



**For Release: Wednesday, June 22, 2016**

**16-577-CHI**

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## **Occupational Employment and Wages in Warren-Troy-Farmington Hills — May 2015**

Workers in the Warren-Troy-Farmington Hills Metropolitan Division had an average (mean) hourly wage of \$23.68 in May 2015, comparable to the nationwide average of \$23.23, 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 lower than their respective national averages in 7 of the 22 major occupational groups including legal; life, physical, and social science; and computer and mathematical. Three groups had significantly higher wages than their respective national averages, including construction and extraction; sales and related; and production.

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, 10 groups had employment shares significantly below their national representation, including transportation and material moving; education, training, and library; 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 2015**

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%	\$23.23	\$23.68	2
Management .....	5.0	5.3*	55.30	55.08	0
Business and Financial Operations .....	5.1	5.0	35.48	34.43	-3
Computer and Mathematical .....	2.9	3.4*	41.43	37.57*	-9
Architecture and Engineering .....	1.8	4.6*	39.89	39.86	0
Life, Physical, and Social Science .....	0.8	0.5*	34.24	28.44*	-17
Community and Social Services .....	1.4	0.9*	22.19	22.56	2
Legal .....	0.8	0.9*	49.74	43.09*	-13
Education, Training, and Library .....	6.2	4.6*	25.48	24.40	-4
Arts, Design, Entertainment, Sports, and Media .....	1.3	1.5	27.39	26.50	-3
Healthcare Practitioner and Technical .....	5.8	5.5	37.40	38.59	3
Healthcare Support .....	2.9	3.1	14.19	13.93	-2
Protective Service .....	2.4	1.5*	21.45	20.14	-6
Food Preparation and Serving Related .....	9.1	8.9*	10.98	10.72*	-2
Building and Grounds Cleaning and Maintenance .....	3.2	2.7*	13.02	12.97	0
Personal Care and Service .....	3.1	2.8*	12.33	11.73*	-5
Sales and Related .....	10.5	11.5*	18.90	20.57*	9
Office and Administrative Support .....	15.8	15.5	17.47	17.01*	-3
Farming, Fishing, and Forestry .....	0.3	(2)	12.67	17.14	35

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 2015 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Warren	United States	Warren	Percent difference <sup>(1)</sup>
Construction and Extraction .....	4.0	2.9*	22.88	25.35*	11
Installation, Maintenance, and Repair .....	3.9	3.7*	22.11	22.43	1
Production .....	6.6	10.1*	17.41	17.87*	3
Transportation and Material Moving .....	6.9	5.2*	16.90	16.09*	-5

Footnotes:

(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) 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 118,400 jobs in production, accounting for 10.1 percent of local area employment, significantly higher than the 6.6-percent share nationally. The average hourly wage for this occupational group locally was \$17.87, significantly above the national wage of \$17.41.

Some of the larger detailed occupations within the production group included team assemblers (22,830); machinists (10,400); and inspectors, testers, sorters, samplers, and weighers (9,180). Among the higher paying jobs were power plant operators (\$36.36) and stationary engineers and boiler operators (\$31.16). At the lower end of the wage scale were pressers, textile, garment, and related materials (\$10.09) and adhesive bonding machine operators and tenders (\$10.29). (Detailed occupational data for production are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/2015/may/oes\\_47664.htm](http://www.bls.gov/oes/2015/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 some of the occupations within the production group. For instance, tool and die makers were employed at 7.2 times the national rate in Warren, and forging machine setters, operators, and tenders, metal and plastic, at 7.0 times the U.S. average. On the other hand, electrical and electronic equipment assemblers had a location quotient of 1.0 in Warren, 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 Labor & Economic Growth.

## Notes on Occupational Employment Statistics Data

With the issuance of data for May 2015, the OES program has incorporated redefined metropolitan area definitions as designated by the Office of Management and Budget. OES data are available for 394 metropolitan areas, 38 metropolitan divisions, and 167 OES-defined nonmetropolitan areas. A listing of the areas and their definitions can be found at [www.bls.gov/oes/current/msa\\_def.htm](http://www.bls.gov/oes/current/msa_def.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.

## 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 program produces employment and wage estimates for over 800 occupations for all industries combined in the nation; the 50 states and the District of Columbia; 432 metropolitan areas and divisions; 167 nonmetropolitan areas; and Guam, Puerto Rico, and the U.S. Virgin Islands. National estimates are also available by industry for NAICS sectors, 3-, 4-, and selected 5- and 6-digit industries, and 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. Forms are mailed to approximately 200,000 sampled establishments in May and November each year. May 2015 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2015, November 2014, May 2014, November 2013, May 2013, and November 2012. The overall national response rate for the six panels is 73.5 percent based on establishments and 69.6 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 57.9 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 Warren-Troy-Farmington Hills Metropolitan Division included 5,894 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](http://www.bls.gov/news.release/ocwage.tn.htm).

The May 2015 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/2015/may/methods\\_statement.pdf](http://www.bls.gov/oes/2015/may/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 2015**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Production Occupations .....	118,400	1.5	\$17.87	\$37,160
First-Line Supervisors of Production and Operating Workers .....	6,650	1.3	30.37	63,180
Coil Winders, Tapers, and Finishers.....	100	0.8	18.35	38,170
Electrical and Electronic Equipment Assemblers .....	1,870	1.0	14.12	29,370
Electromechanical Equipment Assemblers .....	160	0.4	17.25	35,880
Engine and Other Machine Assemblers .....	870	2.6	23.81	49,510
Structural Metal Fabricators and Fitters .....	880	1.3	19.94	41,470
Fiberglass Laminators and Fabricators .....	60	0.3	15.56	32,370
Team Assemblers .....	22,830	2.4	16.50	34,320
Assemblers and Fabricators, All Other.....	1,760	0.9	12.29	25,560
Bakers .....	1,320	0.9	13.45	27,980
Butchers and Meat Cutters.....	1,010	0.9	14.09	29,310
Meat, Poultry, and Fish Cutters and Trimmers .....	540	0.4	11.38	23,680
Slaughterers and Meat Packers .....	110	0.2	12.06	25,080
Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders .....	30	0.2	13.74	28,580
Food Batchmakers .....	550	0.5	12.86	26,740
Food Processing Workers, All Other .....	40	0.1	11.81	24,560
Computer-Controlled Machine Tool Operators, Metal and Plastic.....	2,690	2.2	20.34	42,310
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic .....	640	3.0	24.42	50,790
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic .....	880	1.4	17.21	35,800
Forging Machine Setters, Operators, and Tenders, Metal and Plastic .....	1,170	7.0	13.64	28,370
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic.....	(5)	(5)	19.54	40,640
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic .....	4,850	2.9	17.71	36,840
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic .....	220	1.8	22.37	46,530
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic.....	1,330	2.1	15.21	31,640
Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic .....	870	2.6	14.68	30,530
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic .....	300	1.8	15.24	31,710
Machinists .....	10,400	3.1	19.92	41,430
Metal-Refining Furnace Operators and Tenders .....	180	1.0	12.80	26,620
Model Makers, Metal and Plastic .....	(5)	(5)	30.07	62,540
Patternmakers, Metal and Plastic.....	(5)	(5)	20.55	42,740
Foundry Mold and Coremakers.....	(5)	(5)	15.38	31,990
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic .....	4,050	3.5	13.74	28,590
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic .....	1,620	1.8	18.43	38,320
Tool and Die Makers.....	4,540	7.2	24.46	50,890
Welders, Cutters, Solderers, and Brazers.....	2,870	0.9	19.62	40,810
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders.....	900	2.0	16.57	34,460
Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic .....	560	3.2	18.96	39,450
Layout Workers, Metal and Plastic.....	70	0.7	22.98	47,790
Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic .....	650	2.1	15.04	31,270
Tool Grinders, Filers, and Sharpeners.....	290	3.4	19.84	41,270
Metal Workers and Plastic Workers, All Other .....	200	1.1	17.73	36,880

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 2015 - Continued**

Occupation (1)	Employment		Mean wages	
	Level (2)	Location quotient (3)	Hourly	Annual (4)
Prepress Technicians and Workers .....	360	1.2	16.62	34,560
Printing Press Operators .....	1,210	0.8	16.87	35,080
Print Binding and Finishing Workers .....	380	0.9	15.99	33,260
Laundry and Dry-Cleaning Workers .....	1,260	0.7	11.15	23,180
Pressers, Textile, Garment, and Related Materials .....	240	0.6	10.09	20,990
Sewing Machine Operators .....	840	0.7	14.76	30,690
Tailors, Dressmakers, and Custom Sewers .....	(5)	(5)	12.55	26,090
Textile Cutting Machine Setters, Operators, and Tenders.....	140	1.1	12.88	26,780
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders .....	(5)	(5)	16.46	34,230
Upholsterers .....	30	0.1	16.97	35,310
Textile, Apparel, and Furnishings Workers, All Other .....	(5)	(5)	17.39	36,170
Cabinetmakers and Bench Carpenters .....	460	0.6	17.38	36,160
Furniture Finishers .....	50	0.4	18.39	38,250
Sawing Machine Setters, Operators, and Tenders, Wood .....	(5)	(5)	16.13	33,540
Woodworking Machine Setters, Operators, and Tenders, Except Sawing.....	340	0.5	13.08	27,200
Power Plant Operators .....	210	0.7	36.36	75,640
Stationary Engineers and Boiler Operators.....	190	0.6	31.16	64,820
Water and Wastewater Treatment Plant and System Operators .....	390	0.4	23.99	49,890
Gas Plant Operators.....	180	1.3	30.63	63,710
Petroleum Pump System Operators, Refinery Operators, and Gaugers.....	(5)	(5)	25.66	53,380
Chemical Equipment Operators and Tenders .....	390	0.7	18.58	38,640
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders.....	240	0.6	20.35	42,320
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders.....	70	0.3	17.39	36,180
Grinding and Polishing Workers, Hand .....	220	0.9	15.90	33,070
Mixing and Blending Machine Setters, Operators, and Tenders.....	1,570	1.4	17.98	37,400
Cutting and Slicing Machine Setters, Operators, and Tenders.....	450	0.8	14.97	31,130
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders.....	530	0.9	13.76	28,630
Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders.....	50	0.3	13.85	28,810
Inspectors, Testers, Sorters, Samplers, and Weighers ...	9,180	2.1	16.82	34,990
Jewelers and Precious Stone and Metal Workers.....	350	1.6	16.29	33,880
Dental Laboratory Technicians .....	600	1.9	21.56	44,850
Medical Appliance Technicians.....	60	0.5	25.00	52,000
Ophthalmic Laboratory Technicians .....	450	1.9	16.94	35,230
Packaging and Filling Machine Operators and Tenders..	2,510	0.8	14.76	30,710
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders.....	1,260	1.7	11.94	24,830
Painters, Transportation Equipment.....	430	1.0	29.05	60,420
Painting, Coating, and Decorating Workers .....	(5)	(5)	15.25	31,720
Photographic Process Workers and Processing Machine Operators .....	130	0.7	(5)	(5)
Adhesive Bonding Machine Operators and Tenders.....	(5)	(5)	10.29	21,410
Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders.....	90	0.6	15.12	31,460
Etchers and Engravers.....	(5)	(5)	16.65	34,640
Molders, Shapers, and Casters, Except Metal and Plastic.....	810	2.5	14.66	30,490
Paper Goods Machine Setters, Operators, and Tenders ..	330	0.4	19.81	41,190

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 2015 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Helpers--Production Workers .....	7,310	2.0	13.75	28,590
Production Workers, All Other .....	3,260	1.6	16.54	34,410

Footnotes:

(1) For a complete listing of all detailed occupations in the Warren-Troy-Farmington Hills 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.

(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) Estimates not released.