



For Release: Monday, June 26, 2017

17-540-CHI

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## Occupational Employment and Wages in Warren-Troy-Farmington Hills — May 2016

Workers in the Warren-Troy-Farmington Hills Metropolitan Division had an average (mean) hourly wage of \$24.34 in May 2016, similar to the nationwide average of \$23.86, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Charlene Peiffer noted that, after testing for statistical significance, wages in the local area were lower than their respective national averages in 9 of the 22 major occupational groups, including legal; computer and mathematical; and life, physical, and social science. Five groups had wages that were higher than 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; architecture and engineering; and sales and related. Conversely, 11 groups had employment shares significantly below their national representation, including education, training, and library; transportation and material moving; and protective service. (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 2016**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Warren	United States	Warren	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$23.86	\$24.34	2
Management .....	5.1	4.9	56.74	58.17*	3
Business and financial operations .....	5.2	5.4	36.09	35.45	-2
Computer and mathematical .....	3.0	3.5*	42.25	38.72*	-8
Architecture and engineering .....	1.8	5.0*	40.53	39.98	-1
Life, physical, and social science .....	0.8	0.5*	35.06	32.55*	-7
Community and social service .....	1.4	0.9*	22.69	22.19	-2
Legal .....	0.8	1.0*	50.95	42.44*	-17
Education, training, and library .....	6.2	4.3*	26.21	24.52*	-6
Arts, design, entertainment, sports, and media .....	1.4	1.6*	28.07	27.76	-1
Healthcare practitioners and technical .....	5.9	5.6	38.06	38.68	2
Healthcare support .....	2.9	3.2	14.65	14.35	-2
Protective service .....	2.4	1.4*	22.03	19.93*	-10
Food preparation and serving related .....	9.2	8.8*	11.47	10.79*	-6
Building and grounds cleaning and maintenance .....	3.2	2.8*	13.47	12.99*	-4
Personal care and service .....	3.2	2.8*	12.74	12.23*	-4
Sales and related .....	10.4	11.1*	19.50	21.24*	9
Office and administrative support .....	15.7	15.3	17.91	17.69	-1
Farming, fishing, and forestry .....	0.3	(2)*	13.37	(3)	
Construction and extraction .....	4.0	3.2*	23.51	25.04*	7

Note: See footnotes at end of table.

**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 2016 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Warren	United States	Warren	Percent difference <sup>(1)</sup>
Installation, maintenance, and repair .....	3.9	3.7*	22.45	23.21*	3
Production .....	6.5	10.0*	17.88	18.78*	5
Transportation and material moving .....	6.9	5.2*	17.34	16.23*	-6

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Warren-Troy-Farmington Hills Metropolitan Division 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) Estimate not released

\* 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. Warren-Troy-Farmington Hills had 120,960 jobs in production, accounting for 10.0 percent of local area employment, significantly higher than the 6.5-percent share nationally. The average hourly wage for this occupational group locally was \$18.78, significantly above the national wage of \$17.88.

Some of the largest detailed occupations within the production group included team assemblers (22,640); inspectors, testers, sorters, samplers, and weighers (8,990); and machinists (8,960). Among the higher paying jobs were power plant operators with mean hourly wages of \$37.43 and power distributors and dispatchers, \$36.47. At the lower end of the wage scale were pressers, textile, garment, and related materials (\$10.43) and adhesive bonding machine operators and tenders (\$10.86). (Detailed occupational data for production are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/2016/may/oes\\_47664.htm](http://www.bls.gov/oes/2016/may/oes_47664.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 Warren-Troy-Farmington Hills Metropolitan Division, above-average concentrations of employment were found in many of the occupations within the production group. For instance, model makers, metal and plastic, in Warren were employed at 13.4 times the national rate, and tool and die makers, at 8.1 times the U.S. average. On the other hand, welders, cutters, solderers, and brazers in Warren had a location quotient of 1.0, 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 & Budget.

### 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. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, 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).

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 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 2016 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2016, November 2015, May 2015, November 2014, May 2014, and November 2013. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 73 percent based on establishments and 69 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the Warren-Troy-Farmington Hills Metropolitan Division included 5,901 establishments with a response rate of 75 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 May 2016 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).

### 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 **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/regions/midwest](http://www.bls.gov/regions/midwest). 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, Warren-Troy-Farmington Hills Metropolitan Division, May 2016**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Production occupations .....	120,960	1.6	\$18.78	\$39,070
First-line supervisors of production and operating workers .....	7,280	1.4	31.98	66,520
Coil winders, tapers, and finishers .....	(5)	(5)	20.18	41,970
Electrical and electronic equipment assemblers .....	1,740	0.9	14.84	30,870
Electromechanical equipment assemblers .....	150	0.4	18.49	38,450
Engine and other machine assemblers .....	2,170	6.6	22.74	47,300
Structural metal fabricators and fitters .....	1,320	2.0	18.46	38,400
Fiberglass laminators and fabricators .....	50	0.3	15.75	32,760
Team assemblers .....	22,640	2.4	16.86	35,070
Assemblers and fabricators, all other .....	1,030	0.5	14.01	29,130
Bakers .....	1,400	0.9	13.09	27,230
Butchers and meat cutters .....	960	0.8	14.26	29,660
Meat, poultry, and fish cutters and trimmers .....	500	0.4	12.78	26,580
Food batchmakers .....	570	0.5	13.74	28,580
Food processing workers, all other .....	50	0.1	12.41	25,810
Computer-controlled machine tool operators, metal and plastic .....	2,550	2.0	21.32	44,360
Computer numerically controlled machine tool programmers, metal and plastic .....	870	4.0	23.80	49,510
Extruding and drawing machine setters, operators, and tenders, metal and plastic .....	760	1.2	17.98	37,390
Forging machine setters, operators, and tenders, metal and plastic .....	330	2.0	13.72	28,530
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	5,460	3.3	18.74	38,980
Drilling and boring machine tool setters, operators, and tenders, metal and plastic .....	280	2.6	23.14	48,120
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic .....	1,670	2.6	16.72	34,770
Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	960	3.3	16.70	34,740
Milling and planing machine setters, operators, and tenders, metal and plastic .....	450	3.0	18.47	38,410
Machinists .....	8,960	2.7	20.66	42,970
Metal-refining furnace operators and tenders .....	140	0.9	14.01	29,140
Model makers, metal and plastic .....	720	13.4	(5)	(5)
Patternmakers, metal and plastic .....	(5)	(5)	23.25	48,360
Foundry mold and coremakers .....	180	1.7	17.15	35,670
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	4,860	3.9	14.65	30,460
Multiple machine tool setters, operators, and tenders, metal and plastic .....	2,780	2.8	18.49	38,450
Tool and die makers .....	5,040	8.1	24.71	51,400
Welders, cutters, solderers, and brazers .....	3,250	1.0	19.55	40,660
Welding, soldering, and brazing machine setters, operators, and tenders .....	1,150	2.9	16.83	35,000
Heat treating equipment setters, operators, and tenders, metal and plastic .....	660	3.9	18.59	38,660
Layout workers, metal and plastic .....	90	1.2	24.69	51,350
Plating and coating machine setters, operators, and tenders, metal and plastic .....	510	1.7	16.39	34,080
Tool grinders, filers, and sharpeners .....	390	4.8	19.44	40,440
Prepress technicians and workers .....	240	0.8	16.73	34,790
Printing press operators .....	1,480	1.0	16.62	34,570
Print binding and finishing workers .....	380	0.8	16.05	33,390
Laundry and dry-cleaning workers .....	1,340	0.8	11.44	23,790
Pressers, textile, garment, and related materials .....	190	0.5	10.43	21,700
Sewing machine operators .....	940	0.8	16.87	35,090

Note: See footnotes at end of table.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Warren-Troy-Farmington Hills Metropolitan Division, May 2016 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Shoe and leather workers and repairers .....	(5)	(5)	12.82	26,670
Tailors, dressmakers, and custom sewers .....	800	4.3	14.61	30,390
Textile cutting machine setters, operators, and tenders ..	290	2.3	13.26	27,580
Textile winding, twisting, and drawing out machine setters, operators, and tenders .....	(5)	(5)	17.33	36,050
Upholsterers .....	70	0.3	15.77	32,810
Textile, apparel, and furnishings workers, all other .....	(5)	(5)	18.48	38,430
Cabinetmakers and bench carpenters .....	350	0.4	17.28	35,930
Furniture finishers .....	60	0.4	16.87	35,080
Sawing machine setters, operators, and tenders, wood ..	(5)	(5)	16.82	34,990
Woodworking machine setters, operators, and tenders, except sawing .....	280	0.4	13.50	28,080
Power distributors and dispatchers .....	90	0.9	36.47	75,850
Power plant operators .....	280	0.9	37.43	77,850
Stationary engineers and boiler operators .....	(5)	(5)	33.27	69,200
Water and wastewater treatment plant and system operators .....	430	0.4	24.62	51,200
Gas plant operators .....	200	1.3	31.32	65,150
Petroleum pump system operators, refinery operators, and gaugers .....	80	0.2	26.26	54,620
Chemical equipment operators and tenders .....	(5)	(5)	22.39	46,560
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders .....	180	0.4	19.83	41,250
Crushing, grinding, and polishing machine setters, operators, and tenders .....	(5)	(5)	14.74	30,660
Grinding and polishing workers, hand .....	(5)	(5)	16.16	33,610
Mixing and blending machine setters, operators, and tenders .....	1,040	0.9	20.18	41,980
Cutters and trimmers, hand .....	30	0.3	16.61	34,540
Cutting and slicing machine setters, operators, and tenders .....	400	0.8	15.98	33,250
Extruding, forming, pressing, and compacting machine setters, operators, and tenders .....	510	0.8	14.22	29,580
Inspectors, testers, sorters, samplers, and weighers .....	8,990	2.0	18.45	38,380
Jewelers and precious stone and metal workers .....	210	0.9	14.72	30,610
Dental laboratory technicians .....	450	1.4	18.90	39,310
Medical appliance technicians .....	80	0.6	24.61	51,190
Ophthalmic laboratory technicians .....	500	2.0	17.84	37,110
Packaging and filling machine operators and tenders ....	2,490	0.8	15.10	31,410
Coating, painting, and spraying machine setters, operators, and tenders .....	1,300	1.8	14.29	29,720
Painters, transportation equipment .....	400	0.9	25.21	52,430
Painting, coating, and decorating workers .....	(5)	(5)	15.83	32,930
Photographic process workers and processing machine operators .....	190	0.9	12.96	26,950
Adhesive bonding machine operators and tenders .....	(5)	(5)	10.86	22,580
Cleaning, washing, and metal pickling equipment operators and tenders .....	30	0.2	14.65	30,470
Etchers and engravers .....	40	0.4	16.13	33,540
Molders, shapers, and casters, except metal and plastic .....	530	1.6	14.14	29,420
Paper goods machine setters, operators, and tenders ...	390	0.5	22.03	45,820
Helpers--production workers .....	6,450	1.8	12.88	26,790
Production workers, all other .....	2,310	1.1	17.32	36,020

**Footnotes:**

(1) For a complete listing of all detailed occupations in the Warren-Troy-Farmington Hills, MI Metropolitan Division, see [www.bls.gov/oes/current/oes\\_47664.htm](http://www.bls.gov/oes/current/oes_47664.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.

Note: See footnotes at end of table.

(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.