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## Occupational Employment and Wages in Virginia Beach-Norfolk-Newport News – May 2018

Workers in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area had an average (mean) hourly wage of \$23.29 in May 2018, 7 percent below 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 lower than their respective national averages in 14 of the 22 major occupational groups, including legal, sales and related, and building and grounds cleaning and maintenance.

When compared to the nationwide distribution, local employment shares were significantly higher in 8 of the 22 occupational groups including architecture and engineering; construction and extraction; and installation, maintenance, and repair. Conversely, seven groups had employment shares significantly below their national representation; these groups included management, production, and transportation and material moving. (See [table A](#) and box note at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Virginia News-Norfolk-Newport News 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	Virginia Beach		United States	Virginia Beach		
Total, all occupations .....	100	100		\$24.98	\$23.29	*	-7
Management .....	5.3	3.5	*	58.44	57.43		-2
Business and financial operations.....	5.3	5.7	*	36.98	36.25	*	-2
Computer and mathematical .....	3.0	2.8	*	44.01	40.91	*	-7
Architecture and engineering .....	1.8	2.9	*	42.01	39.84	*	-5
Life, physical, and social science .....	0.8	0.8		36.62	34.22	*	-7
Community and social service.....	1.5	1.6		23.69	24.03		1
Legal.....	0.8	0.6	*	52.25	39.68	*	-24
Education, training, and library.....	6.1	6.0		27.22	27.81		2
Arts, design, entertainment, sports, and media.	1.3	1.2	*	28.74	24.68	*	-14
Healthcare practitioners and technical .....	6.0	5.9		39.42	37.36	*	-5
Healthcare support .....	2.8	2.9		15.57	15.80		1
Protective service .....	2.4	2.7	*	23.36	21.32	*	-9
Food preparation and serving related .....	9.2	9.8	*	12.30	11.39	*	-7
Building and grounds cleaning and maintenance .....	3.1	3.3	*	14.43	12.47	*	-14
Personal care and service .....	3.8	3.6		13.51	12.25	*	-9
Sales and related .....	10.0	10.7	*	20.09	17.01	*	-15
Office and administrative support.....	15.1	15.0		18.75	17.74	*	-5
Farming, fishing, and forestry.....	0.3	0.1	*	14.49	16.46	*	14
Construction and extraction.....	4.1	5.0	*	24.62	21.88	*	-11

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Virginia News-Norfolk-Newport News Metropolitan Statistical Area, and measures of statistical significance, May 2018 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			Percent difference <sup>(1)</sup>
	United States	Virginia Beach	*	United States	Virginia Beach		
Installation, maintenance, and repair .....	3.9	4.7	*	23.54	23.69		1
Production .....	6.3	4.7	*	18.84	19.97		6
Transportation and material moving.....	7.1	6.6	*	18.41	18.18		-1

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Virginia Beach 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. Virginia Beach had 21,830 jobs in architecture and engineering, accounting for 2.9 percent of local area employment, significantly higher than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$39.84, significantly less than the national wage of \$42.01.

Some of the larger detailed occupations within the architecture and engineering group included engineering technicians, except drafters, all other (2,470) and mechanical engineers (2,120). Among the higher-paying jobs in this group were aerospace engineers and computer hardware engineers, with mean hourly wages of \$57.14 and \$51.23, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$20.34) and architectural and civil drafters (\$25.28). (Detailed data for 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\\_47260.htm](http://www.bls.gov/oes/current/oes_47260.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 Virginia Beach area, above-average concentrations of employment were found in several of the occupations within the architecture and engineering group. For instance, electro-mechanical technicians were employed at 4.3 times the national rate in Virginia Beach, and marine engineers and naval architects at 21.4 times the U.S. average. On the other hand, architects, except landscape and naval, had a location quotient of 1.0 in Virginia Beach, 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 Virginia Employment Commission and the North Carolina Department of Commerce.

## **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 Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area included 4,286 establishments with a response rate of 64 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 **Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area** includes Gates, Gloucester, Isle of Wight, James City, Mathews, and York Counties and Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg cities in Virginia and Currituck County in North Carolina.

### **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, Virginia Beach-Norfolk-Newport News 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>
Architecture and engineering occupations .....	21,830	1.6	\$39.84	\$82,860
Architects, except landscape and naval .....	570	1.0	39.86	82,910
Landscape architects .....	(5)	(5)	32.77	68,160
Cartographers and photogrammetrists .....	90	1.5	30.04	62,490
Surveyors .....	210	0.9	35.89	74,660
Aerospace engineers .....	830	2.5	57.14	118,850
Biomedical engineers .....	(5)	(5)	33.64	69,980
Civil engineers .....	1,900	1.2	41.81	86,960
Computer hardware engineers .....	210	0.7	51.23	106,560
Electrical engineers .....	1,440	1.5	44.76	93,090
Electronics engineers, except computer .....	1,010	1.5	44.83	93,240
Environmental engineers .....	300	1.1	42.42	88,230
Health and safety engineers, except mining safety engineers and inspectors .....	100	0.7	40.99	85,260
Industrial engineers .....	970	0.7	42.45	88,300
Marine engineers and naval architects .....	1,260	21.4	42.66	88,730
Materials engineers .....	150	1.1	50.15	104,310
Mechanical engineers .....	2,120	1.3	41.29	85,890
Engineers, all other .....	1,120	1.5	48.94	101,790
Architectural and civil drafters .....	460	0.9	25.28	52,590
Electrical and electronics drafters .....	100	0.8	33.48	69,630
Mechanical drafters .....	(5)	(5)	29.32	60,980
Drafters, all other .....	40	0.5	26.22	54,540
Civil engineering technicians .....	500	1.4	29.60	61,570
Electrical and electronics engineering technicians .....	2,090	3.2	34.03	70,790
Electro-mechanical technicians .....	300	4.3	25.17	52,350
Environmental engineering technicians .....	40	0.4	19.43	40,420
Industrial engineering technicians .....	290	0.8	30.45	63,330
Mechanical engineering technicians .....	350	1.6	29.14	60,610
Engineering technicians, except drafters, all other .....	2,470	5.7	36.76	76,450
Surveying and mapping technicians .....	370	1.4	20.34	42,300

Footnotes:

- (1) For a complete listing of all detailed occupations in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_47260.htm](http://www.bls.gov/oes/current/oes_47260.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) Estimates not released.