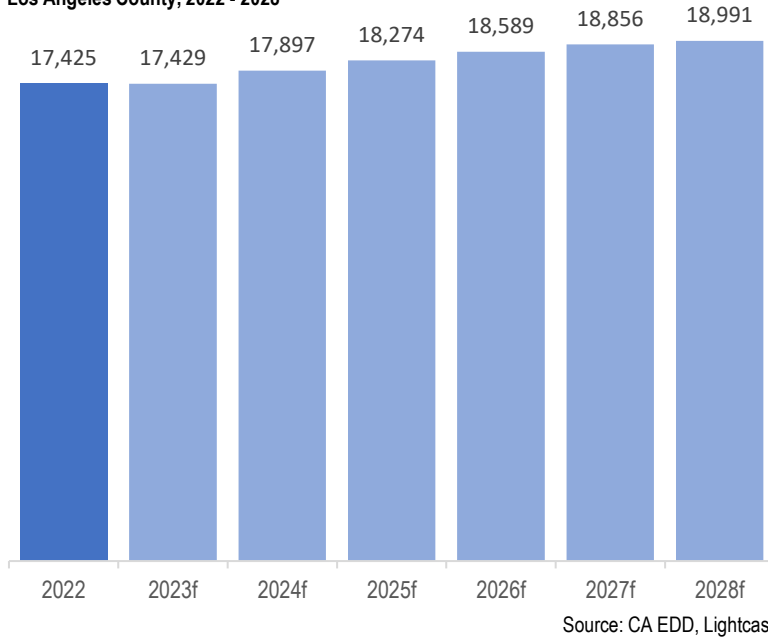
**Real Wage Growth**

- Over the last decade (2012 to 2022), real wages grew at varying rates across industries in the subsector.
- The largest increase occurred in the Other Heavy and Civil Engineering Construction industry, real wages grew more than 21 percent since 2012, followed by Land Subdivision, and Utility System Construction at 10.5 percent and 8.8 percent growth respectively.
- Highway, Street, and Bridge Construction experienced the slowest growth, real wages increased by only 7.2 percent over the period in this industry.
- Overall, real wages in the Heavy and Civil Engineering Construction subsector grew by 11.2 percent, outpacing the construction sector as a whole by over 4 percentage points.



## Employment Forecast

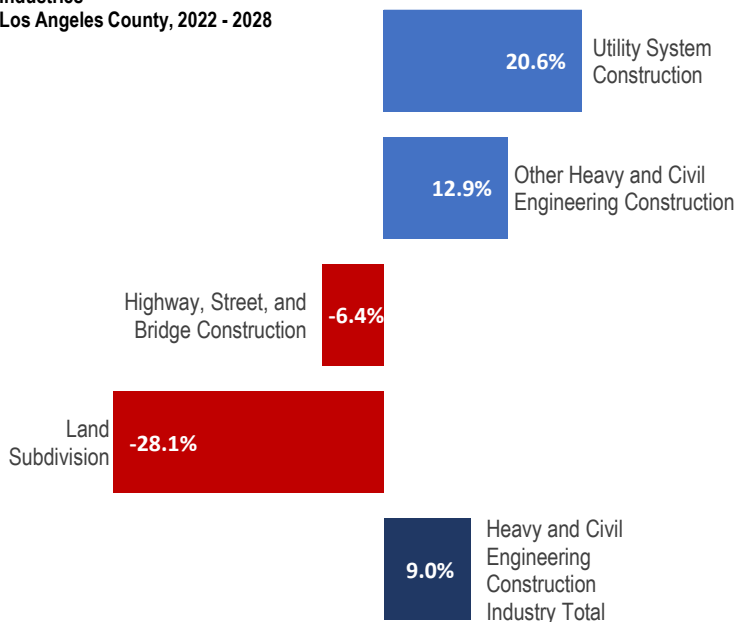
**Exhibit 1-6**  
**Heavy and Civil Engineering Construction Industry Forecasted Employment**  
 Los Angeles County, 2022 - 2028



### Forecasted Employment

- From 2022 to 2028, payroll employment in the Heavy and Civil Engineering Construction subsector overall is forecasted to grow by 9.0 percent, adding just under 1,600 net new jobs over the next 6 years at a rate of 260 new jobs per year.
- Within the subsector, the industries have varying growth projections.

**Exhibit 1-7**  
**Forecasted Employment Growth in Heavy and Civil Engineering Construction Industries**  
 Los Angeles County, 2022 - 2028



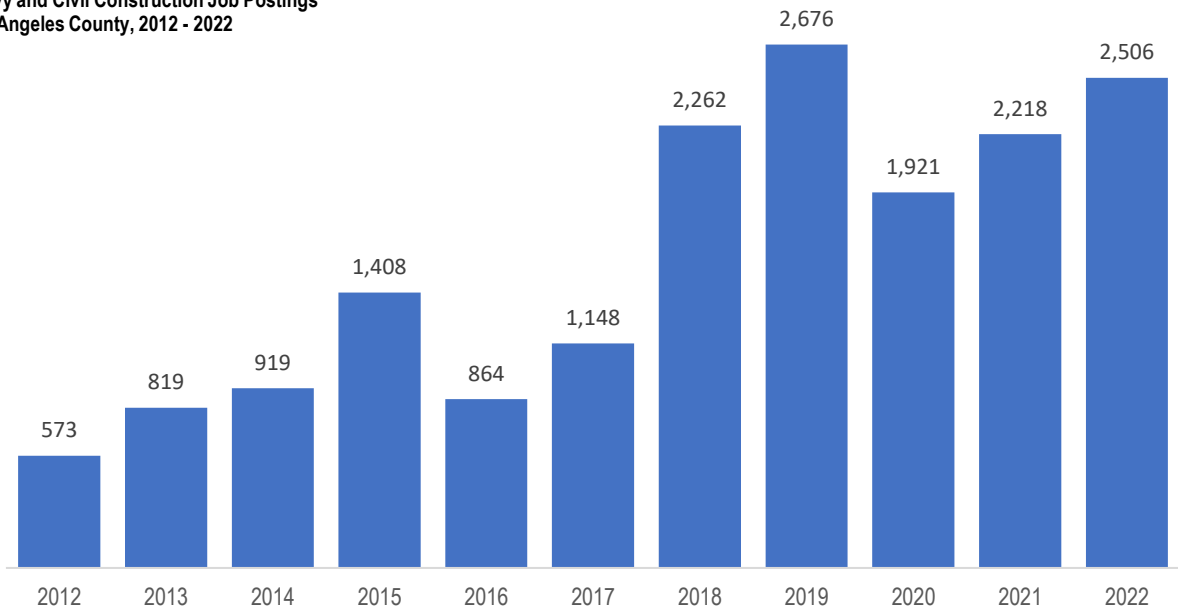
Source: Lightcast

### Forecasted Employment Growth by Subindustry

- Overall, Heavy and Civil Engineering Construction industries are expected to grow 9.0 percent through 2028.
- The Utility System Construction industry is forecasted to have the highest rate of job growth, increasing by 20.6 percent.
- Through 2028, jobs in Land Subdivision and jobs in Highway, Street and Bridge Construction are expected to decline by 28.1 percent and 6.4 percent, respectively

## Job Postings

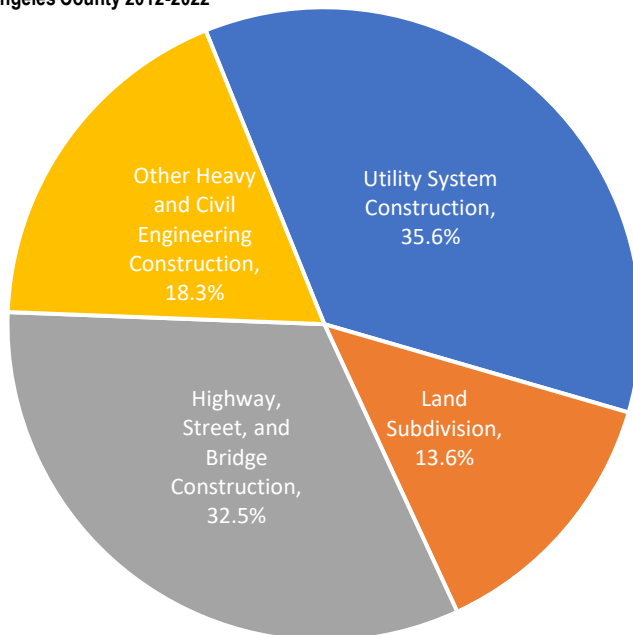
**Exhibit 1-8**  
Heavy and Civil Construction Job Postings  
Los Angeles County, 2012 - 2022



Source: Lightcast

**Exhibit 1-9**  
Distribution of Job Postings for Heavy and Civil Engineering Construction Industry  
Los Angeles County 2012-2022

**Total Postings:**  
**17,314**

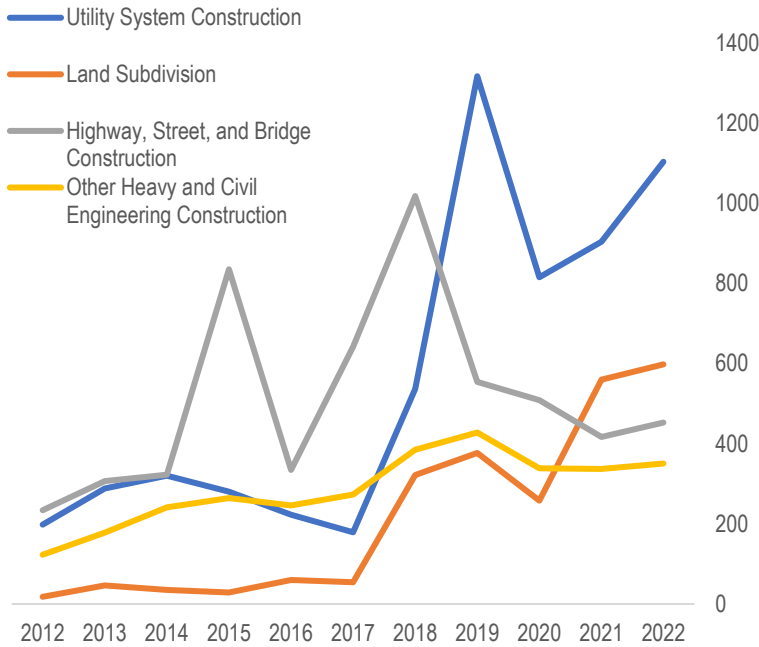


Source: Lightcast

### Distribution of Job Postings

- Job postings peaked in 2019, with more than 2,670 job postings compared to just over 570 job postings in the subsector in 2012.
- The Utility System Construction industry represents the largest share of job postings over the last decade (2012 to 2022), accounting for over 35 percent of total job postings over the period. The Highway, Street, and Bridge Construction industry followed closely behind, accounting for 32.5 percent of all job postings over the period.

**Exhibit 1-10**  
Heavy and Civil Engineering Construction Job Postings by Component Industry  
Los Angeles County, 2012 - 2022

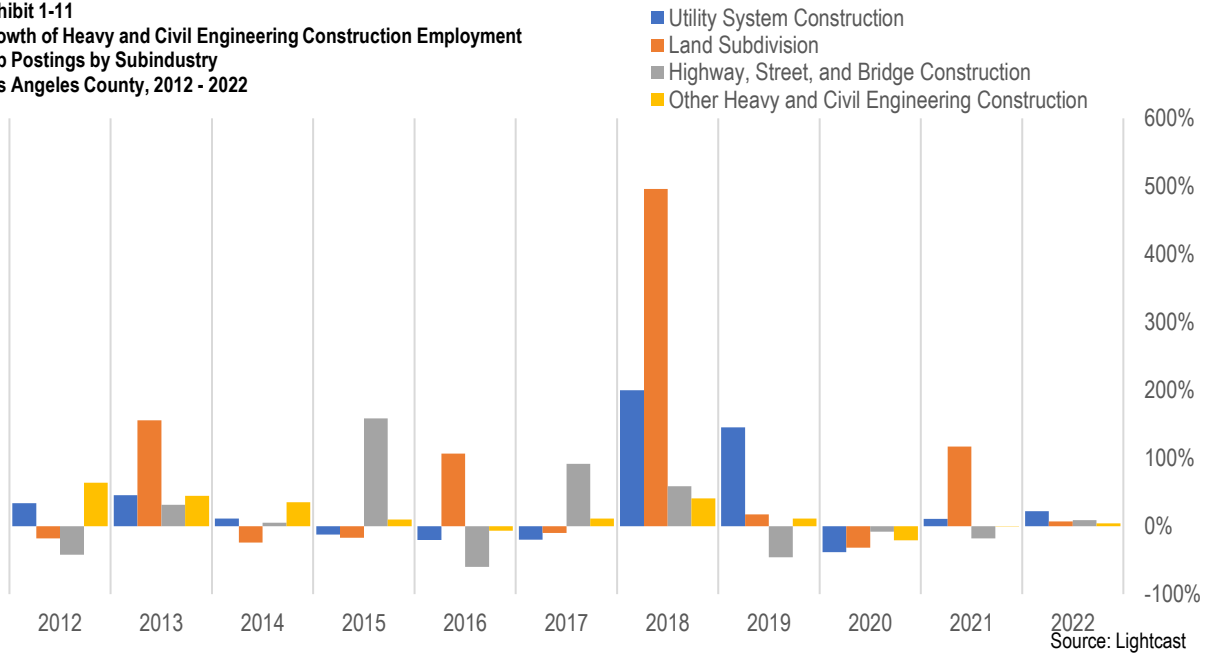


Source: Lightcast

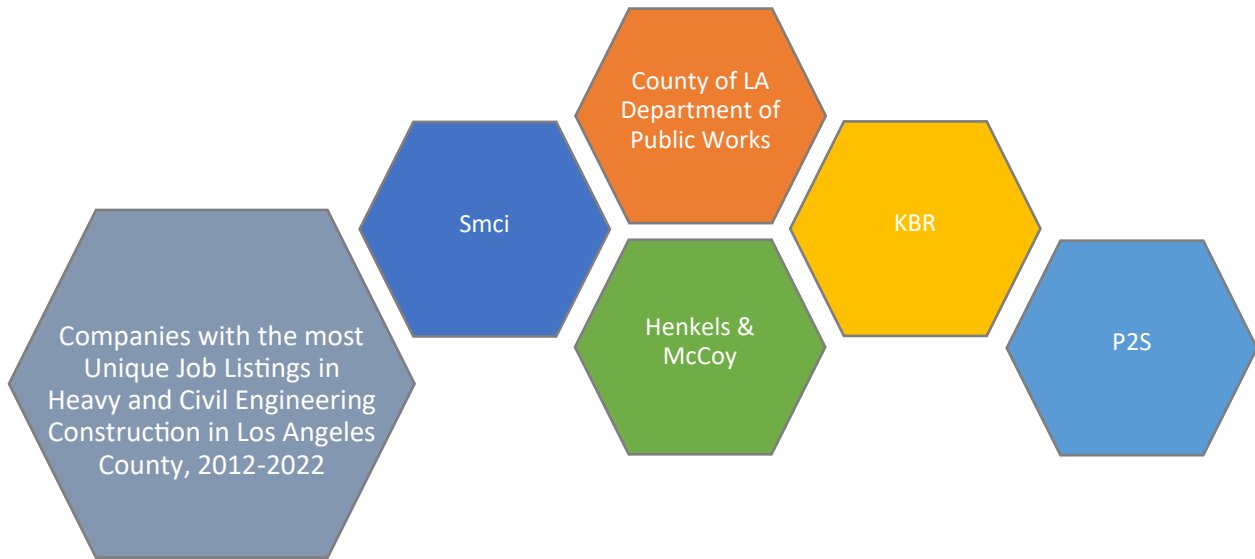
**Job Postings by Component Industry**

- In 2022, the Utility Systems Construction industry has the most job postings. There was a rapid increase in the number of postings in this industry between 2017 and 2019 that pushed it as the leading component industry in terms of job opportunity.
- Job postings in Land Subdivision have increased from the lowest level to the second most postings in 2022, thanks to a push in the number of postings since 2017.
- Highway, Street, and Bridge Construction has experienced the most variability in job postings, going from most postings in 2012 to the third most in 2022.
- Other Heavy and Civil Engineering Construction experienced the most steady growth, but have the fewest posts in 2022.

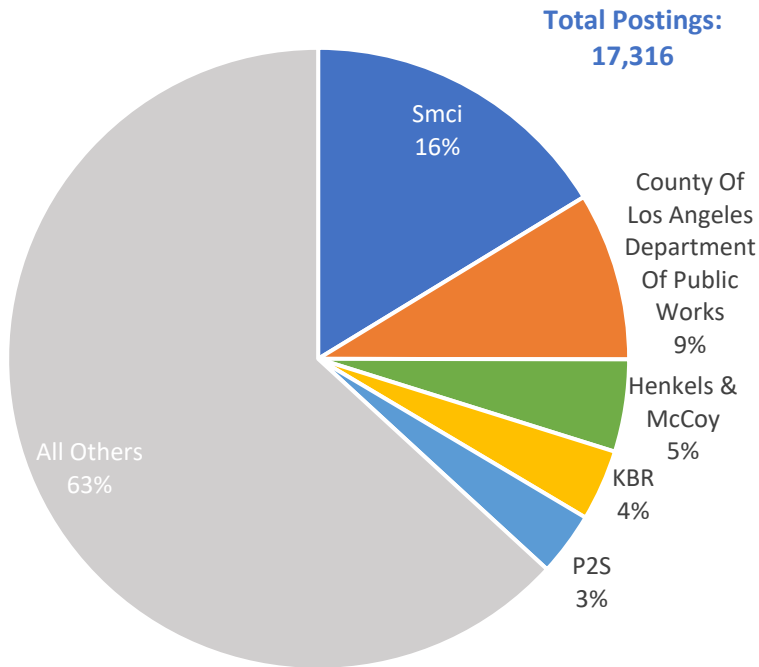
**Exhibit 1-11**  
Growth of Heavy and Civil Engineering Construction Employment  
Job Postings by Subindustry  
Los Angeles County, 2012 - 2022



Source: Lightcast



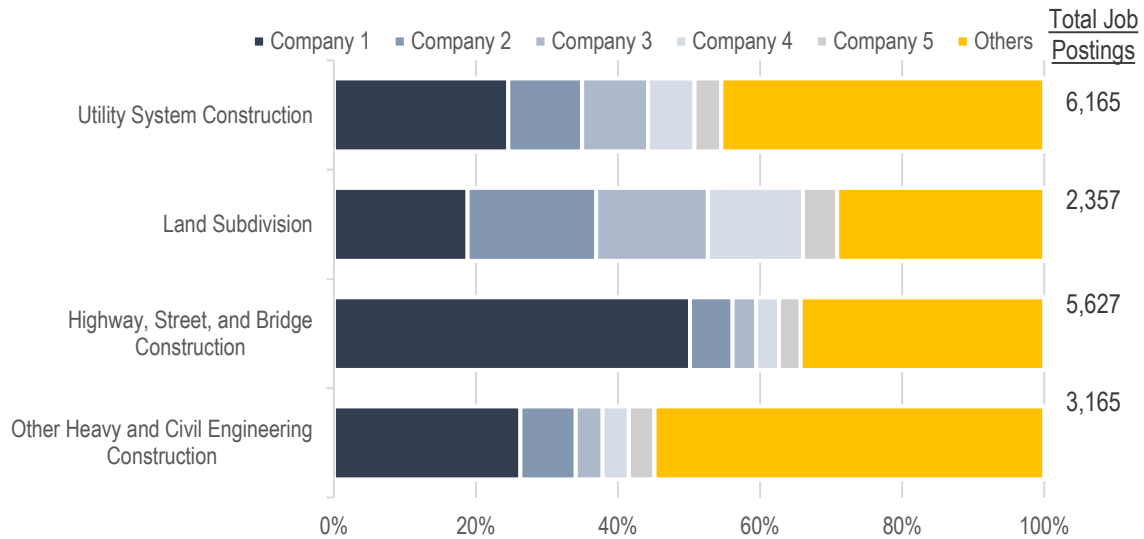
**Exhibit 1-12**  
Concentration of Top 5 Companies by Job Postings for Heavy and Civil Construction Industry  
Los Angeles County 2012 - 2022



**Heavy and Civil Engineering Construction Industry**

- Top 5 companies in the Heavy and Civil Engineering Construction industry and their share of job posts in 2022.
- Postings are highly concentrated in these 5 companies, accounting for nearly 40 percent of all postings in the industry over the period.

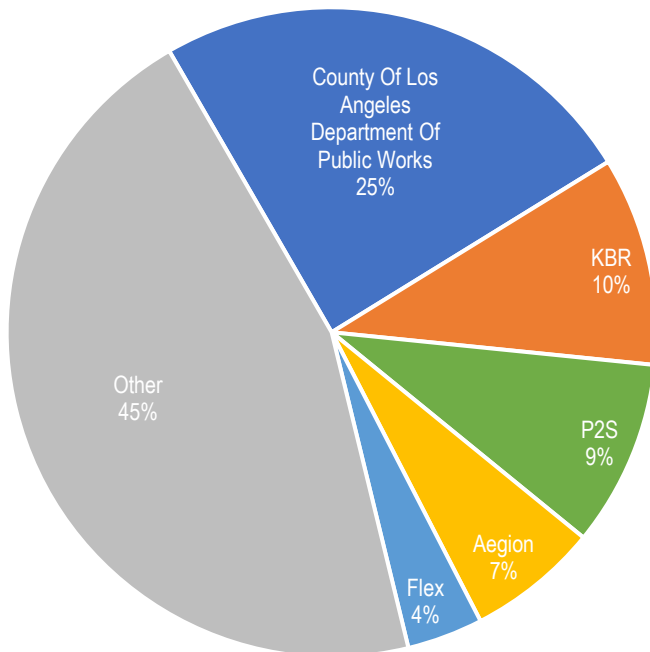
**Exhibit 1-13**  
**Concentration of Hiring Among the Top 5 Companies by Job Postings the Heavy and Civil Engineering Construction Industry Los Angeles County 2012 - 2022**



Source: CA EDD, Lightcast

**Exhibit 1-14**  
**Job Postings for Utility System Construction Los Angeles County 2012 - 2022**

**Total Postings: 6,165**



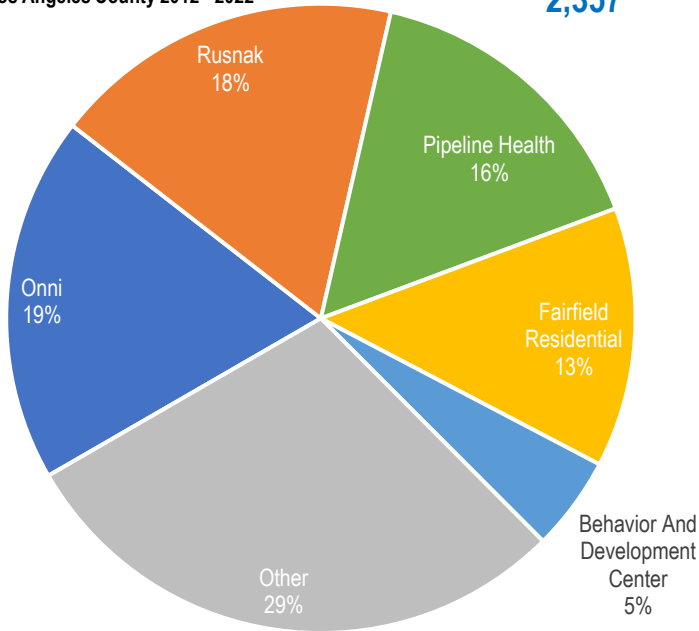
Source: Lightcast

**Utility Systems Construction Component Industry**

- Top 5 companies in the Utility System Construction industry and their share of job posts in 2022.
- Postings are highly concentrated in these 5 companies, accounting for 55 percent of posts in the industry.

**Exhibit 1-15**  
 Job Postings for Land Subdivision  
 Los Angeles County 2012 - 2022

**Total Postings:**  
**2,357**



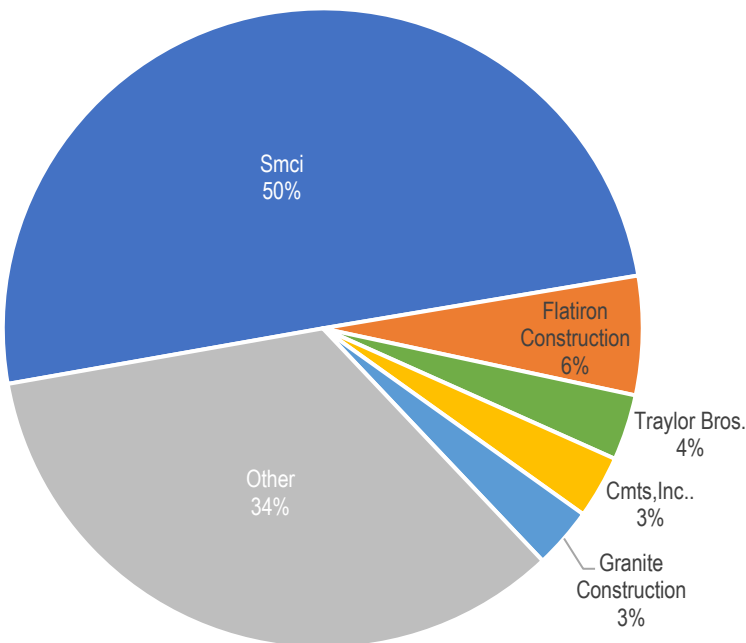
Source: Lightcast

**Land Subdivision Component Industry**

- Top 5 companies in the Land Subdivision industry and their share of job posts in 2022.
- Postings are highly concentrated in these 5 companies, accounting for over 70 percent of posts in the industry

**Exhibit 1-16**  
 Job Postings for Highway, Street, and Bridge Construction  
 Los Angeles County 2012 - 2022

**Total Postings:**  
**5,627**

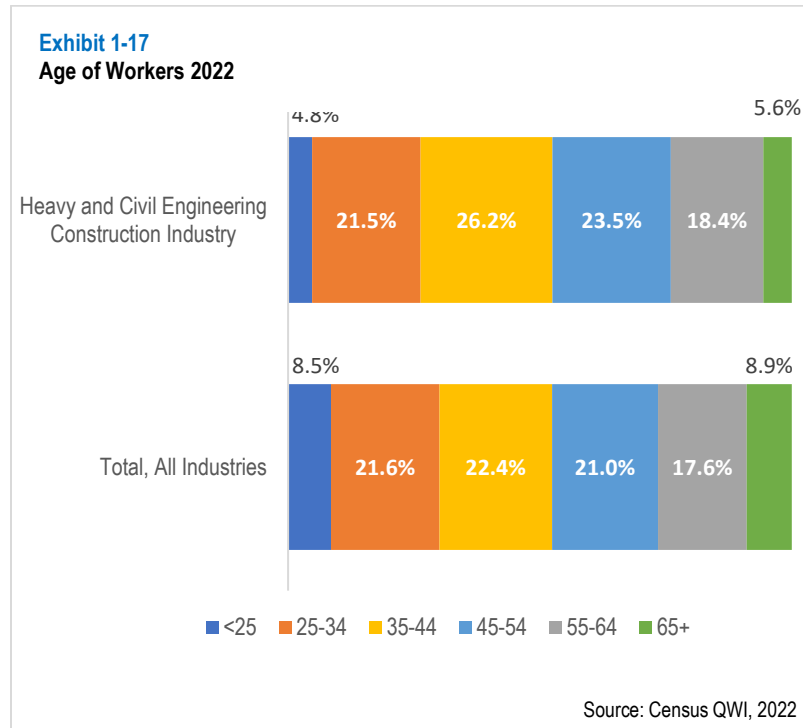


Source: Lightcast

**Highway, Street, and Bridge Construction Subindustry**

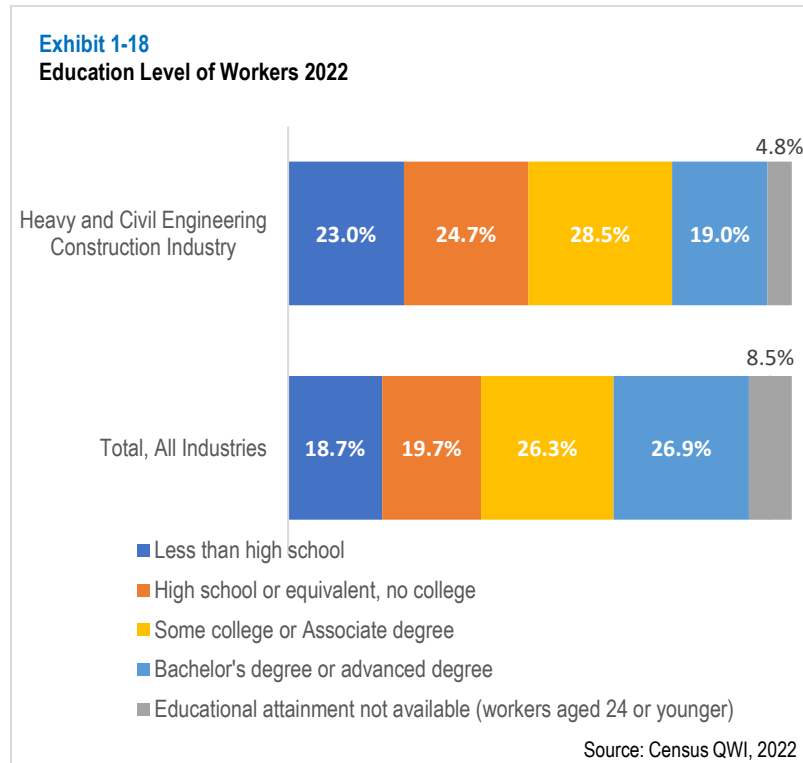
- Top 5 companies in the Highway, Street, and Bridge Construction industry and their share of job postings in 2022.
- Postings are highly concentrated in these 5 companies, accounting for over 65 percent of posts in the industry.

## Industry Demographics



### Age of Workers

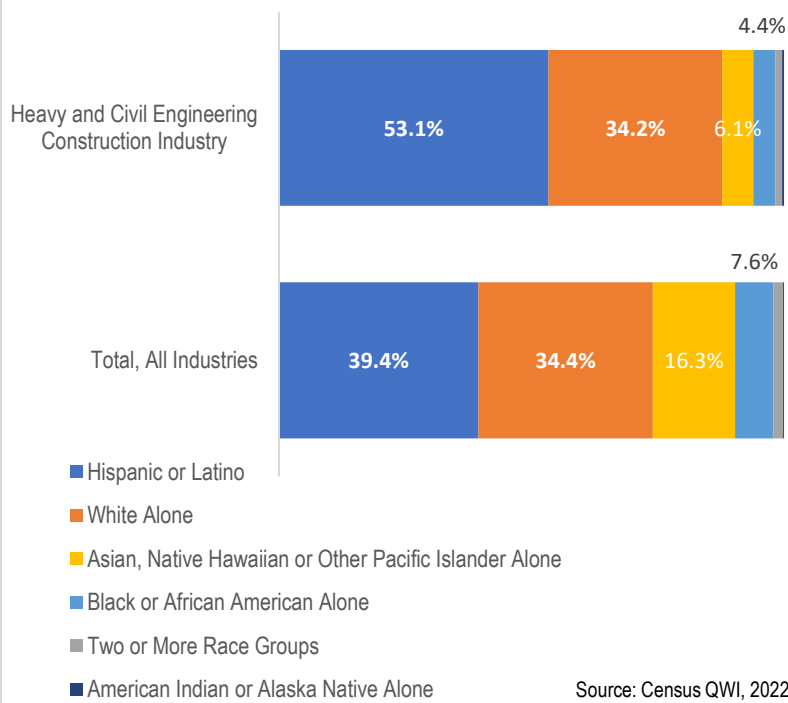
- Over 47 percent of employees in Heavy and Civil Engineering Construction industries are between 25 and 44 years old, about 3 percent more than in other industries in Los Angeles County.
- Overall, Heavy and Civil Engineering Construction workers are similar to other industries, with about 53 percent of workers under 45 years old.



### Education Level of Workers

- About 19 percent of employees in Heavy and Civil Engineering Construction industries have a Bachelor's degree, nearly 8 percent less than in other industries in Los Angeles County.
- Compared to other industries, Heavy and Civil Engineering Construction jobs have a lower proportion of employees with some college experience or a bachelor's degree, accounting for almost 48 percent of employees compared to over 53 percent in all other industries.

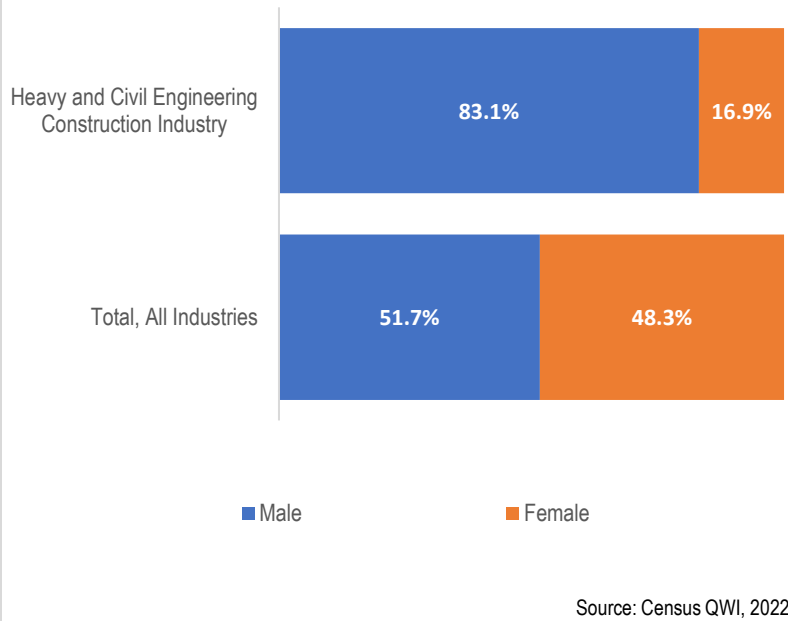
**Exhibit 1-19**  
**Race/Ethnicity of Workers 2022**



**Race/Ethnicity of Workers**

- The workforce in the Heavy and Civil Engineering Construction subsector is diverse, with over half of its worker reporting their ethnicity as Hispanic/Latino; this is nearly 14 percent points higher than the all-industry average in Los Angeles County.
- Asian and Pacific Islander workers are underrepresented with only 6 percent of workers compared to over 16 percent across all industries.
- Black workers are also underrepresented, with only just over 4 percent of workers identifying as black compared to nearly 8 percent across all industries.

**Exhibit 1-20**  
**Gender of Workers 2022**



**Gender of Workers**

- The gender distribution in Heavy and Civil Engineering Construction is heavily skewed male, those reporting as male accounting for over 83 percent of the workforce.
- Across all industries in Los Angeles County the distribution between genders is more even, with just under 52 percent of workers reporting as male that’s only 3.4 percent points higher.



## Occupational Profiles

Metric		First-Line Supervisors of Construction Trades and Extraction Workers	Construction Managers	Electrical Power-Line Installers and Repairers	Cost Estimators	Construction and Building Inspectors
Sex	Male	94.8%	87.5%	97.7%	81.3%	87.3%
	Female	5.2%	12.5%	2.3%	18.7%	12.7%
Education	Less than HS	16.9%	7.3%	5.0%	2.9%	2.4%
	High School	44.0%	27.9%	39.6%	20.6%	26.0%
	Some College/ Associates	29.0%	31.2%	46.8%	37.7%	40.7%
	Bachelor's	8.3%	26.8%	7.6%	32.5%	24.0%
	Graduate School	1.7%	6.8%	1.1%	6.3%	6.9%
Age	<25	1.9%	1.6%	5.6%	2.8%	2.1%
	25-34	14.9%	15.2%	27.6%	16.2%	12.3%
	35-44	24.4%	24.4%	30.2%	18.7%	20.0%
	45-54	27.2%	25.4%	21.8%	20.6%	24.3%
	55-64	22.9%	23.2%	13.1%	25.5%	27.9%
	>65	8.7%	10.2%	1.7%	16.2%	13.4%
Race	Hispanic	46.0%	30.4%	42.5%	29.9%	33.9%
	White	44.9%	55.1%	45.7%	54.5%	46.3%
	Asian	3.7%	9.4%	2.9%	12.3%	9.9%
	Black	3.2%	2.9%	5.6%	1.4%	6.0%

Source: Lightcast

- The occupations identified in the table above are accessible to workers with a community college level education (i.e., some college/AA degree); about 61 to 91 percent of workers in these occupations are middle-skill workers with educational attainment of more than a high school diploma (or equivalent) but less than a bachelor’s degree.
- Female workers are significantly underrepresented across these occupations, accounting for only 2.3 percent of workers in Electrical Power-Line Installers and Repairers, and 18.7 percent of workers in Cost Estimators when compared to other industries in LA County.
- Black workers are most underrepresented in the Cost Estimators and Construction Managers occupations, accounting for only 1.4 percent and 2.9 percent of workers in this occupation across Los Angeles County respectively.
- Latino workers are also most underrepresented in Cost Estimators and Construction Managers occupations, accounting for just under a third of the workers in each of these occupations.
- Across these five occupations, over 55 percent of workers are prime working age between ages of 25 and 54 years, compared to just over 43 percent across all industries in LA County.

# HEAVY AND CIVIL CONSTRUCTION SUPPLY DATA

## Community College Talent Supply

The California Community Colleges offer a variety of heavy and civil engineering construction programs ranging from architecture and architectural technology, construction management and inspection, drafting (architectural, civil, mechanical, and electrical), as well as those focused on specific trades such as carpentry, electrical, plumbing and pipefitting, and many more. The majority of these programs are located at fifteen of LA's nineteen community colleges, but it is worth noting that all nineteen have career education programs focused on engineering of some kind, providing foundational knowledge for the heavy and civil engineering construction industry.

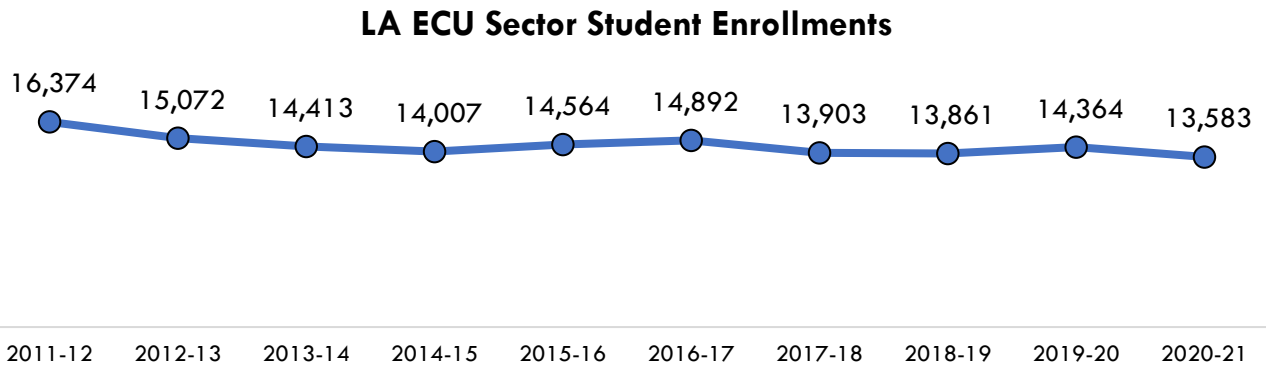
The majority of these program offerings are housed within the California Community College Chancellor's Office designated Energy, Construction & Utilities (ECU) priority industry sector. Regional employers having difficulty hiring for these work roles should proactively connect with the colleges listed below to establish a reliable talent pipeline to avoid current and future workforce shortages.

Architecture & Architectural Technology	Drafting Technology	Welding Technology	Civil & Construction Management Technology	Energy Systems Technology
<ul style="list-style-type: none"> <li>• Cerritos</li> <li>• Citrus</li> <li>• East L.A.</li> <li>• El Camino</li> <li>• Glendale</li> <li>• L.A. Harbor</li> <li>• L.A. Pierce</li> <li>• L.A. Trade-Tech</li> <li>• L.A. Valley</li> <li>• Long Beach City</li> <li>• Mt. San Antonio</li> <li>• Pasadena City</li> <li>• Rio Hondo</li> <li>• Santa Monica</li> <li>• West L.A.</li> </ul>	<ul style="list-style-type: none"> <li>• Cerritos</li> <li>• Citrus</li> <li>• East L.A.</li> <li>• El Camino</li> <li>• Glendale</li> <li>• L.A. Mission</li> <li>• L.A. Pierce</li> <li>• L.A. Valley</li> <li>• Long Beach City</li> <li>• Mt. San Antonio</li> <li>• Pasadena City</li> <li>• Rio Hondo</li> </ul>	<ul style="list-style-type: none"> <li>• Cerritos</li> <li>• Compton</li> <li>• El Camino</li> <li>• Glendale</li> <li>• L.A. Pierce</li> <li>• L.A. Trade-Tech</li> <li>• Long Beach City</li> <li>• Mt. San Antonio</li> <li>• Pasadena City</li> <li>• Rio Hondo</li> </ul>	<ul style="list-style-type: none"> <li>• Citrus</li> <li>• East L.A.</li> <li>• L.A. Valley</li> <li>• Long Beach City</li> <li>• Mt. San Antonio</li> <li>• Pasadena City</li> <li>• Rio Hondo</li> <li>• West L.A.</li> </ul>	<ul style="list-style-type: none"> <li>• Cerritos</li> <li>• L.A. Southwest</li> <li>• L.A. Trade-Tech</li> <li>• Mt. San Antonio</li> <li>• Pasadena City</li> <li>• Rio Hondo</li> <li>• Santa Monica</li> </ul>
<p><b>Other Energy, Construction &amp; Utilities programs:</b> Construction Crafts Technology, Environmental Control Technology (HVAC), Telecommunications Technology, Electrical Systems and Power Transmission, Surveying, Construction Inspection, Carpentry, Plumbing, Pipefitting and Steamfitting, Mill and Cabinet Work, Electrical, Drywall and Insulation, Sheet Metal and Structural Metal, Architectural &amp; Civil Drafting, and more.</p>				

Source: [California Community Colleges Chancellor's Office Management Information Systems Data Mart](#) & [The California Community Colleges Chancellor's Office Curriculum Inventory System \(COCI\)](#)

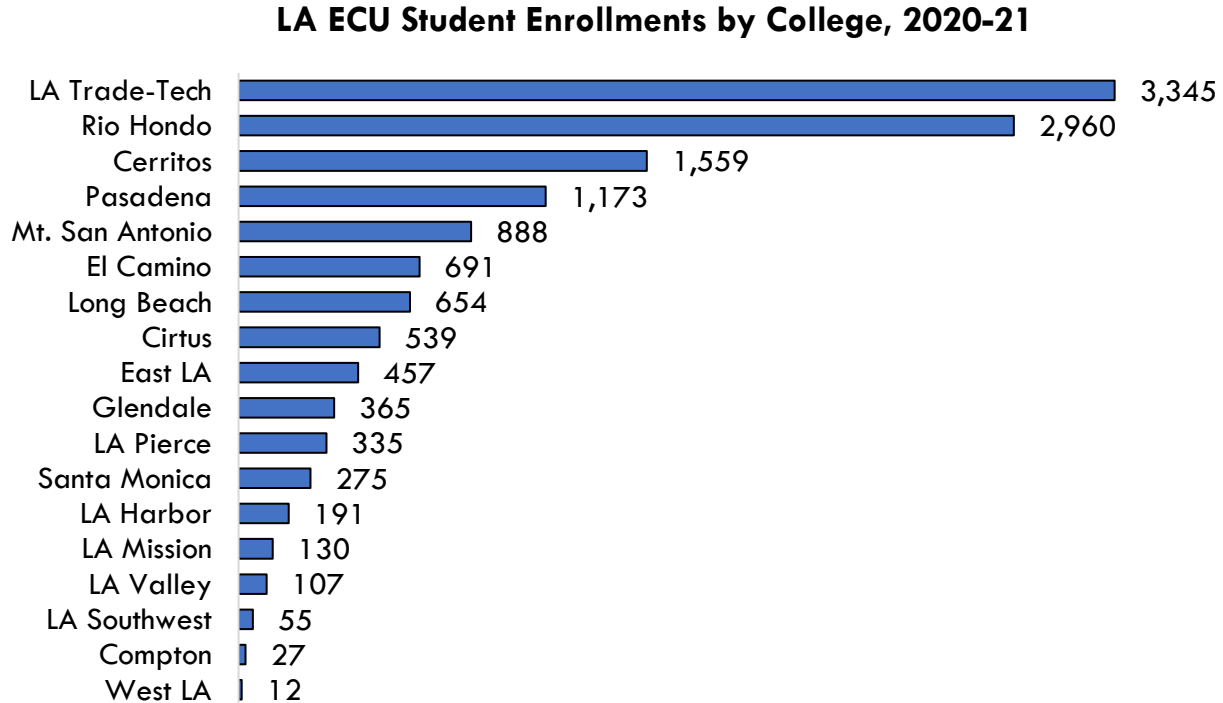
## Energy, Construction & Utilities Student Enrollments

Since the 2011-12 academic year, student enrollments in ECU courses have declined by 2,791 or 17%, to 13,583 enrollments in the 2020-21 academic year. This trend largely reflects general enrollment trends during the same timeframe. The exhibit below displays ECU student enrollments by academic year over the last decade.



Source: [California Community Colleges LaunchBoard](#)

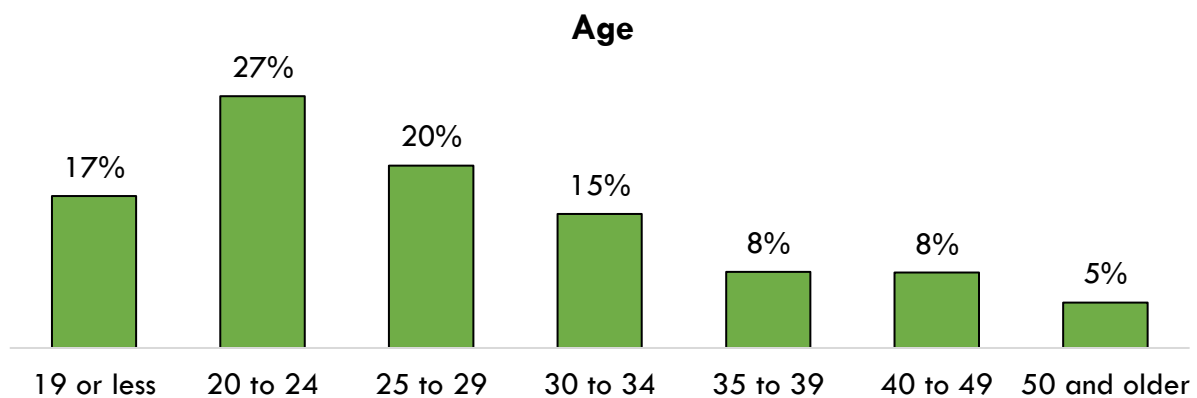
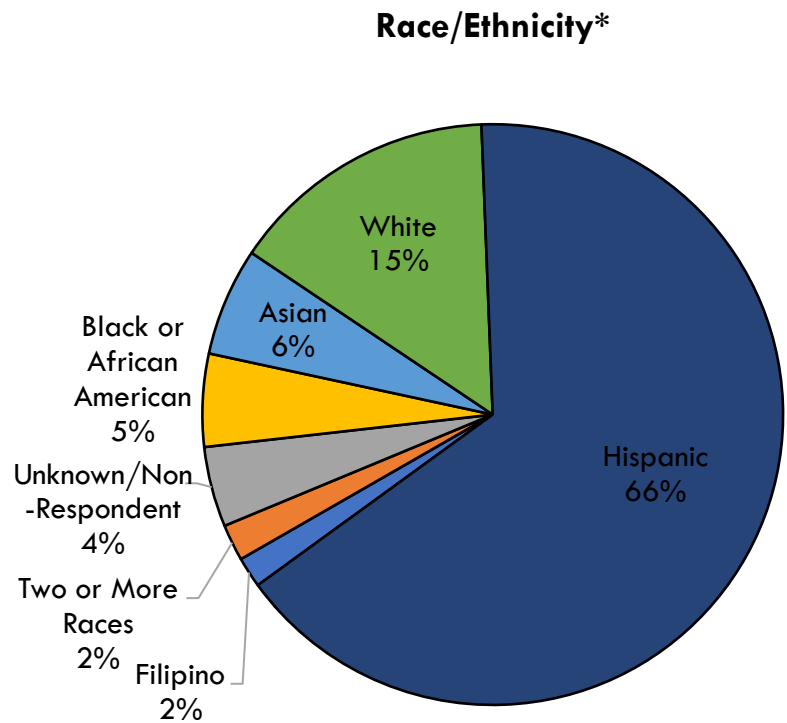
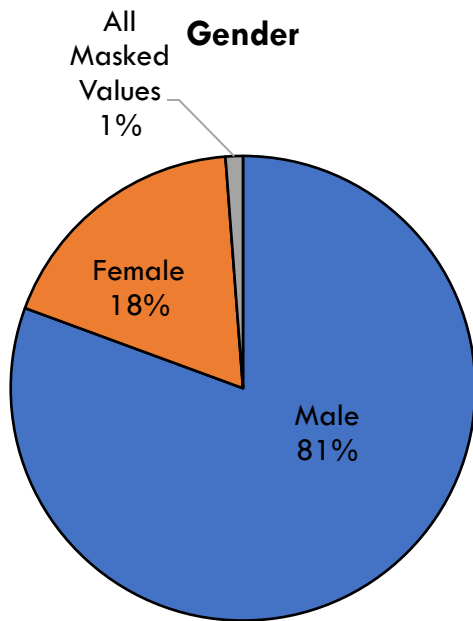
Looking more closely at the 13,583 student enrollments from the 2020-21 academic year, the exhibit below displays the number of students taking courses in ECU pathways, with LA Trade-Tech, Rio Hondo, Cerritos, and Pasadena City colleges each enrolling more than 1,000 students.



Source: [California Community Colleges LaunchBoard](#)

## Energy, Construction & Utilities Student Demographics

Approximately eight out of every ten ECU students at the LA community colleges are male, two-thirds identify as Hispanic, and just under two-thirds are 29-years-old or younger. This young population of LA students in ECU pathways is an untapped asset for regional employers seeking to strengthen their workforce. The exhibits below display LA ECU student demographics of the 13,583 students enrolled in the 2020-21 academic year.



Source: [California Community Colleges LaunchBoard](#)

\*Not pictured: Pacific Islander or Hawaiian Native, American Indian/Alaska Native, and Multiple Values Reported, all less than 1%

## Energy, Construction & Utilities Programs at-a-glance

To demonstrate the size and breadth of ECU programs offered by LA's community colleges, the table below displays the number of awards issued (certificates and degrees) from LA's ECU programs over the most recent three academic years. Architecture and Architectural Technology has issued the greatest number of awards, averaging over 200 during the last three years. Welding Technology, Environmental Control Technology (HVAC), Electrical, Construction Crafts Technology, and Drafting Technology programs have all issued greater than an average of 100 awards annually during this time.

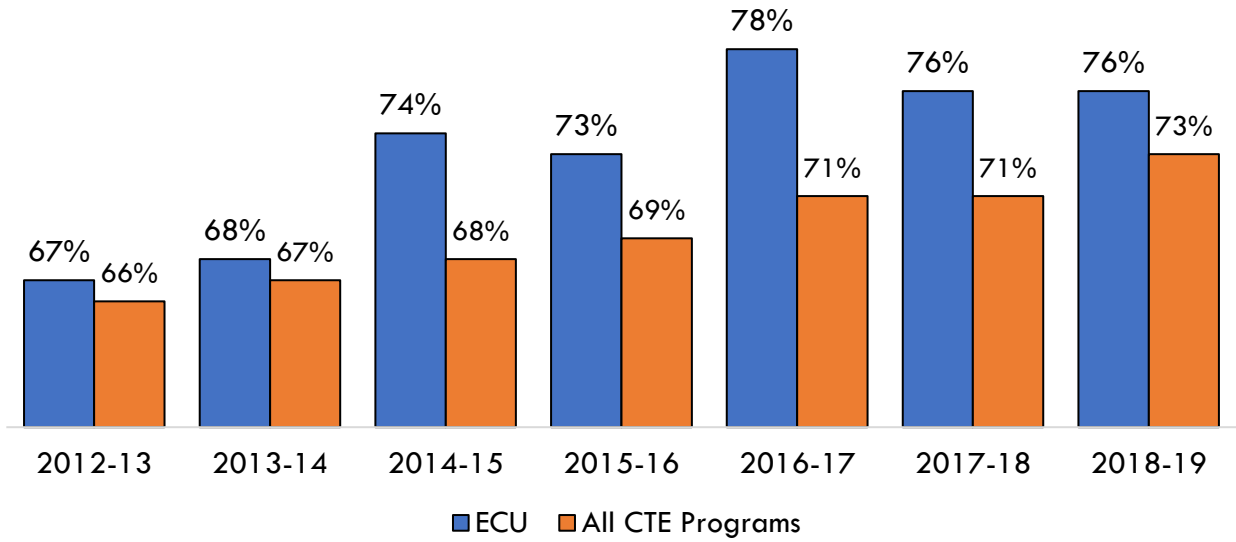
TOP6 - Program Title	2018-19	2019-20	2020-21	Latest 3 Yr Avg
020100 - Architecture and Architectural Technology	206	176	241	<b>208</b>
095650 - Welding Technology	228	127	233	<b>196</b>
094600 - Environmental Control Technology (HVAC)	209	102	185	<b>165</b>
095220 - Electrical	149	135	147	<b>144</b>
095200 - Construction Crafts Technology	230	120	70	<b>140</b>
095300 - Drafting Technology	93	102	125	<b>107</b>
095800 - Water and Wastewater Technology	59	74	60	<b>64</b>
095210 - Carpentry	27	38	65	<b>43</b>
094610 - Energy Systems Technology	40	24	40	<b>35</b>
095230 - Plumbing, Pipefitting and Steamfitting	31	21	33	<b>28</b>
095310 - Architectural Drafting	20	12	44	<b>25</b>
095340 - Mechanical Drafting	30	25	14	<b>23</b>
095700 - Civil and Construction Management Technology	25	24	20	<b>23</b>
095720 - Construction Inspection	21	20	14	<b>18</b>
210210 - Public Works	22	9	19	<b>17</b>
093430 - Telecommunications Technology	13	23	11	<b>16</b>
095250 - Mill and Cabinet Work	19	6	4	<b>10</b>
095640 - Sheet Metal and Structural Metal	1	11	11	<b>8</b>
095320 - Civil Drafting	3	3	4	<b>3</b>
095730 - Surveying	-	3	6	<b>3</b>
029900 - Other Architecture and Environmental Design	3	2	2	<b>2</b>
095330 - Electrical, Electronic, and Electro-Mechanical Drafting	2	-	-	<b>1</b>
<b>Total</b>	<b>1,431</b>	<b>1,057</b>	<b>1,348</b>	<b>1,279</b>

Source: [California Community Colleges Chancellor's Office Management Information Systems Data Mart](#)

## Energy, Construction & Utilities Student Employment Outcomes

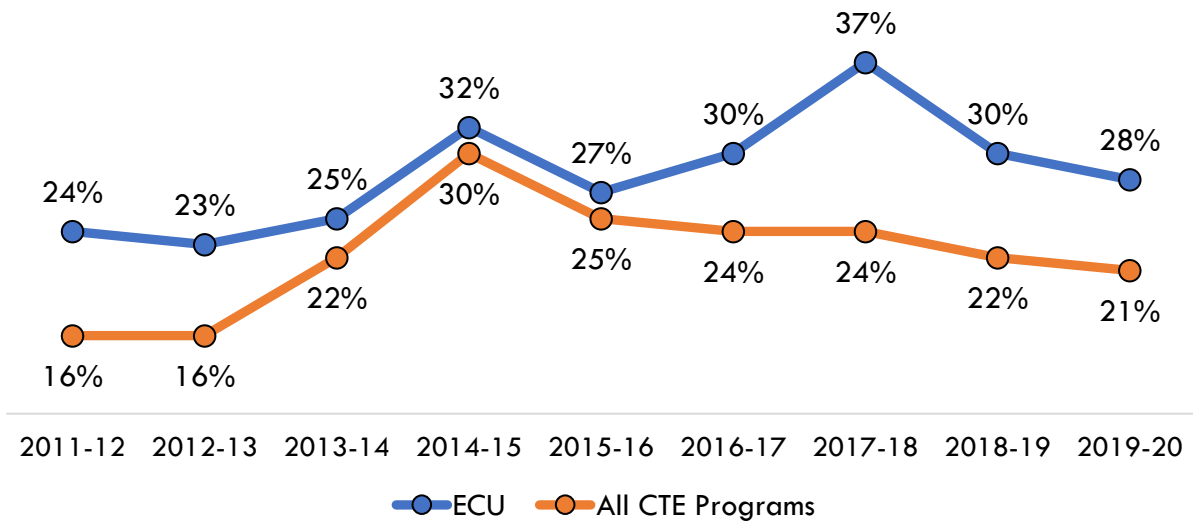
According to LaunchBoard data, approximately three-quarters of exiting students from LA's ECU programs reported working in a job closely related to their field of study between 2013 and 2019. Compared with all CTE exiting students, LA ECU students have consistently reported working in a job closely related to their field of study at a higher rate than the average across all CTE programs.

### Students with a Job Closely Related to Their Field of Study



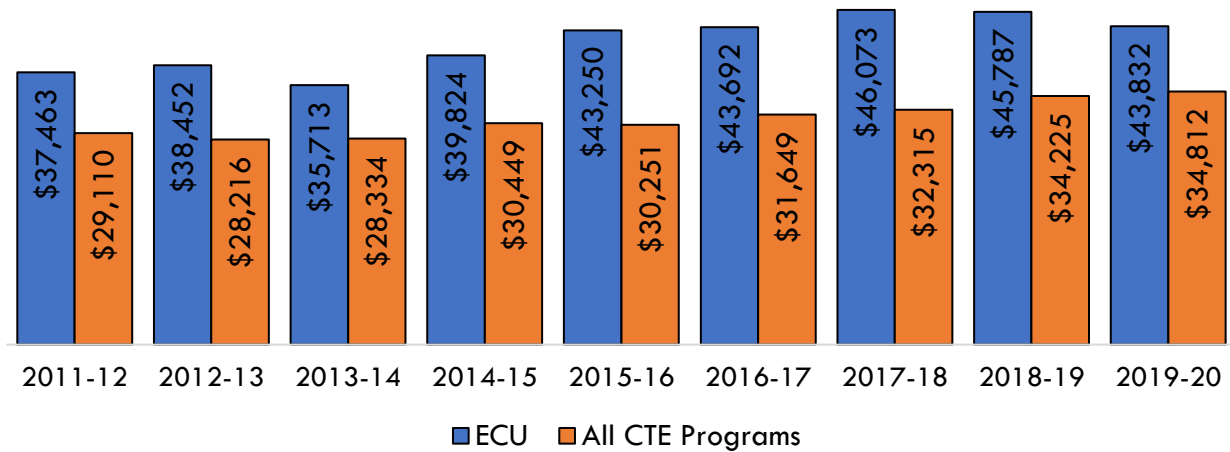
LA ECU students increased their annual earnings by 28% in the latest year that this data is available. Since 2012, this rate of increase has been between 23% and 37% and consistently higher than the average across all CTE programs. The median change in earnings compares how much money students made prior to beginning their program with how much they earn after leaving their program, with higher numbers indicating a larger increase in earnings.

### Median Change in Earnings for Exiting Students



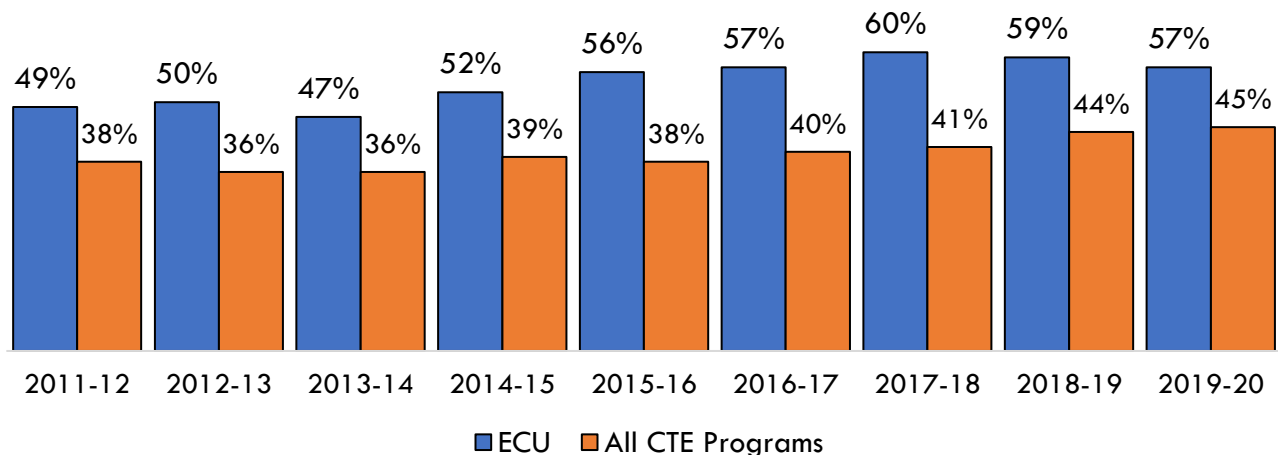
Median annual earnings for exiting ECU students were \$43,832, approximately \$9,000 higher than the average across all CTE programs. Over the past decade, exiting ECU students have consistently earned more than the average across all CTE programs.

### Median Annual Earnings after Exiting



Out of all of the LA students who exited ECU programs in the 2019-20 academic year, 57% attained the living wage or greater, which was \$38,217 at the time these calculations were made. With the exception of 2011-12 and 2013-14, more than half of exiting ECU students attained a living wage or greater in the labor market. A larger portion of ECU students earn a living wage or greater compared to the average rate across all CTE programs. With the rising rate of inflation coupled with increasing living costs places a premium on our students landing jobs that pay above a living wage to adequately support themselves and in many cases, their families.

### Exiting Students Who Attained the Living Wage



Source: [California Community Colleges Chancellor's Office LaunchBoard](#)



## Target Energy, Construction & Utilities Occupations for Regional Training Programs

Occupation	2022 Jobs	2027 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Median Annual Earnings*
Electricians	15,774	16,676	6%	1,582	\$22.81	\$33.03	\$68,700
First-Line Supervisors of Construction Trades and Extraction Workers	15,227	15,637	3%	1,345	\$28.93	\$37.57	\$78,100
Construction Managers	15,020	15,862	6%	1,245	\$21.87	\$41.54	\$86,400
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	8,398	8,883	6%	810	\$20.60	\$27.32	\$56,800
Cost Estimators	6,125	6,133	0%	508	\$27.63	\$36.51	\$75,900
Construction and Building Inspectors	3,176	3,256	3%	379	\$28.19	\$39.49	\$82,100
Architectural and Civil Drafters	2,786	2,815	1%	267	\$24.73	\$29.27	\$60,900
Sheet Metal Workers	2,242	2,317	3%	222	\$22.11	\$34.64	\$72,000
Structural Iron and Steel Workers	1,781	1,857	4%	170	\$22.51	\$28.29	\$58,800
Electrical Power-Line Installers and Repairers	1,777	1,811	2%	141	\$36.02	\$49.80	\$103,600
Civil Engineering Technologists and Technicians	1,227	1,248	2%	115	\$29.83	\$37.90	\$78,800

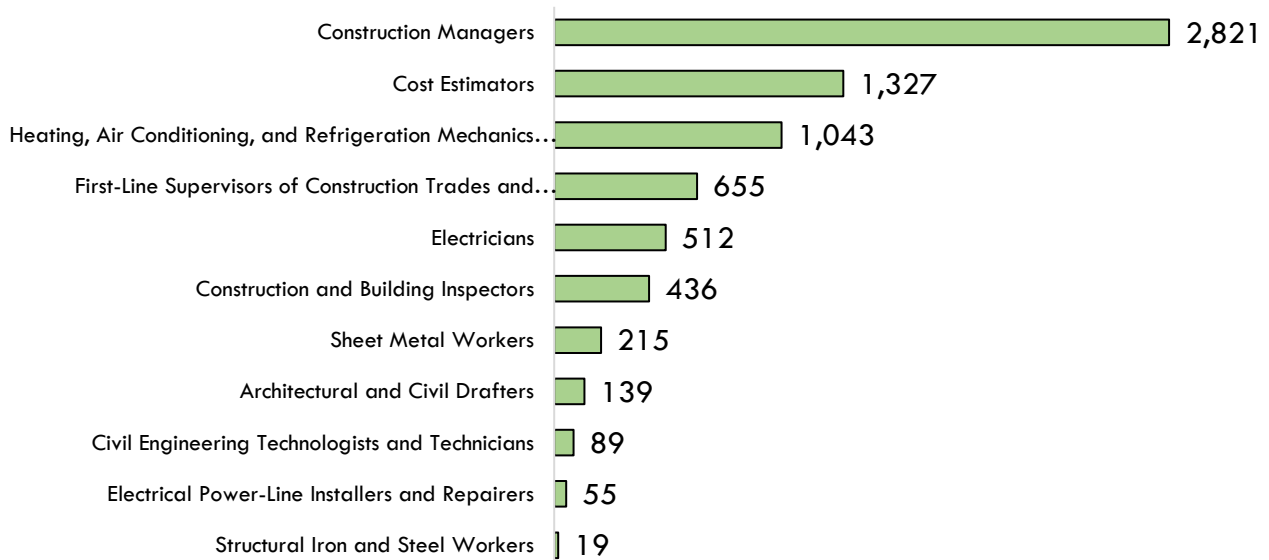
\*Rounded to the nearest \$100

Source: [Lightcast, datarun 2024.1](#)

## Employer Job Postings

Over the past 12 months (Feb 2023 through Jan 2024), there were 7,311 unique online job postings for the 11 occupations of interest. The majority of job postings (39%) were for *construction managers*, followed by *cost estimators* (18%), *heating, air conditioning, and refrigeration mechanics and installers* (14%), *first-line supervisors of construction trades and extraction workers* (9%) and *electricians* (7%).

### Number of Job Postings by Occupation



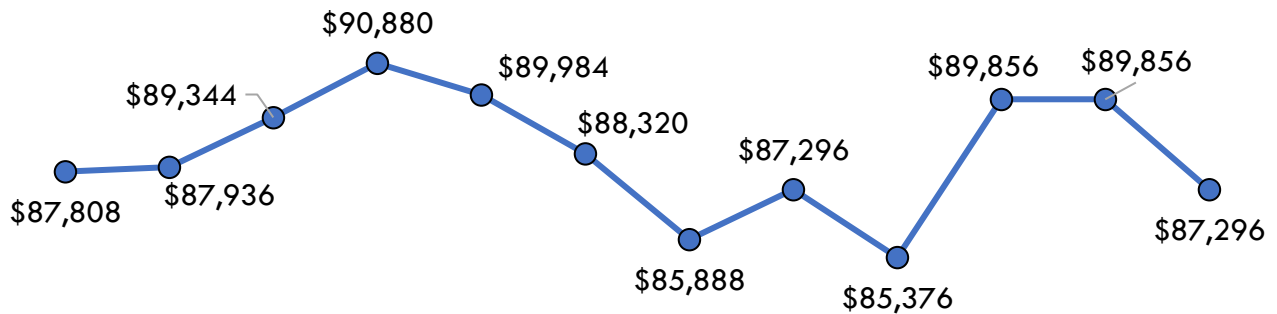
The highest number of job postings by job title were for *construction project managers, estimators, construction superintendents, and project managers*. The top employers, by number of job postings, in Los Angeles County were Vanir Construction Management, Coolsys, Northrop Grumman, and EMCOR Group. The top skills desired by employers for potential job candidates were construction, project management, subcontracting, change orders, project schedules, submittals, procurement, invoicing, and building codes.

### Top Job Titles and Employers from Job Postings

Job Title	Job Ads	Employer	Job Ads
Construction Project Managers	360	Vanir Construction Management	87
Estimators	298	Coolsys	59
Construction Superintendents	264	Northrop Grumman	50
Project Managers	234	EMCOR Group	41
Construction Managers	190	Element Consulting	41
Superintendents	161	Transdev	37
Construction Estimators	127	Turner & Townsend	35
Electricians	126	AECOM	32
HVAC Technicians	114	E. Construct USA	31
Inspectors	77	Mott MacDonald	31

Since February 2023, advertised wages from job postings for these 11 ECU occupations have fluctuated between \$85,000 and \$91,000. May 2023 had the highest advertised wages in the past 12 months, with job postings averaging an annual salary of \$90,880. Of the job postings that listed minimum experience criteria, most employers were seeking four to six years of experience (27% of postings) or two to three years of experience (22%), which makes sense given that *construction managers* and *first-line supervisors of construction trades and extraction workers* are both occupations that typically require previous work experience. With that said, there were 510 job ads (7% of total) seeking candidates with zero to one years of experience, meaning that there are entry-level jobs available in the region.

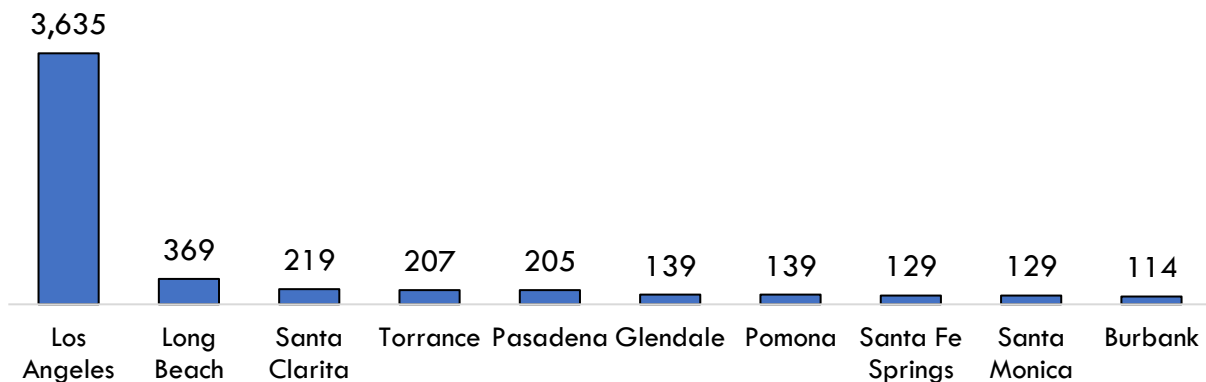
### Advertised Wage Trend Over Last 12 Months



Month	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024
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Within Los Angeles County, the top cities for these construction jobs were Los Angeles, Long Beach, Santa Clarita, Torrance, and Pasadena. Some of the top certifications sought after by employers were EPA 608 Technician Certification, 30-Hour OSHA General Industry Card, Project Management Professional Certification, Certified Construction Manager, and a CDL Class C License.

### Number of Job Postings by City



Source: [Lightcast, Job Postings, datarun 2024.1](#)

# COMMUNITY COLLEGE REPRESENTATION

## Cerritos College

<b>Program Name</b>	Architectural Studies
<b>Website</b>	<a href="https://www.cerritos.edu/architecture/default.htm">https://www.cerritos.edu/architecture/default.htm</a>
<b>Overview</b>	This Associate of Arts program provides a diverse introduction to the field of architecture in preparation for careers in a variety of interdisciplinary and design-related fields. Students are provided with enough of an exposure to the architecture field to decide whether to pursue it professionally or not. In addition, the students can make informed decisions about their future endeavors and role in society.

For more information, contact:

Nick Real, Technology Division Instructional Dean, [yreal@cerritos.edu](mailto:yreal@cerritos.edu)

## Citrus College

<b>Program Name</b>	A.S. in Construction Management
<b>Website</b>	<a href="https://catalog.citruscollege.edu/disciplines/construction-management/construction-management-as/">https://catalog.citruscollege.edu/disciplines/construction-management/construction-management-as/</a>
<b>Overview</b>	Today's construction industry utilizes construction management best practices to oversee, manage and control the scope, schedule, budget, quality, safety and risk during all stages of its projects life-cycle (planning, design, pre-construction, construction and closeout). Successful completion of construction management courses prepares students for construction management entry-level opportunities in one of many functions and/or positions that support the construction project management team. For students who already have prior construction industry experience, this program will prepare them for potential promotional opportunities.

For more information, contact:

Kimberly Mathews, Dean of Career, Technical and Continuing Education,  
[kmathews@citruscollege.edu](mailto:kmathews@citruscollege.edu)

## Compton College

<b>Program Name</b>	Machinist (AS)
<b>Website</b>	<a href="https://www.compton.edu/academics/business-industrial-studies/machine-tool-technology/index.aspx">https://www.compton.edu/academics/business-industrial-studies/machine-tool-technology/index.aspx</a>
<b>Overview</b>	Students gain proficiency in the set-up and operation of drilling machines, lathes, mills, grinders, electrical discharge machines, Computer Numerical Control (CNC) lathes, CNC milling machines, and computer aided manufacturing systems. Competencies will be assessed regularly in accordance with skill standards established by the National Institute of Metalworking Skills (NIMS).

For more information, contact:

Dr. Paul Flor, Dean of Student Learning, [pflor@compton.edu](mailto:pflor@compton.edu)

## East Los Angeles College

<b>Program Name</b>	A.S. Engineering Technology: Industrial
<b>Website</b>	<a href="https://www.elac.edu/academics/pathways/stem/engineering-dept">https://www.elac.edu/academics/pathways/stem/engineering-dept</a>
<b>Overview</b>	The Engineering Technology: Industrial program is preparing students and workforce to become Quality Control and Inspection technicians to assist engineering staff in production or manufacturing. Graduates are trained to communicate professionally both orally and in writing, and to work on team based projects. The emphases of the program are theory based hands on application through apprenticeship and work-based learning.

For more information, contact:

Jose C. Ramirez, Professor and Chairperson, Engineering & Technologies Department  
[aguirrfj@elac.edu](mailto:aguirrfj@elac.edu)

## El Camino College

<b>Program Name</b>	Residential Construction Trainee Certificate of Accomplishment
<b>Website</b>	<a href="https://www.elcamino.edu/academics/areas-of-study/construction-technology.aspx">https://www.elcamino.edu/academics/areas-of-study/construction-technology.aspx</a>
<b>Overview</b>	<p>This certificate prepares you for employment in carpentry, homebuilding, or on a construction job site.</p> <ul style="list-style-type: none"><li>• Learn building fundamentals and how to safely use basic tools.</li><li>• Take classes in electrical wiring, plumbing, cabinet making, and more.</li><li>• Understand building codes, construction mathematics, rough framing, and technical information needed for residential construction.</li><li>• Earn a certificate in less than six months.</li></ul>

For more information contact:

Ross Durand, Professor, Construction Technology, [rdurand@elcamino.edu](mailto:rdurand@elcamino.edu)

## Glendale College

**Program Name** A.S. Architectural Drafting and Design

**Website** <https://www.glendale.edu/academics/degree-certificate-programs/certificate-programs/architectural-drafting-and-design>

**Overview** This degree or certificate is designed to prepare students to enter employment as an architectural drafter and designer in the building construction field, permit technician, and interior designer. Students will receive training in traditional and computer aided drafting, residential and commercial building design, interior design, building codes, and print reading. Upon completion of this program, students will demonstrate techniques to accomplish drawings utilizing different computer aided design (CAD) software; develop a portfolio of their work (this portfolio will show the students best work from different classes within the department, discuss building construction techniques, principles, and building code); demonstrate skills in the production of working drawings of residential and commercial structures; and discuss how design/drawing techniques, application of the International Building Code (IBC), building construction techniques, and other standards affect the design of their structure.

For more information contact:

Dave Martin, Department Chair, [dmartin@glendale.edu](mailto:dmartin@glendale.edu)

## Long Beach City College

**Program Name** Construction Technology

**Website** <https://www.lbcc.edu/construction>

**Overview** The Construction Technology program has courses that can be divided into three major areas of emphasis: Residential Trades, Home Remodeling and Pre-apprenticeship. Knowing that a vast diversity of occupations exists within the construction industry and recognizing that individual student needs are diverse, a Certificate of Achievement can be designed that satisfies those specific needs. Completion of the Certificate of Completion satisfies the major requirement for the Associates in Science degree in Construction Technology.

For more information contact:

Carlos Campos, Professor, Construction Technology, [ccompos@lbcc.edu](mailto:ccompos@lbcc.edu)

## Los Angeles City College

**Program Name** Management

**Website** <https://www.lacitycollege.edu/academics/aos/management>

**Overview**

In the Management discipline, we offer three degree programs of study: the Associate of Arts Degree in Management, Retail Management, and Small Business Management. We also offer certificate programs in the same areas. All paths are designed to give the student an extensive background in the principles and practices of the business world. The degree programs offer a more comprehensive curriculum than the certificate program and allow the student to transfer to a four-year university as a Junior.

For more information contact:

Mr. R. Britt Hastey, Department Chair, [hasteyrb@lacitycollege.edu](mailto:hasteyrb@lacitycollege.edu)

## Los Angeles Harbor College

**Program Name**

Architectural Technology

**Website**

<https://www.lahc.edu/academics/aos/architecture>

**Overview**

The Architectural Technology program prepares men and women for careers in the Architectural Industry as drafters, designers, project managers, or material salespersons. Students are also prepared for related fields such as environmental design, industrial design, sustainable technology, urban planning, fabrication, or construction management.

For more information contact:

Michael Song, Department Chair, [songm@lahc.edu](mailto:songm@lahc.edu)

## Los Angeles Mission College

**Program Name**

Engineering Drafting Technician

**Website**

<https://www.lamission.edu/academics/aos/drafting>

**Overview**

This career and technical education program addresses qualifications in engineering drafting related fields that employers are looking for, including being a team player, being an independent and analytical thinker, being a problem solver, being knowledgeable in computer-aided drafting, blueprint reading and surveying. Some of the courses offered in this program will enable the student to become CSWA (Certified SolidWorks Associate) certified.

For more information contact:

Bamdad Samii, Department Chair, Engineering, [samiib@lamission.edu](mailto:samiib@lamission.edu)

## Los Angeles Pierce College

**Program Name** A.S. Electronics and Electric Technology: Electronics

**Website** <https://www.lapc.edu/academics/pathways/bl>

**Overview** Representatives from the electronics industry and Los Angeles Pierce College faculty have collaborated to design this course of study. Completion of this program prepares the student for employment as an electronics technician. Program learning outcomes:

- Apply principles of electronics and electronic devices, linear circuits, and electronic communications
- Provides the student with knowledge of digital circuits and microprocessors
- Safely and effectively use a variety of equipment to diagnose, analyze, and build or repair electronics systems.

For more information contact:

Judy Lam, Guided Pathways Coordinators, [lamj2@piercecollege.edu](mailto:lamj2@piercecollege.edu)

## Los Angeles Southwest College

**Program Name** Electronics Technology (AS)

**Website** <https://www.lasc.edu/academics/aos/electronics-technology>

**Overview** Circuits, electrons, operating systems, and lab testing are all components of electronics technology. A career in this industry will keep you busy, challenged, and fulfilled as you work individually or with teams to create computer operating systems, integrate them with the circuit system necessary for operations, then test and confirm that all circuits are working properly.

You will be the hub of the company and keep the energy flowing as you help your colleagues solve problems that are impacting operations. Your desire to understand how things work combined with electronics will serve you well in this dynamic business sector. Jobs and services are also in demand in commercial and residential careers in this industry.

For more information contact:

Dr. Allison Moore, Dean/Chair Person, [mooreap@lasc.edu](mailto:mooreap@lasc.edu)

## Los Angeles Trade Technical College

**Program Name** Construction, Maintenance & Utilities Pathway

**Website** <https://www.lattc.edu/academics/pathways/cmu>

**Overview** The Construction, Maintenance & Utilities (CMU) Pathway delivers most current industry relevant training, including sustainable construction techniques and



other green technologies to equip students with the necessary knowledge and skill sets to obtain, sustain, or advance in their chosen career paths.

Certificates and degrees are offered in Architectural Technology; Carpentry; Electrical Construction and Maintenance; Electrical Line-Worker (Lineman); Heating, Ventilating, Air Conditioning (HVAC) and Refrigeration; Operation and Maintenance Engineering - Steam Plant; Plumbing; Solid Waste Management Technology; Street Maintenance Technology; Supply Water and Waste Water Technology; Welding - Gas and Electric; and stacked credentials in renewable energy including Renewable Energy Technician - Solar PV Installation and Maintenance, Renewable Energy Technician - Solar Thermal and Renewable Energy with Energy Efficiency Emphasis.

For more information contact:

William Elarton, Pathway Chairperson, [cdm@lattc.edu](mailto:cdm@lattc.edu)

### Los Angeles Valley College

<b>Program Name</b>	Manufacturing, Electronics, and Construction Career and Academic Pathway
<b>Website</b>	<a href="https://www.lavc.edu/academics/pathways/mec">https://www.lavc.edu/academics/pathways/mec</a>
<b>Overview</b>	In the MEC pathway, students can major in Electronics (including biomedical instrumentation to work in hospitals to repair and maintain equipment), or Manufacturing with opportunities to specialize in metal machining or numerical control (work with blueprints and CNC programs for making precision parts). Students interested in entering the workforce as a mechanical or civil engineering drafter with AutoCAD familiarity can major in Mechanical Drafting/Design. Within this pathway, students can also prepare for the field of general construction management, with additional emphasis on sustainable methods and materials that are energy smart, renewable, and environmentally friendly by majoring in Sustainable Construction Management.

For more information contact:

Rebecca Stein, Applied Technology Department Chair, [steinrl@lavc.edu](mailto:steinrl@lavc.edu)

### Mt. San Antonio College

<b>Program Name</b>	Construction Management
<b>Website</b>	<a href="https://catalog.mtsac.edu/programs/programsaz/construction-management/">https://catalog.mtsac.edu/programs/programsaz/construction-management/</a>
<b>Overview</b>	The Construction Management program prepares students to enter the field of construction management, construction administration, supervision, or other related construction employment. This comprehensive program will enhance the skills of working professionals and introduce entry level students to the range of construction employment opportunities. The program develops contemporary and emerging skills in general construction principles and processes, sustainability, estimating and scheduling, contract administration,

building codes and legal aspects of construction, materials and specifications, reading construction documents, and BIM (building information modeling).

For more information contact:

Hirohito Kuroki, Professor – Architecture, [hkuroki@mtsac.edu](mailto:hkuroki@mtsac.edu)

## Pasadena City College

<b>Program Name</b>	Construction Inspection – Associate in Science Degree, Certificate of Achievement
<b>Website</b>	<a href="https://pasadena.edu/academics/degrees-and-certificates/certificates-of-achievement/construction-inspection.php">https://pasadena.edu/academics/degrees-and-certificates/certificates-of-achievement/construction-inspection.php</a>
<b>Overview</b>	The curriculum prepares students to seek employment as construction inspectors. The focus is on the responsibility and duties of construction inspectors to verify that construction projects comply with the architect's plans, local, state, and international code requirements. Instruction is offered in all phases of inspections, from pre-grading and site preparation to the buildings' final inspection. Upon completion, students can apply to become Assistant Inspectors. Students with qualifying field experience can apply to become full inspectors.

For more information contact:

Dr. Armine Derdarian, CTE Dean, [aderdarian@pasadena.edu](mailto:aderdarian@pasadena.edu)

## Rio Hondo College

<b>Program Name</b>	A.S. Construction Management
<b>Website</b>	<a href="https://pathways.riohondo.edu/program/construction-management-as/">https://pathways.riohondo.edu/program/construction-management-as/</a>
<b>Overview</b>	The identified curriculum will prepare students for employment as Civil Engineering technicians – specifically with respect to construction support positions. The coursework incorporates concepts and theory of construction as well as practical application of construction management tasks. The degree additionally provides a framework of study that is common in Bachelor's-level programs for explicitly this field of study.

For more information contact:

Mike Slavich, Dean of Career and Technical Education, [m Slavich@riohondo.edu](mailto:m Slavich@riohondo.edu)

## Santa Monica College

**Program Name** Architecture

**Website** <https://www.smc.edu/academics/academic-departments/design-technology/architecture.php>

**Overview** The Architecture program at Santa Monica College provides an analytical foundation from which you will explore innovation through functional, cultural, environmental, and socially conscious design. Learn about the impact of the built environment while developing skills in drafting, rendering, presentations, project collaboration, environmental design, building systems, and code compliance. Explore creative careers in digital production or environmental design for a sustainable future.

For more information contact:

Javier Cambron, Instructor, [cambron\\_javier@smc.edu](mailto:cambron_javier@smc.edu)

## West Los Angeles College

**Program Name** Engineering Plus

**Website** <https://www.wlac.edu/academics/aos/general-engineering>

**Overview** Engineering Plus includes five paths: BioEngineering, Civil Engineering, Computer/Software Engineering, Electrical Engineering, and Mechanical Engineering. Our goal is to increase the number of community college students who obtain technician work and/or transfer to four-year universities and successfully attain math and science-based degrees. The program includes internships and other opportunities to gain industry experience.

For more information contact:

Tiffany Miller, Dean of Apprenticeships, [millerts@wla.edu](mailto:millerts@wla.edu)