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**OCCUPATIONAL EMPLOYMENT AND WAGES IN
WARREN-TROY-FARMINGTON HILLS, MICH. METROPOLITAN DIVISION — MAY 2011**

Workers in the Warren-Troy-Farmington Hills Metropolitan Division had an average (mean) hourly wage of \$22.57 in May 2011, about 4 percent above the nationwide average of \$21.74, the U.S. Bureau of Labor Statistics reported today. Regional Commissioner Charlene Peiffer noted that, after testing for statistical significance, wages in the local area were significantly higher than their respective national averages in 5 of the 22 major occupational groups, including construction and extraction; production; and sales and related occupations. Five groups had significantly lower wages than their respective national averages, including computer and mathematical; life, physical, and social science; and transportation and material moving occupations.

When compared to the nationwide distribution, local employment was more highly concentrated in 7 of the 22 occupational groups, including architecture and engineering; production; and sales and related. Conversely, 10 groups had employment shares significantly below their national representation, including education, training, and library; transportation and material moving; and construction and extraction. (See table A and box note at end of release.)

Table A. Occupational employment and wages by major occupational group, United States and the Warren-Troy-Farmington Hills Metropolitan Division, and measures of statistical significance, May 2011

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Warren	United States	Warren	Percent difference ^[1]
Total, all occupations	100.0%	100.0%	\$21.74	\$22.57 *	4
Management	4.8	4.7	51.64	52.74 *	2
Business and financial operations	4.8	5.1 *	33.05	33.30	1
Computer and mathematical	2.7	3.2 *	37.85	32.79 *	-13
Architecture and engineering	1.8	4.6 *	37.08	38.19	3
Life, physical, and social science	0.8	0.3 *	32.44	30.11 *	-7
Community and social service	1.5	1.0 *	21.07	21.41	2
Legal	0.8	0.8	47.30	44.03	-7
Education, training, and library	6.6	4.5 *	24.46	23.52 *	-4
Arts, design, entertainment, sports, and media	1.3	1.3	25.89	26.43	2
Healthcare practitioners and technical	5.9	6.3 *	34.97	34.76	-1
Healthcare support	3.1	3.7 *	13.16	12.76 *	-3
Protective service	2.5	1.6 *	20.54	19.47	-5
Food preparation and serving related	8.7	8.4 *	10.30	10.52	2
Building and grounds cleaning and maintenance	3.3	3.0	12.29	12.81 *	4
Personal care and service	2.8	2.7	11.84	11.73	-1
Sales and related	10.6	12.0 *	18.04	20.15 *	12
Office and administrative support	16.7	15.7 *	16.40	16.37	[3]
Farming, fishing, and forestry	0.3	[2] *	11.68	11.62	-1
Construction and extraction	3.9	2.7 *	21.46	23.67 *	10
Installation, maintenance, and repair	3.9	3.6 *	20.86	21.29	2
Production	6.5	9.3 *	16.45	18.63 *	13
Transportation and material moving	6.7	5.3 *	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 Warren is above the national mean wage, while a negative difference reflects a lower wage.

[2] Indicates a value of less than 0.05 percent. [3] Indicates a value of less than 1.0 percent.

One occupational group—architecture and engineering—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Warren-Troy-Farmington Hills had 48,070 jobs in architecture and engineering, accounting for 4.6 percent of local area employment, significantly higher than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$38.19, compared to the national wage of \$37.08.

With employment of 17,140, mechanical engineers was the largest occupation within the architecture and engineering group, followed by industrial engineers (7,980) and industrial engineering technicians (2,700). Among the higher paying jobs were computer hardware engineers and chemical engineers, with mean hourly wages of \$56.26 and \$45.03, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$18.85) and industrial engineering technicians (\$21.21). (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_47644.htm)

Location quotients allow for the exploration of an area's occupational make-up 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 Warren-Troy-Farmington Hills Metropolitan Division, above average concentrations of employment were found in many of the occupations within the architecture and engineering group. For instance, mechanical engineers were employed at 8.9 times the national rate in Warren-Troy-Farmington Hills, and mechanical engineering technicians at 5.4 times the U.S. average. On the other hand, architects, except landscape and naval, had a location quotient of 1.0 in Warren-Troy-Farmington Hills, 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 Michigan Department of Technology, Management, and Budget. 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 Warren Metropolitan Division 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 Warren-Troy-Farmington Hills Metropolitan Division included 5,640 establishments with a response rate of 74 percent. For more information about OES concepts and methodology, go to 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 **Warren-Troy-Farmington Hills, Mich. Metropolitan Division** includes Lapeer, Livingston, Macomb, Oakland, and St. Clair Counties.

Additional information

OES data are available on our regional web page at www.bls.gov/ro5/home.htm. If you have additional questions, contact the Chicago Economic Analysis and Information Unit at (312) 353-1880. 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, Warren-Troy-Farmington Hills Metropolitan Division, May 2011

Occupation ^[1]	Employment		Mean Wages	
	Level ^[2]	Location quotient ^[3]	Hourly	Annual ^[4]
Architecture and engineering occupations	48,070	2.6	\$38.19	\$79,440
Architects, except landscape and naval	680	1.0	35.49	73,820
Landscape architects	80	0.6	29.70	61,780
Cartographers and photogrammetrists	[5]	[5]	24.18	50,300
Surveyors	380	1.1	25.05	52,110
Chemical engineers	110	0.5	45.03	93,650
Civil engineers	2,390	1.2	36.81	76,550
Computer hardware engineers	600	1.0	56.26	117,020
Electrical engineers	1,730	1.4	43.01	89,460
Electronics engineers, except computer	910	0.8	41.24	85,790
Environmental engineers	540	1.3	37.13	77,230
Health and safety engineers, except mining safety engineers and inspectors	100	0.5	41.05	85,380
Industrial engineers	7,980	4.7	40.87	85,010
Materials engineers	500	2.8	38.86	80,820
Mechanical engineers	17,140	8.9	43.72	90,940
Engineers, all other	2,970	2.9	42.56	88,520
Architectural and civil drafters	880	1.3	26.78	55,710
Electrical and electronics drafters	230	1.0	26.17	54,440
Mechanical drafters	1,390	2.7	25.18	52,380
Drafters, all other	40	0.3	19.83	41,240
Civil engineering technicians	670	1.2	21.97	45,690
Electrical and electronics engineering technicians	1,350	1.1	26.86	55,880
Electro-mechanical technicians	270	2.0	33.87	70,450
Environmental engineering technicians	170	1.1	23.45	48,770
Industrial engineering technicians	2,700	5.3	21.21	44,110
Mechanical engineering technicians	1,960	5.4	26.44	55,000
Engineering technicians, except drafters, all other	1,460	2.8	27.27	56,710
Surveying and mapping technicians	270	0.7	18.85	39,220

[1] For a complete listing of all detailed occupations in Warren-Troy-Farmington Hills, see www.bls.gov/oes/current/oes_47644.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.