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## Occupational Employment and Wages in Tulsa – May 2018

Workers in the Tulsa Metropolitan Statistical Area had an average (mean) hourly wage of \$22.20 in May 2018, about 11 percent below the nationwide average of \$24.98, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Stanley W. Suchman noted that, after testing for statistical significance, wages in the local area were lower than their respective national averages in 19 of the 22 major occupational groups, including education, training, and library; computer and mathematical; and food preparation and serving related. One group had significantly higher wages than its respective national average: production.

When compared to the nationwide distribution, local employment was more highly concentrated in 7 of the 22 occupational groups, including production; installation, maintenance, and repair; and office and administrative support. Conversely, 11 groups had employment shares significantly below their national representation, including personal care and service; education, training, and library; and computer and mathematical. (See [table A](#) and [box notes](#) at end of release.)

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

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Tulsa	United States	Tulsa	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$24.98	\$22.20*	-11
Management .....	5.3	5.4	58.44	51.41*	-12
Business and financial operations.....	5.3	4.6*	36.98	32.51*	-12
Computer and mathematical .....	3.0	2.1*	44.01	33.76*	-23
Architecture and engineering .....	1.8	2.2*	42.01	38.62*	-8
Life, physical, and social science .....	0.8	0.5*	36.62	34.99	-4
Community and social service.....	1.5	1.1*	23.69	20.39*	-14
Legal.....	0.8	0.7	52.25	48.28	-8
Education, training, and library.....	6.1	4.9*	27.22	18.50*	-32
Arts, design, entertainment, sports, and media.	1.3	1.0*	28.74	21.40*	-26
Healthcare practitioners and technical .....	6.0	6.0	39.42	35.46*	-10
Healthcare support .....	2.8	3.2*	15.57	14.17*	-9
Protective service .....	2.4	2.0*	23.36	19.81*	-15
Food preparation and serving related .....	9.2	9.1	12.30	10.38*	-16
Building and grounds cleaning and maintenance.....	3.1	2.4*	14.43	12.49*	-13
Personal care and service.....	3.8	2.5*	13.51	11.55*	-15
Sales and related .....	10.0	10.8*	20.09	19.18*	-5
Office and administrative support.....	15.1	16.0*	18.75	17.84*	-5
Farming, fishing, and forestry.....	0.3	0.1*	14.49	12.93*	-11

Note: See footnotes at end of table.

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

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Tulsa	United States	Tulsa	Percent difference (1)
Construction and extraction.....	4.1	4.8*	24.62	21.41*	-13
Installation, maintenance, and repair .....	3.9	4.9*	23.54	22.02*	-6
Production .....	6.3	9.3*	18.84	19.95*	6
Transportation and material moving.....	7.1	6.4*	18.41	17.01*	-8

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Tulsa 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—installation, maintenance, and repair—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Tulsa had 21,150 jobs in installation, maintenance, and repair, accounting for 4.9 percent of local area employment, significantly higher than the 3.9-percent share nationally. The average hourly wage for this occupational group locally was \$22.02, significantly below the national wage of \$23.54.

Some of the larger detailed occupations within the installation, maintenance, and repair group included general maintenance and repair workers (4,270), automotive service technicians and mechanics (2,290), and first-line supervisors of mechanics, installers, and repairers (1,910). Among the higher-paying jobs in this group were first-line supervisors of mechanics, installers, and repairers, as well as aircraft mechanics and service technicians, with mean hourly wages of \$31.63 and \$31.05, respectively. At the lower end of the wage scale were tire repairers and changers (\$12.15) and computer, automated teller, and office machine repairers (\$15.96). (Detailed data for the installation, maintenance, and repair occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/current/oes\\_46140.htm](http://www.bls.gov/oes/current/oes_46140.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 Tulsa Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the installation, maintenance, and repair group. For instance, machinery maintenance workers were employed at 4.8 times the national rate in Tulsa, and aircraft mechanics and service technicians, at 3.5 times the U.S. average. These two location quotients in Tulsa were among the highest in all the published metropolitan areas nationwide for these particular occupations. On the other hand, general maintenance and repair workers had a location quotient of 1.0 in Tulsa, 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 Oklahoma Employment Security Commission.

## **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 area 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 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 1.2 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 Tulsa Metropolitan Statistical Area included 3,369 establishments with a response rate of 79 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 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 **Tulsa Metropolitan Statistical Area** includes Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner Counties in Oklahoma.

### **Additional information**

OES data are available on our regional web page at [www.bls.gov/regions/southwest](http://www.bls.gov/regions/southwest). 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, Tulsa Metropolitan Statistical Area, May 2018**

Occupation (1)	Employment		Mean wages	
	Level (2)	Location quotient (3)	Hourly	Annual (4)
Installation, maintenance, and repair occupations .....	21,150	1.3	\$22.02	\$45,800
First-line supervisors of mechanics, installers, and repairers .....	1,910	1.4	31.63	65,780
Computer, automated teller, and office machine repairers .....	440	1.4	15.96	33,200
Radio, cellular, and tower equipment installers and repairers .....	50	1.2	20.73	43,130
Telecommunications equipment installers and repairers, except line installers .....	640	0.9	25.52	53,080
Avionics technicians .....	280	5.0	32.01	66,580
Electric motor, power tool, and related repairers .....	160	3.4	19.12	39,760
Electrical and electronics repairers, commercial and industrial equipment .....	300	1.7	30.60	63,650
Security and fire alarm systems installers .....	480	2.3	21.25	44,200
Aircraft mechanics and service technicians .....	1,380	3.5	31.05	64,580
Automotive body and related repairers .....	510	1.2	18.16	37,780
Automotive service technicians and mechanics .....	2,290	1.2	18.04	37,520
Bus and truck mechanics and diesel engine specialists .....	660	0.8	20.96	43,590
Mobile heavy equipment mechanics, except engines .....	540	1.3	24.19	50,310
Outdoor power equipment and other small engine mechanics .....	100	1.0	19.89	41,360
Recreational vehicle service technicians .....	120	2.7	18.16	37,780
Tire repairers and changers .....	220	0.7	12.15	25,270
Mechanical door repairers .....	(5)	(5)	15.05	31,310
Control and valve installers and repairers, except mechanical door .....	260	1.7	28.53	59,340
Heating, air conditioning, and refrigeration mechanics and installers .....	1,270	1.3	19.62	40,810
Home appliance repairers .....	180	1.9	17.02	35,400
Industrial machinery mechanics .....	1,040	1.0	24.89	51,780
Maintenance workers, machinery .....	1,150	4.8	22.75	47,320
Millwrights .....	(5)	(5)	30.19	62,800
Electrical power-line installers and repairers .....	560	1.6	24.53	51,030
Telecommunications line installers and repairers .....	440	1.2	21.83	45,410
Medical equipment repairers .....	150	1.1	23.56	49,000
Maintenance and repair workers, general .....	4,270	1.0	17.65	36,710
Coin, vending, and amusement machine servicers and repairers .....	360	3.6	18.45	38,370
Locksmiths and safe repairers .....	(5)	(5)	19.64	40,860
Riggers .....	90	1.4	19.94	41,470
Helpers - installation, maintenance, and repair workers .....	390	1.3	16.67	34,670
Installation, maintenance, and repair workers, all other .....	270	0.6	19.73	41,040

Footnotes:

(1) For a complete listing of all detailed occupations in the Tulsa, OK Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_46140.htm](http://www.bls.gov/oes/current/oes_46140.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) Estimate not released.