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## Occupational Employment and Wages in Boulder — May 2015

Workers in the Boulder Metropolitan Statistical Area had an average (mean) hourly wage of \$27.90 in May 2015, about 20 percent above the nationwide average of \$23.23, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Stanley W. Suchman noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 15 of the 22 major occupational groups, including architecture and engineering; management; and life, physical, and social science. Only one group had significantly lower wages than their respective national averages: construction and extraction.

When compared to the nationwide distribution, local employment was more highly concentrated in 7 of the 22 occupational groups, including computer and mathematical; life, physical, and social science; and architecture and engineering. Conversely, 11 groups had employment shares significantly below their national representation, including transportation and material moving; office and administrative support; and construction and extraction. (See [table A](#) and [box note](#) at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Boulder Metropolitan Statistical Area, and measures of statistical significance, May 2015**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Boulder	United States	Boulder	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0%	100.0%	\$23.23	\$27.90*	20
Management .....	5.0	5.2	55.30	62.20*	12
Business and Financial Operations .....	5.1	7.1*	35.48	37.18*	5
Computer and Mathematical .....	2.9	6.7*	41.43	44.70*	8
Architecture and Engineering .....	1.8	4.1*	39.89	47.17*	18
Life, Physical, and Social Science .....	0.8	3.5*	34.24	39.45*	15
Community and Social Service .....	1.4	1.2*	22.19	23.22	5
Legal .....	0.8	0.8	49.74	43.17	-13
Education, Training, and Library .....	6.2	7.2*	25.48	28.47*	12
Arts, Design, Entertainment, Sports, and Media .....	1.3	2.4*	27.39	26.14	-5
Healthcare Practitioners and Technical .....	5.8	5.2*	37.40	39.21	5
Healthcare Support .....	2.9	2.0*	14.19	16.76*	18
Protective Service .....	2.4	1.2*	21.45	23.99*	12
Food Preparation and Serving Related .....	9.1	10.2*	10.98	11.96*	9
Building and Grounds Cleaning and Maintenance .....	3.2	2.4*	13.02	13.91*	7
Personal Care and Service .....	3.1	2.9*	12.33	15.36*	25
Sales and Related .....	10.5	10.4	18.90	24.01*	27
Office and Administrative Support .....	15.8	13.5*	17.47	18.74*	7
Farming, Fishing, and Forestry .....	0.3	(2)	12.67	12.81	1
Construction and Extraction .....	4.0	2.3*	22.88	21.12*	-8
Installation, Maintenance, and Repair .....	3.9	2.4*	22.11	23.19*	5

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Boulder Metropolitan Statistical Area, and measures of statistical significance, May 2015 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Boulder	United States	Boulder	Percent difference <sup>(1)</sup>
Production .....	6.6	5.6*	17.41	18.24*	5
Transportation and Material Moving .....	6.9	3.6*	16.90	18.36	9

Footnotes:

(1) A positive percent difference measures how much the mean wage in Boulder is above the national mean wage, while a negative difference reflects a lower wage.

(2) Estimate not released

\* 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. Boulder had 7,110 jobs in architecture and engineering, accounting for 4.1 percent of local area employment, significantly higher than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$47.17, significantly above the national wage of \$39.89.

Some of the larger detailed occupations within the architecture and engineering group included electronics engineers, except computer (1,000), mechanical engineers (810), and aerospace engineers (630). Among the higher paying jobs were aerospace engineers and materials engineers, with mean hourly wages of \$67.65 and \$64.61, respectively. At the lower end of the wage scale were architectural and civil drafters (\$27.05) and electrical and electronics engineering technicians (\$27.10). (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/2015/may/oes\\_14500.htm](http://www.bls.gov/oes/2015/may/oes_14500.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 Boulder Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the architecture and engineering group. For instance, aerospace engineers were employed at 7.5 times the national rate in Boulder, and electronics engineers, except computer, at 5.9 times the U.S. average.

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 Colorado Department of Labor & Employment.

## Notes on Occupational Employment Statistics Data

With the issuance of data for May 2015, the OES program has incorporated redefined metropolitan area definitions as designated by the Office of Management and Budget. OES data are available for 394 metropolitan areas, 38 metropolitan divisions, and 167 OES-defined nonmetropolitan areas. A listing of the areas and their definitions can be found at [www.bls.gov/oes/current/msa\\_def.htm](http://www.bls.gov/oes/current/msa_def.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 mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES program produces employment and wage estimates for over 800 occupations for all industries combined in the nation; the 50 states and the District of Columbia; 432 metropolitan areas and divisions; 167 nonmetropolitan areas; and Guam, Puerto Rico, and the U.S. Virgin Islands. National estimates are also available by industry for NAICS sectors, 3-, 4-, and selected 5- and 6-digit industries, and 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).

OES estimates are constructed from a sample of about 1.2 million establishments. Forms are mailed to approximately 200,000 sampled establishments in May and November each year. May 2015 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2015, November 2014, May 2014, November 2013, May 2013, and November 2012. The overall national response rate for the six panels is 73.5 percent based on establishments and 69.6 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 57.9 percent of total national employment. (Response rates are slightly lower for these estimates due to the federal shutdown in October 2013.) The sample in the Boulder Metropolitan Statistical Area included 2,118 establishments with a response rate of 75 percent. For more information about OES concepts and methodology, go to [www.bls.gov/news.release/ocwage.tn.htm](http://www.bls.gov/news.release/ocwage.tn.htm).

The May 2015 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](http://www.bls.gov/soc) and information about the 2012 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 **Boulder, Colo. Metropolitan Statistical Area** includes Boulder County.

## **Additional information**

OES data are available on our regional web page at [www.bls.gov/regions/mountain-plains](http://www.bls.gov/regions/mountain-plains). 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/2015/may/methods\\_statement.pdf](http://www.bls.gov/oes/2015/may/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, Boulder Metropolitan Statistical Area, May 2015**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Architecture and Engineering Occupations.....	7,110	2.3	\$47.17	\$98,110
Architects, Except Landscape and Naval.....	270	2.3	29.82	62,020
Landscape Architects.....	(5)	(5)	32.20	66,970
Cartographers and Photogrammetrists.....	70	4.4	28.33	58,920
Surveyors.....	60	1.0	27.28	56,750
Aerospace Engineers.....	630	7.5	67.65	140,720
Chemical Engineers.....	120	3.1	42.61	88,620
Civil Engineers.....	510	1.5	37.23	77,440
Computer Hardware Engineers.....	450	4.8	55.04	114,480
Electrical Engineers.....	460	2.1	47.98	99,800
Electronics Engineers, Except Computer.....	1,000	5.9	56.03	116,550
Environmental Engineers.....	110	1.7	40.52	84,290
Industrial Engineers.....	570	1.9	45.99	95,660
Materials Engineers.....	170	5.1	64.61	134,400
Mechanical Engineers.....	810	2.4	51.77	107,690
Engineers, All Other.....	310	2.0	57.29	119,170
Architectural and Civil Drafters.....	160	1.3	27.05	56,270
Electrical and Electronics Drafters.....	50	1.5	27.21	56,590
Mechanical Drafters.....	60	0.8	28.57	59,430
Aerospace Engineering and Operations Technicians.....	170	10.8	37.57	78,130
Civil Engineering Technicians.....	30	0.4	29.43	61,220
Electrical and Electronics Engineering Technicians.....	290	1.7	27.10	56,370
Electro-Mechanical Technicians.....	30	1.8	29.77	61,920
Industrial Engineering Technicians.....	90	1.2	32.27	67,120
Mechanical Engineering Technicians.....	110	1.8	36.00	74,880
Engineering Technicians, Except Drafters, All Other.....	190	2.2	31.42	65,350

Footnotes:

- (1) For a complete listing of all detailed occupations in the Boulder, CO Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_14500.htm](http://www.bls.gov/oes/current/oes_14500.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.