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MID-ATLANTIC INFORMATION OFFICE: Philadelphia, Pa.

Technical information: (215) 597-3282 • BLSInfoPhiladelphia@bls.gov • www.bls.gov/regions/mid-atlantic

Media contact: (215) 861-5600 • BLSMediaPhiladelphia@bls.gov

## **Occupational Employment and Wages in Virginia Beach-Norfolk-Newport News – May 2015**

Workers in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area had an average (mean) hourly wage of \$21.85 in May 2015, 6 percent below the nationwide average of \$23.23, 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 significantly lower than their respective national averages in 14 of the 22 major occupational groups, including legal; arts, design, entertainment, sports, and media; and sales and related. No group had average hourly wages that were significantly higher than their respective national averages.

When compared to the nationwide distribution, Virginia Beach employment shares were significantly higher in 6 of the 22 occupational groups including architecture and engineering; construction and extraction; and food preparation and serving related. Conversely, eight groups had employment shares significantly below their national representation; these groups included production; management; 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 Virginia Beach metropolitan area, and measures of statistical significance, May 2015**

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%	100%		\$23.23	1900-01-20	*	-6
Management.....	5.0	3.7	*	55.30	54.35	*	-2
Business and financial operations.....	5.1	5.5	*	35.48	34.06	*	-4
Computer and mathematical.....	2.9	3.1		41.43	38.53	*	-7
Architecture and engineering.....	1.8	2.9	*	39.89	37.86	*	-5
Life, physical, and social science.....	0.8	0.7		34.24	33.08		-3
Community and social service.....	1.4	1.5		22.19	21.45	*	-3
Legal.....	0.8	0.5	*	49.74	38.69	*	-22
Education, training, and library.....	6.2	6.2		25.48	24.81		-3
Arts, design, entertainment, sports, and media.....	1.3	1.1	*	27.39	22.97	*	-16
Healthcare practitioners and technical.....	5.8	5.9		37.40	35.32	*	-6
Healthcare support.....	2.9	2.7	*	14.19	13.37	*	-6
Protective service.....	2.4	2.6		21.45	19.91	*	-7
Food preparation and serving related.....	9.1	9.8	*	10.98	11.01		0
Building and grounds cleaning and maintenance.....	3.2	3.3		13.02	11.68	*	-10
Personal care and service.....	3.1	3.2		12.33	11.52	*	-7

**Table A. Occupational employment and wages by major occupational group, United States and Virginia Beach metropolitan area, and measures of statistical significance, May 2015 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			
	United States	Virginia Beach		United States	Virginia Beach		Percent difference <sup>(1)</sup>
Sales and related.....	10.5	11.2	*	18.90	15.99	*	-15
Office and administrative support.....	15.8	15.3	*	17.47	16.70	*	-4
Farming, fishing, and forestry.....	0.3	0.1	*	12.67	13.24		4
Construction and extraction.....	4.0	5.0	*	22.88	20.23	*	-12
Installation, maintenance, and repair.....	3.9	4.4	*	22.11	21.86		-1
Production.....	6.6	5.0	*	17.41	18.53		6
Transportation and material moving.....	6.9	6.3	*	16.90	17.32		2

\* 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.

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

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 21,120 jobs in architecture and engineering, accounting for 2.9 percent of local area employment, significantly larger than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$37.86, significantly less than the national wage of \$39.89.

Some of the larger detailed occupations within the architecture and engineering group included electrical and electronics engineering technicians (2,000) and civil engineers (1,940). Among the higher-paying jobs were computer hardware engineers and aerospace engineers, with mean hourly wages of \$56.48 and \$54.56, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$19.64) and civil engineering technicians (\$23.78). (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/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, nuclear engineers were employed at 16.1 times the national rate in Virginia Beach, and marine engineers and naval architects at 19.7 times the U.S. average. On the other hand, architects, except landscape and naval had a location quotient of 0.9 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.

## 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 Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area included 4,460 establishments with a response rate of 69 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 **Virginia Beach-Norfolk-Newport News, Va.-N.C. Metropolitan Statistical Area** includes Gloucester,

Isle of Wight, James City, Mathews, Surry, 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 <http://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 2015**

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.....	21,120	1.6	\$37.86	\$78,740
Architects, except landscape and naval.....	460	0.9	37.31	77,600
Landscape architects.....	80	0.8	31.59	65,700
Cartographers and photogrammetrists.....	60	1.0	30.49	63,420
Surveyors.....	240	1.1	32.91	68,450
Aerospace engineers.....	790	2.2	54.56	113,480
Biomedical engineers.....	(5)	(5)	40.09	83,390
Chemical engineers.....	100	0.6	(5)	(5)
Civil engineers.....	1,940	1.3	40.95	85,180
Computer hardware engineers.....	220	0.6	56.48	117,480
Electrical engineers.....	1,370	1.5	41.26	85,820
Electronics engineers, except computer.....	1,180	1.6	43.61	90,700
Environmental engineers.....	350	1.3	40.32	83,870
Health and safety engineers, except mining safety engineers and inspectors.....	130	1.0	36.59	76,110
Industrial engineers.....	770	0.6	40.80	84,850
Marine engineers and naval architects.....	790	19.7	44.11	91,750
Materials engineers.....	130	0.9	50.48	105,010
Mechanical engineers.....	1,690	1.1	42.11	87,590
Nuclear engineers.....	1,440	16.1	39.04	81,190
Engineers, all other.....	1,320	2.0	46.41	96,530
Architectural and civil drafters.....	280	0.6	24.23	50,390
Electrical and electronics drafters.....	150	1.0	23.83	49,560
Drafters, all other.....	(5)	(5)	29.04	60,400
Aerospace engineering and operations technicians.....	(5)	(5)	31.73	65,990
Civil engineering technicians.....	400	1.1	23.78	49,470
Electrical and electronics engineering technicians.....	2,000	2.7	30.67	63,780
Electro-mechanical technicians.....	320	4.1	24.86	51,700
Environmental engineering technicians.....	80	0.9	20.98	43,650
Industrial engineering technicians.....	300	0.9	27.83	57,880
Mechanical engineering technicians.....	420	1.6	25.59	53,240
Engineering technicians, except drafters, all other.....	2,080	5.6	35.48	73,800
Surveying and mapping technicians.....	360	1.3	19.64	40,840

(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.