

Labor Market Analysis: 0299.00/Other Architectural and Environmental Design
Urban Planning - Associate in Science for Transfer (A.S.-T) Degree
 Los Angeles Center of Excellence, September 2023

Summary

Program Endorsement:	Endorsed: All Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some Criteria Met <input type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/> (See comments)		No <input type="checkbox"/>
Living Wage: (Entry-Level, 25th)	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Education:	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Emerging Occupation(s)			
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	

The Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand data related to two middle-skill occupations:

- **Architectural and Civil Drafters (17-3011)** Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Use knowledge of building materials, engineering practices, and mathematics to complete drawings.¹
- **Civil Engineering Technologists and Technicians (17-3022)** Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.²

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.³ *Urban and regional planners* is a career ladder occupation for the two middle-skill occupations in this report; however, labor market information for this occupation is not included in this report, since it typically requires a master's degree and is considered above middle-skill. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data, there does not appear to be a supply gap for these middle-skill urban planning occupations in the region. However, the oversupply is with the COE's acceptable

¹ [Architectural and Civil Drafters \(bls.gov\)](https://www.bls.gov/occupations/17-3011)

² [Civil Engineering Technologists and Technicians : U.S. Bureau of Labor Statistics \(bls.gov\)](https://www.bls.gov/occupations/17-3022)

³ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

margin (25% over or under the number of annual openings) and is therefore considered “supply met” rather than a “supply gap.” While this program does not meet the traditional supply/demand endorsement criteria, there may be demand for these workers from local employers that is not reflected in traditional labor market data. For this reason, real-time labor market data is included in this report as well – to provide a more nuanced view of the regional job market for these middle-skill occupations related to urban planning. Furthermore, entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties, and the Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for both occupation in this report. **Therefore, due to all the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **739 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is less than the three-year average of 815 awards conferred** by educational institutions in the region.
 - Although there are more awards conferred than job openings, the data suggests that the **demand has been met for these occupations within the LA/OC region** since the three-year average number of awards (supply) is within the COE’s 25% margin of annual job openings (demand).
 - Over the past 12 months, there were **731 online job postings related to these middle-skill urban planning occupations**. The highest number of job postings were for civil designers, drafters, engineering technicians, structural designers, and plumbing designers.
- **Living Wage Criteria** – Within Los Angeles County, **both occupations have entry-level wages above the self-sufficiency standard hourly wage (\$18.10/hour).**⁴
- **Educational Criteria** – The Bureau of Labor Statistics (BLS) lists an **associate degree** as the **typical entry-level education** for both occupations in this report.
 - Furthermore, the national-level educational attainment data indicates **between 51% and 53% of workers in the field have completed some college or an associate degree.**

Supply:

- There are **20 community colleges** in the greater LA/OC region that issue awards related to urban planning, conferring an average of **752 awards annually** between 2019 and 2022.
- Between 2019 and 2021, there was an average of **63 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

⁴ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these middle-skill occupations related to urban planning. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 2% through 2026. There will be more than 700 job openings per year through 2027 due to job growth and replacements.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁵

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	4,027	4,060	34	1%	451
Orange	2,386	2,490	103	4%	289
Total	6,413	6,550	137	2%	739

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill occupations related to urban planning in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

Both occupations have entry-level wages above the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$24.73 and \$29.78, while experienced workers can expect to earn wages between \$35.84 and \$46.24.

Exhibit 2: Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Architectural and Civil Drafters (17-3011)	\$24.73	\$29.29	\$35.84	\$60,900
Civil Engineering Technologists and Technicians (17-3022)	\$29.78	\$37.86	\$46.24	\$78,700

*rounded to the nearest \$100

Orange County

Both occupations have entry-level wages above the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$25.76 and \$29.39, while experienced workers can expect to earn wages between \$37.25 and \$45.35.

⁵ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

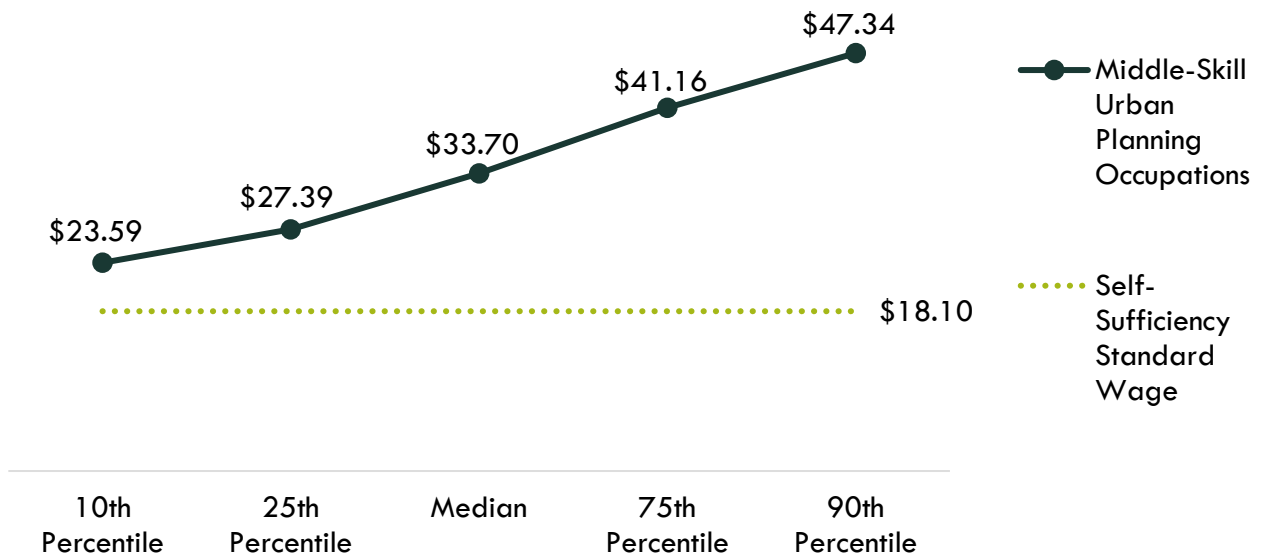
Exhibit 3: Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Architectural and Civil Drafters (17-3011)	\$25.76	\$30.49	\$37.25	\$63,400
Civil Engineering Technologists and Technicians (17-3022)	\$29.39	\$37.24	\$45.35	\$77,500

*rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$27.39; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

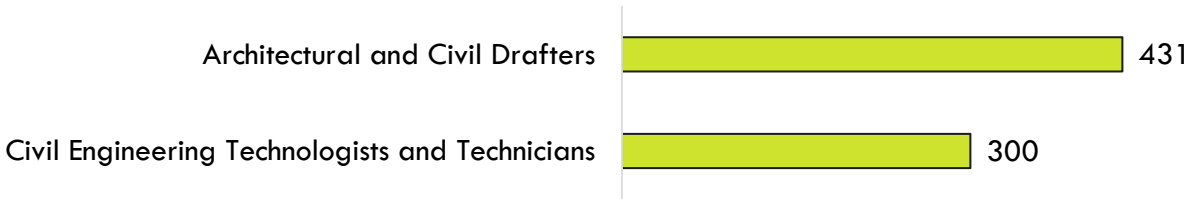
Exhibit 4: Average Hourly Earnings for Middle-Skill Urban Planning Occupations in LA/OC



Job Postings

There were 731 online job postings related to middle-skill urban planning occupations listed in the past 12 months. Exhibit 5 displays the number of job postings by occupation. The majority of job postings (59%) were for *architectural and civil drafters*, followed by *civil engineering technologists and technicians* (41%). The highest number of job postings were for civil designers, drafters, engineering technicians, structural designers, and plumbing designers. The top skills were AutoCAD, civil engineering, Autodesk Revit, project management, and AutoCAD Civil 3D. The top three employers, by number of job postings, in the region were Actalent (staffing company), GPAC (staffing company), and Kennedy/Jenks Consultants.

Exhibit 5: Job postings by occupation (last 12 months)



Educational Attainment

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for both occupations in this report. Furthermore, the national-level educational attainment data indicates between 51% and 53% of workers in the field have completed some college or an associate degree. Of the 57% of middle-skill urban planning job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 28% (114) requested high school or vocational training, 33% (135) requested an associate degree, and 40% (165) requested a bachelor's degree.

Educational Supply

Community College Supply

Exhibit 6 shows the annual and three-year average number of awards conferred by community colleges in programs that have historically trained for the occupations of interest. The colleges with the most completions in the region are Pasadena, Mt. San Antonio, and Cerritos.

Exhibit 6: Regional community college awards (certificates and degrees), 2019-2022

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
0201.00	Architecture and Architectural Technology	Cerritos	44	28	15	29
		Citrus	6	6	7	6
		East LA	25	16	23	21
		El Camino	21	5	15	14
		Glendale	6	3	17	9
		LA Harbor	4	4	13	7
		LA Pierce	4	16	11	10
		LA Trade-Tech	8	7	13	9
		LA Valley	3	4	3	3
		Long Beach	13	11	9	11
		Mt San Antonio	51	61	95	69
		Pasadena	18	12	12	14
		Rio Hondo	3	3	8	5
		LA Subtotal	206	176	241	208
		Fullerton	12	4	-	5

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
		Orange Coast	59	38	75	57
		Saddleback	8	3	4	5
		OC Subtotal	79	45	79	68
Supply Subtotal/Average			285	221	320	275
0299.00	Other Architecture and Environmental Design	East LA	3	2	2	2
		LA Subtotal	3	2	2	2
Supply Subtotal/Average			3	2	2	2
0924.00	Engineering Technology, General (requires Trigonometry)	Cerritos	15	6	15	12
		East LA	1	1	-	1
		Glendale	7	14	3	8
		Mt San Antonio	2	-	6	3
		Pasadena	216	238	211	222
		LA Subtotal	241	259	235	245
		Santa Ana	3	5	-	3
		OC Subtotal	3	5	-	3
Supply Subtotal/Average			244	264	235	248
0953.00	Drafting Technology	Cerritos	14	9	40	21
		Citrus	15	12	15	14
		East LA	7	20	12	13
		El Camino	9	7	10	9
		LA Pierce	2	8	1	4
		LA Valley	3	-	-	1
		Long Beach	1	-	-	0
		Mt San Antonio	23	32	24	26
		Pasadena	6	6	8	7
		Rio Hondo	13	8	15	12
		LA Subtotal	93	102	125	107
		Fullerton	4	10	5	6
		Golden West	9	4	3	5
		Irvine	10	6	7	8
		Saddleback	2	1	1	1
		Santa Ana	27	30	16	24
		OC Subtotal	52	51	32	45

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
Supply Subtotal/Average			145	153	157	152
0953.10	Architectural Drafting	Citrus	2	1	2	2
		Long Beach	9	5	3	6
		Rio Hondo	9	6	39	18
		LA Subtotal	20	12	44	25
		Fullerton	1	1	8	3
		Santa Ana	1	2	-	1
		OC Subtotal	2	3	8	4
Supply Subtotal/Average			22	15	52	30
0953.20	Civil Drafting	Rio Hondo	3	3	4	3
		LA Subtotal	3	3	4	3
		Irvine	3	1	3	2
		Santa Ana	-	-	3	1
		OC Subtotal	3	1	6	3
Supply Subtotal/Average			6	4	10	7
2102.10	Public Works	Citrus	22	7	13	14
		LA Trade-Tech	-	2	6	3
		LA Subtotal	22	9	19	17
		Santiago Canyon	26	18	21	22
		OC Subtotal	26	18	21	22
Supply Subtotal/Average			48	27	40	38
Supply Total/Average			753	686	816	752

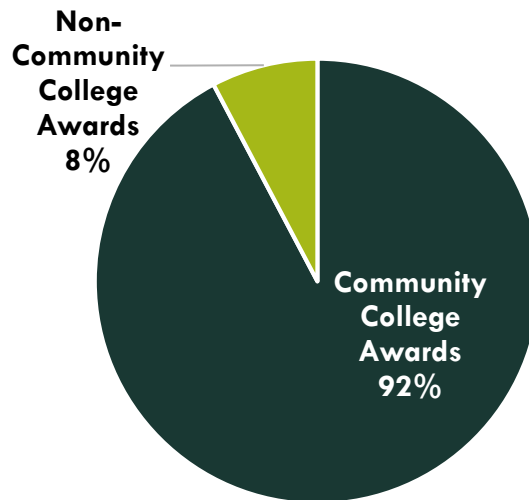
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for urban planning occupations. Exhibit 7 shows the annual and three-year average number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community college institutions in the region conferred an average of 63 bachelor's degrees. Bachelor's degrees are included in this report since *urban and regional planners* (19-3051) is a career ladder occupation and typically requires a master's degree.

Exhibit 7: Regional non-community college awards, 2019-2021

CIP	Program	Institution	2019-20 Awards	2020-21 Awards	2-Year Average
04.0301	City/Urban, Community, and Regional Planning	California State Polytechnic Univ.-Pomona	42	50	46
		USC	6	2	4
04.0401	Environmental Design/Architecture	Otis College of Art & Design	10	11	11
15.0000	Engineering Technologies/ Technicians, General	California State Polytechnic Univ.-Pomona	1	3	2
Supply Total/Average			59	66	63

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. The majority of awards conferred in these programs are awarded by community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Architectural and Civil Drafters (17-3011)	2,801	2,810	9	0%	324	\$24.73	\$29.29	\$35.84
Civil Engineering Technologists and Technicians (17-3022)	1,225	1,250	25	2%	126	\$29.78	\$37.86	\$46.24
Total	4,027	4,060	34	1%	451	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Architectural and Civil Drafters (17-3011)	1,747	1,816	69	4%	218	\$25.76	\$30.49	\$37.25
Civil Engineering Technologists and Technicians (17-3022)	639	673	34	5%	71	\$29.39	\$37.24	\$45.35
Total	2,386	2,490	103	4%	289	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Architectural and Civil Drafters (17-3011)	4,549	4,626	77	2%	542	25%	Associate's degree
Civil Engineering Technologists and Technicians (17-3022)	1,864	1,924	60	3%	197	27%	Associate's degree
Total	6,413	6,550	137	2%	739	-	-

*The average percentage of workers age 55 and older across all occupations in the greater LA/OC region is 27%. *Architectural and civil drafters* has a smaller share of older workers, which typically indicates fewer replacements needs to offset the amount of impending retirements.

Appendix B: Sources

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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