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OCCUPATIONAL EMPLOYMENT AND WAGES IN TULSA, MAY 2011

Workers in the Tulsa Metropolitan Statistical Area had an average (mean) hourly wage of \$19.22 in May 2011, about 12 percent below the nationwide average of \$21.74, 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 significantly lower than their respective national averages in 16 of 22 major groups including: education, training, and library occupations; construction and extraction; and management.

Table A. Occupational employment and wages by major occupational group, United States and the Tulsa Metropolitan Statistical Area, and measures of statistical significance, May 2011

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Tulsa	United States	Tulsa	Percent difference ¹
Total, all occupations	100.0%	100.0%	\$21.74	\$19.22 *	-12
Management	4.8	5.5 *	51.64	42.43 *	-18
Business and financial operations	4.8	4.6	33.05	27.67 *	-16
Computer and mathematical	2.7	1.8 *	37.85	31.23 *	-17
Architecture and engineering	1.8	2.0 *	37.08	35.39	-5
Life, physical, and social science	0.8	0.4 *	32.44	32.88	1
Community and social service	1.5	1.1 *	21.07	17.79 *	-16
Legal	0.8	0.7	47.30	45.02	-5
Education, training, and library	6.6	5.4 *	24.46	19.42 *	-21
Arts, design, entertainment, sports, and media	1.3	0.8 *	25.89	19.39 *	-25
Healthcare practitioners and technical	5.9	5.8	34.97	30.76 *	-12
Healthcare support	3.1	3.3	13.16	11.66 *	-11
Protective service	2.5	2.0	20.54	17.76 *	-14
Food preparation and serving related	8.7	8.3	10.30	9.38 *	-9
Building and grounds cleaning and maintenance	3.3	2.8 *	12.29	10.74 *	-13
Personal care and service	2.8	1.8 *	11.84	11.09 *	-6
Sales and related	10.6	10.8	18.04	16.30 *	-10
Office and administrative support	16.7	17.8 *	16.40	15.00 *	-9
Farming, fishing, and forestry	0.3	0.1 *	11.68	11.32	-3
Construction and extraction	3.9	5.1 *	21.46	17.13 *	-20
Installation, maintenance, and repair	3.9	4.8 *	20.86	20.13	-3
Production	6.5	9.0 *	16.45	16.77	2
Transportation and material moving	6.7	6.2 *	15.96	14.90 *	-7

* 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 Tulsa is above the national mean wage, while a negative difference reflects a lower wage.

When compared to the nationwide distribution, local employment was more highly concentrated in 6 of the 22 occupational groups, including production, construction and extraction, and office and administrative support. Conversely, nine groups had employment shares significantly below their national representation, including education, training, and library; personal care and service; and computer and mathematical. (See table A and box note at end of release.)

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Tulsa had 36,560 jobs in production, accounting for 9.0 percent of local area employment, significantly higher than the 6.5-percent share nationally. The average hourly wage for this occupational group locally was \$16.77 compared to the national wage of \$16.45.

With employment of 6,080, team assemblers was the largest occupation within the production group, followed by welders, cutters, solderers, and brazers (4,060) and inspectors, testers, sorters, samplers, and weighers (2,650). Among the higher paying jobs were gas plant operators and first-line supervisors of production and operating workers, with mean hourly wages of \$33.02 and \$26.55, respectively. At the lower end of the wage scale were laundry and dry-cleaning workers (\$9.15) and packaging and filling machine operators and tenders (\$11.41). (Detailed data for production workers are presented in table 1; for a complete listing of all available occupations, see 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 production group. For instance, petroleum pump system operators, refinery operators, and gaugers were employed at 5.1 times the national rate in Tulsa, and welders, cutters, solderers, and brazers, at 4.0 times the U.S. average. On the other hand, printing press operators had a location quotient of 0.9 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. The OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and nearly 800 detailed occupations for the nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas.

OES wage and employment data for the 22 major occupational groups in the Tulsa Metropolitan Statistical Area were compared to their respective national averages based on statistical significance testing. Only those occupations with wages or employment shares above or below the national wage or share after testing for significance at the 90-percent confidence level meet the criteria.

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 also are 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 establishments in May and November of each year for a 3-year period. The nationwide response rate for the May 2011 survey was 77.3 percent based on establishments and 73.3 percent based on employment. May 2011 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2011, November 2010, May 2010, November 2009, May 2009, and November 2008. The sample in the Tulsa Metropolitan Statistical Area included 3,550 establishments with a response rate of 79 percent. For more information about OES concepts and methodology, see www.bls.gov/news.release/ocwage.tn.htm

The May 2011 OES estimates mark the first set of estimates based in part on data collected using the 2010 Standard Occupational Classification (SOC) system. Nearly all the occupations in this release are 2010 SOC occupations; however, some are not. The May 2012 OES data will reflect the full set of detailed occupations in the 2010 SOC. For a list of all occupations, including 2010 SOC occupations, and how data collected on two structures were combined, see the OES Frequently Asked Questions online at www.bls.gov/oes/oes_ques.htm#Ques41.

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 (MSA)** 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/ro6. If you have additional questions, contact the Southwest Information Office at (972) 850-4800. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; TDD message referral phone number: 1 (800) 877-8339.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Tulsa Metropolitan Statistical Area, May 2011

Occupation ¹	Employment		Mean wages	
	Level ²	Location quotient ³	Hourly	Annual ⁴
Production occupations	36,560	1.4	\$16.77	\$34,880
First-line supervisors of production and operating workers	2,520	1.4	26.55	55,230
Electrical and electronic equipment assemblers	450	0.8	16.02	33,320
Electromechanical equipment assemblers	160	1.0	16.00	33,290
Engine and other machine assemblers	240	2.1	19.12	39,760
Structural metal fabricators and fitters	630	2.6	16.50	34,330
Fiberglass laminators and fabricators	[5]	[5]	15.07	31,350
Team assemblers	6,080	2.0	13.54	28,170
Assemblers and fabricators, all other	250	0.3	14.21	29,550
Bakers	580	1.2	11.50	23,920
Butchers and meat cutters	360	0.9	12.54	26,090
Meat, poultry, and fish cutters and trimmers	50	0.1	13.28	27,630
Slaughterers and meat packers	[5]	[5]	10.58	22,010
Food batchmakers	180	0.6	11.12	23,140
Food cooking machine operators and tenders	320	3.3	12.59	26,190
Computer-controlled machine tool operators, metal and plastic	450	1.1	16.47	34,270
Computer numerically controlled machine tool programmers, metal and plastic	80	1.3	25.07	52,150
Extruding and drawing machine setters, operators, and tenders, metal and plastic	140	0.6	16.13	33,550
Forging machine setters, operators, and tenders, metal and plastic	50	0.7	20.00	41,600
Rolling machine setters, operators, and tenders, metal and plastic	170	1.6	16.15	33,600
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	760	1.3	14.10	29,330
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	220	3.3	15.76	32,780
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	300	1.3	13.50	28,080
Lathe and turning machine tool setters, operators, and tenders, metal and plastic	390	3.0	19.30	40,150
Milling and planing machine setters, operators, and tenders, metal and plastic	100	1.4	16.36	34,030
Machinists	2,300	2.0	17.57	36,540
Pourers and casters, metal	40	1.1	14.22	29,570
Foundry mold and coremakers	40	1.0	11.21	23,310
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	250	0.7	12.60	26,210
Multiple machine tool setters, operators, and tenders, metal and plastic	230	0.9	16.65	34,630
Tool and die makers	190	0.9	22.28	46,350
Welders, cutters, solderers, and brazers	4,060	4.0	18.61	38,710
Welding, soldering, and brazing machine setters, operators, and tenders	300	2.4	17.35	36,090
Heat treating equipment setters, operators, and tenders, metal and plastic	90	1.4	15.08	31,370
Plating and coating machine setters, operators, and tenders, metal and plastic	130	1.3	14.26	29,660

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 2011 (continued)

Occupation ¹	Employment		Mean wages	
	Level ²	Location quotient ³	Hourly	Annual ⁴
Tool grinders, filers, and sharpeners	60	1.7	15.82	32,900
Metal workers and plastic workers, all other	90	1.3	11.64	24,210
Prepress technicians and workers	150	1.1	16.36	34,030
Printing press operators	530	0.9	14.61	30,390
Print binding and finishing workers	140	0.8	12.95	26,930
Laundry and dry-cleaning workers	760	1.2	9.15	19,040
Pressers, textile, garment, and related materials	[5]	[5]	9.50	19,760
Sewing machine operators	170	0.4	11.80	24,550
Cabinetmakers and bench carpenters	200	0.8	12.84	26,710
Sawing machine setters, operators, and tenders, wood	90	0.7	12.16	25,290
Power plant operators	50	0.4	24.54	51,050
Stationary engineers and boiler operators	180	1.7	23.96	49,830
Water and wastewater treatment plant and system operators	240	0.7	14.62	30,410
Gas plant operators	50	1.4	33.02	68,680
Petroleum pump system operators, refinery operators, and gaugers	680	5.1	26.24	54,570
Chemical equipment operators and tenders	80	0.5	17.23	35,840
Crushing, grinding, and polishing machine setters, operators, and tenders	40	0.4	11.39	23,690
Grinding and polishing workers, hand	150	1.8	14.15	29,430
Mixing and blending machine setters, operators, and tenders	430	1.1	17.11	35,590
Cutters and trimmers, hand	40	0.9	12.94	26,920
Cutting and slicing machine setters, operators, and tenders	200	1.1	13.20	27,460
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	140	0.7	17.82	37,060
Furnace, kiln, oven, drier, and kettle operators and tenders	150	2.5	15.07	31,340
Inspectors, testers, sorters, samplers, and weighers	2,650	1.9	21.53	44,780
Jewelers and precious stone and metal workers	50	0.7	20.34	42,310
Dental laboratory technicians	150	1.2	14.05	29,230
Medical appliance technicians	30	0.8	13.14	27,330
Ophthalmic laboratory technicians	[5]	[5]	11.82	24,590
Packaging and filling machine operators and tenders	1,040	0.9	11.41	23,740
Coating, painting, and spraying machine setters, operators, and tenders	820	3.3	15.30	31,820
Painters, transportation equipment	270	1.9	18.95	39,420
Painting, coating, and decorating workers	40	0.6	12.75	26,520
Photographic process workers and processing machine operators	140	0.9	10.60	22,050
Cleaning, washing, and metal pickling equipment operators and tenders	30	0.6	12.01	24,980
Cooling and freezing equipment operators and tenders	30	1.3	12.31	25,610
Molders, shapers, and casters, except metal and plastic	140	1.5	17.42	36,240
Paper goods machine setters, operators, and tenders	410	1.4	22.54	46,890
Helpers-production workers	1,870	1.4	12.95	26,930
Production workers, all other*	280	0.4	14.18	29,500

¹ For a complete listing of all detailed occupations in the Tulsa MSA, see 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

⁵ Estimates not available.

* Occupation titles followed by an asterisk (*) have similar titles, but not necessarily the same content as 2010 SOC occupations.