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## Occupational Employment and Wages in Virginia Beach-Norfolk-Newport News – May 2019

Workers in the Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area had an average (mean) hourly wage of \$23.86 in May 2019, about 7 percent below the nationwide average of \$25.72, the U.S. Bureau of Labor Statistics reported today. 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 15 of the 22 major occupational groups, including legal, sales and related, and computer and mathematical.

When compared to the nationwide distribution, Virginia Beach area employment was more highly concentrated in 7 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, including management, production, and healthcare 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 Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area, and measures of statistical significance, May 2019**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Virginia Beach	United States	Virginia Beach	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$25.72	\$23.86*	-7
Management .....	5.5	3.9*	58.88	56.39*	-4
Business and financial operations .....	5.6	6.0*	37.56	36.35*	-3
Computer and mathematical .....	3.1	2.9*	45.08	41.79*	-7
Architecture and engineering .....	1.8	2.9*	42.69	40.18*	-6
Life, physical, and social science .....	0.9	0.9	37.28	35.38	-5
Community and social service .....	1.5	1.5	24.27	24.22	0
Legal .....	0.8	0.6*	52.71	42.36*	-20
Educational instruction and library .....	6.1	6.0	27.75	28.24	2
Arts, design, entertainment, sports, and media .....	1.4	1.3	29.79	26.72*	-10
Healthcare practitioners and technical .....	5.9	5.9	40.21	37.94*	-6
Healthcare support .....	4.4	3.9*	14.91	14.44	-3
Protective service .....	2.4	2.8*	23.98	21.78*	-9
Food preparation and serving related .....	9.2	9.5*	12.82	11.54*	-10
Building and grounds cleaning and maintenance .....	3.0	3.2	15.03	12.70*	-16
Personal care and service .....	2.2	2.7*	15.03	13.39*	-11
Sales and related .....	9.8	9.8	20.70	17.55*	-15
Office and administrative support .....	13.3	12.8*	19.73	18.50*	-6
Farming, fishing, and forestry .....	0.3	0.1*	15.07	17.32*	15

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area, and measures of statistical significance, May 2019 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Virginia Beach	United States	Virginia Beach	Percent difference <sup>(1)</sup>
Construction and extraction.....	4.2	5.2*	25.28	22.57*	-11
Installation, maintenance, and repair .....	3.9	4.8*	24.10	23.69	-2
Production .....	6.2	4.9*	19.30	20.14	4
Transportation and material moving .....	8.5	8.4	18.23	17.31*	-5

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Virginia Beach-Norfolk-Newport News, VA-NC 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 22,000 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 \$40.18, significantly below the national wage of \$42.69.

Some of the larger detailed occupations within the architecture and engineering group included civil engineers (2,020), mechanical engineers (2,000), and electrical and electronic engineering technologists and technicians (1,970). Among the higher-paying jobs in this group were materials engineers and aerospace engineers, with mean hourly wages of \$57.45 and \$57.30, respectively. At the lower end of the wage scale were environmental engineering technologists and technicians (\$20.16) and surveying and mapping technicians (\$20.27). (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\\_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 than it does nationally. In the Virginia Beach area, above-average concentrations of employment were found in some of the occupations within the architecture and engineering group. For instance, marine engineers and naval architects were employed at 26.0 times the national rate in Virginia Beach, and electrical and electronic engineering technologists and technicians, at 3.1 times the U.S. average. 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.

## **Changes to the Occupational Employment Statistics (OES) Data**

With the May 2019 estimates, the OES program has begun implementing the 2018 Standard Occupational Classification (SOC) system. Each set of OES estimates is calculated from six panels of survey data collected over three years. Because the May 2019 estimates are based on a combination of survey data collected using the 2010 SOC and survey data collected using the 2018 SOC, these estimates use a hybrid of the two classification systems that contains some combinations of occupations that are not found in either the 2010 or 2018 SOC. These combinations may include occupations from more than one 2018 SOC minor group or broad occupation. Therefore, OES will not publish data for some 2018 SOC minor groups and broad occupations in the May 2019 estimates. The May 2021 estimates, to be published in Spring 2022, will be the first OES estimates based entirely on survey data collected using the 2018 SOC.

In addition, the OES program has replaced some 2018 SOC detailed occupations with SOC broad occupations or OES-specific aggregations. These include home health aides and personal care aides, for which OES will publish only the 2018 SOC broad occupation 31-1120 Home Health and Personal Care Aides.

For more information on the occupational classification system used in the May 2019 OES estimates, please see [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm) and [www.bls.gov/oes/oes\\_ques.htm#qf10](http://www.bls.gov/oes/oes_ques.htm#qf10).

The May 2019 OES estimates use the metropolitan area definitions delineated in Office of Management and Budget (OMB) Bulletin 17-01, which add a new Metropolitan Statistical Area (MSA) for Twin Falls, Idaho. For more information on the area definitions used in the May 2019 estimates, please see [www.bls.gov/oes/current/msa\\_def.htm](http://www.bls.gov/oes/current/msa_def.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 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 1.1 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 2019 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2019, November 2018, May 2018, November 2017, May 2017, and November 2016. The unweighted sample employment of 83 million across all six semiannual panels represents approximately 57 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, VA-NC Metropolitan Statistical Area included 4,186 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 2019 OES estimates are the first set of OES estimates to be based in part on survey data collected using the 2018 SOC. These estimates use a hybrid of the 2010 and 2018 SOC systems. More information on the hybrid classification system is available at [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm).

The May 2019 OES estimates are based on the 2017 North American Industry Classification System (NAICS). More 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 Metropolitan Statistical Area** includes Chesapeake city, VA, Currituck, NC, Gloucester, VA, Hampton city, VA, Isle of Wight, VA, James City, VA, Mathews, VA, Newport News city, VA, Norfolk city, VA, Poquoson city, VA, Portsmouth city, VA, Suffolk city, VA, Surry, VA, Virginia Beach city, VA, Williamsburg city, VA, and York, VA.

### **For more information**

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 information about the OES program is available at [www.bls.gov/oes/oes\\_doc.htm](http://www.bls.gov/oes/oes_doc.htm).

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 for architecture and engineering occupations, Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area, May 2019**

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 .....	22,000	1.6	\$40.18	\$83,570
Architects, except landscape and naval .....	520	1.0	42.71	88,830
Landscape architects .....	120	1.2	33.15	68,950
Cartographers and photogrammetrists.....	70	1.1	30.32	63,070
Surveyors .....	290	1.3	34.08	70,880
Aerospace engineers .....	810	2.5	57.30	119,190
Bioengineers and biomedical engineers .....	(5)	(5)	34.59	71,950
Civil engineers.....	2,020	1.3	41.05	85,380
Computer hardware engineers.....	250	0.7	51.76	107,660
Electrical engineers.....	1,190	1.3	45.63	94,910
Electronics engineers, except computer .....	950	1.4	46.73	97,200
Environmental engineers.....	290	1.1	42.65	88,700
Health and safety engineers, except mining safety engineers and inspectors .....	110	0.8	44.48	92,510
Industrial engineers.....	1,070	0.7	44.65	92,870
Marine engineers and naval architects.....	1,520	26.0	43.23	89,910
Materials engineers.....	160	1.2	57.45	119,490
Mechanical engineers .....	2,000	1.3	41.94	87,240
Engineers, all other .....	1,110	1.4	49.86	103,710
Architectural and civil drafters .....	510	1.0	25.31	52,640
Electrical and electronics drafters .....	80	0.6	29.15	60,640
Mechanical drafters.....	310	1.1	29.25	60,830
Civil engineering technologists and technicians.....	550	1.5	29.73	61,840
Electrical and electronic engineering technologists and technicians .....	1,970	3.1	34.61	72,000
Electro-mechanical and mechatronics technologists and technicians .....	340	4.7	25.15	52,310
Environmental engineering technologists and technicians .....	40	0.5	20.16	41,940
Industrial engineering technologists and technicians.....	240	0.7	31.01	64,500
Mechanical engineering technologists and technicians ..	340	1.6	29.44	61,220
Surveying and mapping technicians.....	550	2.0	20.27	42,160
Calibration technologists and technicians and engineering technologists and technicians, except drafters, all other .....	2,540	5.6	36.97	76,900

**Footnotes:**

(1) For a complete listing of all detailed occupations in the Virginia Beach-Norfolk-Newport News, VA-NC 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 may not sum to the totals due to rounding, and because the totals may include occupations that are 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.