



**For Release: Wednesday, June 26, 2019**

**19-1119-PHI**

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## **Occupational Employment and Wages in Washington-Arlington-Alexandria – May 2018**

Workers in the Washington-Arlington-Alexandria Metropolitan Statistical Area had an average (mean) hourly wage of \$34.12 in May 2018, 37 percent above the nationwide average of \$24.98, according to the U.S. Bureau of Labor Statistics. Sheila Watkins, the Bureau's regional commissioner, noted that after testing for statistical significance, wages in the local area were higher than their respective national averages in almost all of the 22 major occupational groups in the local area—with the exception of construction and extraction.

When compared to the nationwide distribution, local employment shares were significantly higher in 9 of the 22 occupational groups including business and financial operations, computer and mathematical, and management. Conversely, 12 groups had employment shares significantly below their national representation; these groups included production, transportation and material moving, 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 Washington-Arlington-Alexandria Metropolitan Statistical Area, and measures of statistical significance, May 2018**

Major occupational group	Percent of total employment			Mean hourly wage			Percent difference <sup>(1)</sup>
	United States	Washington		United States	Washington		
Total, all occupations .....	100	100		\$24.98	\$34.12	*	37
Management .....	5.3	7.8	*	58.44	72.10	*	23
Business and financial operations .....	5.3	9.9	*	36.98	45.57	*	23
Computer and mathematical .....	3.0	7.4	*	44.01	51.81	*	18
Architecture and engineering .....	1.8	2.0	*	42.01	50.30	*	20
Life, physical, and social science .....	0.8	2.0	*	36.62	51.24	*	40
Community and social service .....	1.5	1.3	*	23.69	29.25	*	23
Legal .....	0.8	2.2	*	52.25	69.97	*	34
Education, training, and library .....	6.1	6.3		27.22	31.33	*	15
Arts, design, entertainment, sports, and media .....	1.3	2.3	*	28.74	39.24	*	37
Healthcare practitioners and technical .....	6.0	4.9	*	39.42	46.31	*	17
Healthcare support .....	2.8	2.2	*	15.57	16.93	*	9
Protective service .....	2.4	2.8	*	23.36	28.47	*	22
Food preparation and serving related .....	9.2	8.3	*	12.30	14.00	*	14
Building and grounds cleaning and maintenance .....	3.1	3.4	*	14.43	15.58	*	8
Personal care and service .....	3.8	3.1	*	13.51	15.18	*	12
Sales and related .....	10.0	8.7	*	20.09	22.23	*	11
Office and administrative support .....	15.1	12.7	*	18.75	21.96	*	17
Farming, fishing, and forestry .....	0.3	0.1	*	14.49	19.22	*	33
Construction and extraction .....	4.1	3.6	*	24.62	24.92		1

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Washington-Arlington-Alexandria Metropolitan Statistical Area, and measures of statistical significance, May 2018 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			
	United States	Washington		United States	Washington		Percent difference <sup>(1)</sup>
Installation, maintenance, and repair .....	3.9	3.2	*	23.54	27.02	*	15
Production .....	6.3	1.7	*	18.84	20.50	*	9
Transportation and material moving.....	7.1	4.2	*	18.41	20.57	*	12

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Washington-Arlington-Alexandria 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—computer and mathematical—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Washington had 232,290 jobs in the computer and mathematical group, accounting for 7.4 percent of local area employment, significantly higher than the 3.0-percent share nationally. The average hourly wage for this occupational group locally was \$51.81, significantly higher than the national average of \$44.01.

Some of the larger detailed occupations within the computer and mathematical group in the Washington area included application software developers (33,530) and computer systems analysts (27,810). Among the higher paying jobs in this group were computer and information research scientists and systems software developers, with mean hourly wages of \$62.24 and \$58.86, respectively. At the lower end of the wage scale were computer user support specialists (\$30.97) and computer network support specialists (\$38.14). (Detailed data for computer and mathematical occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to [https://www.bls.gov/oes/current/oes\\_47900.htm](https://www.bls.gov/oes/current/oes_47900.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 as it does nationally. In the Washington metropolitan area, above-average concentrations of employment were found in nearly all of the detailed occupations within the computer and mathematical group. For instance, statisticians were employed at 5.2 times the national rate in Washington, and information security analysts, at 6.2 times the U.S. average. On the other hand, actuaries had a location quotient of 0.9 in Washington, meaning the local employment share in this particular occupation was similar to the national share.

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 District of Columbia Department of Employment Services, the Virginia Employment Commission, the Maryland Department of Labor, Licensing, and Regulation, and WorkForce West Virginia.

## **Area Changes to the May 2018 Occupational Employment Statistics (OES)**

OES continues to publish data for metropolitan and nonmetropolitan areas that cover the full geography of the United States. However, the level of detail available has decreased.

OES no longer publishes data for metropolitan divisions. Data for the 11 large metropolitan areas that contain divisions are now available at the Metropolitan Statistical Area (MSA) or New England City and Town Area (NECTA) level only.

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

## **Implementing the 2018 Standard Occupational Classification (SOC) System**

The OES program plans to begin implementing the 2018 Standard Occupational Classification (SOC) system with the May 2019 estimates, to be released by early April of 2020. Because each set of OES estimates is produced by combining three years of survey data, estimates for May 2019 and May 2020 will be based on a combination of survey data collected under the 2010 SOC and data collected under the 2018 SOC, and will use a hybrid of the two classification systems. The May 2021 OES estimates, to be released by early April of 2022, will be the first set of estimates based fully on the 2018 SOC. For more information, please see [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm).

## **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 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 Washington-Arlington-Alexandria Metropolitan Statistical Area included 15,658 establishments with a response rate of 65 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 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 **Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area** includes the District of Columbia; Arlington, Clarke, Culpeper, Fairfax, Fauquier, Loudoun, Prince William, Rappahannock, Spotsylvania, Stafford, and Warren Counties, and Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, and Manassas Park Cities in Virginia; Calvert, Charles, Frederick, Montgomery, and Prince George's Counties in Maryland; and Jefferson County in West Virginia.

### **Additional information**

OES data are available on our regional web page at <https://www.bls.gov/regions/mid-atlantic>. 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).

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, Washington-Arlington-Alexandria Metropolitan Statistical Area, May 2018**

Occupation <sup>(1)</sup>	Employment <sup>(2)</sup>		Mean wage	
	Level	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Computer and mathematical occupations.....	232,290	2.5	\$51.81	\$107,760
Computer and information research scientists.....	3,490	5.4	62.24	129,460
Computer systems analysts.....	27,810	2.2	50.67	105,390
Information security analysts.....	14,540	6.2	55.23	114,880
Computer programmers.....	7,560	1.5	47.11	97,980
Software developers, applications.....	33,530	1.7	56.47	117,450
Software developers, systems software.....	30,230	3.4	58.86	122,420
Web developers.....	4,530	1.6	44.50	92,570
Database administrators.....	5,410	2.3	48.44	100,750
Network and computer systems administrators.....	20,230	2.6	49.03	101,980
Computer network architects.....	9,800	3.0	60.41	125,660
Computer user support specialists.....	19,090	1.4	30.97	64,430
Computer network support specialists.....	7,200	1.8	38.14	79,330
Computer occupations, all other.....	34,980	4.2	55.70	115,850
Actuaries.....	390	0.9	50.87	105,810
Mathematicians.....	260	4.7	66.78	138,900
Operations research analysts.....	8,550	3.8	51.77	107,690
Statisticians.....	4,510	5.2	50.86	105,780
Miscellaneous mathematical science occupations.....	180	4.0	30.78	64,020

Footnotes:

(1) For a complete listing of all detailed occupations in the Washington-Arlington-Alexandria Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_47900.htm](http://www.bls.gov/oes/current/oes_47900.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.