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## Occupational Employment and Wages in Tulsa, May 2014

Workers in the Tulsa Metropolitan Statistical Area had an average (mean) hourly wage of \$20.53 in May 2014, about 10 percent below the nationwide average of \$22.71, according to the U.S. Bureau of Labor Statistics. Regional Commissioner Stanley W. Suchman noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 1 of the 22 major groups—production occupations. Sixteen groups had wages that were measurably lower than their respective national averages; included in this group were computer and mathematical; education, training, and library; and construction and extraction. Wages in the remaining occupational groups were not statistically different from their respective national averages.

When compared to the nationwide distribution, local employment was more highly concentrated in 6 of the 22 occupational groups, including production; office and administrative support; and construction and extraction. Conversely, 10 groups had employment shares significantly below their national representation, including business and financial operations; education, training, and library; and computer and mathematical. (See [table A](#) and [box note](#) 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 2014**

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%		\$22.71	\$20.80	* -8
Management .....	5.0	5.7	*	54.08	46.59	* -14
Business and financial operations .....	5.1	3.9	*	34.81	29.11	* -16
Computer and mathematical .....	2.8	1.8	*	40.37	31.88	* -21
Architecture and engineering .....	1.8	2.1	*	39.19	37.89	-3
Life, physical, and social science .....	0.8	0.5	*	33.69	37.01	10
Community and social service.....	1.4	1.3	*	21.79	18.35	* -16
Legal.....	0.8	0.9		48.61	46.94	-3
Education, training, and library.....	6.2	5.1	*	25.10	20.01	* -20
Arts, design, entertainment, sports, and media.....	1.3	0.9	*	26.82	23.86	* -11
Healthcare practitioners and technical .....	5.8	5.5		36.54	33.51	* -8
Healthcare support .....	2.9	2.6	*	13.86	13.16	* -5
Protective service .....	2.4	2.0		21.14	17.56	* -17
Food preparation and serving related .....	9.1	9.1		10.57	9.55	* -10
Building and grounds cleaning and maintenance.....	3.2	2.6	*	12.68	10.93	* -14
Personal care and service.....	3.1	2.6	*	12.01	10.64	* -11
Sales and related .....	10.5	10.9		18.59	17.23	* -7
Office and administrative support.....	16.0	17.1	*	17.08	16.03	* -6

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 2014 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			Percent difference <sup>(1)</sup>
	United States	Tulsa		United States	Tulsa		
Farming, fishing, and forestry.....	0.3	0.1	*	12.09	14.09		17
Construction and extraction.....	3.9	4.8	*	22.40	18.39	*	-18
Installation, maintenance, and repair .....	3.9	4.6	*	21.74	20.01	*	-8
Production .....	6.6	9.5	*	17.06	18.12	*	6
Transportation and material moving.....	6.8	6.3		16.57	17.89		8

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

Note: \* 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.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Tulsa had 40,720 jobs in production, accounting for 9.5 percent of local area employment, significantly higher than the 6.6-percent national share. The local average hourly wage for this occupational group was \$18.12, about 6 percent above the national average of \$17.06.

With employment of 5,210, team assemblers was one of the largest occupations within the production group, as were welders, cutters, solderers, and brazers (4,080) and production workers' helpers (3,130). Among the higher paying jobs were petroleum pump system operators, refinery operators, and gaugers and first-line supervisors of production and operating workers, with mean hourly wages of \$42.86 and \$28.26, respectively. At the lower end of the wage scale were laundry and dry-cleaning workers (\$10.43) and packaging and filling machine operators and tenders (\$11.43). (Detailed occupational data for production workers are presented in [table 1](#); for a complete listing of detailed occupations see [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 area, above average concentrations of employment were found in many of the occupations within the production group. For instance, aircraft structure, surfaces, rigging, and systems assemblers were employed at 10.4 times the national rate in Tulsa, and petroleum pump system operators, refinery operators, and gaugers, at 5.0 times the U.S. average. Tulsa's aircraft structure, surfaces, rigging, and systems assemblers location quotient was among the highest in all metropolitan areas for this occupation. On the other hand, electrical and electronic equipment assemblers had a location quotient of 1.0 in Tulsa, meaning the local employment share in this particular occupation matched the national average.

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.

## Note

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. Guam, Puerto Rico, and the Virgin Islands are also surveyed, but their data are not included in the national estimates. 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 2014 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2014, November 2013, May 2013, November 2012, May 2012, and November 2011. The overall national response rate for the six panels is 74.3 percent based on establishments and 70.5 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 57.1 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 Tulsa Metropolitan Statistical Area included 3,614 establishments with a response rate of 77 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 OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and 821 detailed occupations for the nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas. In addition, employment and wage estimates for 94 minor groups and 458 broad occupations are available in the national data. OES data by state and metropolitan/nonmetropolitan area are available from [www.bls.gov/oes/current/oessrcst.htm](http://www.bls.gov/oes/current/oessrcst.htm) and [www.bls.gov/oes/current/oessrcma.htm](http://www.bls.gov/oes/current/oessrcma.htm), respectively.

The May 2014 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).

### 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/currnet/methods\\_statement.pdf](http://www.bls.gov/oes/currnet/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 2014**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
<b>Production occupations</b>	40,720	1.4	\$18.12	\$37,690
First-line supervisors of production and operating workers.....	2,710	1.4	28.26	58,780
Aircraft structure, surfaces, rigging, and systems assemblers.....	1,330	10.4	20.04	41,680
Coil winders, tapers, and finishers.....	(5)	(5)	17.36	36,110
Electrical and electronic equipment assemblers.....	630	1.0	13.68	28,450
Electromechanical equipment assemblers.....	730	4.9	18.12	37,700
Engine and other machine assemblers.....	340	2.8	15.12	31,450
Structural metal fabricators and fitters.....	730	3.0	17.09	35,550
Team assemblers.....	5,210	1.5	15.70	32,650
Assemblers and fabricators, all other.....	310	0.4	13.56	28,200
Bakers.....	440	0.8	11.11	23,100
Butchers and meat cutters.....	450	1.0	11.96	24,880
Meat, poultry, and fish cutters and trimmers.....	70	0.1	13.17	27,390
Food and tobacco roasting, baking, and drying machine operators and tenders.....	(5)	(5)	12.99	27,020
Food batchmakers.....	410	1.1	11.86	24,670
Food cooking machine operators and tenders.....	(5)	(5)	13.45	27,970
Food processing workers, all other.....	80	0.6	11.66	24,250
Computer-controlled machine tool operators, metal and plastic.....	1,060	2.3	19.57	40,700
Computer numerically controlled machine tool programmers, metal and plastic.....	70	0.8	27.26	56,700
Extruding and drawing machine setters, operators, and tenders, metal and plastic.....	120	0.5	16.78	34,910
Forging machine setters, operators, and tenders, metal and plastic.....	90	1.4	21.84	45,430
Rolling machine setters, operators, and tenders, metal and plastic.....	390	3.7	17.25	35,870
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic.....	1,120	1.9	15.23	31,690
Drilling and boring machine tool setters, operators, and tenders, metal and plastic.....	320	5.8	18.34	38,140
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic.....	310	1.4	15.49	32,220
Lathe and turning machine tool setters, operators, and tenders, metal and plastic.....	260	1.9	18.28	38,020
Milling and planing machine setters, operators, and tenders, metal and plastic.....	100	1.4	14.45	30,060
Machinists.....	2,590	2.1	18.34	38,140
Metal-refining furnace operators and tenders.....	(5)	(5)	14.68	30,540
Foundry mold and coremakers.....	90	2.3	12.82	26,670
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic.....	250	0.6	12.45	25,900
Multiple machine tool setters, operators, and tenders, metal and plastic.....	880	2.8	16.57	34,460
Tool and die makers.....	200	0.9	23.43	48,740
Welders, cutters, solderers, and brazers.....	4,080	3.5	20.19	41,990
Welding, soldering, and brazing machine setters, operators, and tenders.....	520	3.0	19.82	41,230
Heat treating equipment setters, operators, and tenders, metal and plastic.....	160	2.4	17.62	36,660
Plating and coating machine setters, operators, and tenders, metal and plastic.....	240	2.2	15.46	32,160
Tool grinders, filers, and sharpeners.....	100	2.8	14.56	30,280
Metal workers and plastic workers, all other.....	40	0.6	14.64	30,460
Prepress technicians and workers.....	60	0.5	15.54	32,320

Note: See footnotes at end of table.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Tulsa Metropolitan Statistical Area, May 2014 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Printing press operators .....	280	0.5	15.34	31,910
Print binding and finishing workers.....	50	0.3	13.45	27,970
Laundry and dry-cleaning workers .....	600	0.9	10.43	21,680
Pressers, textile, garment, and related materials .....	170	1.1	9.55	19,860
Sewing machine operators.....	160	0.4	10.89	22,650
Upholsterers .....	70	0.7	17.59	36,590
Cabinetmakers and bench carpenters .....	190	0.7	15.85	32,970
Furniture finishers.....	(5)	(5)	16.58	34,490
Woodworking machine setters, operators, and tenders, except sawing.....	80	0.4	14.42	30,000
Power plant operators .....	180	1.4	29.81	62,010
Stationary engineers and boiler operators .....	70	0.6	23.55	48,990
Water and wastewater treatment plant and system operators .....	250	0.7	18.67	38,830
Gas plant operators.....	310	6.1	25.01	52,020
Petroleum pump system operators, refinery operators, and gaugers .....	660	5.0	42.86	89,150
Chemical equipment operators and tenders .....	310	1.5	24.13	50,180
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders.....	60	0.4	10.57	21,990
Crushing, grinding, and polishing machine setters, operators, and tenders .....	110	1.1	13.62	28,340
Grinding and polishing workers, hand .....	230	2.5	13.97	29,060
Mixing and blending machine setters, operators, and tenders .....	130	0.3	21.96	45,690
Cutters and trimmers, hand.....	50	1.1	15.36	31,940
Cutting and slicing machine setters, operators, and tenders .....	160	0.8	14.82	30,820
Extruding, forming, pressing, and compacting machine setters, operators, and tenders .....	90	0.4	14.43	30,010
Furnace, kiln, oven, drier, and kettle operators and tenders .....	80	1.2	15.97	33,210
Inspectors, testers, sorters, samplers, and weighers.....	2,540	1.6	20.52	42,670
Jewelers and precious stone and metal workers .....	30	0.5	(5)	(5)
Dental laboratory technicians .....	160	1.4	19.15	39,840
Medical appliance technicians.....	70	1.6	14.47	30,100
Ophthalmic laboratory technicians .....	120	1.4	11.69	24,310
Packaging and filling machine operators and tenders ...	900	0.7	11.43	23,770
Coating, painting, and spraying machine setters, operators, and tenders .....	680	2.4	17.24	35,860
Painters, transportation equipment .....	210	1.4	21.75	45,230
Painting, coating, and decorating workers .....	60	1.2	11.22	23,330
Photographic process workers and processing machine operators .....	100	1.1	10.93	22,740
Cleaning, washing, and metal pickling equipment operators and tenders .....	30	0.6	15.13	31,480
Etchers and engravers .....	(5)	(5)	15.77	32,800
Molders, shapers, and casters, except metal and plastic .....	90	0.8	14.68	30,540
Paper goods machine setters, operators, and tenders ...	540	1.9	21.45	44,610
Helpers--production workers .....	3,130	2.4	13.52	28,120
Production workers, all other.....	410	0.6	16.37	34,060

(1) For a complete listing of all detailed occupations in the Tulsa MSA, 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.

Note: See footnotes at end of table.

(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.