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## Occupational Employment and Wages in Bowling Green — May 2019

Workers in the Bowling Green, KY Metropolitan Statistical Area had an average (mean) hourly wage of \$19.80 in May 2019, about 23 percent below the nationwide average of \$25.72, the U.S. Bureau of Labor Statistics reported today. Regional Commissioner Janet S. Rankin noted that, after testing for statistical significance, 20 of the 22 major occupational groups had average wages in the local area that were significantly lower than their respective national averages, including management, sales and related, and construction and extraction.

When compared to the nationwide distribution, Bowling Green employment was more highly concentrated in 3 of the 22 occupational groups: production; transportation and material moving; and installation, maintenance, and repair. Ten groups had employment shares significantly below their national representation, including computer and mathematical, business and financial operations, 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 Bowling Green, KY Metropolitan Statistical Area, and measures of statistical significance, May 2019**

Major occupational group	Percent of total employment		Mean hourly wage		Percent difference <sup>(1)</sup>
	United States	Bowling Green	United States	Bowling Green	
Total, all occupations .....	100.0	100.0	\$25.72	\$19.80*	-23
Management .....	5.5	4.9*	58.88	43.51*	-26
Business and financial operations .....	5.6	3.3*	37.56	29.59*	-21
Computer and mathematical .....	3.1	0.7*	45.08	29.94*	-34
Architecture and engineering .....	1.8	2.0	42.69	32.86*	-23
Life, physical, and social science .....	0.9	(2)	37.28	32.92*	-12
Community and social service .....	1.5	1.2*	24.27	20.04*	-17
Legal .....	0.8	0.5*	52.71	32.08*	-39
Educational instruction and library .....	6.1	5.8*	27.75	25.43	-8
Arts, design, entertainment, sports, and media .....	1.4	0.9*	29.79	19.43*	-35
Healthcare practitioners and technical .....	5.9	6.2	40.21	32.39*	-19
Healthcare support .....	4.4	4.1	14.91	13.05*	-12
Protective service .....	2.4	1.9*	23.98	17.29*	-28
Food preparation and serving related .....	9.2	10.2	12.82	10.27*	-20
Building and grounds cleaning and maintenance .....	3.0	2.4*	15.03	12.70*	-16
Personal care and service .....	2.2	2.1	15.03	11.62*	-23
Sales and related .....	9.8	10.1	20.70	15.80*	-24
Office and administrative support .....	13.3	12.1*	19.73	16.80*	-15
Farming, fishing, and forestry .....	0.3	(2)	15.07	(2)	
Construction and extraction .....	4.2	3.5	25.28	20.37*	-19
Installation, maintenance, and repair .....	3.9	4.4*	24.10	21.06*	-13
Production .....	6.2	13.0*	19.30	18.02*	-7

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Bowling Green, KY Metropolitan Statistical Area, and measures of statistical significance, May 2019 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Bowling Green	United States	Bowling Green	Percent difference <sup>(1)</sup>
Transportation and material moving .....	8.5	10.5*	18.23	15.55*	-15

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Bowling Green, KY Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

(2) Estimate not released

\* The mean hourly wage or percent share of employment for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Bowling Green had 9,640 jobs in production occupations, accounting for 13.0 percent of local area employment, significantly higher than the 6.2-percent share nationally. The local average hourly wage for this occupational group was \$18.02, significantly lower than the national wage of \$19.30.

Some of the larger detailed occupations within the production group included miscellaneous assemblers and fabricators (2,570); first-line supervisors of production and operating workers (640); and inspectors, testers, sorters, samplers, and weighers (630). Among the higher paying jobs were first-line supervisors of production and operating workers, and tool and die makers, with mean hourly wages of \$27.79 and \$25.35, respectively. At the lower end of the wage scale were laundry and dry-cleaning workers (\$10.44) and woodworking machine setters, operators, and tenders, except sawing (\$11.67). (Detailed data for the production occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/current/oes\\_14540.htm](http://www.bls.gov/oes/current/oes_14540.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 Bowling Green area, above-average concentrations of employment were found in many of the occupations within the production group. For instance, mixing and blending machine setters, operators, and tenders were employed at 6.5 times the national rate in Bowling Green, and tool and die makers, at 4.4 times the U.S. average. Coating, painting, and spraying machine setters, operators, and tenders had a location quotient of 1.0 in Bowling Green, 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 Kentucky Education and Workforce Development Cabinet.

## 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 sampled 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 Bowling Green, KY Metropolitan Statistical Area included 1,004 establishments with a response rate of 72 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 **Bowling Green, KY Metropolitan Statistical Area** includes Allen, Butler, Edmonson, and Warren Counties.

### **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 production occupations, Bowling Green, KY 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>
Production occupations .....	9,640	2.1	\$18.02	\$37,470
First-line supervisors of production and operating workers .....	640	2.0	27.79	57,810
Miscellaneous assemblers and fabricators .....	2,570	3.7	19.00	39,530
Bakers .....	(5)	(5)	10.74	22,340
Butchers and meat cutters .....	70	1.0	12.59	26,200
Food processing workers, all other .....	(5)	(5)	14.85	30,880
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	250	2.5	18.48	38,440
Machinists .....	250	1.3	21.72	45,180
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	300	3.4	15.52	32,280
Tool and die makers .....	160	4.4	25.35	52,730
Welders, cutters, solderers, and brazers .....	410	2.0	17.49	36,370
Printing press operators .....	190	2.2	15.14	31,490
Laundry and dry-cleaning workers .....	110	1.0	10.44	21,710
Woodworking machine setters, operators, and tenders, except sawing .....	110	2.8	11.67	24,270
Water and wastewater treatment plant and system operators .....	40	0.7	16.82	34,990
Chemical equipment operators and tenders .....	(5)	(5)	17.81	37,040
Mixing and blending machine setters, operators, and tenders .....	410	6.5	15.33	31,880
Cutting and slicing machine setters, operators, and tenders .....	60	2.1	23.62	49,140
Inspectors, testers, sorters, samplers, and weighers .....	630	2.2	17.72	36,860
Ophthalmic laboratory technicians .....	(5)	(5)	11.51	23,940
Packaging and filling machine operators and tenders .....	(5)	(5)	16.10	33,500
Coating, painting, and spraying machine setters, operators, and tenders .....	80	1.0	19.72	41,010
Computer numerically controlled tool operators .....	150	2.0	13.45	27,980
Computer numerically controlled tool programmers .....	40	3.1	(5)	(5)
Paper goods machine setters, operators, and tenders .....	220	4.4	19.53	40,630
Helpers--production workers .....	80	0.5	18.21	37,880
Production workers, all other .....	290	2.6	13.89	28,880

Footnotes:

(1) For a complete listing of all detailed occupations in the Bowling Green, KY Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_14540.htm](http://www.bls.gov/oes/current/oes_14540.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.