

Labor Market Analysis: 3020.20 - Piloting Aviation Science: Commercial Pilot Certified Flight Instructor

Los Angeles Center of Excellence, September 2024

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

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupation¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there appears to be a supply gap for the one identified middle-skill occupation in the region. Entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties. While the Bureau of Labor Statistics (BLS) lists a high school diploma as the typical entry-level education, 75% of *commercial pilots* have completed a bachelor's degree or more education. However, community colleges in the region have historically offered training programs for *commercial pilots*; for this reason, it is considered a middle-skill occupation.

Recommendation: Due to all three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 277 annual job openings are projected for *commercial pilots* in the region through 2028. This number is greater than the three-year average of 142 awards conferred by educational institutions in the region.

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree. 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.

- 79 job postings for flight instructors were posted in the region in the past 12 months. Top job titles included flight instructors, chief flight instructors, and certified flight instructors.

Living Wage

- \$40.59 is the typical entry-level hourly wages for *commercial pilots*, which is higher than Los Angeles County’s self-sufficiency standard hourly (\$18.10/hour).²

Educational Attainment

- A high school diploma or equivalent is the typical entry-level education for *commercial pilots* according to the Bureau of Labor Statistics (BLS).
- 26% of workers in the field have completed an associate degree or less education, according to national educational attainment data, while 74% hold a bachelor’s degree or higher educational attainment.

Community college supply

- 5 community colleges issued awards related to piloting in the greater LA/OC region.
- 142 awards (degrees and certificates) were conferred on average each year between 2021 and 2023.

Other postsecondary supply

- There are 19 piloting schools within 50 miles of Compton College, according to the Federal Aviation Administration (FAA) website.
- Awards completions for *commercial pilots* and certified flight instructors (CFI) are not tracked through IPEDS; therefore, it is unknown how many piloting and CFI certificates are conferred annually in the Los Angeles/Orange County region.

TARGET OCCUPATION

LA COE prepared this report to provide regional labor market and postsecondary supply data related to one middle-skill occupation.

- **Commercial Pilots (53-2012)** Pilot and navigate the flight of fixed-wing aircraft on nonscheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots. Excludes regional, national, and international airline pilots.³

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for *commercial pilots*. In the greater Los Angeles/Orange County region, the number of jobs related to this occupation is projected to increase by 10% through 2028. There will be nearly 300 job openings per year

² Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

³ [Commercial Pilots \(bls.gov\)](https://www.bls.gov/occupations/commercial-pilots)

through 2028 due to job growth and replacements. The majority of jobs in 2023 for these piloting occupations (81%) were located in Los Angeles County.

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁴

Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023-2028 % Change	Annual Openings
Los Angeles	1,644	1,805	160	10%	226
Orange	376	412	36	9%	51
Total	2,021	2,216	196	10%	277

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for each of the target occupations in Los Angeles County. Positive scores for automation resilience⁵ reflect a lower-than-average threat of the occupation(s) being replaced by automation, while negative scores reflect a greater-than-average risk of automation. The average percentage of workers aged 55+ across all occupations in the Los Angeles/Orange County region is 26%; occupations with a larger share of workers aged 55 and older typically have greater replacement needs to offset the amount of impending retirements. On average, 81% of workers across all occupations in California are employed full-time. Occupations with a lower-than-average percentage of full-time workers may have less employment security but may see increased activity in the gig economy.

Exhibit 2: Current employment, projected occupational demand, percentage of workers aged 55+, Los Angeles County⁶

Occupation	2023 Jobs	2028 Jobs	5-Yr % Change	Annual Openings	Auto-mation Resilience	% Aged 55 and older	% Full Time Workers
Commercial Pilots	1,644	1,805	10%	226	10.4	27%	69%

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for *commercial pilots* 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 Los Angeles/Orange County region.

⁴ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁵ Automation resilience is calculated based on the percentage of time spent on high-risk compared to low-risk work, the number of high-risk jobs in compatible occupations, and the overall industry automation risk.

⁶ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Los Angeles County

The typical entry-level hourly wages for *commercial pilots* are \$40.59, which is above the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn wages of \$123.76.

Exhibit 3: Earnings for occupations in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Commercial Pilots	\$40.59	\$68.31	\$123.76	\$142,100

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for *commercial pilots* are \$36.55, which is above the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$114.00.

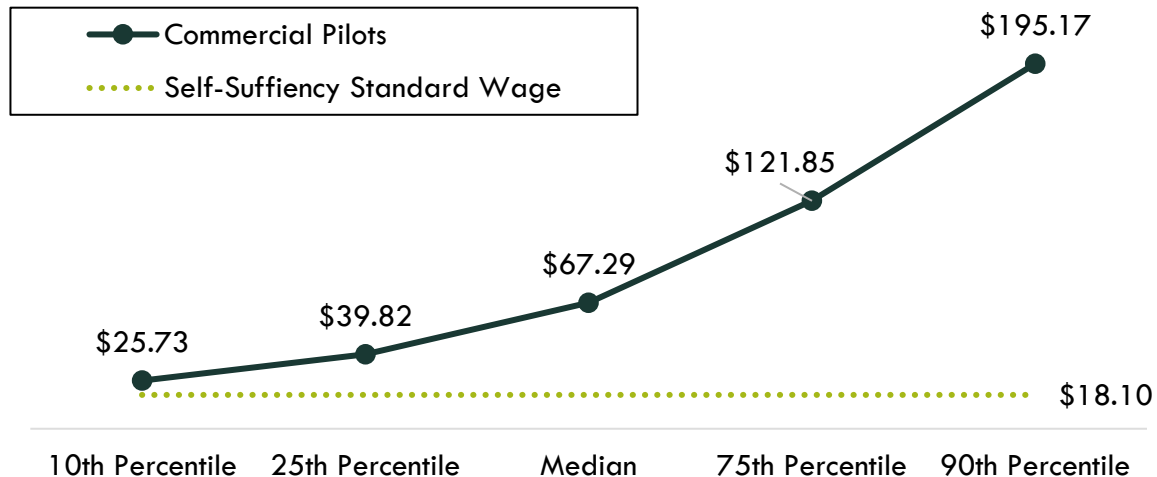
Exhibit 4: Earnings for occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Commercial Pilots	\$36.55	\$62.85	\$114.00	\$130,700

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for *commercial pilots* in this report are \$39.82; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 5 shows the average hourly wage for the occupation in this report, for entry-level to experienced workers.

Exhibit 5: Average hourly earnings for commercial pilots, Los Angeles and Orange counties



JOB POSTINGS FOR COMMERCIAL PILOTS

There were 39 online job postings related to *commercial pilots* listed in the past 12 months in Los Angeles and Orange counties. Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupation in this report (Exhibit 6).

Exhibit 6: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> • Test pilots • Charter pilots • Production test pilots • Flight operations managers • Aircraft pilots • Experimental test pilots • Commercial pilots • Fixed wing pilots 	<ul style="list-style-type: none"> • Federal Aviation Administration (FAA) • Flight testing • Unmanned Aerial Systems (UAS) • Federal Aviation Regulations • Airworthiness • Risk analysis 	<ul style="list-style-type: none"> • Anduril Industries • General Atomics • Helinet Aviation • Lockheed Martin • Northrup Grumman • Overair • United States Department of Transportation

In the greater Los Angeles/Orange County region, 41% of the *commercial pilot* job postings listed a minimum educational requirement. Exhibit 7 displays the number and percentage of job postings by educational level.

Exhibit 7: Education levels requested in job postings for occupations related to *commercial pilots*, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	9	56%
Associate degree	0	0%
High school diploma or vocational training	7	44%

JOB POSTINGS FOR FLIGHT INSTRUCTORS

There were 79 online job postings for flight instructors listed in the past 12 months in Los Angeles and Orange counties. Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupation in this report (Exhibit 8).

Exhibit 8: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> • Flight instructors • Chief flight instructors • Certified flight instructors • Aircraft Flight instructors • Flight simulator instructors • Helicopter flight instructors 	<ul style="list-style-type: none"> • Flight training • Instructing • Federal Aviation Administration (FAA) • Federal Aviation Regulations 	<ul style="list-style-type: none"> • Flight Safety International • Northrop Grumman • Total Aviation Staffing • APR Consulting • California Flight School

In the greater Los Angeles/Orange County region, 29% of the flight instructor postings listed a minimum educational requirement. Exhibit 9 displays the number and percentage of job postings by educational level.

Exhibit 9: Education levels requested in job postings for flight instructors, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	6	26%
Associate degree	2	9%
High school diploma or vocational training	15	65%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *commercial pilots*. However, the national-level data shows 26% of workers in the field have completed associate degree or less educational attainment, and 74% hold a bachelor's degree or higher educational attainment. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

Exhibit 10: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
Commercial pilots	High school diploma or equivalent

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 11 shows the annual and three-year average number of awards conferred by community colleges in the related TOP code: Piloting (3020.20). The colleges with the most completions in the region are Mt. San Antonio and Cypress.

Exhibit 11: Regional community college awards (certificates and degrees), 2021-2023

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
3020.20	Piloting	Glendale	8	9	5	7
		Mt San Antonio	66	57	50	58
		LA Subtotal	74	66	55	65
		Cypress	37	43	42	41
		Fullerton	-	-	8	3
		Orange Coast	23	40	39	34
		OC Subtotal	60	83	89	77
		Supply Total/Average	134	149	144	142

Other Postsecondary Supply for Commercial Pilots

It is important to consider other avenues for *commercial pilot* training other than at community colleges. According to the Federal Aviation Administration (FAA)⁷, *commercial pilots* do not need a 2- or 4-year college degree; instead, must complete the following:

- Meet FAA Aviation English Standards
- Obtain a medical certificate
- Attend Ground School (35+ hours in an FAA-approved school)
- Attend Flight School (190+ hours)
- Pass aeronautical and practical tests

There are 19 pilot schools within 50 miles of Compton College, according to the FAA website.⁸ Program awards for these schools are not available through IPEDS; therefore, it is unknown how many piloting awards are conferred annually in the Los Angeles/Orange County region.

Other Postsecondary Supply for Certified Flight Instructors

Certified flight instructors (CFIs) do not need to obtain a postsecondary degree; instead, certified flight instructors (CFI) must obtain certification. According to FAR 61.183⁹, in order to be eligible to become a flight instructor, one must:

- Be at least 18 years of age

⁷ [Become a Pilot | Federal Aviation Administration \(faa.gov\)](https://www.faa.gov/pilot)

⁸ [Find a Facility Dashboard | Federal Aviation Administration \(faa.gov\)](https://www.faa.gov/airports)

⁹ [AC 61-65H - Certification: Pilots and Flight and Ground Instructors \(faa.gov\)](https://www.faa.gov/regulations)

- Read, write, speak, and understand English
- Hold a commercial or airline transport pilot certificate AND an instrument rating
- Log 250+ hours of flight time
- Hold a valid FAA 3rd class medical certificate
- Receive logbook endorsement from an authorized instructor on instructing fundamentals
- Pass aeronautical and practical test

Certified flight instructor programs are not included on the FAA website; however, online research shows an abundance of CFI training programs in the Los Angeles/Orange County region. Program awards are not available through IPEDS; therefore, it is unknown how many CFI certificates are conferred annually in the Los Angeles/Orange County region.

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DATA 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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