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## Occupational Employment and Wages in San Diego-Carlsbad — May 2018

Workers in the San Diego-Carlsbad Metropolitan Statistical Area had an average (mean) hourly wage of \$27.93 in May 2018, about 12 percent above the nationwide average of \$24.98, 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 17 of the 22 major occupational groups, including legal; healthcare practitioners and technical; and architecture and engineering. 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 8 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 office and administrative support. (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 2018**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	San Diego	United States	San Diego	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$24.98	\$27.93*	12
Management .....	5.3	5.9*	58.44	62.04*	6
Business and financial operations .....	5.3	6.3*	36.98	37.97	3
Computer and mathematical .....	3.0	3.7*	44.01	48.03*	9
Architecture and engineering .....	1.8	3.0*	42.01	46.67*	11
Life, physical, and social science .....	0.8	1.6*	36.62	40.67*	11
Community and social service .....	1.5	1.3*	23.69	26.97*	14
Legal .....	0.8	0.8	52.25	59.43*	14
Education, training, and library .....	6.1	6.0	27.22	31.35*	15
Arts, design, entertainment, sports, and media .....	1.3	1.3	28.74	29.12	1
Healthcare practitioners and technical .....	6.0	5.2*	39.42	46.17*	17
Healthcare support .....	2.8	2.3*	15.57	18.10*	16
Protective service .....	2.4	2.3	23.36	27.39*	17
Food preparation and serving related .....	9.2	10.6*	12.30	14.07*	14
Building and grounds cleaning and maintenance .....	3.1	3.1	14.43	15.71*	9
Personal care and service .....	3.8	5.0*	13.51	14.69*	9
Sales and related .....	10.0	10.3	20.09	20.29	1
Office and administrative support .....	15.1	14.3*	18.75	20.31*	8
Farming, fishing, and forestry .....	0.3	0.2*	14.49	15.54	7
Construction and extraction .....	4.1	4.3*	24.62	27.41*	11
Installation, maintenance, and repair .....	3.9	3.1*	23.54	25.17*	7

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 2018 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
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Production .....	6.3	4.4*	18.84	19.98*	6
Transportation and material moving .....	7.1	4.9*	18.41	17.83*	-3

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 mean hourly wage or percent share of employment 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 44,240 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 \$46.67, significantly above the national wage of \$42.01.

Some of the larger detailed occupations within the architecture and engineering group included electronics engineers, except computer (6,150), civil engineers (4,770), and electrical engineers (3,790). Among the higher-paying jobs in this group were nuclear engineers and computer hardware engineers, with mean hourly wages of \$67.15 and \$64.59, respectively. At the lower end of the wage scale were civil engineering technicians (\$25.12) and mechanical engineering technicians (\$28.49). (Detailed data for the architecture and engineering occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/current/oes\\_41740.htm](http://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 8.9 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.

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In addition, some smaller nonmetropolitan areas have been combined to form larger nonmetropolitan areas. The May 2018 OES estimates contain data for 134 nonmetropolitan areas, compared with 167 nonmetropolitan areas in the May 2017 estimates.

More information on these area changes is available at [www.bls.gov/oes/areas\\_2018.htm](http://www.bls.gov/oes/areas_2018.htm).

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## 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 580 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-digit, most 4-digit, 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](http://www.bls.gov/oes/tables.htm).

The OES survey is a cooperative effort between BLS and the State Workforce Agencies (SWAs). BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies collect most of the data. OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 180,000 to 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 2018 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2018, November 2017, May 2017, November 2016, May 2016, and November 2015. The unweighted sample employment of 83 million across all six semiannual panels represents approximately 58 percent of total national employment. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 71 percent based on establishments and 68 percent based on weighted sampled employment. The sample in the San Diego-Carlsbad Metropolitan Statistical Area included 6,287 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](http://www.bls.gov/oes/current/oes_tec.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.

The May 2018 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2017 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at [www.bls.gov/soc](http://www.bls.gov/soc) and information about the 2017 NAICS is available at [www.bls.gov/bls/naics.htm](http://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](http://www.bls.gov/regions/west). Answers to frequently asked questions about the OES data are available at [www.bls.gov/oes/oes\\_ques.htm](http://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](http://www.bls.gov/oes/current/methods_statement.pdf).

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**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, San Diego-Carlsbad Metropolitan Statistical Area, May 2018**

Occupation (1)	Employment		Mean wages	
	Level (2)	Location quotient (3)	Hourly	Annual (4)
Architecture and engineering occupations .....	44,240	1.7	\$46.67	\$97,070
Architects, except landscape and naval .....	1,020	1.0	44.73	93,040
Landscape architects .....	240	1.3	48.42	100,720
Cartographers and photogrammetrists.....	110	1.0	33.09	68,830
Surveyors .....	370	0.8	43.58	90,650
Aerospace engineers .....	1,760	2.7	50.78	105,610
Biomedical engineers .....	700	3.6	43.33	90,140
Chemical engineers.....	230	0.7	52.76	109,740
Civil engineers.....	4,770	1.5	45.21	94,040
Computer hardware engineers.....	2,350	3.8	64.59	134,350
Electrical engineers .....	3,790	2.0	49.27	102,490
Electronics engineers, except computer .....	6,150	4.5	61.61	128,140
Environmental engineers.....	930	1.7	46.93	97,610
Health and safety engineers, except mining safety engineers and inspectors .....	200	0.8	47.75	99,330
Industrial engineers .....	3,780	1.3	46.93	97,620
Marine engineers and naval architects.....	30	0.3	46.39	96,490
Materials engineers .....	310	1.1	48.04	99,930
Mechanical engineers .....	3,720	1.2	46.38	96,460
Nuclear engineers .....	80	0.5	67.15	139,670
Engineers, all other .....	2,390	1.7	53.91	112,140
Architectural and civil drafters .....	1,410	1.4	30.36	63,140
Electrical and electronics drafters .....	450	1.8	29.71	61,790
Mechanical drafters .....	500	0.9	35.81	74,490
Drafters, all other.....	110	0.8	30.51	63,470
Aerospace engineering and operations technicians .....	910	8.9	32.38	67,350
Civil engineering technicians.....	830	1.2	25.12	52,240
Electrical and electronics engineering technicians.....	3,130	2.4	34.42	71,590
Electro-mechanical technicians.....	130	0.9	29.63	61,640
Environmental engineering technicians.....	250	1.4	32.39	67,360
Industrial engineering technicians .....	610	0.9	36.97	76,900
Mechanical engineering technicians .....	520	1.2	28.49	59,250
Engineering technicians, except drafters, all other .....	2,080	2.5	34.76	72,300
Surveying and mapping technicians.....	360	0.7	30.43	63,300

Footnotes:

(1) For a complete listing of all detailed occupations in the San Diego-Carlsbad, CA Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_41740.htm](http://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.

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