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Occupational Employment and Wages in San Diego-Carlsbad — May 2017

Workers in the San Diego-Carlsbad Metropolitan Statistical Area had an average (mean) hourly wage of \$27.12 in May 2017, about 11 percent above the nationwide average of \$24.34, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Richard Holden noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 18 of the 22 major occupational groups, including healthcare practitioners and technical; legal; and life, physical, and social science. Only one group had significantly lower wages than its respective national average: transportation and material moving.

When compared to the nationwide distribution, local employment was more highly concentrated in 9 of the 22 occupational groups, including food preparation and serving related; architecture and engineering; and personal care and service. Conversely, eight groups had employment shares significantly below their national representation, including transportation and material moving; production; and healthcare practitioners and technical. (See [table A](#) and [box note](#) at end of release.)

Table A. Occupational employment and wages by major occupational group, United States and the San Diego-Carlsbad Metropolitan Statistical Area, and measures of statistical significance, May 2017

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	San Diego	United States	San Diego	Percent difference ⁽¹⁾
Total, all occupations	100.0	100.0	\$24.34	\$27.12*	11
Management	5.1	5.8*	57.65	60.30*	5
Business and financial operations.....	5.2	6.1*	36.70	38.47*	5
Computer and mathematical	3.0	3.6*	43.18	46.49*	8
Architecture and engineering	1.8	3.0*	41.44	45.84*	11
Life, physical, and social science	0.8	1.5*	35.76	40.43*	13
Community and social service.....	1.5	1.3*	23.10	25.96*	12
Legal.....	0.8	0.8	51.62	58.41*	13
Education, training, and library.....	6.1	6.2	26.67	29.62*	11
Arts, design, entertainment, sports, and media.....	1.4	1.3	28.34	28.26	0
Healthcare practitioners and technical	6.0	5.0*	38.83	46.53*	20
Healthcare support	2.9	2.4*	15.05	17.43*	16
Protective service	2.4	2.4	22.69	26.87*	18
Food preparation and serving related	9.3	10.7*	11.88	13.87*	17
Building and grounds cleaning and maintenance ...	3.1	3.3*	13.91	15.30*	10
Personal care and service.....	3.6	4.7*	13.11	14.13*	8
Sales and related	10.2	9.9	19.56	20.15*	3
Office and administrative support.....	15.4	14.9*	18.24	19.57*	7
Farming, fishing, and forestry	0.3	0.2*	13.87	14.73	6
Construction and extraction.....	4.0	4.3*	24.01	26.95*	12
Installation, maintenance, and repair	3.9	3.2*	23.02	24.02*	4

Note: See footnotes at end of table.

Table A. Occupational employment and wages by major occupational group, United States and the San Diego-Carlsbad Metropolitan Statistical Area, and measures of statistical significance, May 2017 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	San Diego	United States	San Diego	Percent difference ⁽¹⁾
Production	6.3	4.5*	18.30	18.75	2
Transportation and material moving	7.0	4.8*	17.82	17.01*	-5

Footnotes:

(1) A positive percent difference measures how much the mean wage in the San Diego-Carlsbad Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—architecture and engineering—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. San Diego-Carlsbad had 42,820 jobs in architecture and engineering, accounting for 3.0 percent of local area employment, significantly higher than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$45.84, significantly above the national wage of \$41.44.

Some of the larger detailed occupations within the architecture and engineering group included electronics engineers, except computer (6,080), civil engineers (4,780), and mechanical engineers (3,640). Among the higher paying jobs were computer hardware engineers and electronics engineers, except computer, with mean hourly wages of \$62.24 and \$60.59, respectively. At the lower end of the wage scale were electro-mechanical technicians (\$23.99) and civil engineering technicians (\$25.26). (Detailed occupational data for architecture and engineering are presented in [table 1](#); for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_41740.htm .)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the San Diego-Carlsbad Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the architecture and engineering group. For instance, aerospace engineering and operations technicians were employed at 6.3 times the national rate in San Diego, and electronics engineers, except computer, at 4.5 times the U.S. average. On the other hand, architects, except landscape and naval, had a location quotient of 1.0 in San Diego, indicating that this particular occupation’s local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the California Employment Development Department.

Notes on Occupational Employment Statistics Data

With the release of the May 2017 estimates, the OES program has replaced 21 detailed occupations found in the 2010 Standard Occupational Classification (SOC) with 10 new aggregations of those occupations. In addition, selected 4- and 5-digit North American Industry Classification System (NAICS) industries previously published by OES will no longer be published separately. Some of the 4-digit NAICS industries that are no longer being published separately will instead be published as OES-specific industry aggregations. More information about the new occupational and industry aggregations is available at www.bls.gov/oes/changes_2017.htm.

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, and selected 5- and 6-digit industry levels, and national estimates by ownership across all industries and for schools and hospitals. OES data are available at www.bls.gov/oes/tables.htm.

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2017 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2017, November 2016, May 2016, November 2015, May 2015, and November 2014. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 72 percent based on establishments and 68 percent based on weighted sampled employment. The unweighted sample employment of 82 million across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the San Diego-Carlsbad Metropolitan Statistical Area included 6,449 establishments with a response rate of 59 percent. For more information about OES concepts and methodology, go to www.bls.gov/oes/current/oes_tec.htm.

The May 2017 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2012 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at www.bls.gov/soc and information about the 2012 NAICS is available at www.bls.gov/bls/naics.htm.

Metropolitan area definitions

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **San Diego-Carlsbad, Calif. Metropolitan Statistical Area** includes San Diego County.

Additional information

OES data are available on our regional web page at www.bls.gov/regions/west. Answers to frequently asked questions about the OES data are available at www.bls.gov/oes/oes_ques.htm. Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at www.bls.gov/oes/current/methods_statement.pdf.

Information in this release will be made available to sensory impaired individuals upon request . Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, San Diego-Carlsbad Metropolitan Statistical Area, May 2017

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Architecture and engineering occupations	42,820	1.7	\$45.84	\$95,350
Architects, except landscape and naval	1,040	1.0	45.55	94,750
Landscape architects	240	1.2	46.85	97,440
Cartographers and photogrammetrists.....	100	0.9	33.70	70,100
Surveyors	430	1.0	41.82	86,990
Aerospace engineers	1,660	2.5	52.32	108,830
Biomedical engineers	820	4.1	48.40	100,660
Chemical engineers.....	310	0.9	56.67	117,870
Civil engineers.....	4,780	1.6	43.70	90,890
Computer hardware engineers.....	2,440	3.6	62.24	129,450
Electrical engineers	3,270	1.8	50.12	104,240
Electronics engineers, except computer	6,080	4.5	60.59	126,020
Environmental engineers.....	700	1.3	46.43	96,570
Health and safety engineers, except mining safety engineers and inspectors	220	0.8	47.06	97,880
Industrial engineers	2,870	1.1	46.30	96,290
Marine engineers and naval architects.....	310	2.8	50.92	105,910
Materials engineers	330	1.2	47.46	98,710
Mechanical engineers	3,640	1.2	45.00	93,590
Mining and geological engineers, including mining safety engineers	30	0.5	46.93	97,620
Nuclear engineers	70	0.4	(5)	(5)
Engineers, all other	2,300	1.7	50.72	105,490
Architectural and civil drafters	1,520	1.6	29.94	62,280
Electrical and electronics drafters	570	2.2	30.08	62,560
Mechanical drafters	340	0.6	30.45	63,330
Drafters, all other.....	150	1.0	29.55	61,470
Aerospace engineering and operations technicians	740	6.3	32.29	67,160
Civil engineering technicians.....	1,100	1.5	25.26	52,550
Electrical and electronics engineering technicians.....	2,920	2.3	33.53	69,730
Electro-mechanical technicians.....	50	0.4	23.99	49,900
Environmental engineering technicians.....	250	1.4	32.39	67,360
Industrial engineering technicians	560	0.9	36.73	76,400
Mechanical engineering technicians	580	1.3	28.27	58,810
Engineering technicians, except drafters, all other	1,990	2.6	33.53	69,750
Surveying and mapping technicians.....	390	0.8	28.72	59,730

Footnotes:

(1) For a complete listing of all detailed occupations in San Diego-Carlsbad, CA, see www.bls.gov/oes/current/oes_41740.htm

(2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

(4) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.

(5) Estimate not released.