

Q3 2018
July - September

SOUTHEAST MICHIGAN

16-COUNTY WIN REGION

WIN Labor Market Report



INTRODUCTION

16-County WIN Region | Q3 2018

Report Contents

- 2 - State of the Labor Market
- 3 - Key Findings
- 4 - Workforce Overview
- 5 - Real-Time Demand Overview

Occupation Groups

- 12 - Agriculture
- 16 - Business and Finance
- 20 - Construction
- 24 - Customer Service
- 28 - Education
- 32 - Energy
- 36 - Engineers and Designers
- 40 - Health Care
- 44 - Information Technology
- 48 - Skilled Trades and Technicians
- 52 - Transportation, Distribution,
and Logistics

About This Report

The Workforce Intelligence Network for Southeast Michigan (WIN) partnership is a collaboration of six Michigan Works! Agencies (MWAs) and ten community colleges across a 16-county region in Michigan. The counties in the WIN partnership include: Genesee, Hillsdale, Huron, Jackson, Lapeer, Lenawee, Livingston, Macomb, Monroe, Oakland, Saint Clair, Sanilac, Shiawassee, Tuscola, Washtenaw, and Wayne, along with the City of Detroit.

This report highlights labor market information and real-time job posting data for the entire 16-county region of southeast Michigan. A workforce overview is provided within identifying key components of the area's labor market including labor force status, demographic, and commuting data. WIN's analysis of online job postings, a proxy for employer demand, is a pioneering method for tracking the health of the labor market. This data is used to provide a real-time demand overview, detailing posting related findings for both employers and job seekers. WIN's data and research team analyzes job posting data at the occupation level within eleven customized occupation groups built using specific Standard Occupational Classification (SOC) codes to provide more contextualized information. Occupation groups combine data for jobs with similar skillsets, educational attainment, and experience requirements, which provides a more in-depth snapshot of the current labor market when compared to traditional industry data based upon North American Industry Classification System (NAICS) codes. Occupation outlook sections utilize these metrics to identify and display the top in-demand jobs, their entry requirements, and their earning potential.

This report analyzes data from the third quarter of 2018 in the 16-county WIN region and includes summative data for July, August, and September of 2018.

For more information pertaining to the labor market in southeast Michigan, the custom occupation groups within this report, or any other workforce-related data projects, please visit www.WINintelligence.org or contact the data and research team directly at research@WINintelligence.org.



ANNUAL STATE OF THE LABOR MARKET

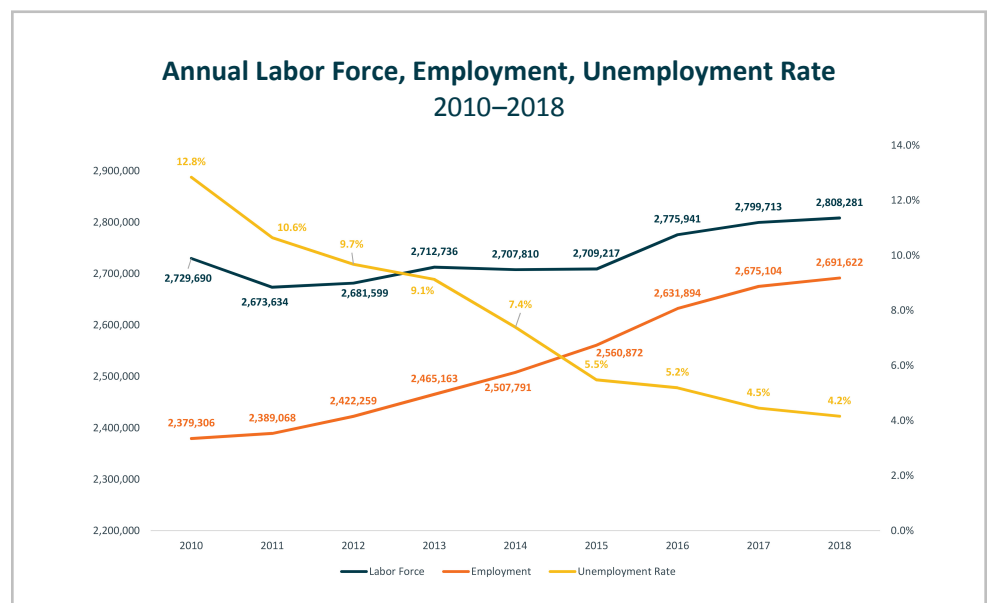
16-County WIN Region | Q3 2018

State of the Labor Market in the 16-County WIN Region

Thus far in 2018, the labor force figures decreased in southeast Michigan while employment increased. With this simultaneous increase in both labor force and employment, the number of unemployed individuals decreased in the region. This has caused the unemployment rate to drop from the 4.5 percent annual rate in 2017 to the current year to date (YTD) rate of 4.2 percent in 2018. Employer demand for most occupation groups also increased during Q3 2018. The customer service occupation group reported the highest demand with over 72,000 job postings during the quarter. Other occupation groups also offer great job opportunities for active job seekers: agriculture postings grew by 23 percent from Q2 2018, and 24 percent of postings were open to entry-level applicants.

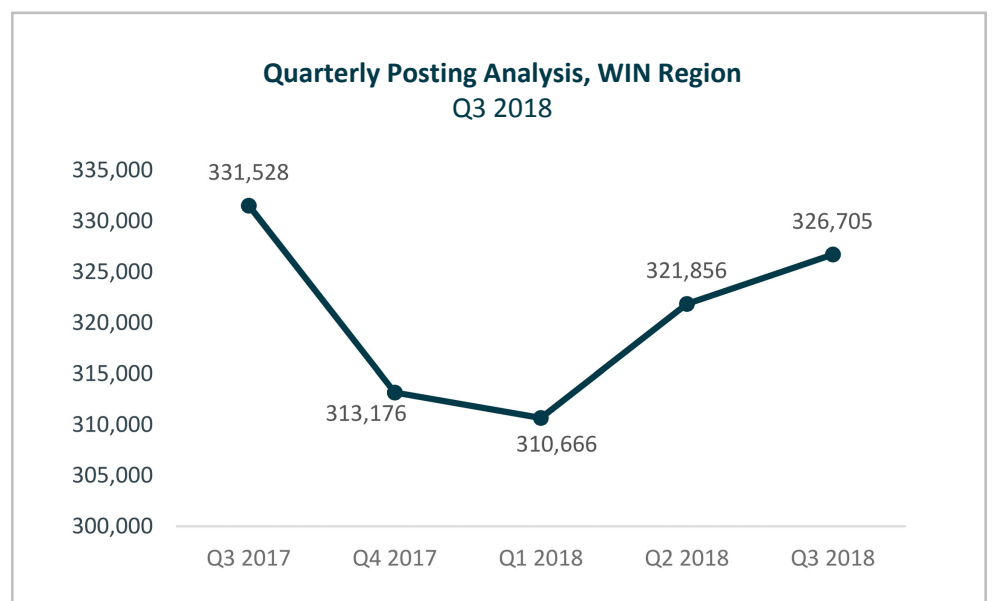
Annual Labor Market Information

Moving into a ten-year high, the labor force in the southeast Michigan increased by 8,569 individuals between 2017 and 2018. Employment increased by 16,519 workers between recent years. With employment increasing greater than the labor force, the unemployment rate fell by 0.3 percentage points from the annual figures in 2017 to a current YTD rate of 4.2 percent in the 16-county WIN partnership region.



Quarterly Employer Demand Overview

Data from the third quarter of 2018, including posting information from July, August, and September showed employer demand continue to grow throughout southeast Michigan. There were 4,823 less postings during Q3 2018 compared to the 331,528 postings made during Q3 2017 for a total of 326,705 postings. Typically, the first half of the year tends to report lower postings than the second half, and 2018 is so far no exception.





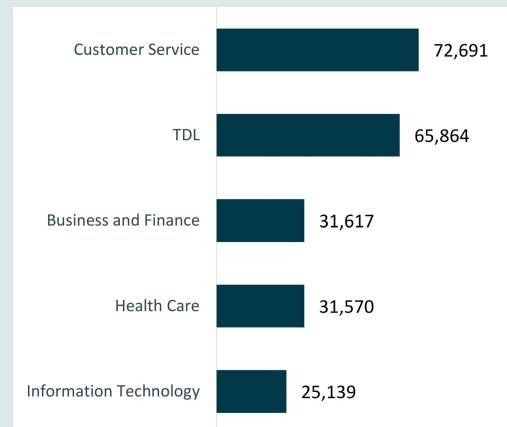
QUARTERLY WORKFORCE INDICATORS

16-County WIN Region | Key Findings for Q3 2018

Employer demand surges to 326,000 postings during Q3 2018, with most occupation groups analyzed by WIN experiencing increases in online job postings between Q1 and Q3 2018.

During Q3 2018, there were 326,705 jobs posted, 17,304 more than the 308,758 jobs posted during Q1 2018 in the 16-county WIN region. Most of the occupation groups analyzed by WIN experienced an increase during the third quarter of 2018. The agriculture, business and finance, and TDL groups each increased by over 1,000 postings. Online job postings made by employers in the agriculture occupation group were up by 23 percent from the previous quarter (Q2 2018). This level of online job postings is the highest since Q3 2017 when there were 331,528 postings made. For more information about quarterly job postings, see page 2.

Top 5 Posting Occupation Groups Q3 2018

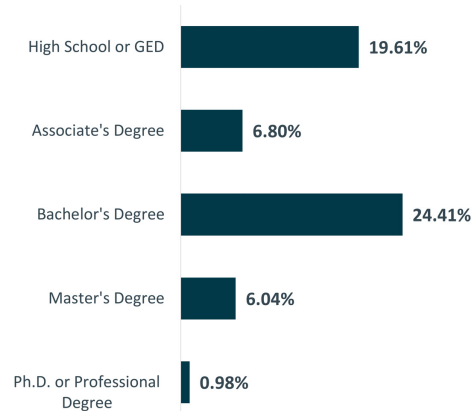


Data: Emsi | Analysis: Workforce Intelligence Network

Job postings made by employers in southeast Michigan indicate a bachelor's degree as the most in-demand minimum education level during Q3 2018.

While only 58 percent of job postings identified a minimum education level, nearly a quarter (24.41 percent) of the 331,528 jobs posted in southeast Michigan indicated the need for candidates with a bachelor's degree. Another 20 percent of these postings were looking for applicants with a high school diploma or equivalent. Higher education attainment tends to lead to more lucrative opportunities, but many entry level opportunities exist for each educational attainment level.

Education Levels In-Demand Q3 2018



Data: Emsi | Analysis: Workforce Intelligence Network

Southeast Michigan's unemployment rate is currently at 4.3 percent, up 0.3 percentage points from Q2 2018.

As of Q3 2018, employment has declined since Q2 2018, while the labor force has grown. The growth in labor force participants combined with the drop in workers caused the quarterly unemployment rate to rise from 4.0 percent in Q2 2018 to 4.3 percent in Q3 2018 as more people started to look for work. During July 2018, in particular, unemployment spiked, hitting a peak of 5.1 percent. For more information about this quarter's unemployment rate and other labor market indicators, see page XX.

Quarterly Labor Market Data

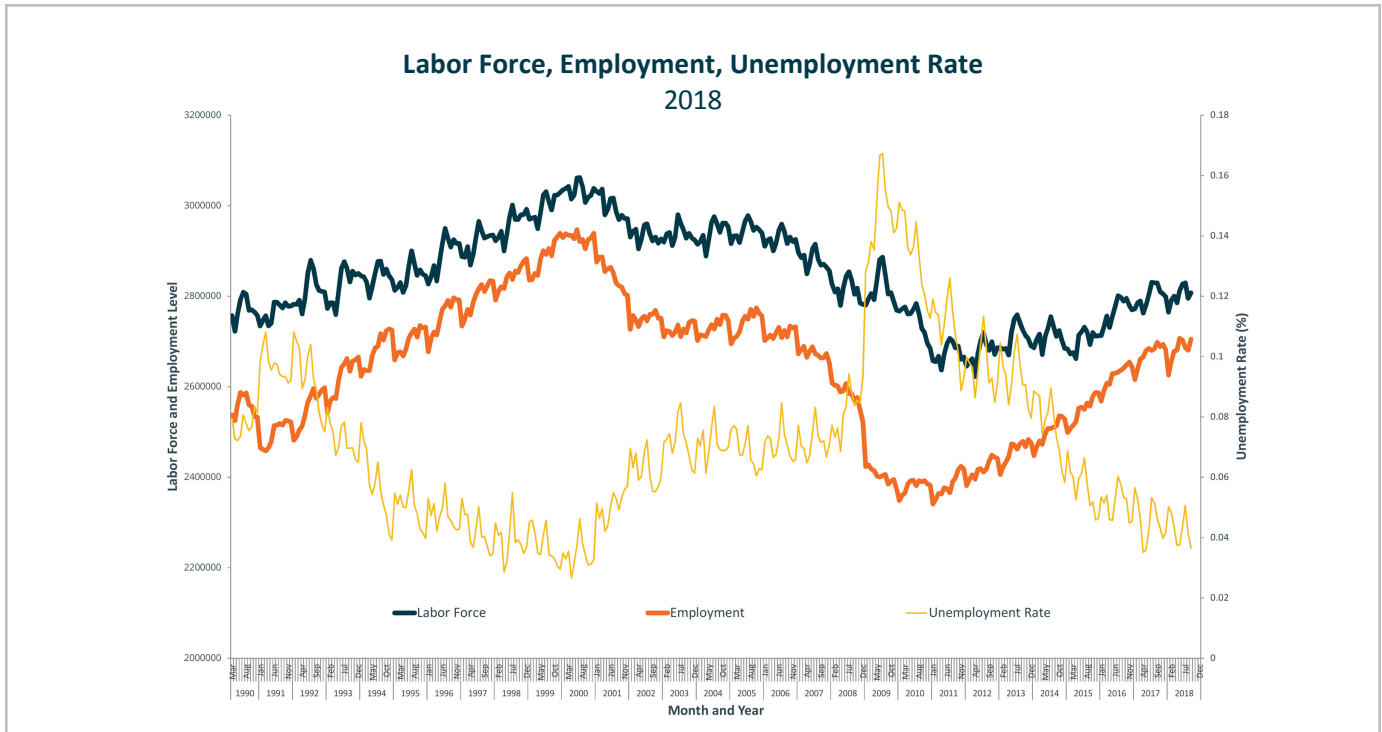
	2nd Quarter 2018	3rd Quarter 2018	Change from 2nd Quarter 2018	Percent Change from 2nd Quarter 2018
Labor Force	2,808,226	2,810,969	2,743	0.1%
Employment	2,697,006	2,690,755	-6,251	-0.2%
Unemployment	111,220	120,214	8,994	8.1%
Unemployment Rate	4.0%	4.3%	0.3%	na

Note: Monthly data average by quarter | Data: BLS



WORKFORCE OVERVIEW

16-County WIN Region | Labor Market Information Q3 2018



Data: BLS | Analysis: Workforce Intelligence Network

Quarterly Labor Market Data

	3rd Quarter 2017	4th Quarter 2017	1st Quarter 2018	2nd Quarter 2018	3rd Quarter 2018	Change from 2nd Quarter 2018	Percent Change from 2nd Quarter 2018	Change from 3rd Quarter 2017	Percent Change from 3rd Quarter 2017
Labor Force	2,830,051	2,807,660	2,785,285	2,808,226	2,810,969	2,743	0.1%	-19,082	-0.7%
Employment	2,687,586	2,691,292	2,653,392	2,697,006	2,690,755	-6,251	-0.2%	3,169	0.1%
Unemployment	142,465	116,368	131,893	111,220	120,214	8,994	8.1%	-22,251	-15.6%
Unemployment Rate	5.0%	4.1%	4.7%	4.0%	4.3%	0.3%	na	-0.8%	na

Note: Monthly data averaged by quarter | Data: BLS

Labor Force, Employment, and Unemployment

The labor market in southeast Michigan has experienced relative stability since 2010. The labor force increased by 2,743 workers (0.1 percent) between Q2 2018 and Q3 2018. Employment in the 16-county area has decreased from Q2 2018, by 6,251 workers (-0.2 percent). With employment decreasing while the labor force increased, the unemployment rate increased this quarter: the quarterly unemployment rate increased by 0.3 percentage points between Q2 2018 and Q3 2018 to 4.3 percent.



WORKFORCE OVERVIEW

16-County WIN Region | 2016 Annual Population Demographics

Population Demographics

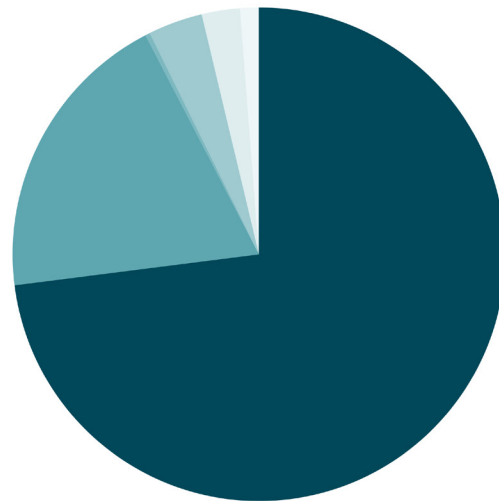
According to the data from the most recent Census Bureau 2016 ACS Five Year estimates, the population in southeast Michigan increased by nearly eight percent between 2015 and 2016. During 2016, 5,718,624 people were living in the region. The sex of the populace was split almost evenly, with about 51 percent of the population identifying as female, and the other 49 percent identifying as male. The majority of the population identified as white (73 percent) with the second largest number of individuals identifying as black or African American (19 percent). The region as a whole is facing an aging population; 28.5 percent of population was over the age of 55, compared to 19.6 percent under the age of 24.



5,718,624
People in the Region
7.8% Increase
from 2015

Population Race Demographics

- White, 73.17%
- Black or African American, 19.43%
- American Indian and Alaska Native, 0.31%
- Asian, 3.58%
- Native Hawaiian and Other Pacific Islander, 0.02%
- Two or More Races, 2.50%
- Other Race, 1.23%



Population Gender Demographics



51% Females



49% Males



Population Age Demographics

Age 14 and under
18.5%

Age 15-24
13.7%

Age 25-54, 39.3%

Age 55+
28.5%



WORKFORCE OVERVIEW

16-County WIN Region | 2016 Annual Labor Force Demographics

2016 Labor Force, Employment, and Unemployment Demographics

Civilian Labor Force by Demographic Group				
Demographic Group	Civilian Labor Force	Total Employment	Total Unemployment	Unemployment Rate
Total Population 16 +	2,822,432	2,564,812	256,226	9.1%
Sex				
Male 16+	1,466,095	1,328,701	137,394	9.4%
16-19	62,698	45,222	17,476	27.9%
20-24	152,202	126,579	25,623	16.8%
25-54	948,482	872,646	75,836	8.0%
55-64	239,002	223,928	15,074	6.3%
65 Plus	63,711	60,326	3,385	5.3%
Female 16+	1,355,127	1,236,663	118,464	8.7%
16-19	64,404	49,213	15,191	23.6%
20-24	146,785	125,503	21,282	14.5%
25-54	864,129	796,223	67,906	7.9%
55-64	224,912	213,334	11,578	5.1%
65 Plus	54,897	52,390	2,507	4.6%
Race				
White	2,134,972	1,987,586	146,411	6.9%
Black / African American	500,327	407,215	93,156	18.6%
Native American	8,322	7,304	1,017	12.2%
Asian	102,813	97,439	5,413	5.3%
Native Hawaiian / Pacific Islander	762	676	060	7.9%
Some Other Race	25,794	23,080	2,690	10.4%
Two or More Races	49,861	43,027	6,739	13.5%
Ethnicity				
Hispanic	104,921	93,396	11,421	10.9%

Data: American Community Survey 5-Year Estimates | Analysis: Workforce Intelligence Network

Labor Market Demographics

During 2016, the most recent census year, there were about 2.82 million people in the labor force, meaning they were either working or looking for work, in southeast Michigan. Slightly less than half of the population of 2,071,285 individuals (49.4 percent) living in the region were participating in the labor force. The highest unemployment rates were seen in those aged 24 years old or younger. Males under the age of 19 face an unemployment rate of 27.9 percent. Black or African American job seekers also have a difficult time finding employment, facing an unemployment rate of 18.4 percent.

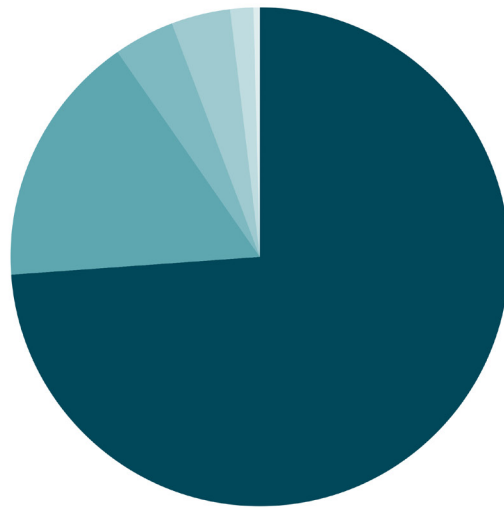
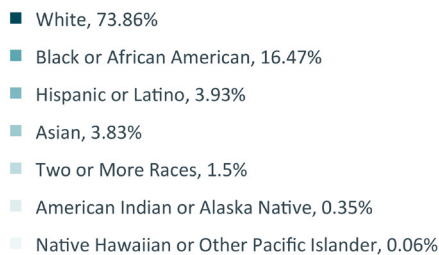
WORKFORCE OVERVIEW

16-County WIN Region | 2017 Annual Working Population Demographics

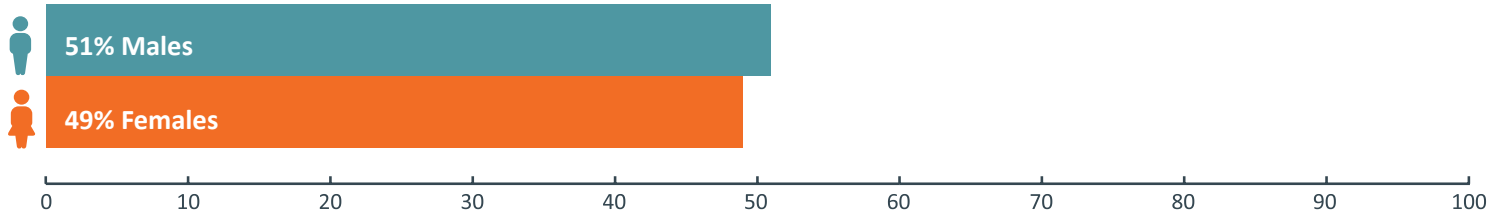
Current Workforce Demographics

While the Census Bureau data is lagged by about two years, Emsi uses predictive modeling to estimate workforce information for the previous year, allowing for more current analysis. During 2017, there were a total of 2,497,500 individuals working in southeast Michigan. A slight majority (51 percent or 1,277,391 workers) were male, while 49 percent (1,220,110 workers) of the workforce was female. Most of those working in the region were white, accounting for 73.95 percent of the workforce, while African American or black workers accounted for 16.5 percent of the workforce. Those identifying as having a Hispanic or Latino ethnicity accounted for 3.9 percent. Eighty-six percent of the workforce was 25 years or older. Only fourteen percent of those under the age of 25 were working, indicating an aging workforce in southeast Michigan.

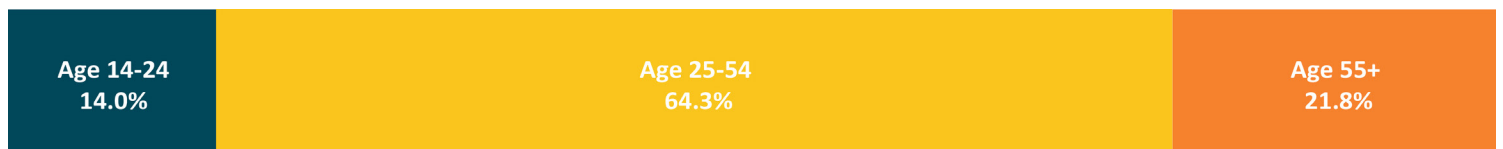
Workforce Race and Ethnicity Demographics



Workforce Gender Demographics



Workforce Age Demographics





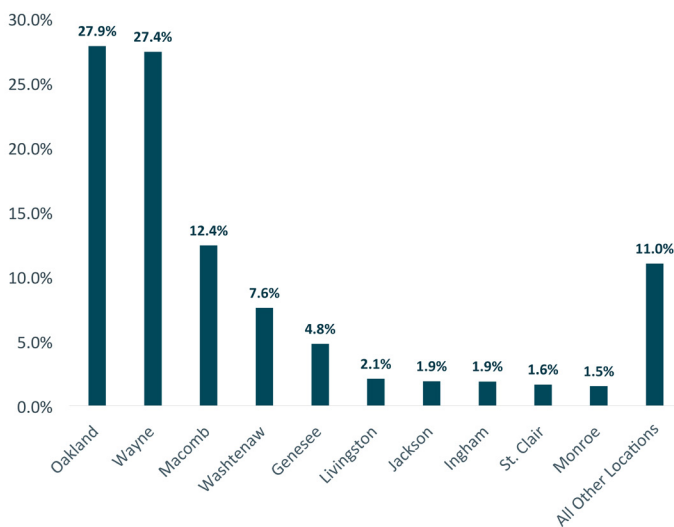
WORKFORCE OVERVIEW

16-County WIN Region | 2015 Regional Commuting Patterns

Regional Commuting Patterns

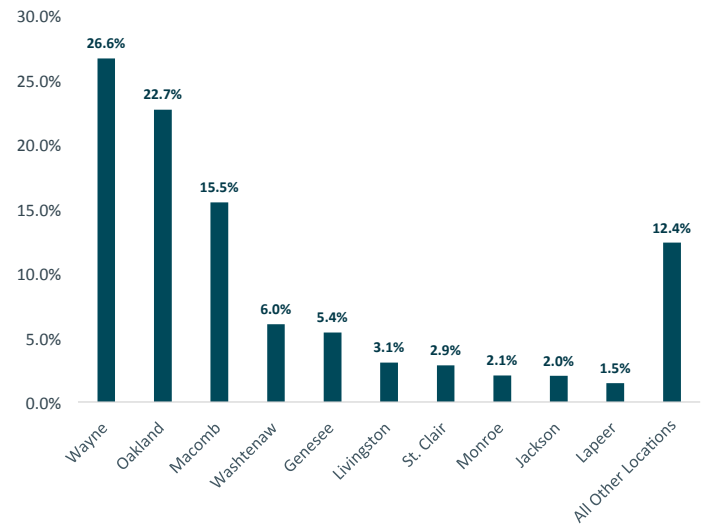
According to the most recent OnTheMap data set available from the Census Bureau, during 2015, the region's workforce consisted of 2,295,900 residents. 2,088,193 (91.0 percent) of the residents lived and worked within the 16-county region, while the remaining 207,707 residents (9.0 percent) traveled outside of the region for work. There were 2,269,629 workers employed in the region during 2015. Of those, 181,436 workers (8.0 percent) lived outside of the region's borders and commuted in. From this information, we can see that the southeast Michigan area is a net exporter of jobs, with more workers leaving the area for employment than inwardly commuting.

Where 16-County WIN Region Residents Work



Data: U.S. Census OnTheMap, 2015
Analysis: Workforce Intelligence Network

Where 16-County WIN Region Workers Live



Data: U.S. Census OnTheMap, 2015
Analysis: Workforce Intelligence Network

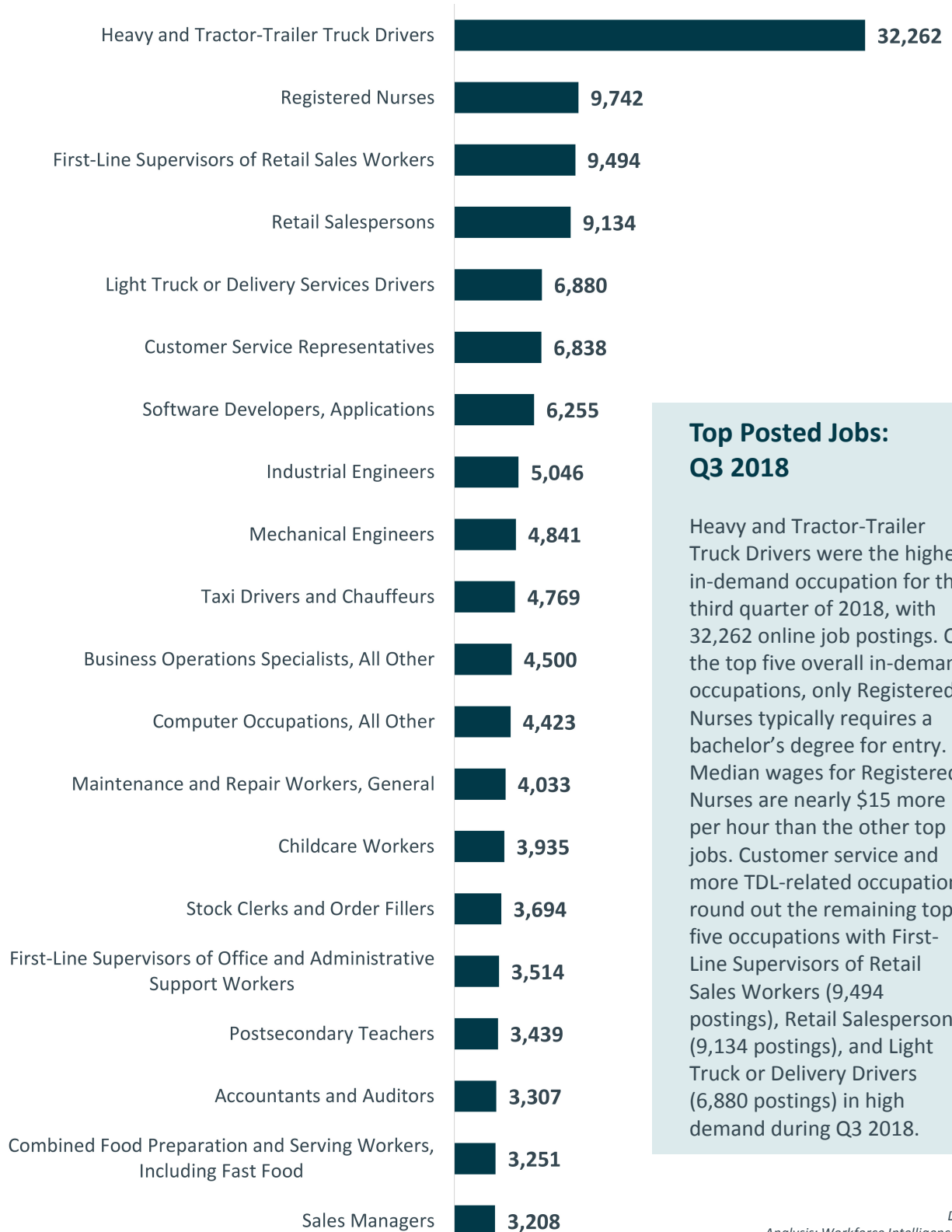




REAL-TIME DEMAND OVERVIEW

16-County WIN Region | Top Posted Jobs | Q3 2018

Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

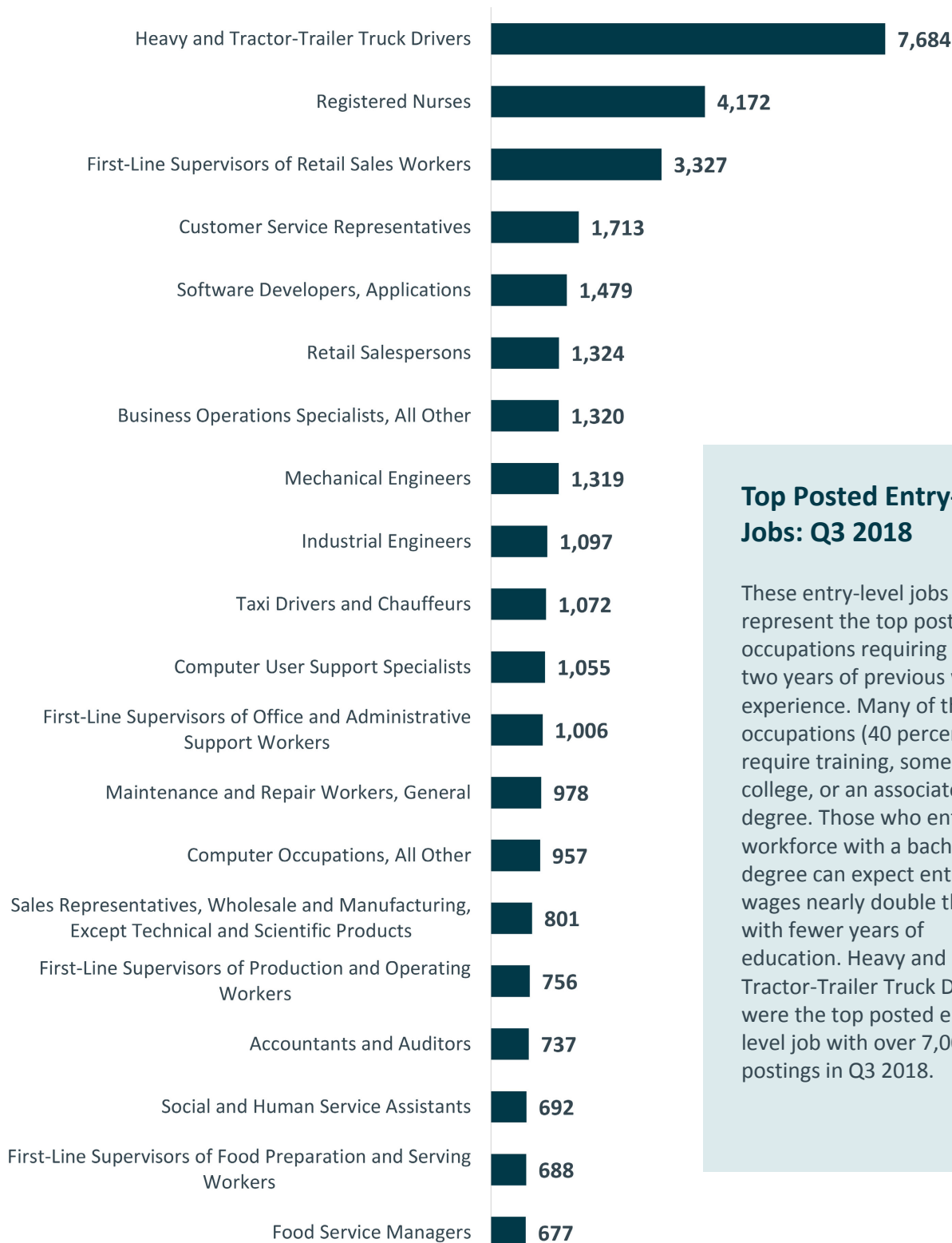
Heavy and Tractor-Trailer Truck Drivers were the highest in-demand occupation for the third quarter of 2018, with 32,262 online job postings. Of the top five overall in-demand occupations, only Registered Nurses typically requires a bachelor's degree for entry. Median wages for Registered Nurses are nearly \$15 more per hour than the other top jobs. Customer service and more TDL-related occupations round out the remaining top five occupations with First-Line Supervisors of Retail Sales Workers (9,494 postings), Retail Salespersons (9,134 postings), and Light Truck or Delivery Drivers (6,880 postings) in high demand during Q3 2018.



REAL-TIME DEMAND OVERVIEW

16-County WIN Region | Top Posted Entry-Level Jobs | Q3 2018

Top Posted Entry-Level Jobs Q3 2018



Top Posted Entry-Level Jobs: Q3 2018

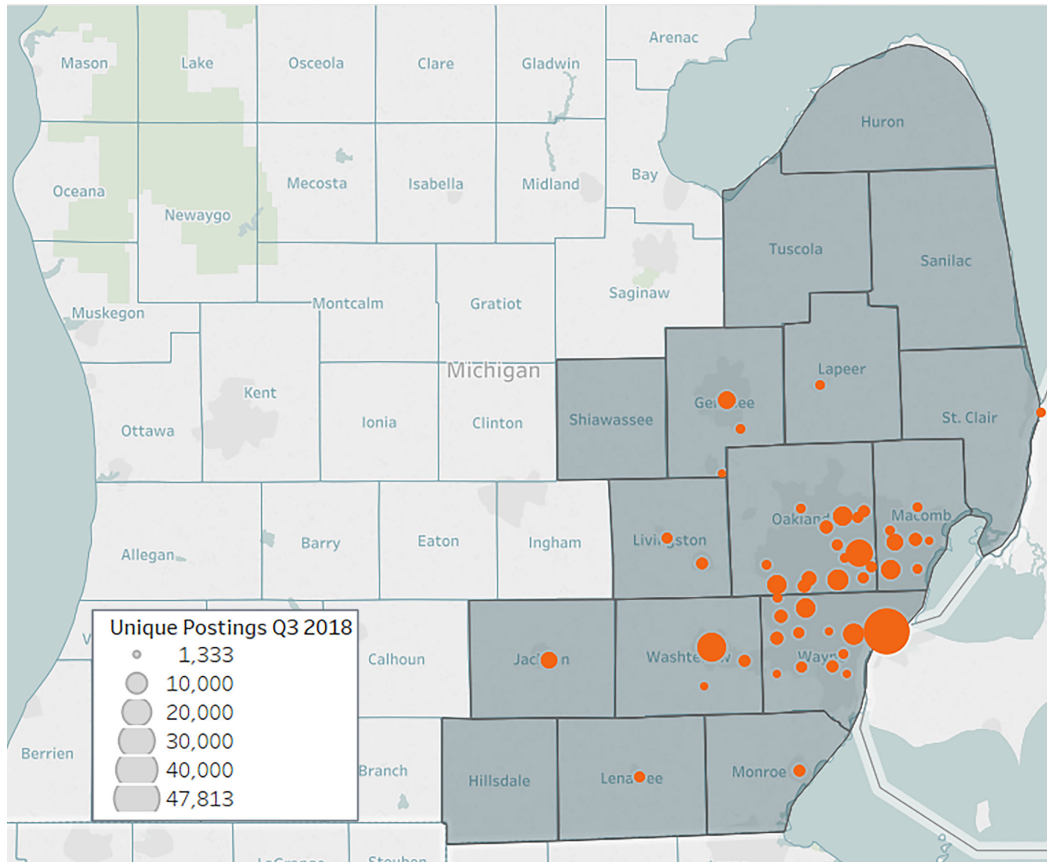
These entry-level jobs represent the top posted occupations requiring zero to two years of previous work experience. Many of these occupations (40 percent) require training, some college, or an associate degree. Those who enter the workforce with a bachelor's degree can expect entry wages nearly double those with fewer years of education. Heavy and Tractor-Trailer Truck Drivers were the top posted entry-level job with over 7,000 postings in Q3 2018.



REAL-TIME DEMAND OVERVIEW

16-County WIN Region | Job Postings by City | Q3 2018

Job Postings by City
Q3 2018



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Postings/hiring intensity. Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top In-Demand Qualifications

- Commercial Driver's License (CDL)
- Licensed Practical Nurse
- Certified Nursing Assistant
- Transportation Worker Identification Credential (TWIC) Card
- Critical Care Registered Nurse (CCRN)
- Nurse Practitioner
- CNOR Certification
- Patient Care Technician
- Certified Public Accountant
- Licensed Vocational Nurses

Top In-Demand Skills

- Merchandising
- Selling Techniques
- Restaurant Operation
- Accounting
- Nursing
- Purchasing
- Customer Satisfaction
- Customer Experience
- Warehousing
- Home Care

Top Posting Employers*

- CRST International, Inc.
- University of Michigan
- Henry Ford Health System
- The Home Depot Inc
- Lyft, Inc.
- C.R. England, Inc.
- Tutree, Inc.
- William Beaumont Hospital
- McDonald's Corporation
- Dollar General Corporation

*Employer names are listed as they appear in online job postings.



AGRICULTURE OCCUPATION GROUP

16-County WIN Region | Q3 2018

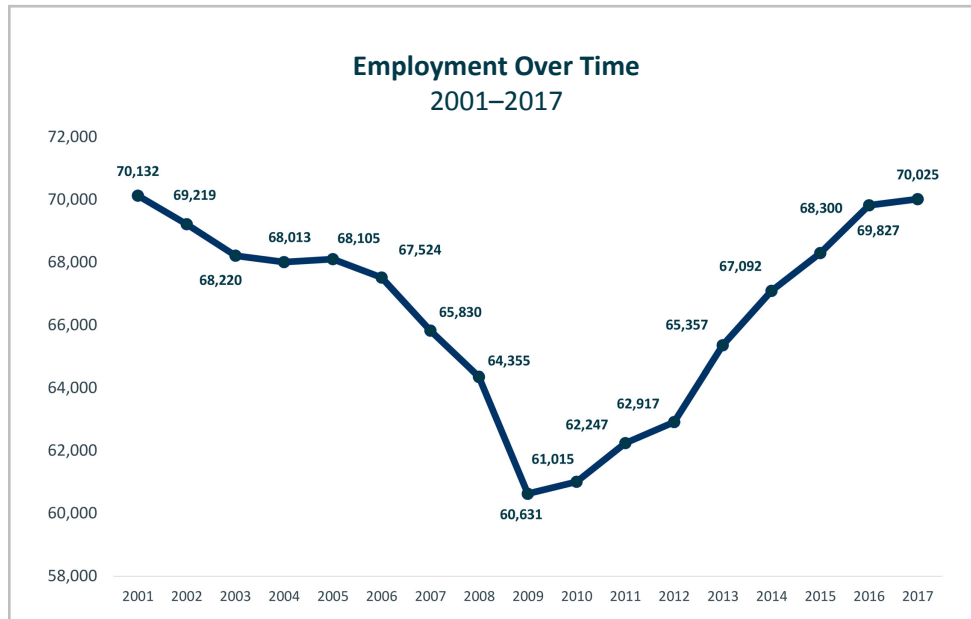
Introduction

WIN's agriculture occupation group brings together occupations that require knowledge of the farming, livestock, the environment, and natural sciences. Occupations range from Farm Workers, to Environmental Engineers, to Meat Butchers, to Recreation Workers.

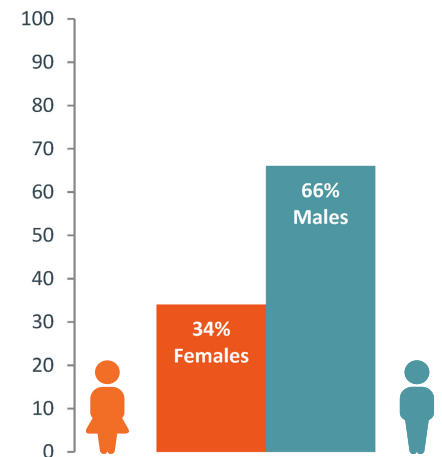


70,379
Agriculture Workers

0.5% Increase
from 2017



Population Gender Demographics



Agriculture Worker Demographics

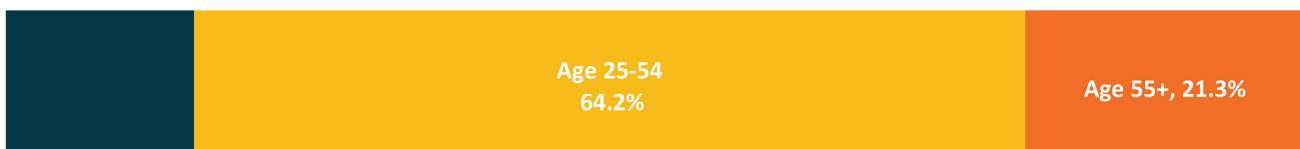
According to the most recent Emsi data set available (2017), the 70,050 workers in the agriculture occupation group is not very diverse. A large majority of workers are white males between the ages of 25 and 54. Only 33 percent of agriculture workers identify as women, and only 15 percent of workers were under the age of 24.

Race and Ethnicity Demographics

77.0% White | **11.8% Black or African American** | **3.5% Asian**

Population Age Demographic

Age 14-24, 14.5%



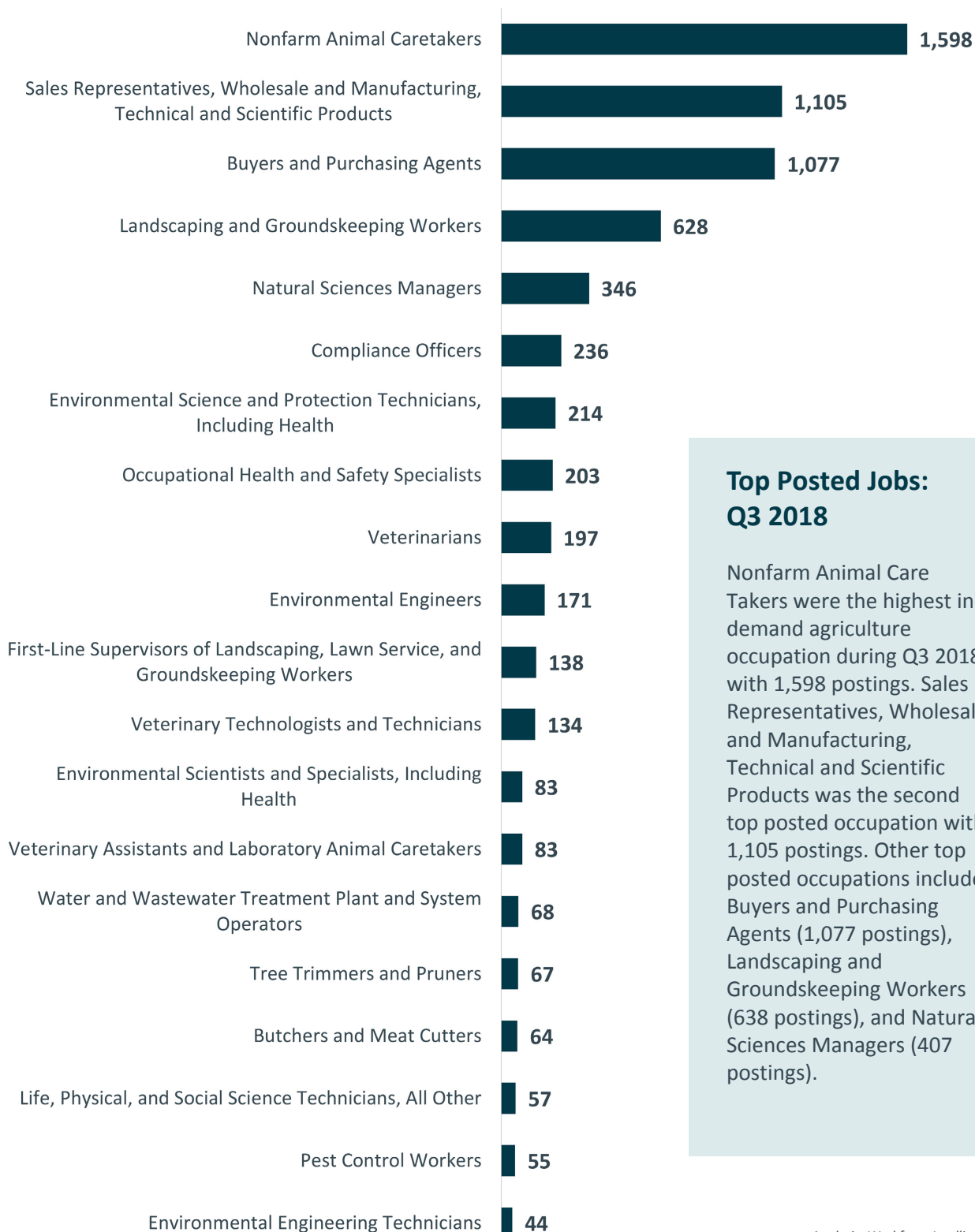


6,956 Agriculture Postings:
1,316 more than in Q2 2018



Bachelors Degree Required
for Most Agriculture Jobs

Agriculture Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Nonfarm Animal Care Takers were the highest in-demand agriculture occupation during Q3 2018, with 1,598 postings. Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products was the second top posted occupation with 1,105 postings. Other top posted occupations include Buyers and Purchasing Agents (1,077 postings), Landscaping and Groundskeeping Workers (638 postings), and Natural Sciences Managers (407 postings).



High Earning Potential for Natural Science Managers



In-Demand Agriculture Certification: Vet Tech

Agriculture Wage Overview

Of the top posted agriculture-related jobs, seven of the ten offer median wages of over \$30 per hour according to the Bureau of Labor Statistics (BLS). The top posted job, Nonfarm Animal Care Takers offers median hourly earnings of \$10.45, which translates to annual earnings of approximately \$21,736.

Wage Overview for Top Posted Agriculture Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
39-2021	Nonfarm Animal Caretakers	\$9.10	\$9.48	\$10.45	\$11.75	\$14.65
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$23.29	\$28.37	\$39.25	\$54.90	\$72.02
13-1028	Buyers and Purchasing Agents	\$17.98	\$23.85	\$32.23	\$43.82	\$56.95
37-3011	Landscaping and Groundskeeping Workers	\$9.56	\$10.70	\$12.87	\$15.46	\$18.97
11-9121	Natural Sciences Managers	\$33.28	\$39.28	\$48.53	\$66.50	\$85.48
13-1041	Compliance Officers	\$21.46	\$27.49	\$37.52	\$42.72	\$48.79
19-4091	Environmental Science and Protection Technicians, Including Health	\$14.15	\$16.50	\$21.55	\$27.90	\$32.74
29-9011	Occupational Health and Safety Specialists	\$24.84	\$29.89	\$37.23	\$46.02	\$54.58
29-1131	Veterinarians	\$28.64	\$33.12	\$39.16	\$50.40	\$67.32
17-2081	Environmental Engineers	\$28.95	\$35.11	\$44.64	\$55.77	\$65.12

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Purchasing
- Landscaping
- Selling Techniques
- Procurement
- Mowing

In-Demand Foundational Skills

- Management
- Communications
- Sales
- Operations
- Leadership

In-Demand Education Level*

- High School Diploma: 16.1%
- Associate Degree: 5.0%
- Bachelor's Degree: 29.0%
- Master's Degree: 6.3%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

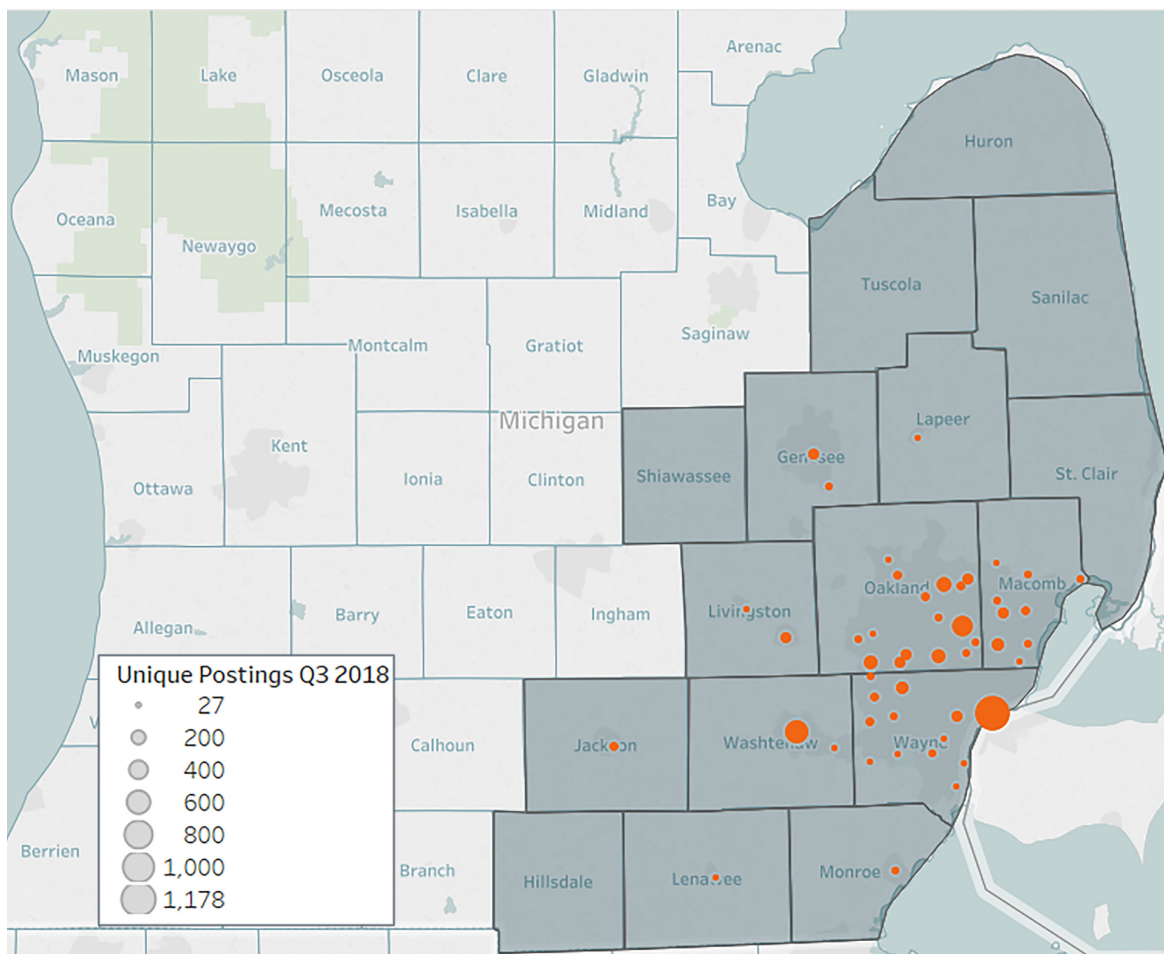
- Commercial Driver's License (CDL)
- Certified Veterinary Technician
- Professional Engineer
- Certified Hazardous Materials Manager
- Certified Safety Professional



Veterinarian Hospitals are Top Employers of the Agriculture-related Workers



Purchasing Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- Rover Inc
- Banfield Pet Hospital
- University of Michigan
- The Pet Sitter
- Petco Inc
- Oracle Corporation
- Xpat Inc
- The Davey Tree Expert Company
- Henry Ford Health System
- Virtual Vocations

*Employer names are listed as they appear in online job postings.

Job Postings by City

1. Detroit, MI: 1,178 Postings
2. Ann Arbor, MI: 518 Postings
3. Troy, MI: 409 Postings
4. Auburn Heights, MI: 208 Postings
5. Southfield, MI: 180 Postings



BUSINESS AND FINANCE OCCUPATION GROUP

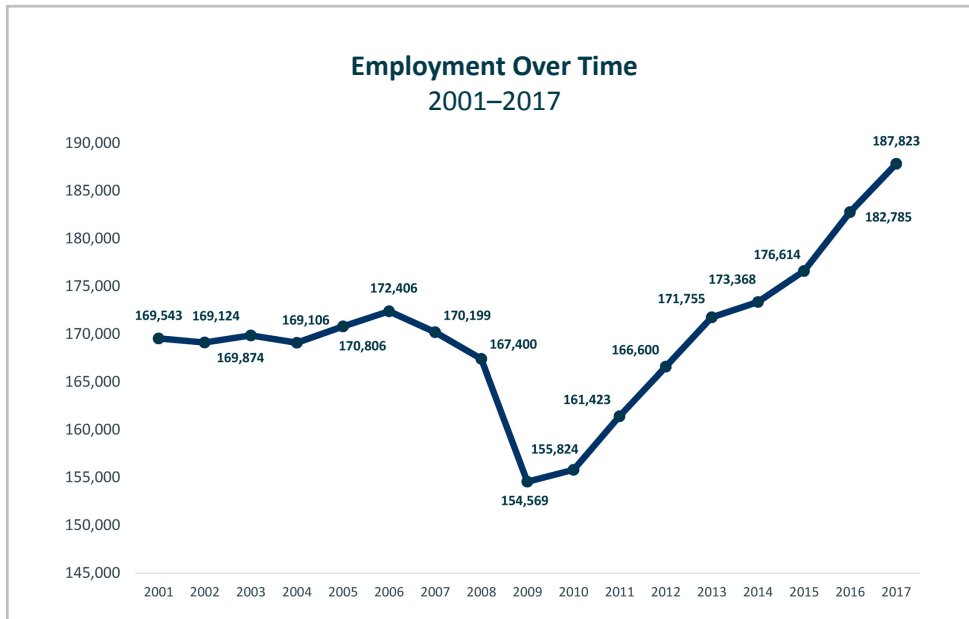
16-County WIN Region | Q3 2018

Introduction

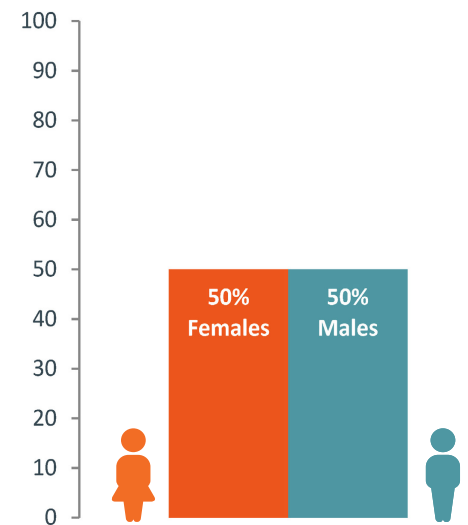
Jobs in the business and finance occupation group can be found in nearly every type of establishment/firm throughout the region. These workers need strong mathematical and accounting abilities along with project management and planning skills. Workers in this occupation group are in high demand in southeast Michigan.



188,664
Business Workers
0.4% Increase
from 2017



Population Gender Demographics



Business and Finance Worker Demographics

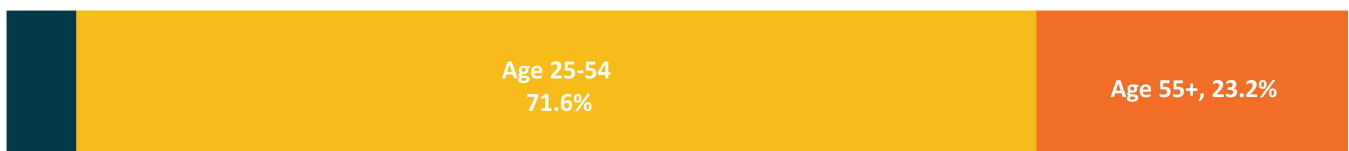
According to the most recent Emsi data set available (2017), the business and finance occupation group is a relatively diverse occupation group with respect to its over 180,000 workers. Half the working population identify as female (50 percent). In addition, only 80 percent of workers are white, so the field may offer opportunity for minority workers. Only five percent of the working population is under the age of 25, indicating a large aging population of business and finance workers.

Race and Ethnicity Demographics

80.6% White | **11.2% Black or African American** | **4.2% Asian**

Population Age Demographics

Age 14-24, 5.2%



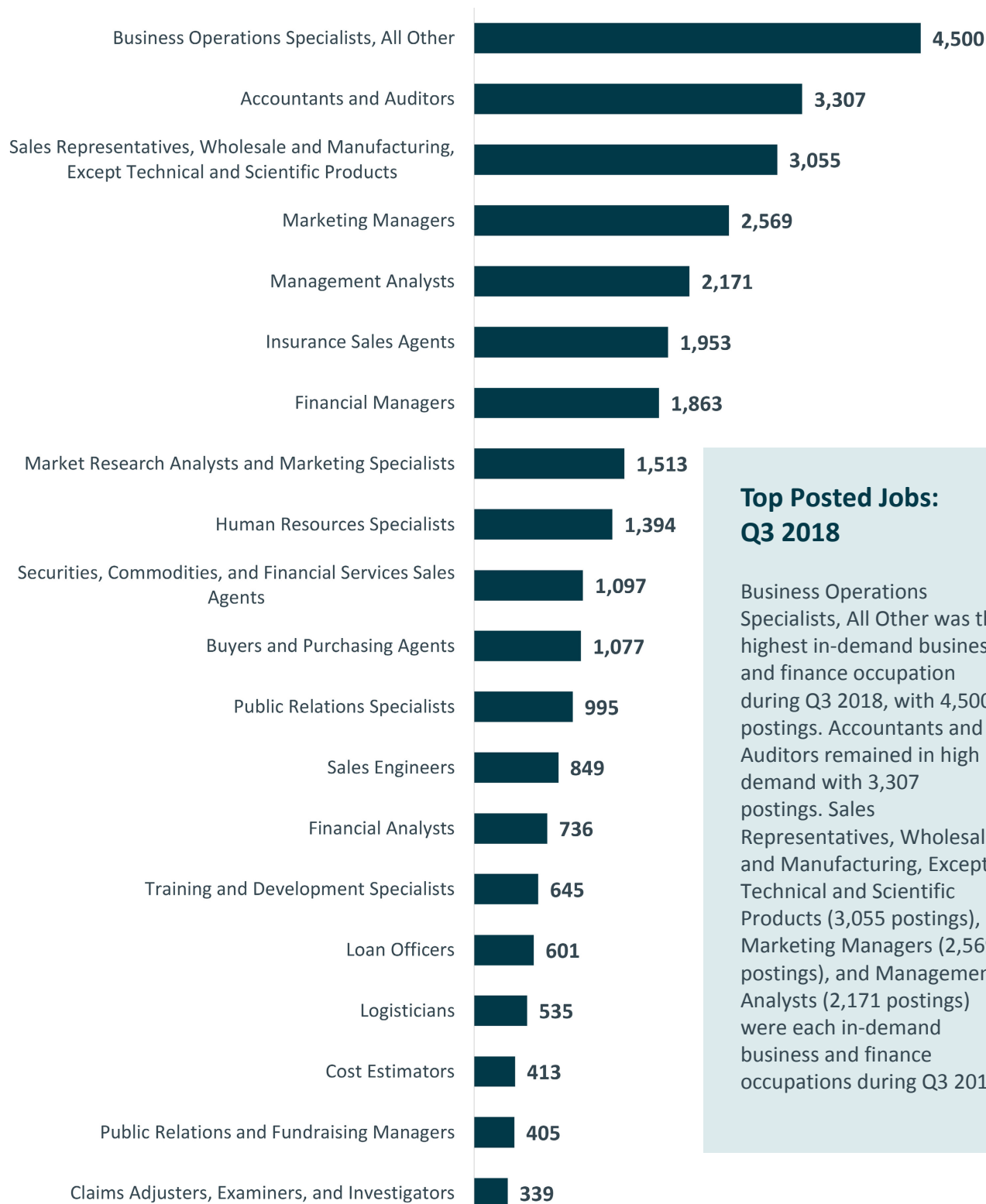


31,617 Business and Finance Postings:
1,264 More than in Q2 2018



Bachelor's Degree Required for
Most Business and Finance Jobs

Business and Finance Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Business Operations Specialists, All Other was the highest in-demand business and finance occupation during Q3 2018, with 4,500 postings. Accountants and Auditors remained in high demand with 3,307 postings. Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (3,055 postings), Marketing Managers (2,569 postings), and Management Analysts (2,171 postings) were each in-demand business and finance occupations during Q3 2018.



High Earning Potential for Marketing Managers



Series 7 Stockbroker: In-Demand Business and Finance Certification

Business and Finance Wage Overview

Most business and finance related jobs offer high wages, making for a lucrative opportunity for job seekers willing to attain the necessary education. According to the Bureau of Labor Statistics (BLS), the top posted business and finance job, Business Operations Specialists, All Other, offers median hourly wages of \$32.82, translating to annual earnings of approximately \$68,000.

Wage Overview for Top Posted Business and Finance Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
13-1199	Business Operations Specialists, All Other	\$18.15	\$23.65	\$32.82	\$44.80	\$56.35
13-2011	Accountants and Auditors	\$20.85	\$25.73	\$33.62	\$44.98	\$58.85
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$14.19	\$20.63	\$30.26	\$45.55	\$61.33
11-2021	Marketing Managers	\$34.50	\$45.09	\$61.75	\$79.72	\$111.97
13-1111	Management Analysts	\$24.93	\$30.81	\$40.48	\$55.71	\$78.72
41-3021	Insurance Sales Agents	\$14.37	\$18.86	\$26.97	\$44.03	\$68.10
11-3031	Financial Managers	\$34.04	\$43.17	\$57.57	\$76.57	\$106.27
13-1161	Market Research Analysts and Marketing Specialists	\$16.53	\$22.79	\$31.49	\$43.45	\$57.66
13-1071	Human Resources Specialists	\$17.82	\$22.43	\$29.30	\$38.11	\$49.11
41-3031	Securities, Commodities, and Financial Services Sales Agents	\$15.69	\$18.29	\$25.20	\$40.99	\$73.26

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Accounting
- Auditing
- Selling Techniques
- Business Development
- Purchasing

In-Demand Foundational Skills

- Management
- Sales
- Communications
- Operations
- Customer Service

In-Demand Education Level*

- High School Diploma: 11.7%
- Associate Degree: 5.7%
- Bachelor's Degree: 45.6%
- Master's Degree: 11.1%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

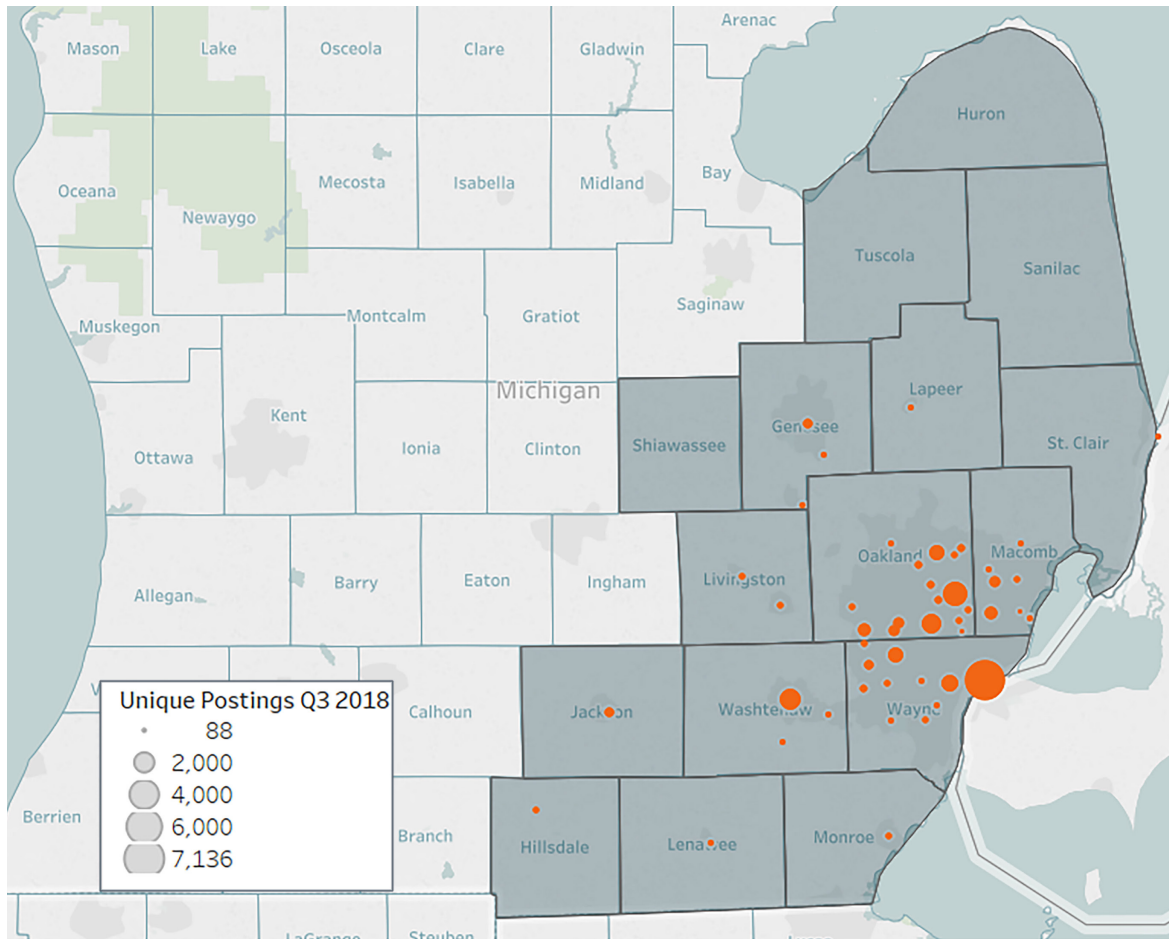
- Certified Public Accountant (CPA)
- Series 7 General Securities Representative License (Stockbroker)
- Series 6 Investment Company and Variable Contracts License (Mutual Funds/Variable Annuities)
- Certified Financial Planner
- Certified Internal Auditor



Banks and Major Corporations Seeking Business and Finance Workers



Accounting and Auditing Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Job Posting Employers*

- Anthem, Inc.
- Robert Half International Inc.
- Oracle Corporation
- Virtual Vocations
- Deloitte LLP
- Huntington Bancshares Incorporated
- University of Michigan
- B & B Trucking, Inc.
- H&R Block, Inc.
- Sentex Corp

Job Postings by City

1. Detroit, MI: 7,136 Postings
2. Troy, MI: 2,564 Postings
3. Ann Arbor, MI: 1,924 Postings
4. Southfield, MI: 1,667 Postings
5. Auburn Heights, MI: 1,024 Postings

*Employer names are listed as they appear in online job postings.



CONSTRUCTION OCCUPATION GROUP

16-County WIN Region | Q3 2018

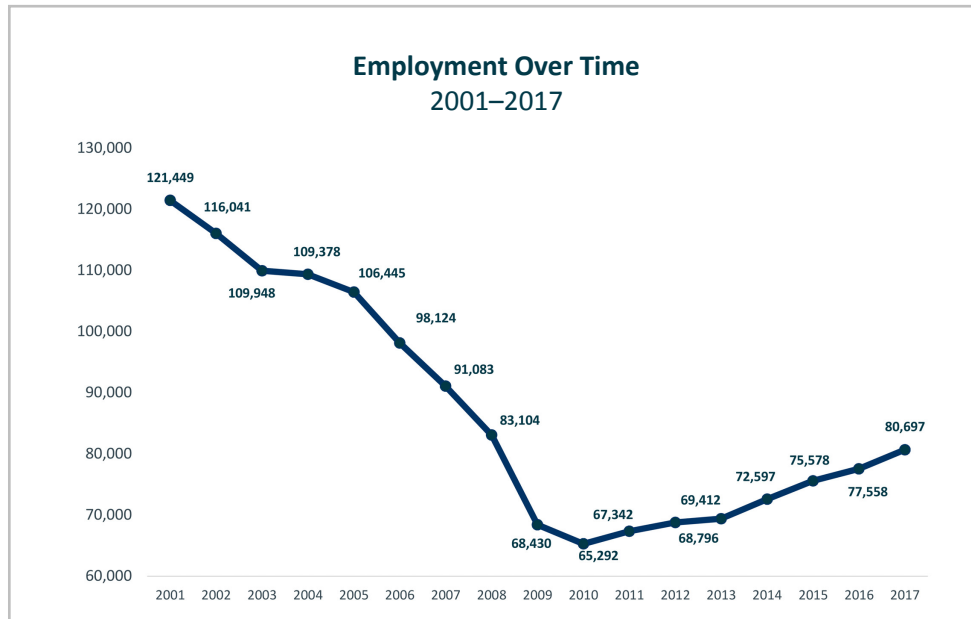
Introduction

Jobs in the WIN construction occupation group are associated with the skilled trades, engineering, management, and planning. Many construction employers are slowly adopting online job search methods, so online job ads may not provide a complete picture of demand for these workers. Even so, it is an important and in-demand occupation group for southeast Michigan and posting data provides a glimpse into employer needs.

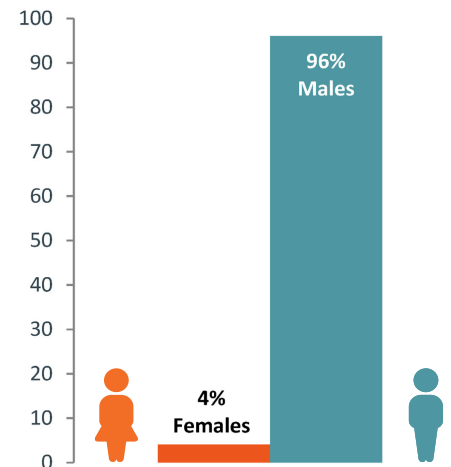


81,473
Construction Workers

1.0% Increase
from 2017



Population Gender Demographics



Construction Worker Demographics

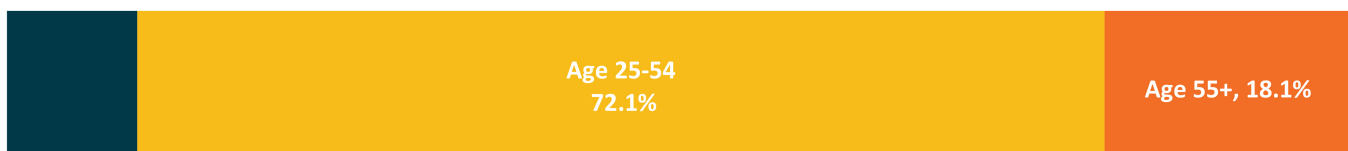
According to the most recent Emsi worker demographic data set available (2017), despite having over 80,000 workers, the construction occupation group is not very diverse. A large majority of workers are white males between the ages of twenty-five and fifty-four. Only four percent of workers identified as female, and only 16 percent identified as a racial minority.

Race and Ethnicity Demographics

84.3% White | 7.1% Black or African American | 0.6% Asian

Population Age Demographics

Age 14-24, 9.7%



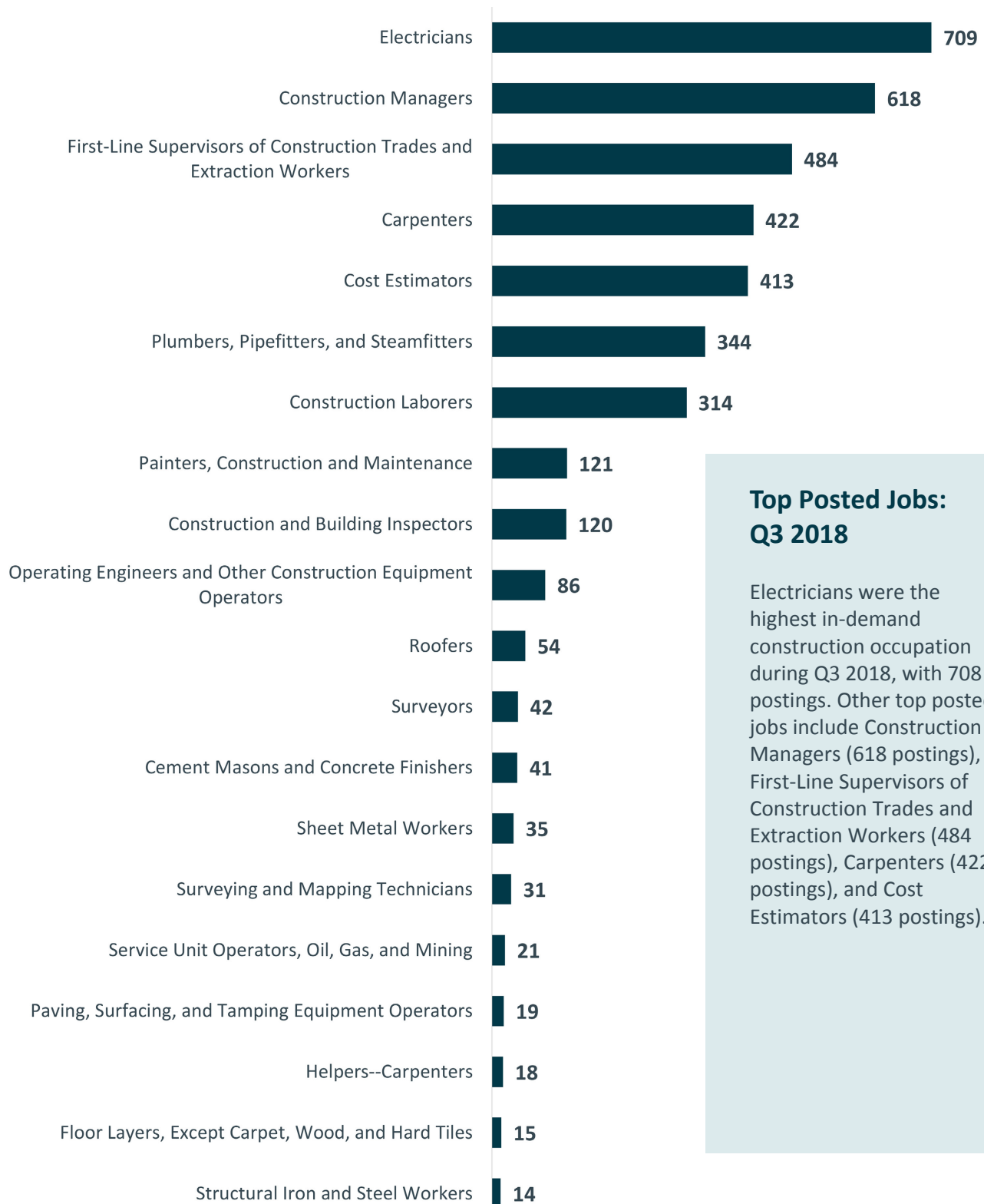


4,060 Construction Postings:
282 More than in Q2 2018



Vocational Training Required
for Most Construction Jobs

Construction Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Electricians were the highest in-demand construction occupation during Q3 2018, with 708 postings. Other top posted jobs include Construction Managers (618 postings), First-Line Supervisors of Construction Trades and Extraction Workers (484 postings), Carpenters (422 postings), and Cost Estimators (413 postings).



High Earning Potential for Construction Managers



CDL: Most In-Demand Construction Certification

Construction Wage Overview

The top posted construction job, Electricians, offers a median wage of \$30.51 per hour or \$63,000 per year. According to the Bureau of Labor Statistics (BLS), those working in management positions or working in apprentice-able occupations can expect higher wage potential, such as Construction Managers reporting a median wage of \$44.79 per hour or \$93,000 annually.

Wage Overview for Top Posted Construction Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
47-2111	Electricians	\$14.31	\$19.65	\$30.51	\$37.18	\$42.16
11-9021	Construction Managers	\$26.52	\$34.45	\$44.79	\$58.02	\$75.83
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$20.92	\$25.72	\$31.87	\$41.41	\$50.48
47-2031	Carpenters	\$14.26	\$18.14	\$25.03	\$32.27	\$37.55
13-1051	Cost Estimators	\$16.66	\$23.00	\$31.63	\$41.39	\$49.96
47-2152	Plumbers, Pipefitters, and Steamfitters	\$18.58	\$26.53	\$33.42	\$37.62	\$41.14
47-2061	Construction Laborers	\$11.79	\$14.42	\$18.80	\$24.46	\$29.26
47-2141	Painters, Construction and Maintenance	\$10.50	\$15.65	\$18.93	\$25.08	\$29.63
47-4011	Construction and Building Inspectors	\$15.97	\$21.01	\$27.78	\$33.25	\$38.06
47-2073	Operating Engineers and Other Construction Equipment Operators	\$17.42	\$20.58	\$25.72	\$29.97	\$34.13

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Construction Management
- Subcontracting
- Carpentry
- Electrical Wirings
- Blueprinting

In-Demand Foundational Skills

- Construction
- Management
- Operations
- Communications
- Problem Solving

In-Demand Education Level*

- High School Diploma: 31.9%
- Associate Degree: 6.4%
- Bachelor's Degree: 19.5%
- Master's Degree: 2.0%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

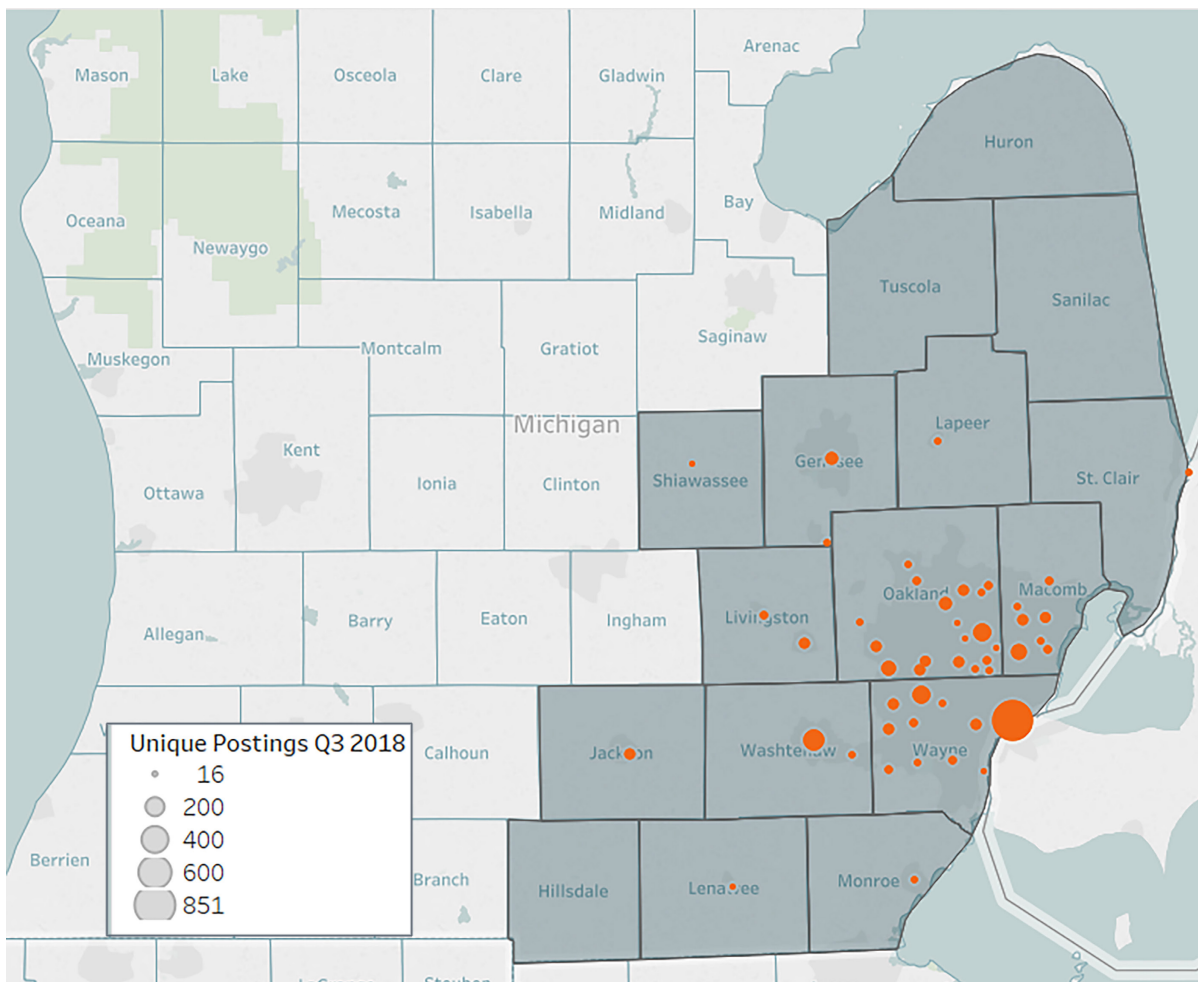
- Commercial Driver's License (CDL)
- Professional Engineer
- Certified Welding Inspector
- Transportation Worker Identification Credential (TWIC) Card
- ASNT Non-Destructive Tester



Entry-Level Electricians are needed throughout the WIN Region



Construction Management Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- Tradesmen International, Inc
- Page Michael International Inc
- Cybercoders, Inc.
- City of Detroit
- Trillium Staffing
- Industrial Contracting, Inc.
- Interstate Companies, Inc.
- Walbridge Aldinger LLC
- Aerotek, Inc.
- Gw Electric USA Inc

Job Postings by City

1. Detroit, MI: 81 Postings
2. Ann Arbor, MI: 225 Postings
3. Troy, MI: 161 Postings
4. Livonia, MI: 156 Postings
5. Warren, MI: 128 Postings

*Employer names are listed as they appear in online job postings.

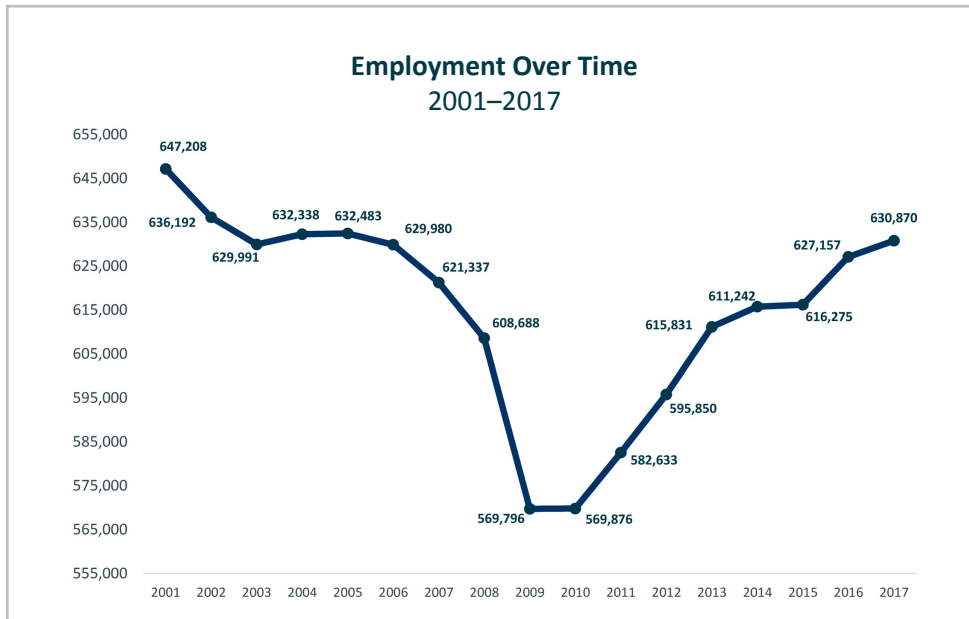


CUSTOMER SERVICE OCCUPATION GROUP 16-County WIN Region | Q3 2018

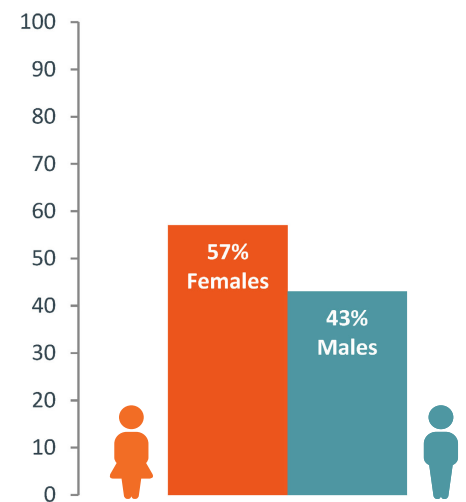
Introduction

The customer service group is the largest occupation group that WIN analyzes, both in terms of employment and online job postings. This group is of very high importance to the region because it is the first to grow when the economy expands and the first to contract in a downturn: it is often a leading indicator. The large number of postings for this occupation group are due in part to the relatively high worker turnover. As defined by WIN, this group encompasses all customer service occupations, with skills transferrable across the retail sector, the hotel industry, food and beverage service industry, call centers, and other areas. These skills are also transferrable to public-facing positions in many other occupation groups.

630,629
Service Workers
>0.1% Decrease
from 2017



Population Gender Demographics



Customer Service Worker Demographics

According to the most recent Emsi data set available (2017), having over 630,000 workers, the customer service occupation group is more diverse than other occupation groups. During 2017, 57 percent of workers identified as female. Twenty-seven percent of workers in customer service were identified as a racial minority. A quarter of the workforce (25 percent) was under the age of 24, a much higher percentage than in other occupation groups.

Race and Ethnicity Demographics

72.9% White | **17.6% Black or African American** | **2.9% Asian**

Population Age Demographics

Age 14-24, 25.9%

Age 25-54
55.4%

Age 55+, 18.7%

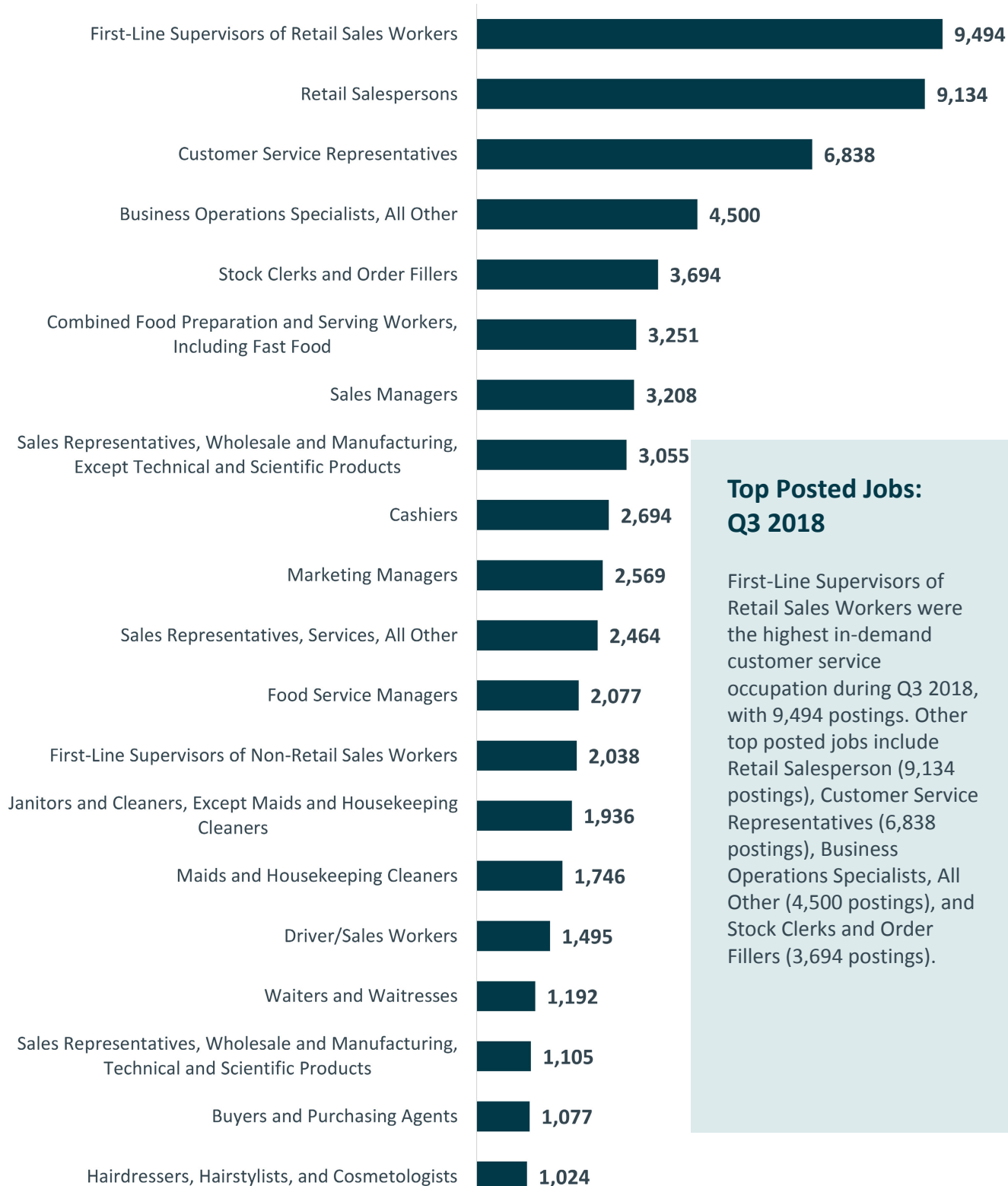


72,693 Customer Service Postings:
1,115 fewer than in Q2 2018



High School Diploma Required
for Most Customer Service Jobs

Customer Service Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

First-Line Supervisors of Retail Sales Workers were the highest in-demand customer service occupation during Q3 2018, with 9,494 postings. Other top posted jobs include Retail Salesperson (9,134 postings), Customer Service Representatives (6,838 postings), Business Operations Specialists, All Other (4,500 postings), and Stock Clerks and Order Fillers (3,694 postings).



High Earning Potential for Sales Managers



Financial Planning Certification: In-Demand Customer Service Certification

Customer Service Wage Overview

Despite being in high demand, most customer service related occupations offer relatively low wages according to the Bureau of Labor Statistics (BLS). However, six of the top ten posted occupations report median wages over \$15 per hour. The top posted job, First-Line Supervisors of Retail Sales Workers, offers a median hourly wage of \$18.97 or an annual salary of nearly \$39,500.

Wage Overview for Top Posted Customer Service Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
41-1011	First-Line Supervisors of Retail Sales Workers	\$11.99	\$14.63	\$18.97	\$25.41	\$33.81
41-2031	Retail Salespersons	\$9.05	\$9.45	\$10.55	\$13.64	\$18.83
43-4051	Customer Service Representatives	\$9.89	\$12.03	\$15.57	\$20.37	\$26.87
13-1199	Business Operations Specialists, All Other	\$18.15	\$23.65	\$32.82	\$44.80	\$56.35
43-5081	Stock Clerks and Order Fillers	\$9.16	\$9.66	\$11.24	\$14.97	\$18.84
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$9.00	\$9.21	\$9.52	\$10.23	\$12.19
11-2022	Sales Managers	\$35.00	\$47.22	\$62.67	\$79.08	\$116.94
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$14.19	\$20.63	\$30.26	\$45.55	\$61.33
41-2011	Cashiers	\$9.03	\$9.23	\$9.82	\$11.59	\$14.47
11-2021	Marketing Managers	\$34.50	\$45.09	\$61.75	\$79.72	\$111.97

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Merchandising
- Selling Techniques
- Restaurant Operation
- Customer Experience/ Customer Satisfaction
- Sales Management

In-Demand Foundational Skills

- Sales
- Customer Service
- Management
- Communications
- Operations

In-Demand Education Level*

- High School Diploma: 29.9%
- Associate Degree: 4.9%
- Bachelor's Degree: 16.8%
- Master's Degree: 2.5%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

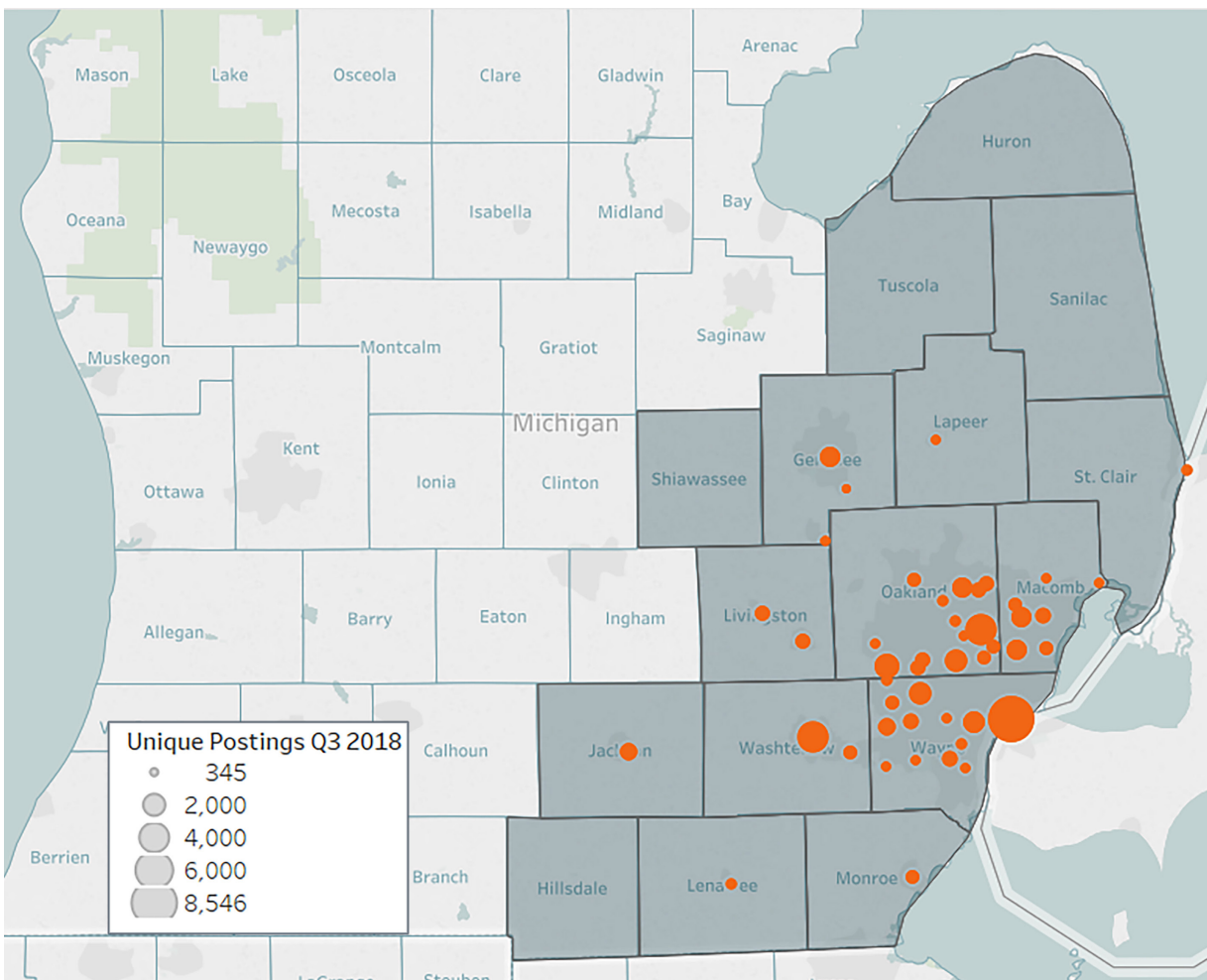
- Commercial Driver's License (CDL)
- Transportation Worker Identification Credential (TWIC) Card
- Series 7 General Securities Representative License (Stockbroker)
- Certified Financial Planner
- Certified Professional Geologist



Brick and Mortar Retail Stores and Restaurants in Need of Customer Service Workers



Merchandising Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- Dollar General Corporation
- McDonald's Corporation
- The Home Depot Inc
- CVS Health Corporation
- The Kroger Co
- Autozone, Inc.
- Meijer, Inc.
- Target Corporation
- Great Clips, Inc.
- Taco Bell Corp

Job Postings by City

1. Detroit, MI: 7,831 Postings
2. Troy, MI: 3,900 Postings
3. Ann Arbor, MI: 3,681 Postings
4. Novi, MI: 2,320 Postings
5. Livonia, MI: 2,131 Postings

*Employer names are listed as they appear in online job postings.



EDUCATION OCCUPATION GROUP 16-County WIN Region | Q3 2018

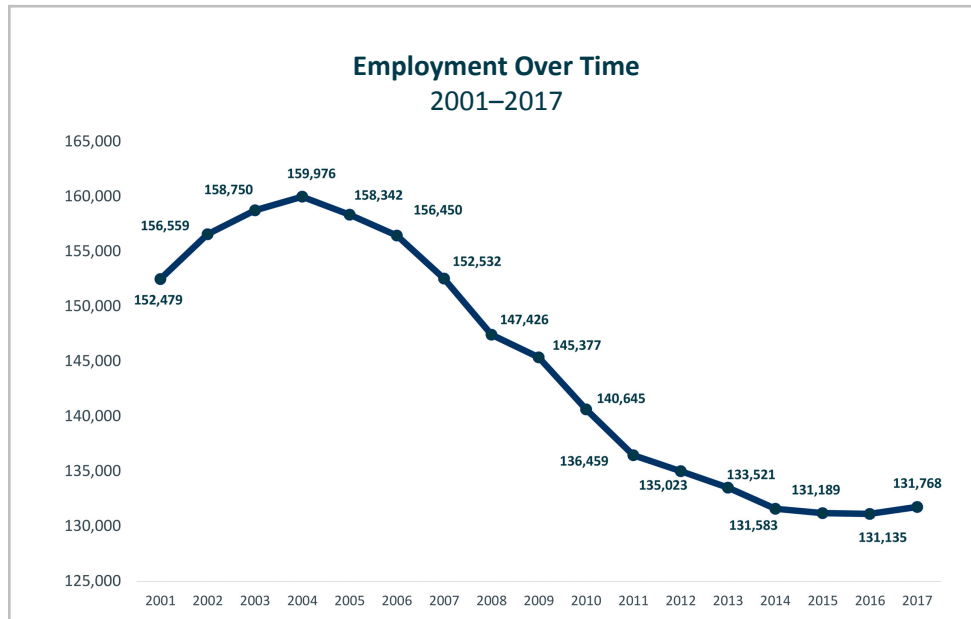
Introduction

Education-related jobs can be found both in the private and public sectors. Teachers and other education related workers are employed in public schools, private schools, and training institutions. Jobs in the education occupation group require a variety of skills and credentials dependent on the target age group and topic area for the educator. From elementary school teachers to college professors, educators are the backbone of training the future workforce.

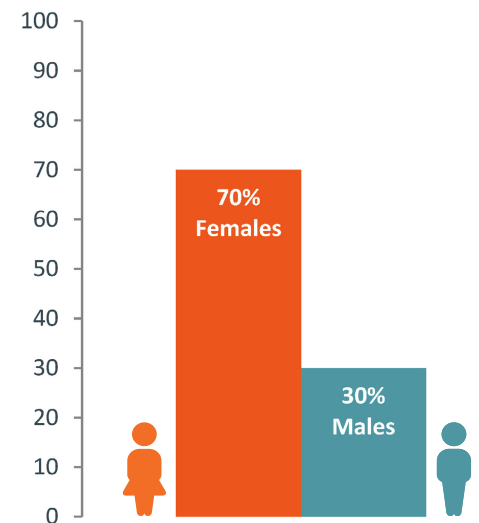


132,036
Education Workers

0.3% Increase
from 2017



Population Gender Demographics



Education Worker Demographics

According to the most recent Emsi data set available (2017), among its 130,000 workers, the education occupation group is composed primarily of white females between the ages of twenty-five and fifty-four. Only 30 percent of workers are males, and only 20 percent of workers are of a minority race.

Race and Ethnicity Demographics

79.6% White | **12.2% Black or African American** | **3.6% Asian**

Population Age Demographics

Age 14-24, 9.3%



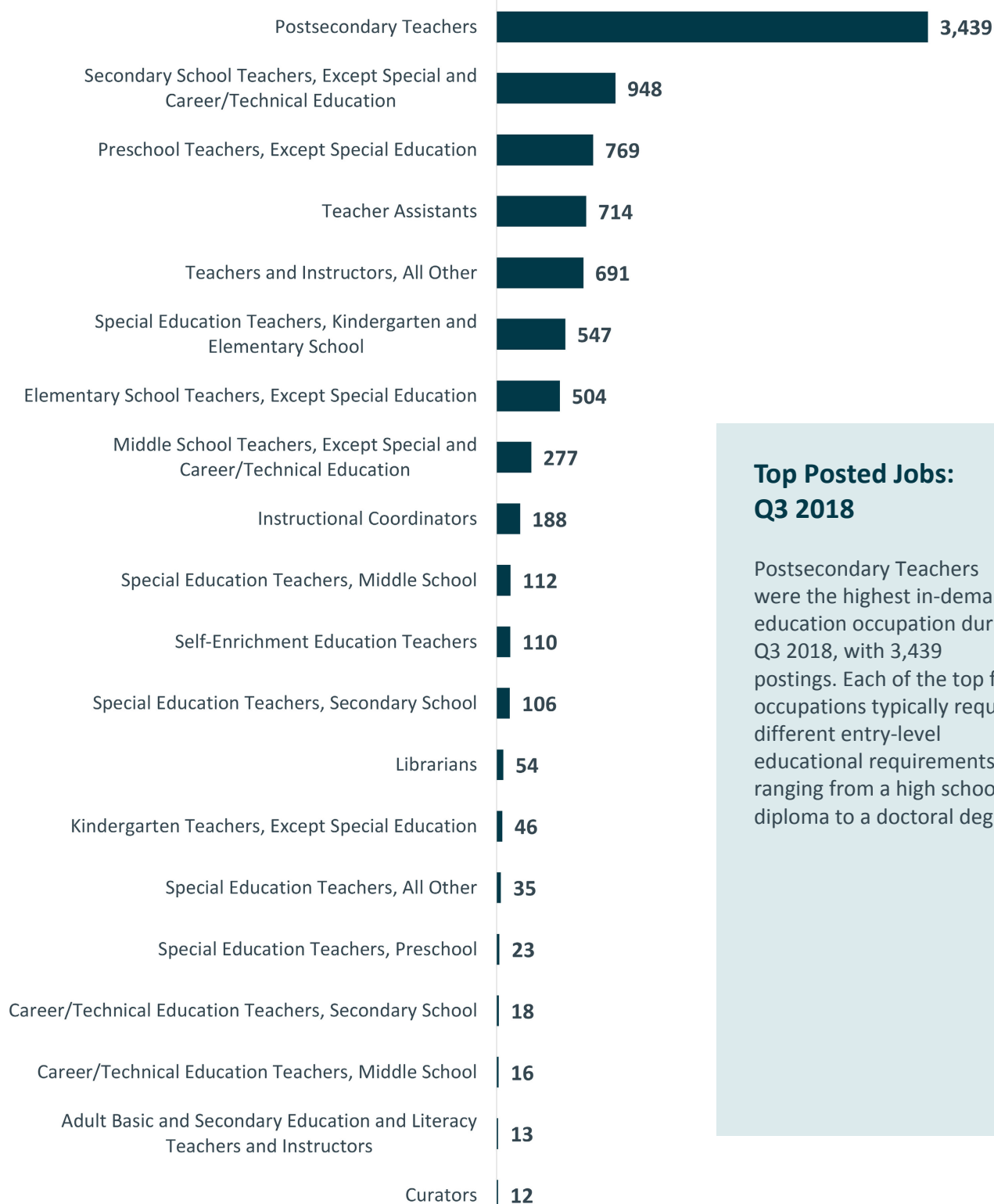


8,662 Education Postings:
2,368 Fewer than in Q2 2018



Bachelor's Degree Required
for Most Education Jobs

Education Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Postsecondary Teachers were the highest in-demand education occupation during Q3 2018, with 3,439 postings. Each of the top five occupations typically require different entry-level educational requirements, ranging from a high school diploma to a doctoral degree.



High Earning Potential for Postsecondary Teachers



Certified Medical Administrative Assistant: In-Demand Education Certification

Education Wage Overview

Many education related jobs, particularly permanent positions that require teaching older students, offer competitive median wages with growth potential. These positions provide an excellent opportunity for job seekers willing to attain the necessary credentials and experience. According to the Bureau of Labor Statistics (BLS), five of the ten top posted education jobs offer median wages of over \$30 per hour. The top posted job, Postsecondary Teachers, offers a median wage of \$33.12 hourly, translating to annual earnings of nearly \$69,000.

Wage Overview for Top Posted Education Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
25-1099	Postsecondary Teachers	\$14.22	\$21.44	\$33.12	\$48.76	\$63.12
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	\$17.94	\$23.22	\$31.77	\$39.33	\$46.42
25-2011	Preschool Teachers, Except Special Education	\$9.71	\$10.89	\$13.61	\$19.02	\$24.91
25-9041	Teacher Assistants	\$9.29	\$10.19	\$12.15	\$14.82	\$17.90
25-3097	Teachers and Instructors, All Other	\$9.83	\$11.86	\$18.98	\$28.76	\$37.99
25-2052	Special Education Teachers, Kindergarten and Elementary School	\$18.34	\$24.51	\$31.74	\$38.46	\$45.29
25-2021	Elementary School Teachers, Except Special Education	\$17.42	\$21.93	\$30.92	\$39.20	\$46.72
25-2022	Middle School Teachers, Except Special and Career/Technical Education	\$18.12	\$23.07	\$31.37	\$38.93	\$45.50
25-9031	Instructional Coordinators	\$16.04	\$20.40	\$28.66	\$37.18	\$44.63
25-2053	Special Education Teachers, Middle School	\$19.79	\$22.87	\$29.68	\$37.42	\$45.05

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Lesson Planning
- Curriculum Development
- Child Development
- Fair Labor Standards Act
- Client Rapport

In-Demand Foundational Skills

- Teaching
- Chinese Language
- Innovation
- Management Research
- Research

In-Demand Education Level*

- High School Diploma: 18.1%
- Associate Degree: 19.3%
- Bachelor's Degree: 38.6%
- Master's Degree: 10.0%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

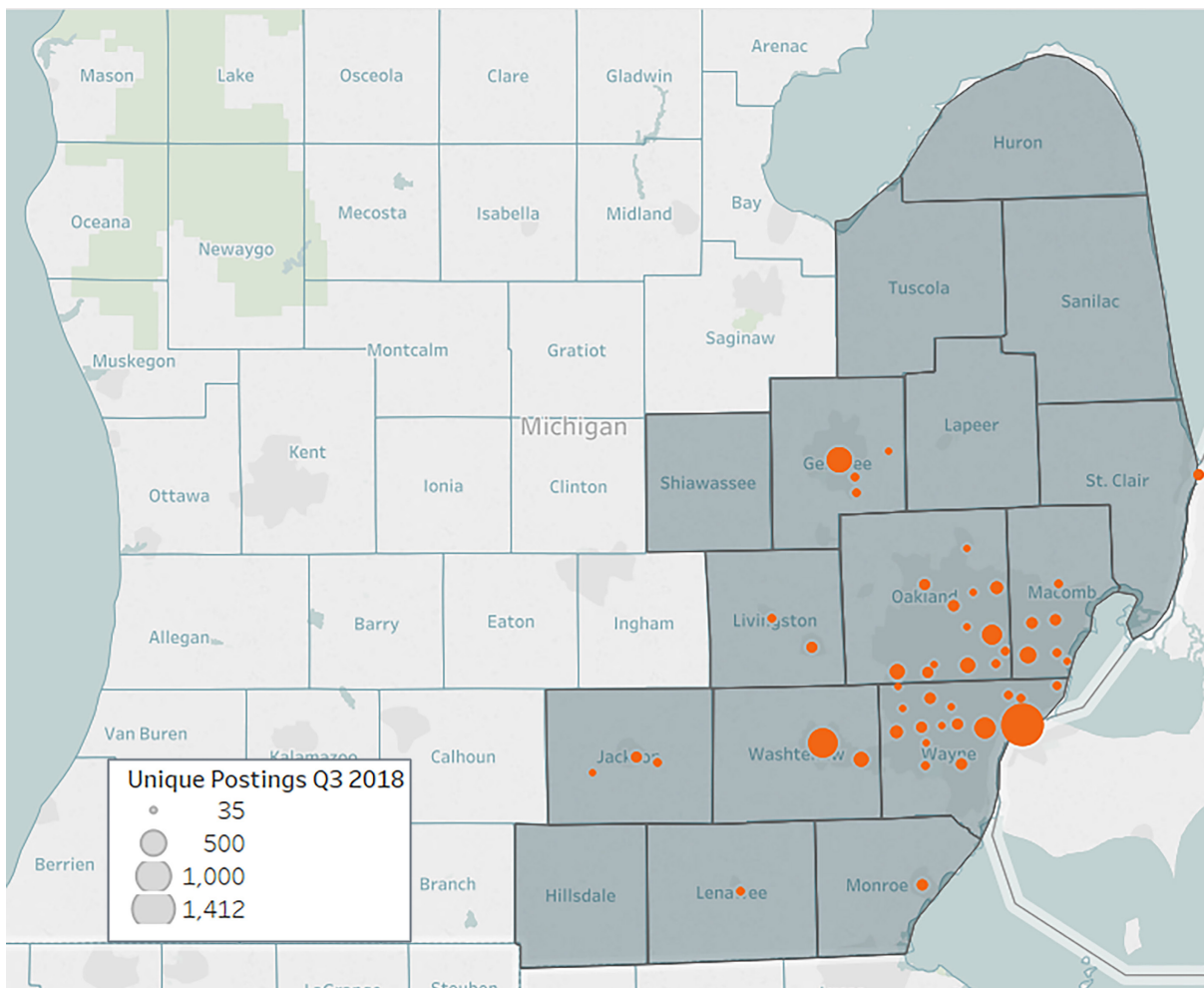
- Licensed Practical Nurse
- Certified Medical Administrative Assistant
- Commercial Driver's License (CDL)
- Nurse Practitioner
- National Council Licensure Examination



Child Care Organizations are Top Employers of Education Workers



Lesson Planning and Teaching Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers

- Tutree, Inc.
- University of Michigan
- Soliant Health, Inc
- Learning Care Group, Inc.
- English First Inc
- Wayne Reese
- Sunbelt Staffing, LLC
- National Heritage Academies, Inc.
- Qt Kids Inc
- Virtual Vocations

*Employer names are listed as they appear in online job postings.

Job Postings by City

1. Detroit, MI: 1,412 Postings
2. Ann Arbor, MI: 667 Postings
3. Flint, MI: 493 Postings
4. Dearborn, MI: 337 Postings
5. Troy, MI: 302 Postings

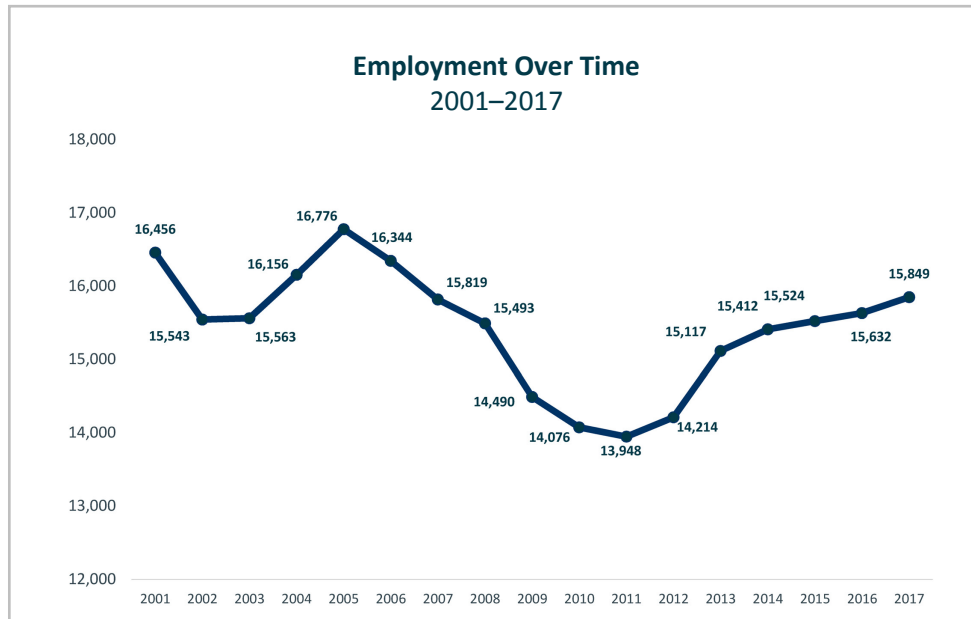


ENERGY OCCUPATION GROUP 16-County WIN Region | Q3 2018

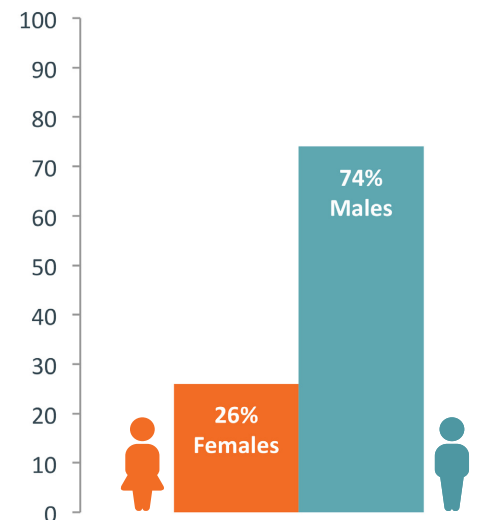
Introduction

Energy-related occupations encompass jobs in engineering, science, mining, and extraction. Workers in this field have a range of skills all related to keeping businesses and homes powered. Energy companies employ workers in a variety of occupations, many of which are also included in other WIN occupation groups. Data referenced in this section pertain only to job postings from energy-related businesses.

15,898
Energy Workers
0.3% Increase
from 2017



Population Gender Demographics



Energy Worker Demographics

According to the most recent Emsi data set available (2017), The over 15,000 workers in the energy occupation group are primarily white males between the ages of twenty-five and fifty-four, with 26 percent of workers identifying as female and just 17 percent identifying as a racial minority. Only five percent of the workers in the occupation group are under the age of 24, indicating that the energy field faces a particular threat from the region's aging workforce.

Race and Ethnicity Demographics

82.6% White | **11.0% Black or African American** | **2.1% Asian**

Population Age Demographics

Age 14-24, 5.3%





260 Energy Postings:
only 21 More than in Q2 2018



Bachelors Degree Required
for Most Energy Jobs

Energy Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Industrial Engineers took the top spot as highest in-demand energy occupation during Q3 2018, with 42 postings. Electrical Engineers which held the top spot last quarter fell into the second position with 34 postings. Other top posted jobs include Mechanical Engineers (26 postings), First-Line Supervisors of Construction Trades and Extraction Workers (20), and Architectural and Engineering Managers (16 postings).



High Earning Potential for General and Operations Managers



Professional Engineering Certification: Most In-Demand Energy Certification

Energy Wage Overview

The high demand for engineers in the energy field creates lucrative opportunities for job seekers willing to achieve the minimum educational requirements related to these jobs. According to the Bureau of Labor Statistics (BLS), one of the top posted energy job, Industrial Engineers, offers a median hourly wage of \$44.19, or annual earnings of approximately \$92,000. Technician and construction-focused positions generally have shorter term educational requirements than engineers and pay somewhat higher than similar occupations in other industries.

Wage Overview for Top Posted Energy Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2112	Industrial Engineers	\$30.26	\$35.69	\$44.19	\$53.66	\$61.99
17-2071	Electrical Engineers	\$28.54	\$34.50	\$42.69	\$51.70	\$62.00
17-2141	Mechanical Engineers	\$29.26	\$35.40	\$44.22	\$54.56	\$63.26
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$20.92	\$25.72	\$31.87	\$41.41	\$50.48
11-9041	Architectural and Engineering Managers	\$43.56	\$52.48	\$63.21	\$75.85	\$89.61
11-9199	Managers, All Other	\$30.24	\$38.26	\$48.94	\$61.60	\$76.43
11-1021	General and Operations Managers	\$24.24	\$34.98	\$52.38	\$80.19	\$112.07
17-2171	Petroleum Engineers	\$31.82	\$40.19	\$54.53	\$73.61	\$98.62
17-2051	Civil Engineers	\$25.61	\$29.92	\$36.68	\$45.85	\$55.99
49-9052	Telecommunications Line Installers and Repairers	\$12.04	\$14.49	\$22.72	\$33.83	\$40.57

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Electrical Engineering
- Mechanical Engineering
- Engineering Design Process
- Oil and Gas
- Systems Design

In-Demand Foundational Skills

- Operations
- Management
- Communications
- Leadership
- Research

In-Demand Education Level*

- High School Diploma: 18.8%
- Associate Degree: 10.4%
- Bachelor's Degree: 56.0%
- Master's Degree: 10.7%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

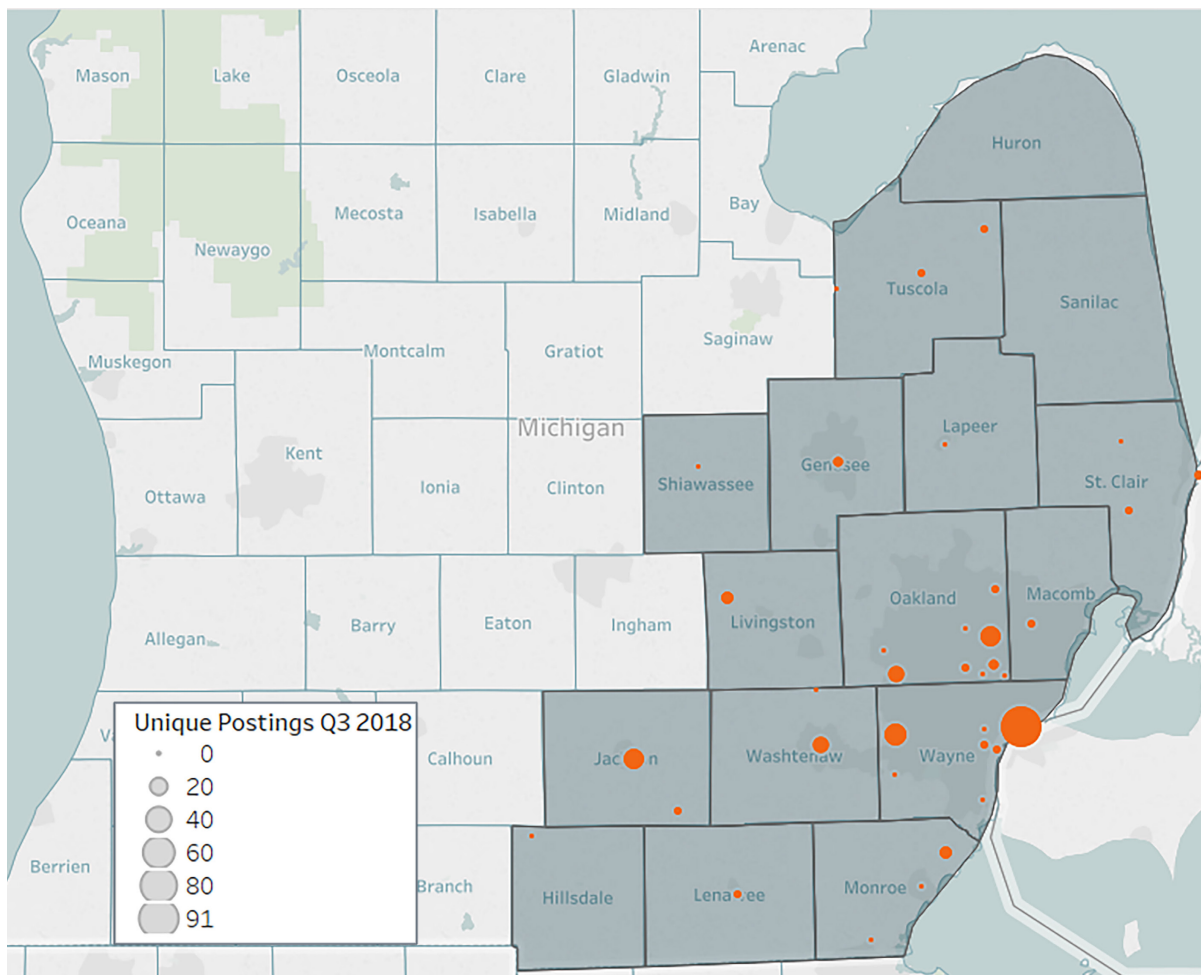
- Professional Engineer
- Certification in Clinical Cytogenetics
- Commercial Driver's License (CDL)
- Associates in Rural Development
- Licensed Professional Engineer



Utility and Electronic Companies: Top Employers



Engineering Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- DTE Energy Company
- CMS Energy Corporation
- Lg Electronics
- Communications Construction Group, LLC
- Itc Holdings Corp.
- Schlumberger Limited
- Total
- Henkels & McCoy, Inc.
- Semco Energy, Inc.
- Autonomous Surface Vehicles, LLC

Job Postings by City

1. Detroit, MI: 91 Postings
2. Canton, MI: 26 Postings
3. Troy, MI: 22 Postings
4. Jackson, MI: 20 Postings
5. Ann Arbor, MI: 15 Postings

*Employer names are listed as they appear in online job postings.



ENGINEERING AND DESIGN OCCUPATION GROUP 16-County WIN Region | Q3 2018

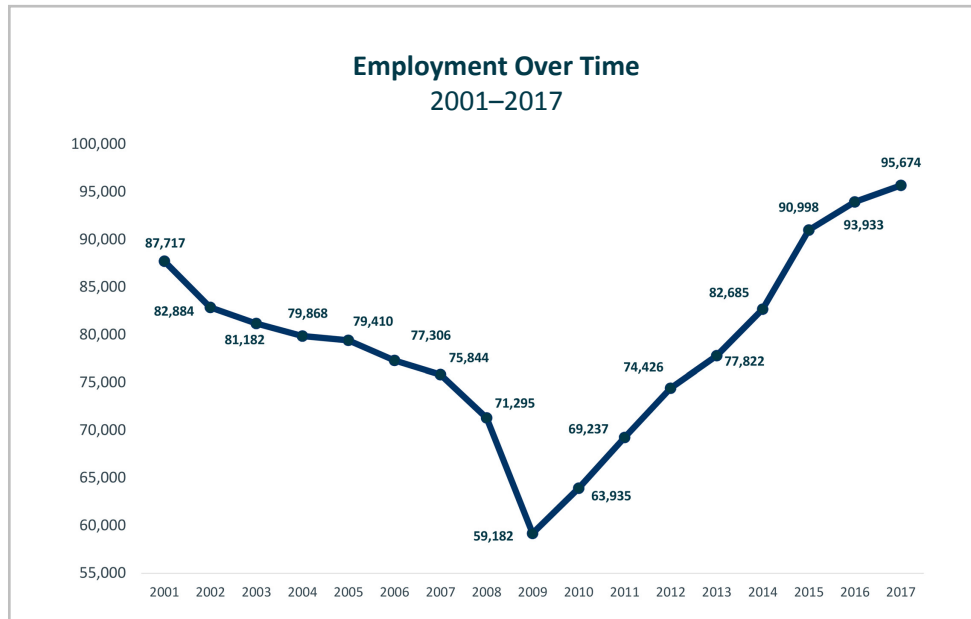
Introduction

Jobs in the manufacturing industry can range from assembly and production, to skilled trades and technicians, designers and engineers, and even computer-related occupations such as software development. Demand for engineers in the region has been consistent, and employment has been growing quickly.

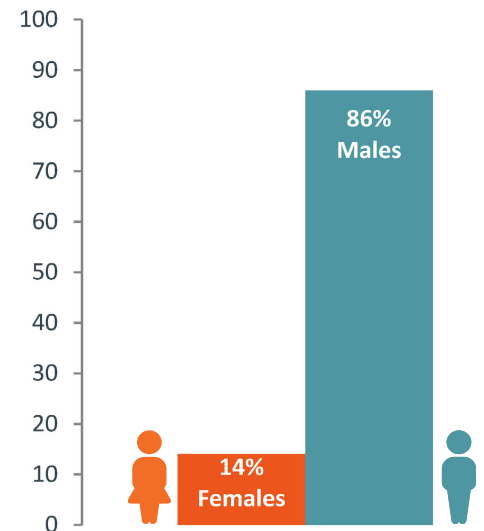


96,749
Engineering Workers

1.1% Increase
from 2017



Population Gender Demographics



Engineering and Design Worker Demographics

According to the most recent Emsi data set available (2017), the nearly 92,602 workers in the Engineers and Designers group are not particularly diverse. Under six percent of the workforce is under 25, likely due to the consistently high educational requirements. Fourteen percent of current workers are female, and only 11 percent identify as a race other than white; as the labor force overall continues to change, this is one field that could benefit from seeking more diverse talent.

Race and Ethnicity Demographics

79.4% White | **7.7% Black or African American** | **9.1% Asian**

Population Age Demographics

Age 14-24, 5.5%



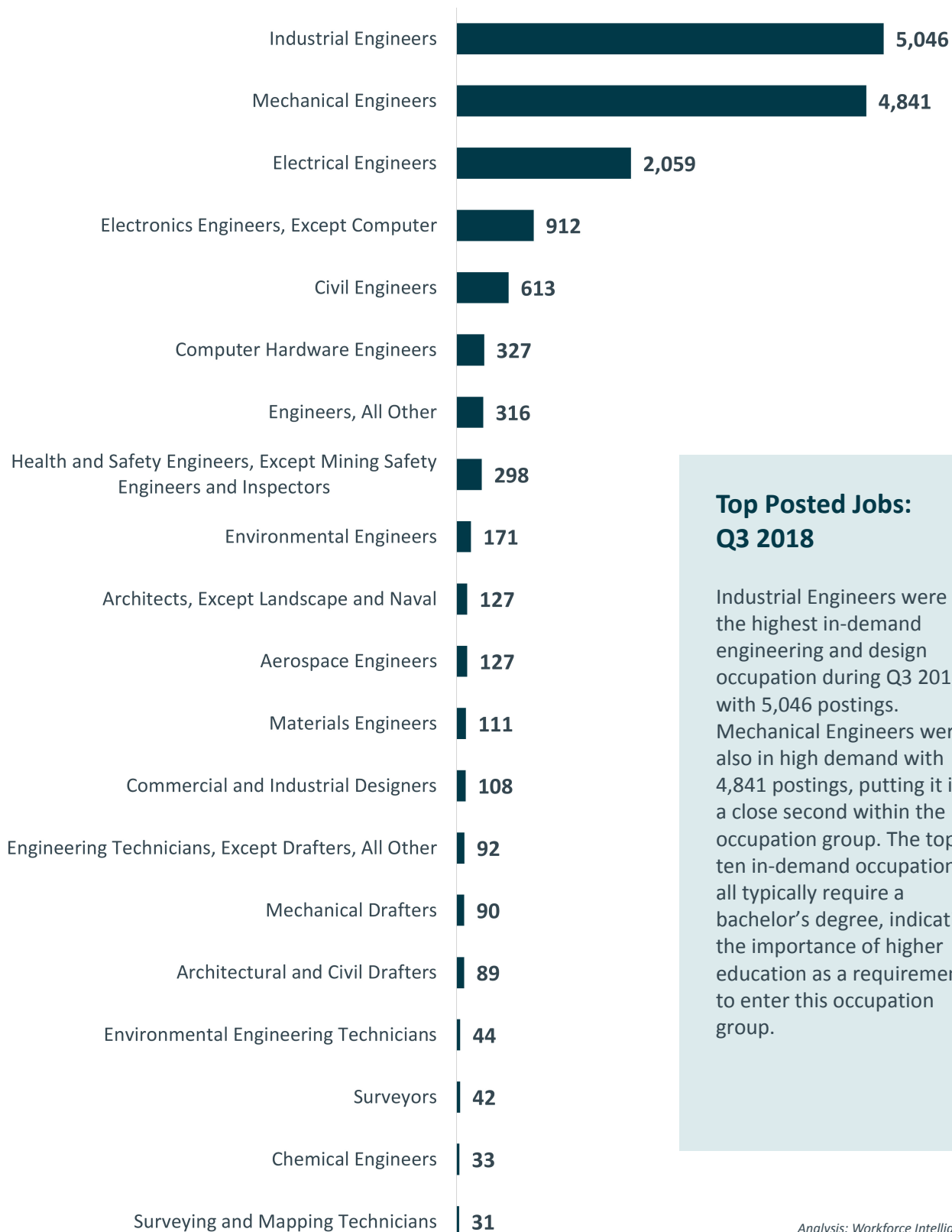


15,582 Engineering and Design Postings:
821 More than in Q2 2018



Bachelor's Degree Required for Most
Engineering and Design Jobs

Engineering and Design Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Industrial Engineers were the highest in-demand engineering and design occupation during Q3 2018, with 5,046 postings. Mechanical Engineers were also in high demand with 4,841 postings, putting it in a close second within the occupation group. The top ten in-demand occupations all typically require a bachelor's degree, indicating the importance of higher education as a requirement to enter this occupation group.



High Earning Potential for Engineers, All Other



Professional Engineer: Most In-Demand Engineering and Design Certification

Engineering and Design Wage Overview

Most engineering and design related jobs offer high wages, providing a lucrative opportunity to job seekers willing to meet the minimum education requirements related to these jobs. The top posted engineering and design job, Industrial Engineers, offers a median hourly wage of \$44.19, or an annual salary of approximately \$92,000 according to the Bureau of Labor Statistics (BLS).

Wage Overview for Top Posted Engineering and Design Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2112	Industrial Engineers	\$29.23	\$34.97	\$43.06	\$52.40	\$60.76
17-2141	Mechanical Engineers	\$27.63	\$34.45	\$43.14	\$52.66	\$61.85
17-2071	Electrical Engineers	\$28.15	\$34.25	\$42.71	\$51.15	\$61.80
17-2072	Electronics Engineers, Except Computer	\$28.49	\$34.47	\$42.26	\$49.72	\$59.18
17-2051	Civil Engineers	\$24.18	\$28.42	\$35.02	\$43.88	\$54.45
17-2061	Computer Hardware Engineers	\$17.50	\$26.27	\$38.83	\$52.79	\$64.88
17-2199	Engineers, All Other	\$24.65	\$34.85	\$44.63	\$55.27	\$65.44
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	\$27.37	\$32.62	\$43.69	\$55.35	\$64.31
17-2081	Environmental Engineers	\$27.93	\$35.03	\$44.56	\$54.75	\$63.11
17-1011	Architects, Except Landscape and Naval	\$21.50	\$26.52	\$33.98	\$42.91	\$52.15

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Mechanical Engineering
- Electrical Engineering
- Computer-Aided Design (CAD)
- Prototype (Manufacturing)
- Powertrain

In-Demand Foundational Skills

- Management
- Communications
- Operations
- Problem Solving
- Leadership

In-Demand Education Level*

- High School Diploma: 3.8%
- Associate Degree: 6.9%
- Bachelor's Degree: 66.2%
- Master's Degree: 15.0%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

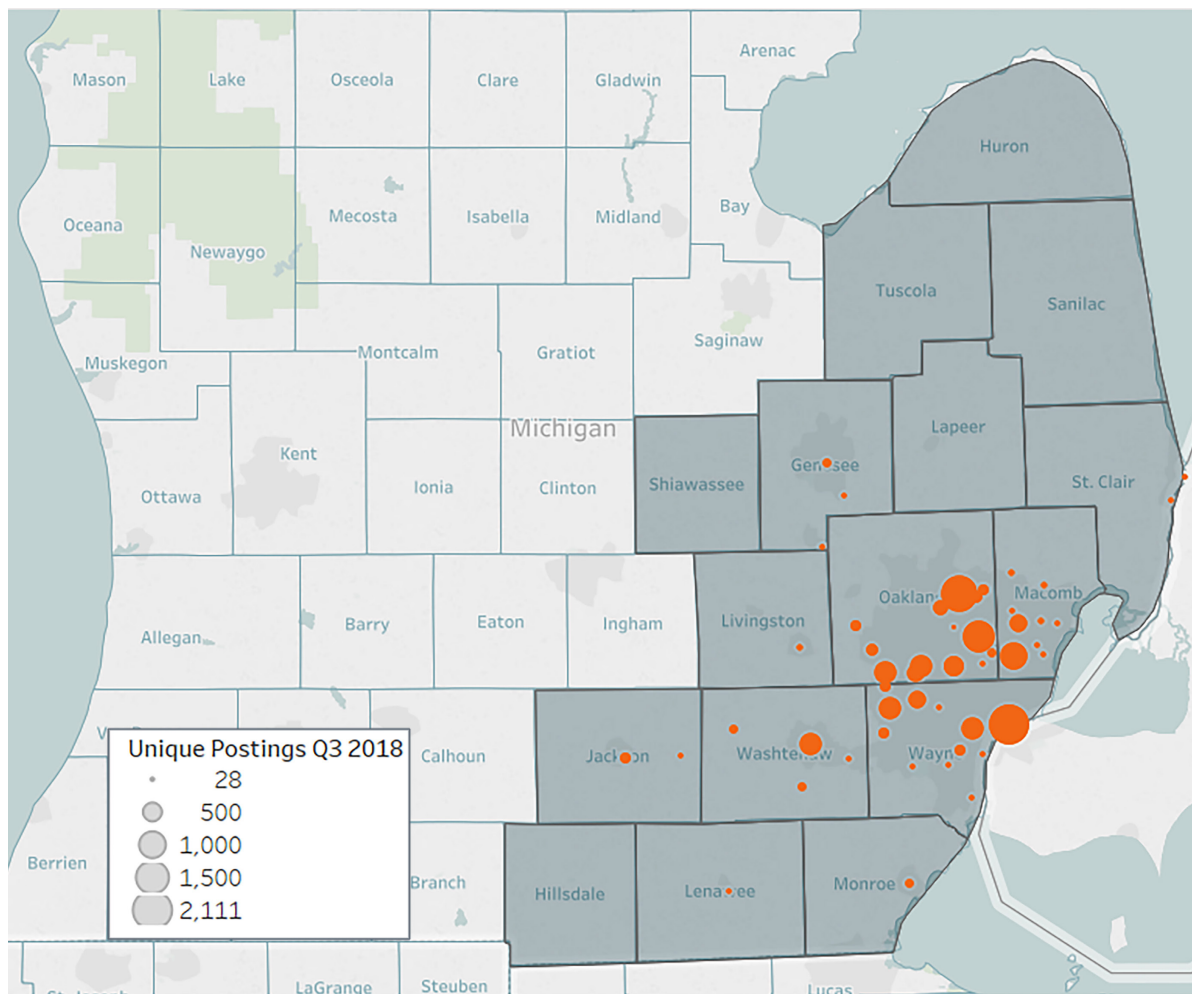
- Professional Engineer
- Certified Quality Engineer
- American Society for Quality (ASQ) Certified
- Certified Quality Auditor
- Licensed Professional Engineer



Automakers and Manufactures are Top Engineering Employers



Prototyping Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- General Motors Company
- FCA US LLC
- Gtech Services, Inc
- Ford Motor Company
- ALTAIR ENGINEERING, INC.
- Endevis, L.L.c
- Cybercoders, Inc.
- Trillium Staffing
- Aerotek, Inc.
- Robert Bosch LLC

Job Postings by City

1. Detroit, MI: 2,111 Postings
2. Auburn Hills, MI: 1,734 Postings
3. Troy, MI: 1,329 Postings
4. Warren, MI: 967 Postings
5. Dearborn, MI: 710 Postings

*Employer names are listed as they appear in online job postings.



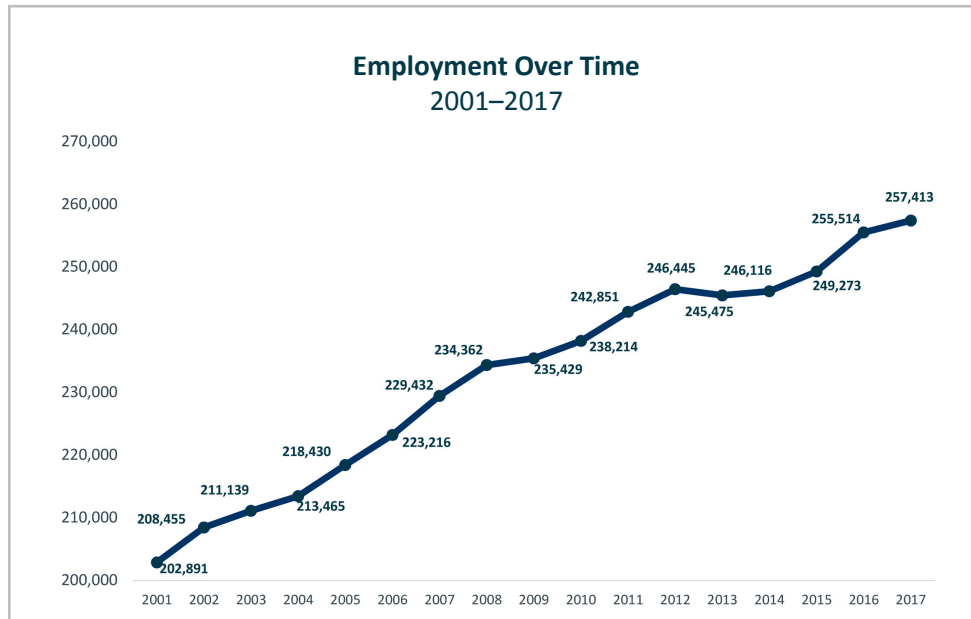
HEALTH CARE OCCUPATION GROUP 16-County WIN Region | Q3 2018

Introduction

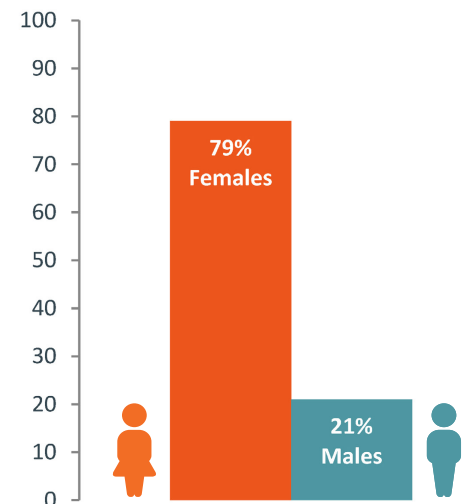
WIN's health care occupation group includes jobs related to health care support and practitioners. Employment in this group has been consistently growing, more health care workers needed to care for Michigan's aging population and in response to regulatory and other changes. Registered nurses are routinely the most in-demand job in this group.



258,550
Health Care Workers
0.4% Increase
from 2017



Population Gender Demographics



Health Care Worker Demographics

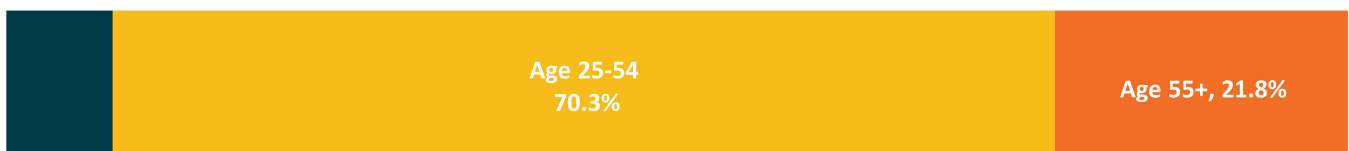
According to the most recent Emsi data set available (2017), the Health Care occupation group employs around 244,937 workers, who are primarily female (79 percent) and between the ages of 25 and 54 (70 percent), although 21 percent of workers are over 55. The group has a similar proportion of racial minorities as the workforce as a whole, with 70 percent of workers identifying as white, 20 percent identifying as black or African American, and ten percent identifying otherwise.

Race and Ethnicity Demographics

70.1% White | **20.0% Black or African American** | **5.4% Asian**

Population Age Demographics

Age 14-24, 7.9%



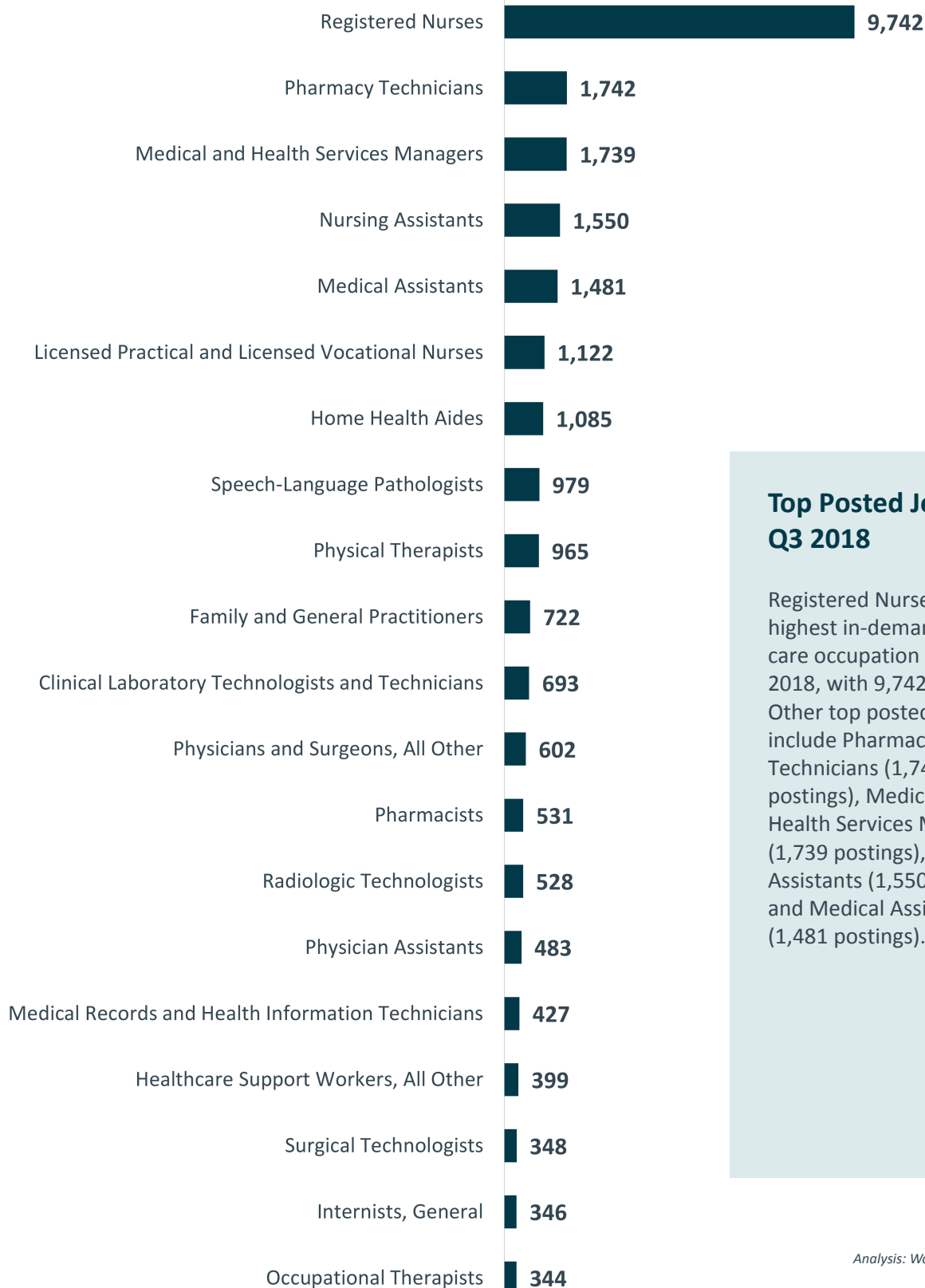


31,571 Health Care Postings:
747 fewer than in Q2 2018



Bachelor's Degree Required for
High Paying Health Care Jobs

Health Care Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Registered Nurses was the highest in-demand health care occupation during Q3 2018, with 9,742 postings. Other top posted jobs include Pharmacy Technicians (1,742 postings), Medical and Health Services Managers (1,739 postings), Nursing Assistants (1,550 postings), and Medical Assistants (1,481 postings).



High Earning Potential for Family and General Practitioners



Licensed Practical Nurse: Most In-Demand Health Care Certification

Health Care Wage Overview

Wages in the high-demand health care field tend to scale with both education and experience. The health care occupation group offers a relatively broad array of entry requirements and a high volume of jobs are open to candidates with less than a bachelor's degree. These jobs that require less than a bachelor's degree pay more than the region's median wage of \$17.81 per hour. Registered Nurses, the top posted health care job in Q3 2018, offers a median hourly wage of \$34.08 per hour or annual salary of nearly \$70,000 according to the Bureau of Labor Statistics (BLS).

Wage Overview for Top Posted Health Care Jobs in Q2 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$25.71	\$29.35	\$34.08	\$38.66	\$45.10
29-2052	Pharmacy Technicians	\$10.02	\$11.79	\$14.90	\$18.05	\$21.21
11-9111	Medical and Health Services Managers	\$27.71	\$35.10	\$46.91	\$62.71	\$90.58
31-1014	Nursing Assistants	\$10.66	\$12.32	\$14.03	\$16.01	\$18.26
31-9092	Medical Assistants	\$11.66	\$12.94	\$14.75	\$17.13	\$19.22
29-2061	Licensed Practical and Licensed Vocational Nurses	\$19.86	\$21.89	\$24.94	\$28.11	\$30.23
31-1011	Home Health Aides	\$9.11	\$9.52	\$10.61	\$12.22	\$14.30
29-1127	Speech-Language Pathologists	\$26.08	\$30.97	\$37.75	\$45.43	\$53.57
29-1123	Physical Therapists	\$29.60	\$35.50	\$42.51	\$48.77	\$60.28
29-1062	Family and General Practitioners	\$36.11	\$54.01	\$83.01	\$103.18	\$154.84

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Nursing
- Basic Life Support
- Rehabilitations
- Clinical Works
- Intensive Care Unit

In-Demand Foundational Skills

- Management
- Communications
- Leadership
- Research
- Operations

In-Demand Education Level*

- High School Diploma: 20.3%
- Associate Degree: 16.3%
- Bachelor's Degree: 22.2%
- Master's Degree: 11.8%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

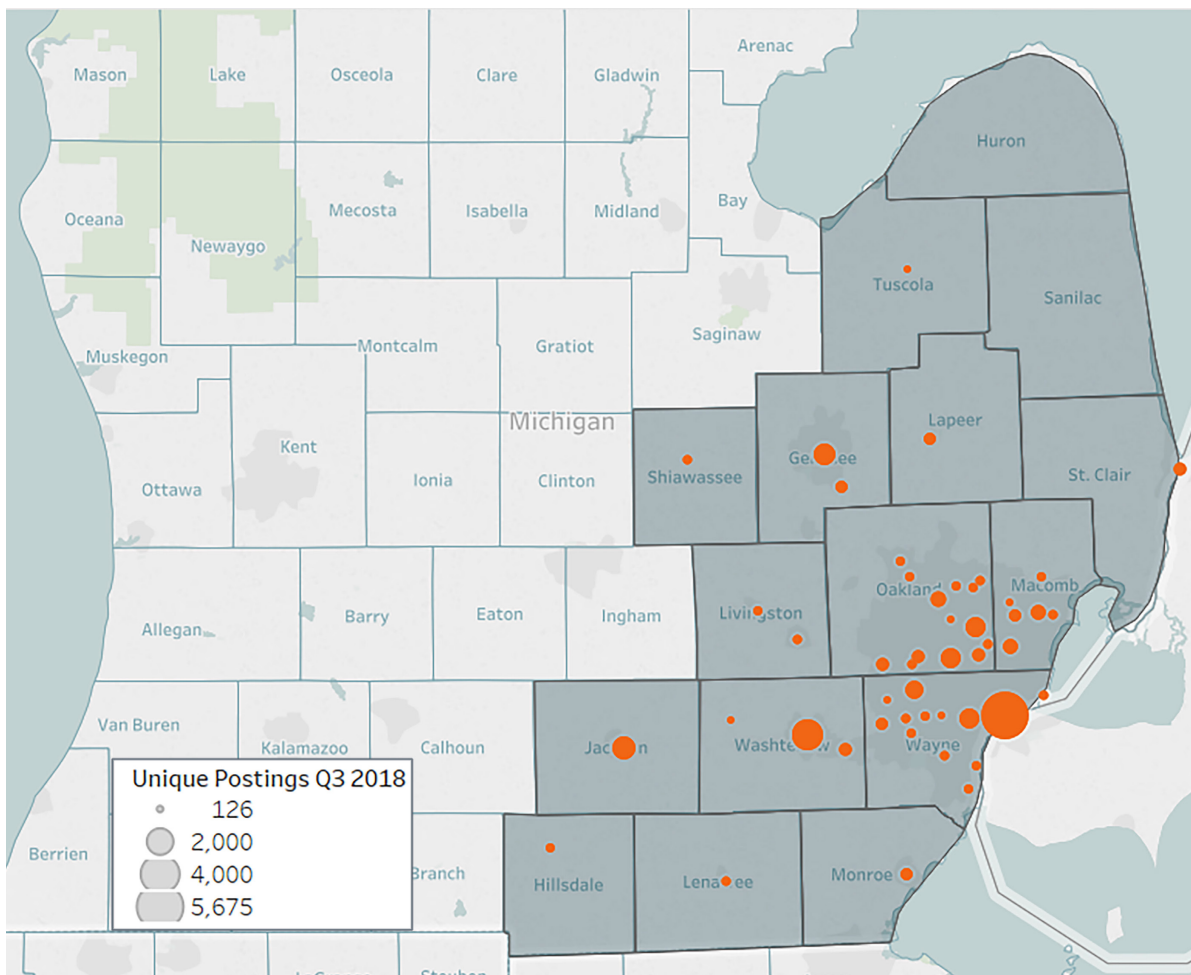
- Licensed Practical Nurse
- Certified Nursing Assistant
- Nurse Practitioner
- Patient Care Technician
- Licensed Vocational Nurses



Hospitals and Pharmacies were Top Employers of Health Care Workers During Q3 2018



Nursing and Management Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- Henry Ford Health System
- William Beaumont Hospital
- Cross Country Healthcare, Inc.
- University of Michigan
- United States Department of the Air Force
- CVS Health Corporation
- Tenet Healthcare Corporation
- Trinity Health Corporation
- Sunbelt Staffing, LLC
- Ascension Health

*Employer names are listed as they appear in online job postings.

Job Postings by City

1. Detroit, MI: 5,675 Postings
2. Ann Arbor, MI: 2,426 Postings
3. Jackson, MI: 1,338 Postings
4. Flint, MI: 1,178 Postings
5. Troy, MI: 1,004 Postings



INFORMATION TECHNOLOGY (IT) OCCUPATION GROUP

16-County WIN Region | Q3 2018

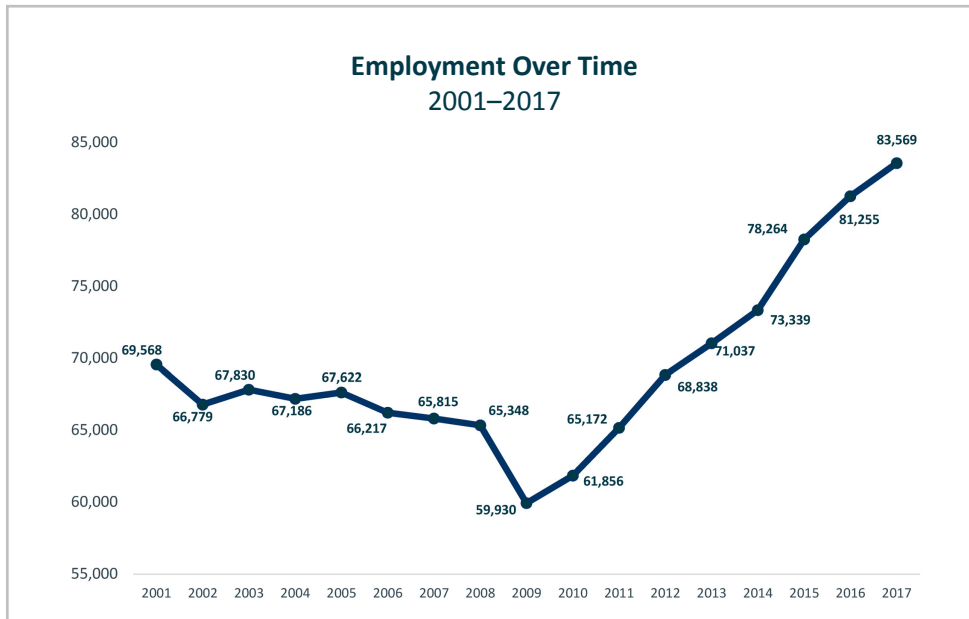
Introduction

Information technology (IT) jobs include occupations that are associated with entry-level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services. While the information technology group does not currently employ as many individuals as the other groups here, it is quickly growing.

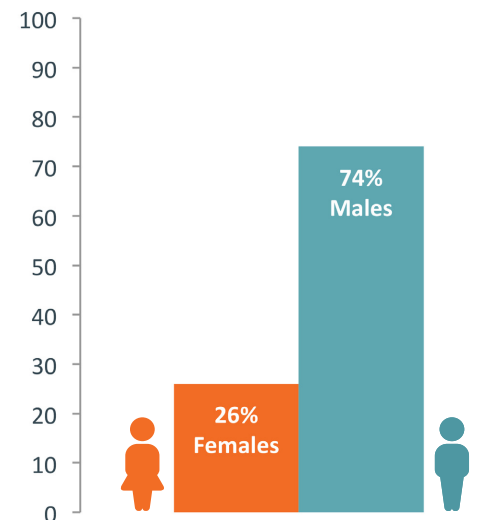


83,756
IT Workers

0.2% Increase
from 2017



Population Gender Demographics



IT Worker Demographics

According to the most recent Emsi data set available (2017), despite having over 80,000 workers, the IT occupation group is not very diverse. A large majority of workers are white males between the ages of twenty-five and fifty-four. Currently, 74 percent of workers identify as male, and 69 percent identify as white. There are a broad range of organizations providing specialized training resources for female and minority IT workers in the City of Detroit as well as throughout southeast Michigan. With the push to diversify the IT field, more opportunities are opening for women and minorities.

Race and Ethnicity Demographics

68.6% White | 10.5% Black or African American | 17.1% Asian

Age 14-24
5.7%

Population Age Demographics

Age 25-54
79.0%

Age 55+
15.4%

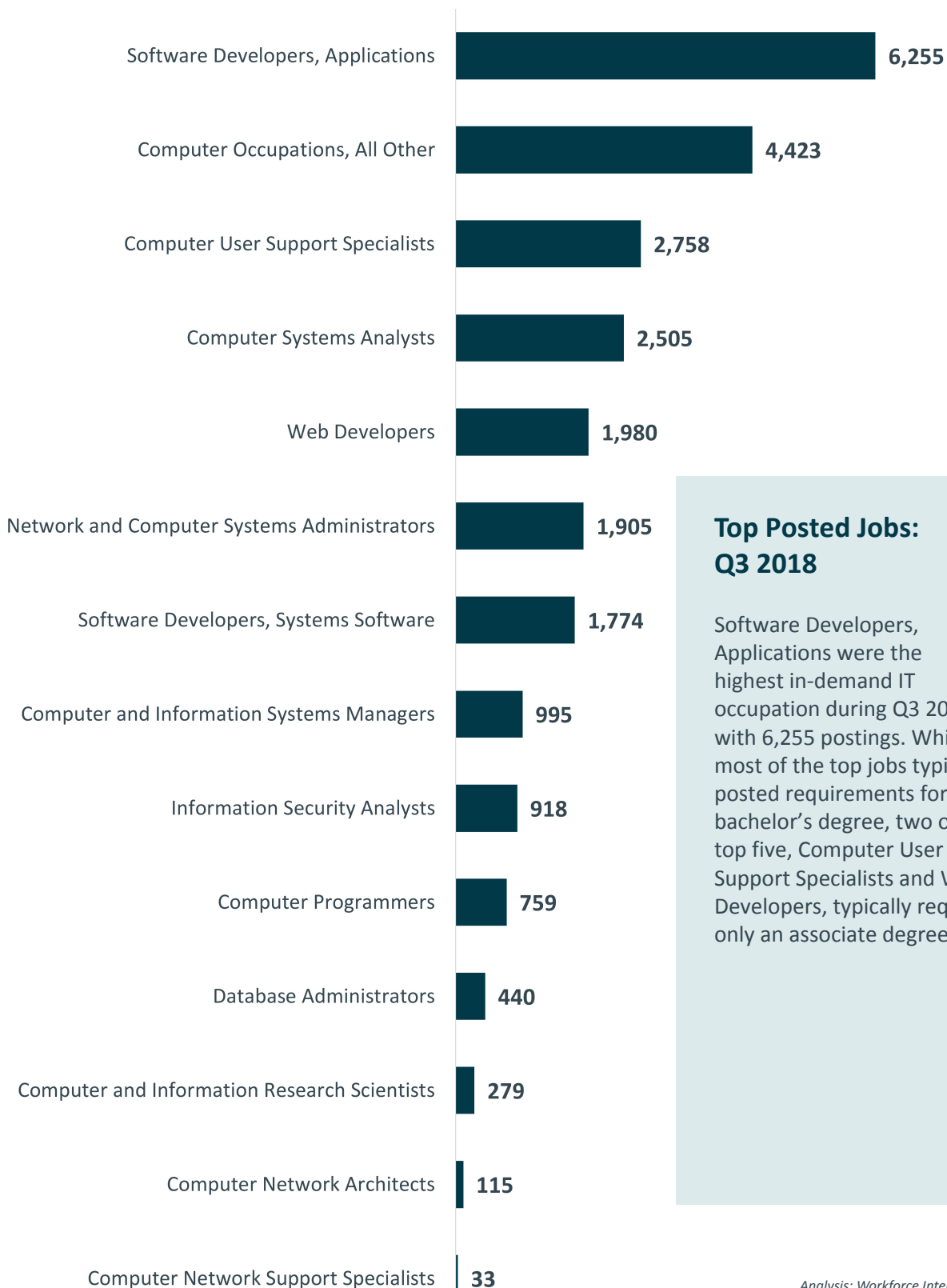


24,142 IT Postings:
215 More than in Q2 2018



Bachelors Degree
Required for Most IT Jobs

Information Technology Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Software Developers, Applications were the highest in-demand IT occupation during Q3 2018, with 6,255 postings. While most of the top jobs typically posted requirements for a bachelor's degree, two of the top five, Computer User Support Specialists and Web Developers, typically require only an associate degree.



High Earning Potential for Computer and Information System Managers



CISSP: Most In-Demand IT Certification

IT Wage Overview

Most IT-related jobs offer high wages providing a lucrative opportunity to job seekers willing to meet the minimum education requirements related to these jobs. Software Developers, Applications, the top posted IT job in Q3 2018, offers a median hourly wage of \$44.12 per hour or nearly \$92,000 per year according to the Bureau of Labor Statistics (BLS).

Wage Overview for Top Posted IT Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	\$27.76	\$34.79	\$44.12	\$54.83	\$64.22
15-1199	Computer Occupations, All Other	\$20.42	\$26.19	\$37.17	\$49.26	\$59.86
15-1151	Computer User Support Specialists	\$13.66	\$17.20	\$23.20	\$29.92	\$38.36
15-1121	Computer Systems Analysts	\$25.08	\$31.51	\$40.83	\$49.89	\$60.33
15-1134	Web Developers	\$18.48	\$24.09	\$30.98	\$40.53	\$48.10
15-1142	Network and Computer Systems Administrators	\$24.97	\$30.58	\$38.29	\$47.36	\$56.16
15-1133	Software Developers, Systems Software	\$24.74	\$32.96	\$42.69	\$52.62	\$62.72
11-3021	Computer and Information Systems Managers	\$40.07	\$50.17	\$62.17	\$76.51	\$95.29
15-1122	Information Security Analysts	\$28.43	\$34.27	\$45.37	\$57.05	\$66.97
15-1131	Computer Programmers	\$21.29	\$27.52	\$34.76	\$42.51	\$49.79

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Software Development
- SQL
- Java
- Agile Software Development
- Software Engineering

In-Demand Foundational Skills

- Management
- Communications
- Operations
- Integration
- Information Technology

In-Demand Education Level*

- High School Diploma: 3.9%
- Associate Degree: 5.0%
- Bachelor's Degree: 55.0%
- Master's Degree: 11.9%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

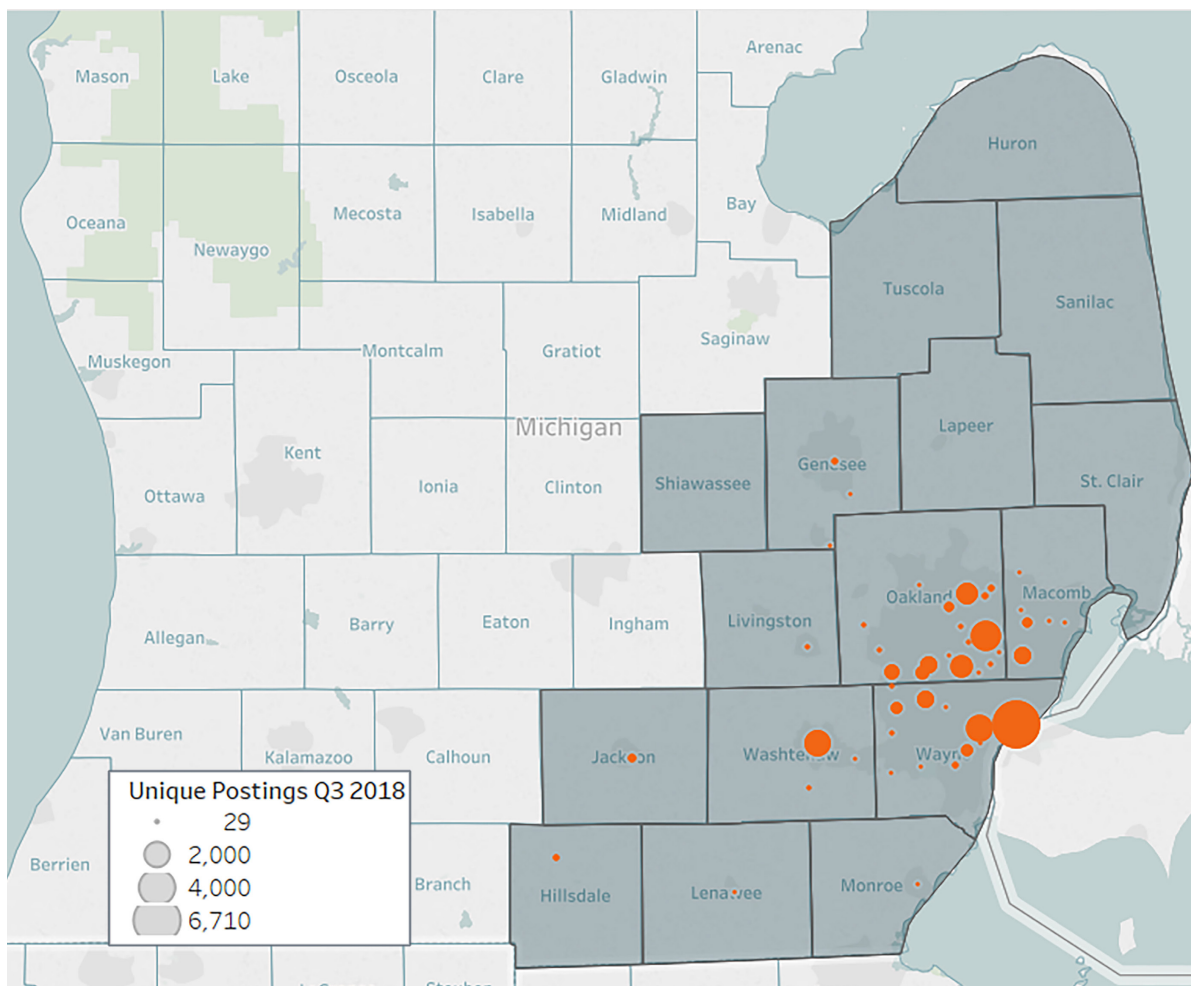
- Certified Information Systems Security Professional (CISSP)
- Certified Information Security Manager
- Cisco Certified Network Associate
- Microsoft Certified Systems Engineer
- Certified Ethical Hacker



Automotive and Tech Companies are Top Employers of IT Workers



Programming Language Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- Virtual Vocations
- Oracle Corporation
- General Motors Company
- Teksystems, Inc.
- Ford Motor Company
- Anthem, Inc.
- Msx International, Inc.
- ACCENTURE, INC.
- University of Michigan
- Quicken Loans Inc.

Job Postings by City

1. Detroit, MI: 6,710 Postings
2. Troy, MI: 2,651 Postings
3. Dearborn, MI: 2,126 Postings
4. Ann Arbor, MI: 2,017 Postings
5. Southfield, MI: 1,451 Postings

*Employer names are listed as they appear in online job postings.



SKILLED TRADES AND TECHNICIANS (MANUFACTURING) OCCUPATION GROUP

16-County WIN Region | Q3 2018

Introduction

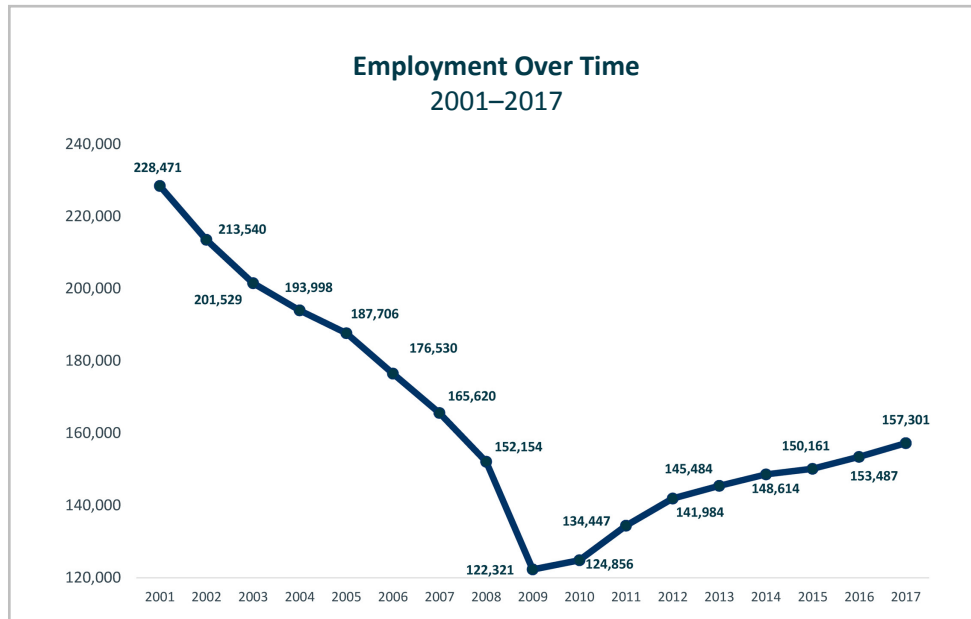
WIN's technicians/skilled trades category includes jobs related to advanced manufacturing. Southeast Michigan has more demand for skilled-trades labor, such as CNC machinists and welders, than almost anywhere else in the country.

NOTE: Skilled trades related to construction and assembly are not included in this cluster, as the focus is on advanced manufacturing only.

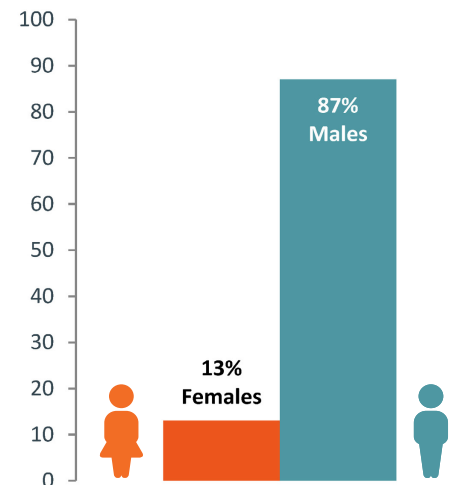


158,144
Trade Workers

0.5% Increase
from 2017



Population Gender Demographics



Skilled Trades and Technicians Worker Demographics

According to the most recent Emsi data set available (2017), the Skilled Trades occupation group employs about 158,000 workers in southeast Michigan. A majority of workers are white males between the ages of twenty-five and fifty-four. Additional outreach may be necessary in the near future, as at 25.6 percent, the group has a somewhat higher proportion than average of workers over age 55.

Race and Ethnicity Demographics

79.0% White | **12.9% Black or African American** | **2.7% Asian**

Population Age Demographics

Age 14-24, 6.8%



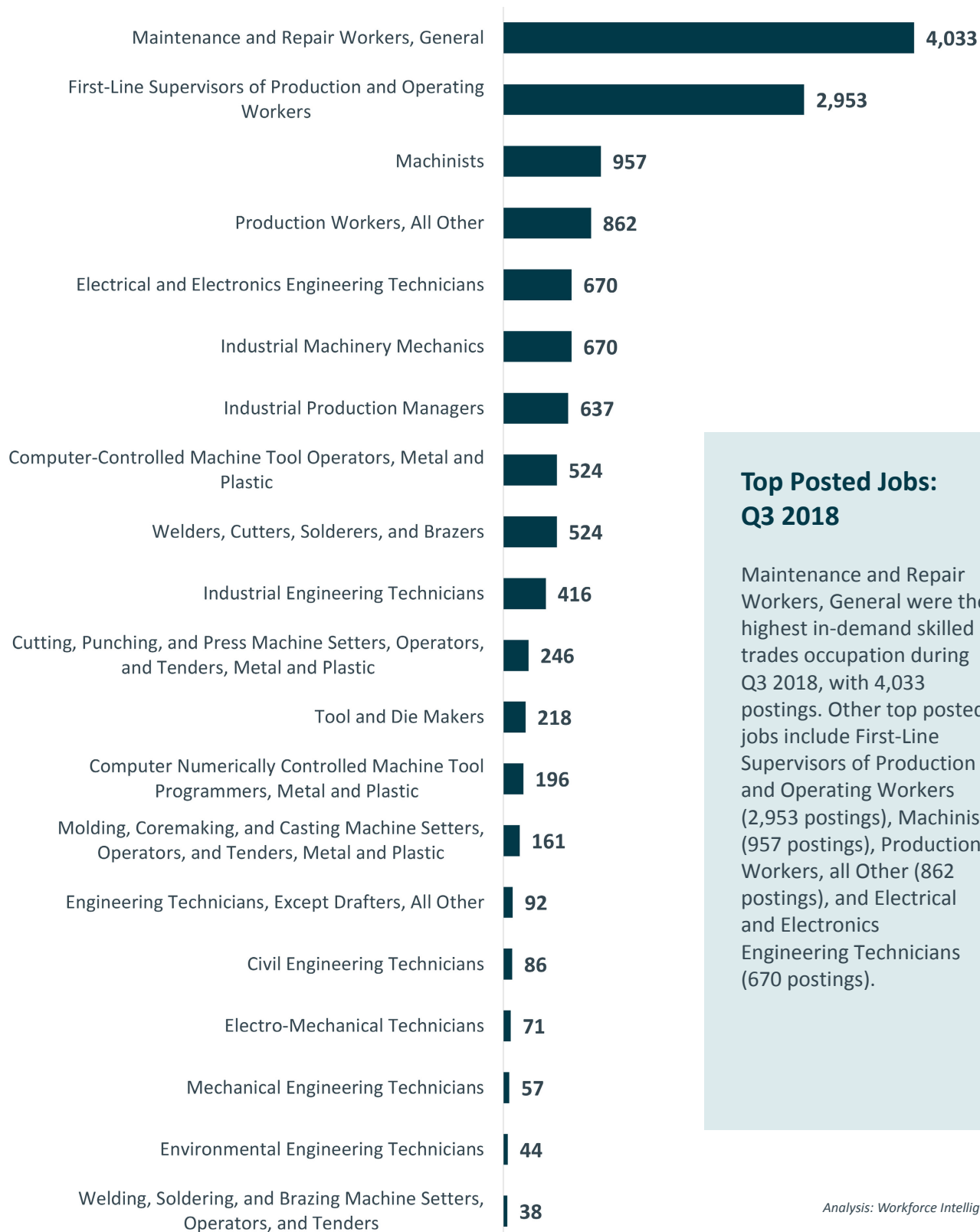


**13,112 Skilled Trades Postings:
165 More than in Q2 2018**



**Vocational Training Required
for Most Skilled Trades Jobs**

**Skilled Trades and Technicians Top Posted Jobs
Q3 2018**



**Top Posted Jobs:
Q3 2018**

Maintenance and Repair Workers, General were the highest in-demand skilled trades occupation during Q3 2018, with 4,033 postings. Other top posted jobs include First-Line Supervisors of Production and Operating Workers (2,953 postings), Machinist (957 postings), Production Workers, all Other (862 postings), and Electrical and Electronics Engineering Technicians (670 postings).



High Earning Potential for Industrial Production Manager



In-Demand Skilled Trades Certification: American Society for Quality (ASQ) Certified

Skilled Trades and Technicians Wage Overview

Half of the top ten in-demand skilled trades occupations have median wages above \$20 per hour according to the Bureau of Labor Statistics (BLS). Maintenance and Repair Workers, General, the top posted skilled trades job in Q3 2018, offers a median hourly wage of \$17.05, which translates to an annual salary of nearly \$35,000.

Wage Overview for Top Posted Skilled Trades and Technicians Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
49-9071	Maintenance and Repair Workers, General	\$10.33	\$12.86	\$17.05	\$22.86	\$28.70
51-1011	First-Line Supervisors of Production and Operating Workers	\$18.53	\$23.71	\$31.58	\$41.27	\$51.13
51-4041	Machinists	\$12.22	\$15.26	\$19.88	\$25.17	\$29.74
51-9199	Production Workers, All Other	\$10.31	\$14.39	\$17.81	\$21.60	\$26.84
17-3023	Electrical and Electronics Engineering Technicians	\$16.83	\$21.70	\$29.01	\$34.76	\$40.42
49-9041	Industrial Machinery Mechanics	\$16.30	\$20.57	\$26.22	\$32.12	\$37.55
11-3051	Industrial Production Managers	\$34.75	\$43.95	\$56.34	\$71.30	\$87.32
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$12.31	\$14.48	\$19.12	\$23.87	\$28.45
51-4121	Welders, Cutters, Solderers, and Brazers	\$13.08	\$15.44	\$18.52	\$22.74	\$27.84
17-3026	Industrial Engineering Technicians	\$16.73	\$20.01	\$25.35	\$32.29	\$38.93

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Machining
- HVAC
- Lathe Experience
- Plumbing
- Tooling

In-Demand Foundational Skills

- Management
- Operations
- Troubleshooting (Problem Solving)
- Communications
- Leadership

In-Demand Education Level*

- High School Diploma: 40.1%
- Associate Degree: 11.4%
- Bachelor's Degree: 13.7%
- Master's Degree: 1.5%

**Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent*

In-Demand Certifications

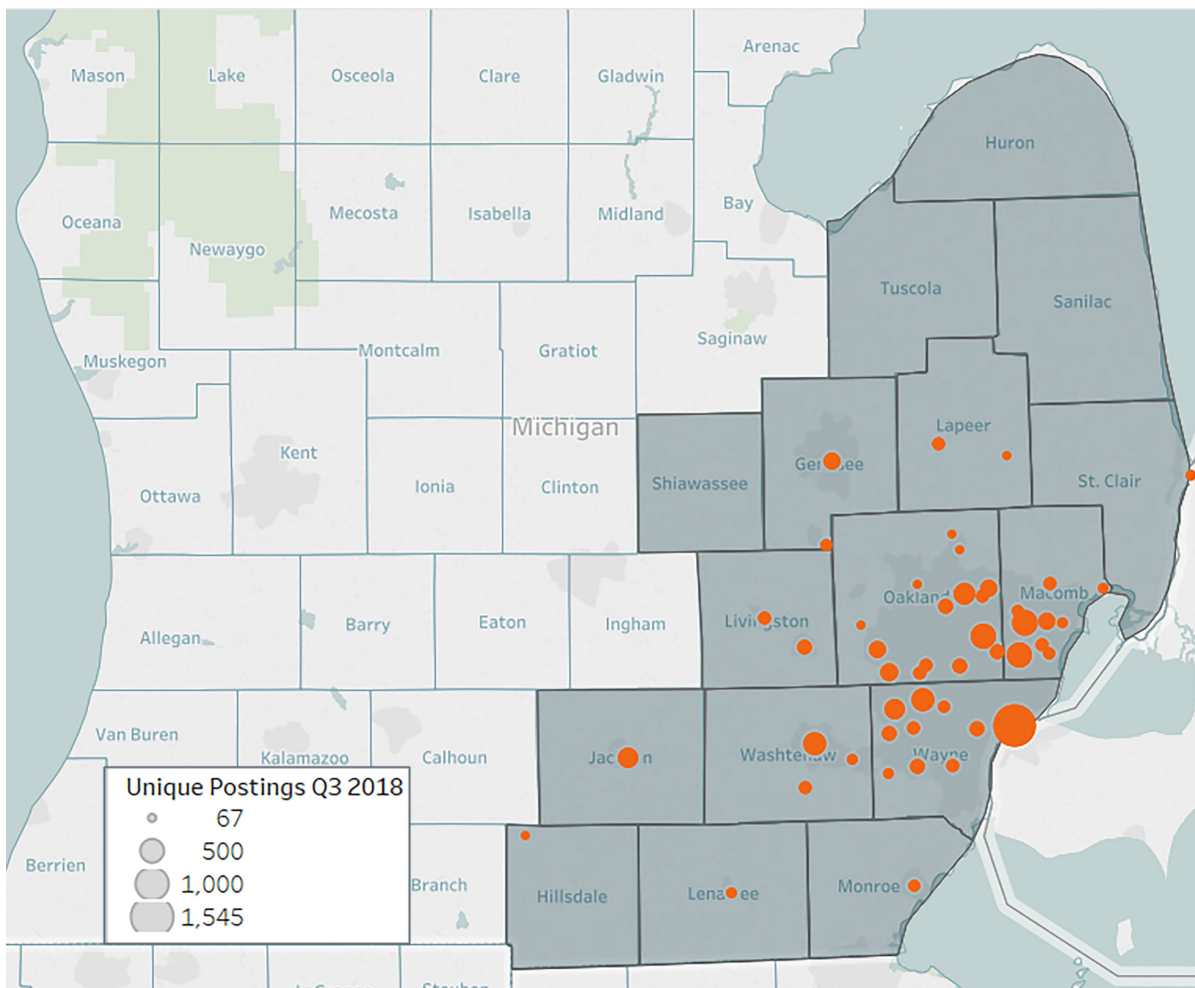
- Commercial Driver's License (CDL)
- Certified Quality Engineer
- American Society for Quality (ASQ) Certified
- Certified Welder
- Certified Quality Manager



Staffing Agencies and Manufacturers: Top Employers of Skilled Trades Workers



Machining and Management Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- McDonald's Corporation
- Kelly Services, Inc.
- Trillium Staffing
- Aerotek, Inc.
- Shipt LLC
- Express Services Inc
- The Home Depot Inc
- Sentech Services
- James Burg Trucking Company
- Start

Job Postings by City

1. Detroit, MI: 1,545 Postings
2. Sterling Heights, MI: 553 Postings
3. Warren, MI: 535 Postings
4. Troy, MI: 509 Postings
5. Ann Arbor, MI: 475 Postings

*Employer names are listed as they appear in online job postings.



TRANSPORTATION, DISTRIBUTION, AND LOGISTICS (TDL) OCCUPATION GROUP

16-County WIN Region | Q3 2018

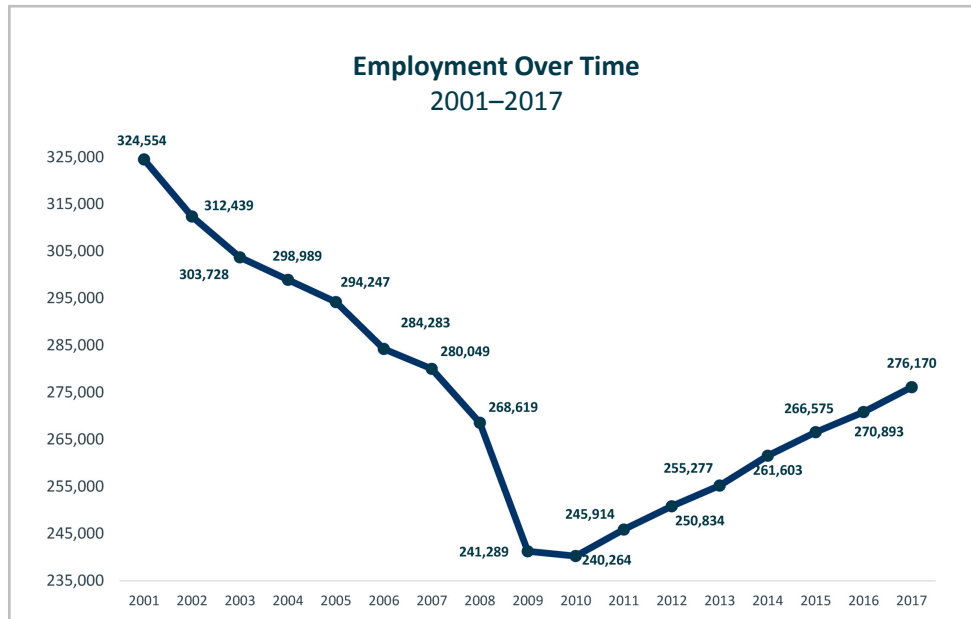
Introduction

Transportation, distribution, and logistics (TDL) workers help move materials in an efficient manner, whether it is from one company to another or directly to consumers. Logistics workers range from materials movers to logistics analysts, coordinating and analyzing material and goods movement.

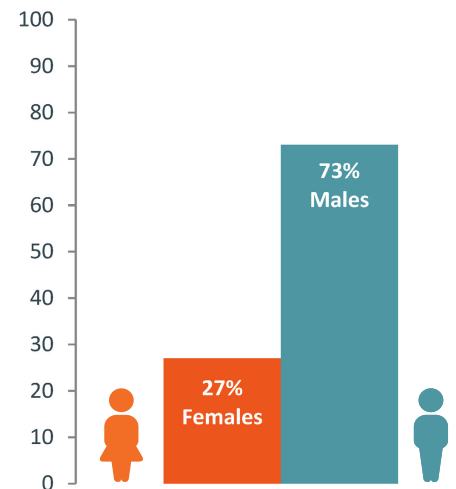


277,591
TDL Workers

0.5% Increase
from 2017



Population Gender Demographics



TDL Worker Demographics

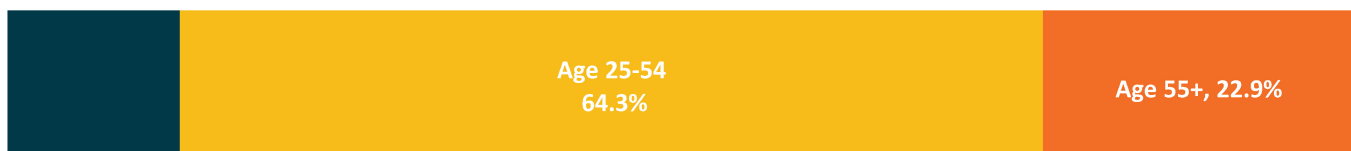
According to the most recent Emsi data set available (2017), the TDL occupation group has a large workforce, employing 275,000 individuals. These workers are 73 percent male and 71 percent white. Only twelve percent of the workers in this occupation group are under the age of 24, indicating an aging TDL workforce.

Race and Ethnicity Demographics

71.3% White | **20.2% Black or African American** | **2.2% Asian**

Population Age Demographics

Age 14-24, 12.8%



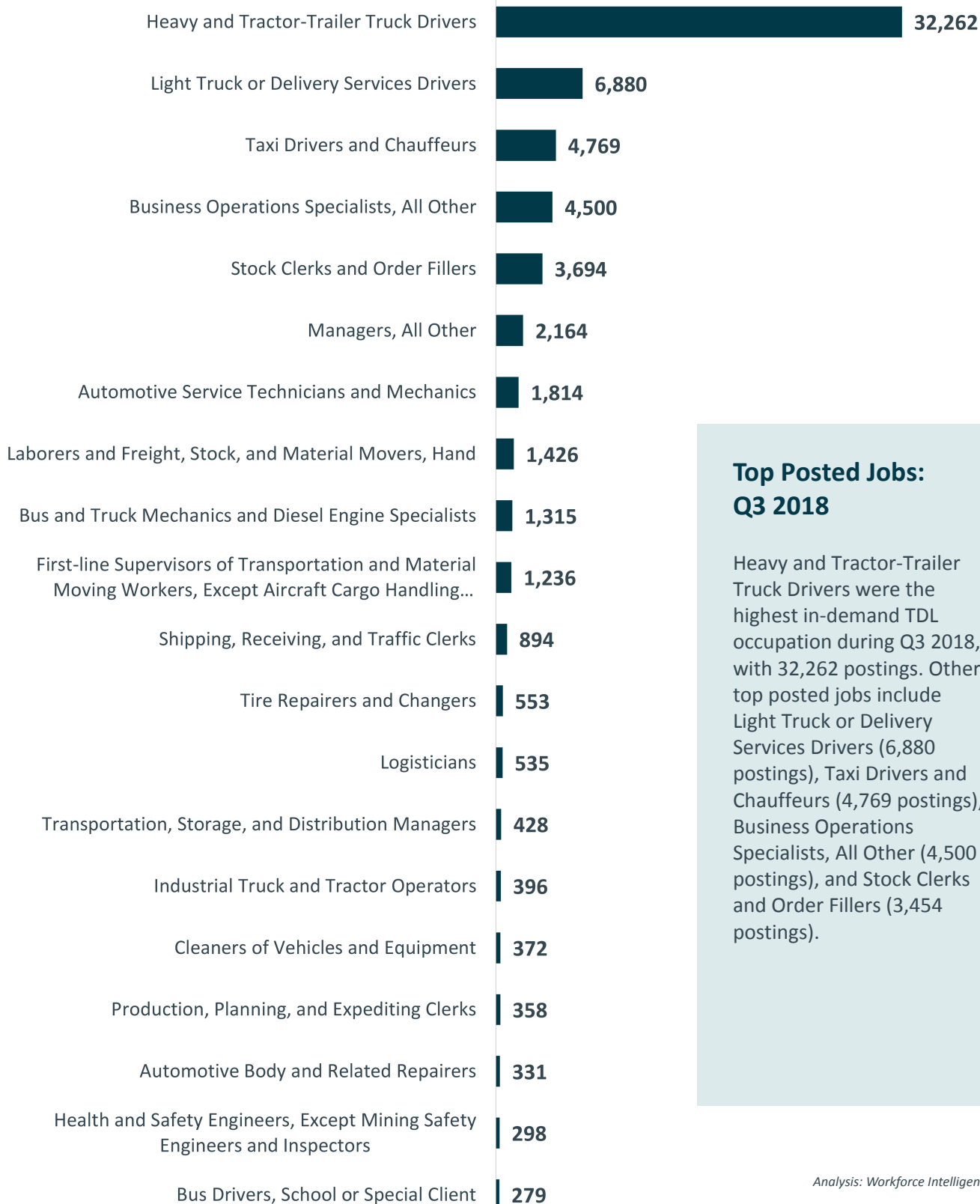


65,864 TDL Postings:
1,187 More than in Q2 2018



High School Diploma
Required for Most TDL Jobs

TDL Top Posted Jobs Q3 2018



Top Posted Jobs: Q3 2018

Heavy and Tractor-Trailer Truck Drivers were the highest in-demand TDL occupation during Q3 2018, with 32,262 postings. Other top posted jobs include Light Truck or Delivery Services Drivers (6,880 postings), Taxi Drivers and Chauffeurs (4,769 postings), Business Operations Specialists, All Other (4,500 postings), and Stock Clerks and Order Fillers (3,454 postings).



High Earning Potential for Managers, All Other



CDL: Most In-Demand TDL Certification

TDL Wage Overview

According to the Bureau of Labor Statistics (BLS), half of the top ten in-demand TDL occupations offer median wages of more than \$20 per hour. Heavy and Tractor-Trailer Truck Drivers, the top posted TDL job in Q3 2018, offers a median hourly wage of \$19.11, or an annual salary of nearly \$40,000. Logistics roles that require additional education, such as Business Operations Specialists, typically offer even higher wages.

Wage Overview for Top Posted TDL Jobs in Q3 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$12.72	\$15.41	\$19.11	\$23.55	\$28.47
53-3033	Light Truck or Delivery Services Drivers	\$9.54	\$11.34	\$15.76	\$21.70	\$28.35
53-3041	Taxi Drivers and Chauffeurs	\$9.11	\$9.51	\$10.80	\$13.15	\$16.74
13-1199	Business Operations Specialists, All Other	\$18.15	\$23.65	\$32.82	\$44.80	\$56.35
43-5081	Stock Clerks and Order Fillers	\$9.16	\$9.66	\$11.24	\$14.97	\$18.84
11-9199	Managers, All Other	\$30.24	\$38.26	\$48.94	\$61.60	\$76.43
49-3023	Automotive Service Technicians and Mechanics	\$9.76	\$12.64	\$20.16	\$27.77	\$33.10
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$9.58	\$10.97	\$13.52	\$17.11	\$20.72
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	\$15.18	\$18.01	\$21.71	\$26.12	\$31.10
53-1048	First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	\$14.95	\$19.41	\$25.72	\$34.01	\$40.95

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills

- Warehousing
- Purchasing
- Merchandising
- Mechanics
- Forklift Truck

In-Demand Foundational Skills

- Management
- Operations
- Android Operating System
- Apple iPhone
- Communications

In-Demand Education Level*

- High School Diploma: 12.7%
- Associate Degree: 1.8%
- Bachelor's Degree: 6.0%
- Master's Degree: 1.1%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent

In-Demand Certifications

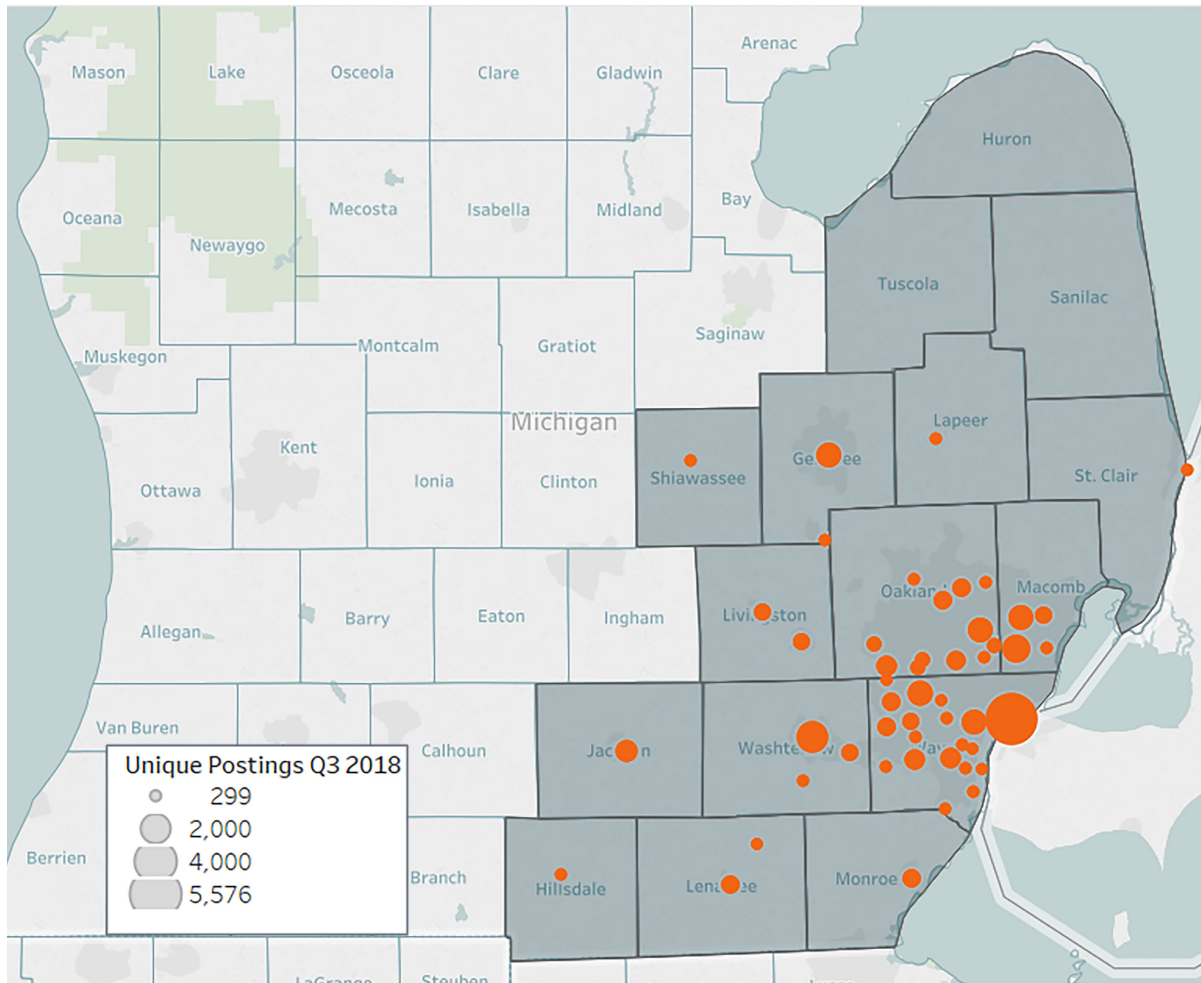
- Commercial Driver's License (CDL)
- Transportation Worker Identification Credential (TWIC) Card
- PMI/PMP Certified
- Certified Safety Professional
- Certified Hazardous Materials Manager



Rideshare Companies and Trucking Fleets are the Top Employers of TDL Workers



Warehousing Skills are in High Demand



Map based on Longitude (generated) and Latitude (generated).
Size shows sum of Unique Postings (Jul 2018–Sep 2018). Details are shown for City.

Top Posting Employers*

- CRST International, Inc.
- Lyft, Inc.
- C.R. England, Inc.
- U. S. Xpress, Inc.
- Shipt LLC
- Hogan Transports Inc
- USA Truck, Inc.
- Heartland Express, Inc.
- Uber Technologies, Inc.
- McLane Company, Inc.

*Employer names are listed as they appear in online job postings.

Job Postings by City

1. Detroit, MI: 5,576 Postings
2. Ann Arbor, MI: 2,063 Postings
3. Warren, MI: 1,592 Postings
4. Livonia, MI: 1,302 Postings
5. Troy, MI: 1,267 Postings

Website

www.WINintelligence.org

Email

info@WINintelligence.org

Phone

313.744.2946

Address

25363 Eureka Road
Taylor, MI 48180

Facebook

[@workforceintelligencenetwork](https://www.facebook.com/workforceintelligencenetwork)

Twitter

[@WIN-semich](https://twitter.com/WIN-semich)