SOUTHEAST MICHIGAN

16-COUNTY WIN REGION

WIN Labor Market Report

INTRODUCTION
16-County WIN Region | Q4 2018

Report Contents

Occupation Groups

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 fourth quarter of 2018 in the 16-county WIN region and includes summative data for October, November, and December 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.

WORKFORCE
INTELLIGENCE
NETWORK

ANNUAL STATE OF THE LABOR MARKET
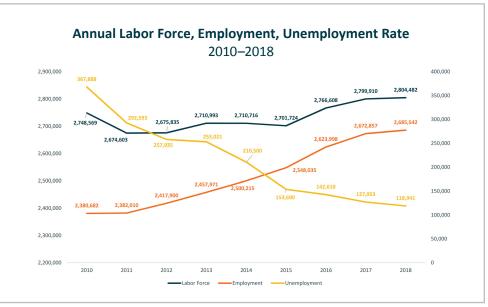## 16-County WIN Region | Q4 2018

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

During 2018, the labor force figures increased in southeast Michigan while employment continued to grow. 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 YTD rate of 4.2 percent in 2018 . Employer demand for most occupation groups analyzed by WIN also increased during Q4 2018. The customer service occupation group reported the highest demand with over 81,000 job postings during the quarter. Other occupation groups also offer great job opportunities for active job seekers: Health care postings grew by 22 percent from Q2 2018, and 24 percent of postings were open to entry-level applicants.
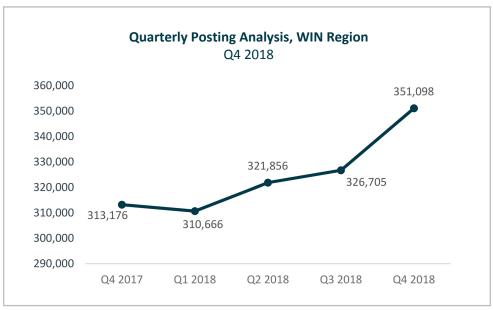
Annual Labor Market Information

Moving into a ten-year high, the labor force in the southeast Michigan increased by 4,572 individuals between 2017 and 2018. Employment increased by 12,685 workers between 2017 and 2018. With employment increasing at a greater rate than the labor force, the unemployment rate fell by 0.3 percentage points from the annual rate of 4.5 percent in 2017 to a 2018 rate of 4.2 percent in the 16-county WIN region.

Annual Labor Force, Employment, Unemployment Rate 2010–2018

	Labor Force	Employment	Unemployment
2010	2,748,569	2,380,682	367,888
2011	2,674,603	2,382,010	292,593
2012	2,675,835	2,417,900	257,935
2013	2,710,993	2,457,971	253,021
2014	2,710,716	2,500,215	210,500
2015	2,701,724	2,548,035	153,690
2016	2,766,608	2,623,998	142,610
2017	2,799,910	2,672,857	127,053
2018	2,804,482	2,685,542	118,941

Data: BLS | Analysis: Workforce Intelligence Network

Quarterly Employer Demand Overview

Data from the fourth quarter of 2018, including posting information from October, November, and December, showed employer demand continue to grow from Q4 2017, throughout southeast Michigan. There were 37,922 more postings during Q4 2018 compared to the 313,176 postings made by employers during Q4 2017 for a total of 351,098 postings. Typically, the first half of the year tends to report lower postings than the second half, and 2018 was no exception with the new relative high in postings between each quarter of 2018.
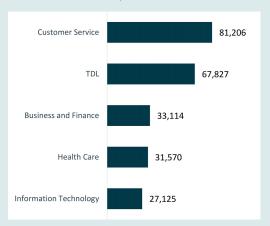
Quarterly Posting Analysis, WIN Region Q4 2018

	Postings
Q4 2017	313,176
Q1 2018	310,666
Q2 2018	321,856
Q3 2018	326,705
Q4 2018	351,098

Data: Emsi | Analysis: Workforce Intelligence Network

QUARTERLY WORKFORCE INDICATORS
16-County WIN Region | Key Findings for Q4 2018

Employer demand surges with 351,000 jobs posted during Q4 2018, with most occupation groups analyzed by WIN experiencing increases in online job postings between Q3 and Q4 2018.

During Q4 2018, there were 351,098 jobs posted, 24,393 more than the 326,705 jobs posted during Q3 2018 in the 16-county WIN region. Most of the occupation groups analyzed by WIN experienced an increase during the fourth quarter of 2018. The customer service, health care, and IT groups each increased by over 2,000 postings from last quarter (Q3 2018). Online job postings made by employers in the health care occupation group were up by 22 percent from the previous quarter (Q3 2018). For more information about quarterly job postings, see page 2.

Top 5 Posting Occupation Groups
Q4 2018

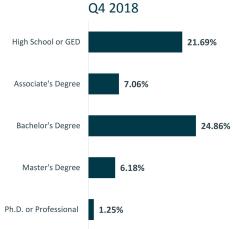| Occupation	Postings
Customer Service	81,206
TDL	67,827
Business and Finance	33,114
Health Care	31,570
Information Technology	27,125

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 Q4 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
Q4 2018

Education	%
High School or GED	21.69%
Associate's Degree	7.06%
Bachelor's Degree	24.86%
Master's Degree	6.18%
Ph.D. or Professional	1.25%

Data: Emsi | Analysis: Workforce Intelligence Network

The 2018 annual unemployment rate of 4.2 percent in Southeast Michigan's was down 0.3 percentage points from 2017.
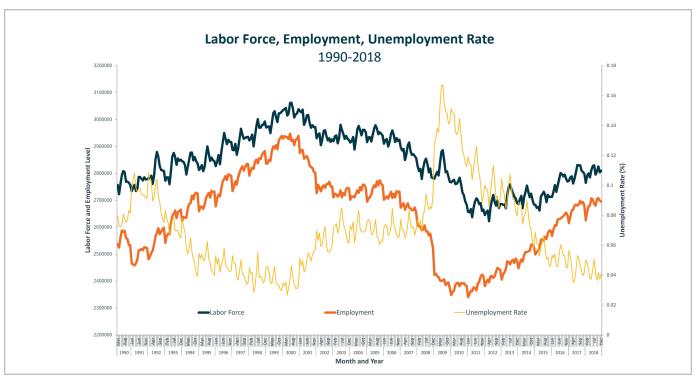
During 2018, both employment and the labor force increased from 2017. The growth in labor force participants combined with the even larger growth in workers caused the quarterly unemployment rate to drop from 4.5 percent in 2017 to 4.2 percent in 2018 as more people found work or started to look for work. During September 2018 employment and labor force spiked, dropping the unemployment rate to a monthly low of 3.7 percent. For more information about this year's unemployment rate and other labor market indicators, see page 4.

Annual Labor Market Data

	2017 Annual	2018 Annual	Change from 2017	Percent Change from 2017
Labor Force	2,799,910	2,804,482	4,573	0.2%
Employment	2,672,857	2,685,542	12,685	0.5%
Unemployment	127,053	118,941	-8,112	-6.4%
Unemployment Rate	4.5%	4.2%	-0.3%	na

Note: Monthly data averaged by quarter | Data: BLS

WORKFORCE OVERVIEW
16-County WIN Region | Labor Market Information Q4 2018

Labor Force, Employment, Unemployment Rate
1990-2018

Data: BLS | Analysis: Workforce Intelligence Network

Quarterly Labor Market Data
Q4 2017 - Q4 2018

	4th Quarter 2017	1st Quarter 2018	2nd Quarter 2018	3rd Quarter 2018	4th Quarter 2018	Change from 3rd Quarter 2018	Percent Change from 3rd Quarter 2018	Change from 4th Quarter 2017	Percent Change from 4th Quarter 2017
Labor Force	2,804,807	2,777,736	2,808,226	2,811,013	2,813,406	2,393	0.1%	8,599	0.3%
Employment	2,688,208	2,641,053	2,697,006	2,690,797	2,700,973	10,176	0.4%	12,765	0.5%
Unemployment	116,598	136,683	111,220	120,216	112,433	-7,783	-6.5%	-4,165	-3.6%
Unemployment Rate	4.2%	4.9%	4.0%	4.3%	4.0%	-0.3%	na	-0.2%	na

Note: Monthly data averaged by quarter | Data: BLS

Labor Force, Employment, and Unemployment
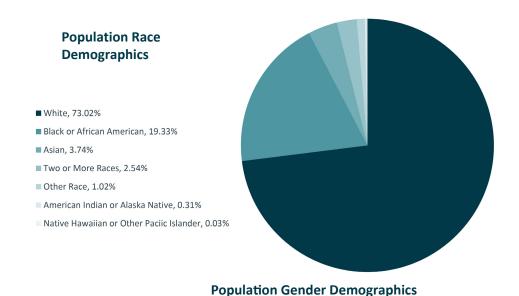
The labor market in southeast Michigan has experienced relative stability since 2010. The labor force increased by 2,393 workers (0.1 percent) between Q3 2018 and Q4 2018. Employment in the 16-county area also increased from Q3 to Q4 2018, by 10,176 workers (0.4 percent). With employment increasing at a greater rate than the labor force, the unemployment rate decreased this quarter: the quarterly unemployment rate increased by 0.2 percentage points between Q3 2018 and Q4 2018 to four percent.

WORKFORCE OVERVIEW
16-County WIN Region | 2017 Annual Population Demographics
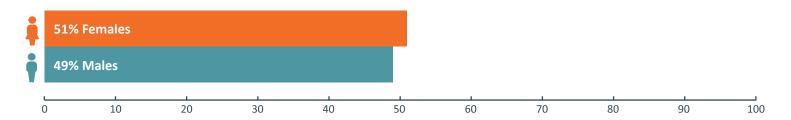
Population Demographics

According to data from the most recent Census Bureau 2017 American Community Survey (ACS) Five Year estimates, the population in southeast Michigan increased by nearly 0.1 percent between 2016 and 2017. During 2017, 5,725,576 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; 29.2 percent of population was over the age of 55, compared to 18.3 percent under the age of 24.

5,725,576
People in the Region
0.1% Increase
from 2016

Population Race Demographics

- White, 73.02%
- Black or African American, 19.33%
- Asian, 3.74%
- Two or More Races, 2.54%
- Other Race, 1.02%
- American Indian or Alaska Native, 0.31%
- Native Hawaiian or Other Paciic Islander, 0.03%

Population Gender Demographics

51% Females

49% Males

0   10   20   30   40   50   60   70   80   90   100

Population Age Demographics

Age 14 and under 18.3%	Age 15-25 13.6%	Age 25-54 38.9%	Age 55+ 29.2%

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

WORKFORCE OVERVIEW
16-County WIN Region | 2017 Annual Labor Force Demographics

2017 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 +	2,834,232	2,608,959	224,161	7.9%
Sex				
Male 16+	1,476,122	1,356,362	119,760	8.1%
16-19	62,121	46,926	15,195	24.5%
20-24	153,388	130,714	22,674	14.8%
25-54	945,358	879,333	66,025	7.0%
55-64	246,554	233,598	12,956	5.3%
65 Plus	68,701	65,791	2,910	4.2%
Female 16+	1,356,502	1,252,211	104,291	7.7%
16-19	63,445	50,063	13,382	21.1%
20-24	147,512	128,266	19,246	13.0%
25-54	856,990	797,525	59,465	6.9%
55-64	230,567	220,514	10,053	4.4%
65 Plus	57,988	55,843	2,145	3.7%
Race				
White	2,135,578	2,007,673	125,826	5.9%
Black / African American	502,580	419,133	83,342	16.6%
Native American	8,280	7,398	886	10.7%
Asian	109,137	103,784	5,310	4.9%
Native Hawaiian / Pacific Islander	974	872	68	7.0%
Some Other Race	26,934	24,331	2,574	9.6%
Two or More Races	51,757	45,649	6,076	11.7%
Ethnicity				
Hispanic	108,194	97,579	10,413	9.6%
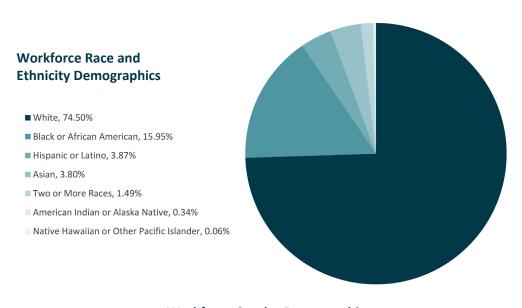
Data: American Community Survey 5-Year Estimates | Analysis: Workforce Intelligence Network

Labor Market Demographics
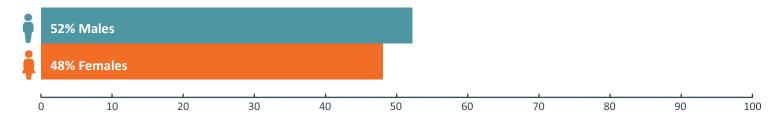
During 2017, the most recent census year, there were about 2.83 million people in the labor force, meaning they were either working or looking for work, in southeast Michigan. Slightly less than half of the population of 2,608,959 individuals (45.6 percent) living in the region were actively working. 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 24.5 percent. Black or African American job seekers also have a difficult time finding employment, facing an unemployment rate of 16.6 percent.

WORKFORCE OVERVIEW
16-County WIN Region | 2018 Annual Working Population Demographics
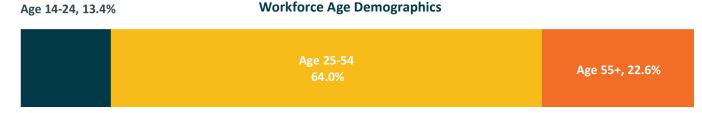
Current Workforce Demographics

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 2018, there were a total of 2,656,190 individuals working in southeast Michigan. A slight majority (52 percent or 1,374,012 workers) were male, while 48 percent (1,282,179 workers) of the workforce was female. Most of those working in the region were white, accounting for 74.5 percent of the workforce, while African American or black workers accounted for 16 percent of the workforce. Those identifying as having a Hispanic or Latino ethnicity accounted for 3.9 percent. Eighty-two percent of the workforce was 25 years or older. Only 18percent of those under the age of 25 were working, indicating an aging workforce in southeast Michigan.

Workforce Race and Ethnicity Demographics

- White, 74.50%
- Black or African American, 15.95%
- Hispanic or Latino, 3.87%
- Asian, 3.80%
- Two or More Races, 1.49%
- American Indian or Alaska Native, 0.34%
- Native Hawaiian or Other Pacific Islander, 0.06%

Workforce Gender Demographics

52% Males

48% Females

0   10   20   30   40   50   60   70   80   90   100

Workforce Age Demographics

Age 14-24, 13.4%

Age 25-54 64.0%

Age 55+, 22.6%

Data: Emsi | Analysis: Workforce Intelligence Network

WORKFORCE OVERVIEW
16-County WIN Region | 2015 Regional Commuting Patterns
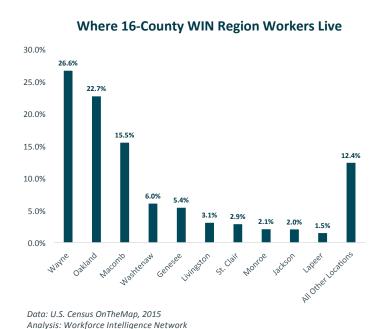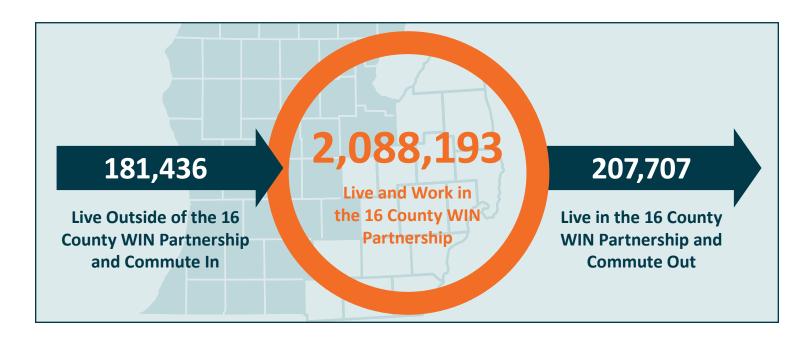
Regional Commuting Patterns

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

County	Percent
Oakland	27.9%
Wayne	27.4%
Macomb	12.4%
Washtenaw	7.6%
Genesee	4.8%
Livingston	2.1%
Jackson	1.9%
Ingham	1.9%
St. Clair	1.6%
Monroe	1.5%
All Other Locations	11.0%

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

Where 16-County WIN Region Workers Live

County	Percent
Wayne	26.6%
Oakland	22.7%
Macomb	15.5%
Washtenaw	6.0%
Genesee	5.4%
Livingston	3.1%
St. Clair	2.9%
Monroe	2.1%
Jackson	2.0%
Lapeer	1.5%
All Other Locations	12.4%

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

181,436 Live Outside of the 16 County WIN Partnership and Commute In

2,088,193 Live and Work in the 16 County WIN Partnership

207,707 Live in the 16 County WIN Partnership and Commute Out

REAL-TIME DEMAND OVERVIEW
16-County WIN Region | Top Posted Jobs | Q4 2018

Top Posted Jobs
Q4 2018

Job	Postings
Heavy and Tractor-Trailer Truck Drivers	32,743
Registered Nurses	11,908
First-Line Supervisors of Retail Sales Workers	11,301
Retail Salespersons	11,091
Customer Service Representatives	8,059
Light Truck or Delivery Services Drivers	7,268
Software Developers, Applications	7,041
Taxi Drivers and Chauffeurs	5,334
Industrial Engineers	5,252
Stock Clerks and Order Fillers	5,117
Business Operations Specialists, All Other	4,566
Maintenance and Repair Workers, General	4,397
Childcare Workers	4,194
First-Line Supervisors of Office and Administrative Support Workers	4,133
Combined Food Preparation and Serving Workers, Including Fast Food	4,062
First-Line Supervisors of Food Preparation and Serving Workers	3,988
Computer Occupations, All Other	3,909
Postsecondary Teachers	3,659
Mechanical Engineers	3,416
Teachers and Instructors, All Other	3,211

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Postsecondary nondegree award
- Bachelor's degree
- Master's or doctoral degree

Top Posted Jobs: Q4 2018

Heavy and Tractor-Trailer Truck Drivers were the highest in-demand occupation for the fourth quarter of 2018, with 32,743 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 posted jobs. Customer service occupations round out the remaining top five posted jobs with Retail Salespersons (11,301 postings), First-Line Supervisors of Retail Sales Workers (11,091 postings), and Customer Service Representatives (8,059 postings) in high demand during Q4 2018.

Data: Emsi
Analysis: Workforce Intelligence Network

REAL-TIME DEMAND OVERVIEW
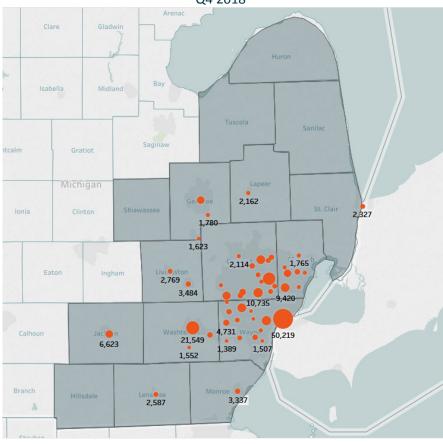## 16-County WIN Region | Top Posted Entry-Level Jobs | Q4 2018

Top Posted Entry-Level Jobs
Q4 2018

Occupation	Postings
Registered Nurses	5,503
Heavy and Tractor-Trailer Truck Drivers	5,278
First-Line Supervisors of Retail Sales Workers	3,526
Taxi Drivers and Chauffeurs	2,676
Customer Service Representatives	2,146
Software Developers, Applications	1,817
Retail Salespersons	1,780
Mechanical Engineers	1,522
Business Operations Specialists, All Other	1,280
Industrial Engineers	1,241
First-Line Supervisors of Office and Administrative Support Workers	1,230
Maintenance and Repair Workers, General	1,146
Computer User Support Specialists	1,105
Accountants and Auditors	989
Computer Occupations, All Other	989
First-Line Supervisors of Food Preparation and Serving Workers	930
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	864
Stock Clerks and Order Fillers	837
Securities, Commodities, and Financial Services Sales Agents	804
Food Service Managers	784

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Bachelor's degree

Top Posted Entry-Level Jobs: Q4 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) typically require candidates to have a bachelor's degree. Many applicants of these entry level occupations, while not typically requiring prior training or some college, could benefit from having taken some course work to develop the skills needed in the postings. Registered Nurses were the top posted entry-level job with over 5,500 postings in Q4 2018.

REAL-TIME DEMAND OVERVIEW
16-County WIN Region | Job Postings by City | Q4 2018

Job Postings by City
Q4 2018

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

Top In-Demand Qualifications

- Commercial Driver's License (CDL)
- Certified Nursing Assistant
- Licensed Practical Nurse
- Nurse Practitioner
- CompTIA Security+
- Certified Public Accountant
- Patient Care Technician
- Advanced Practice Registered Nurse
- Radiologic Technologist
- American Registry of Radiologic Technologists (ARRT) Certified
- Licensed Vocational Nurses

Top In-Demand Skills

- Merchandising
- Restaurant Operation
- Selling Techniques
- Nursing
- Accounting
- Customer Satisfaction
- Customer Experience
- Food Services
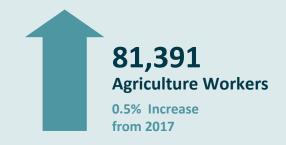- Purchasing
- Warehousing
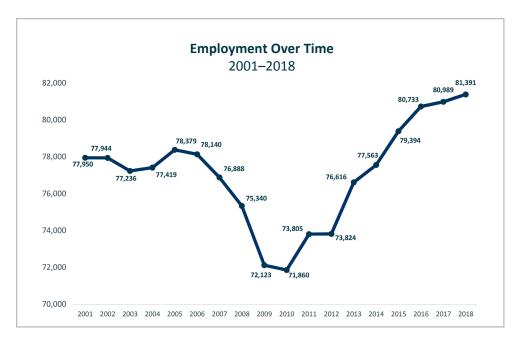
Top Posting Employers*

- Shipt LLC
- University of Michigan
- Henry Ford Health System
- CRST International, Inc.
- William Beaumont Hospital
- McDonald's Corporation
- Uber Technologies, Inc.
- The Home Depot Inc
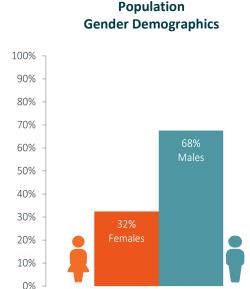- J.B. Hunt Transport Services, Inc.
- Lyft, Inc.

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

AGRICULTURE OCCUPATION GROUP
16-County WIN Region | Q4 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.

81,391
Agriculture Workers
0.5% Increase
from 2017

Employment Over Time
2001–2018

Year	Value
2001	77,950
2002	77,944
2003	77,236
2004	77,419
2005	78,379
2006	78,140
2007	76,888
2008	75,340
2009	72,123
2010	71,860
2011	73,805
2012	73,824
2013	76,616
2014	77,563
2015	79,394
2016	80,733
2017	80,989
2018	81,391

Population Gender Demographics

32% Females

68% Males

Agriculture Worker Demographics

According to the most recent Emsi data set available (2018), the 81,391 workers in agriculture occupations are not very diverse. A large majority of workers are white males between the ages of 25 and 54. Only 32 percent of agriculture workers identify as women, and only 14 percent of workers were under the age of 24.

Race and Ethnicity Demographics

78.9% White | 10.7% Black or African American | 2.4% Asian

Population Age Demographic

Age 14-24 14.1%	Age 25-54 62.8%	Age 55+ 23.1%

Data: Emsi | Analysis: Workforce Intelligence Network
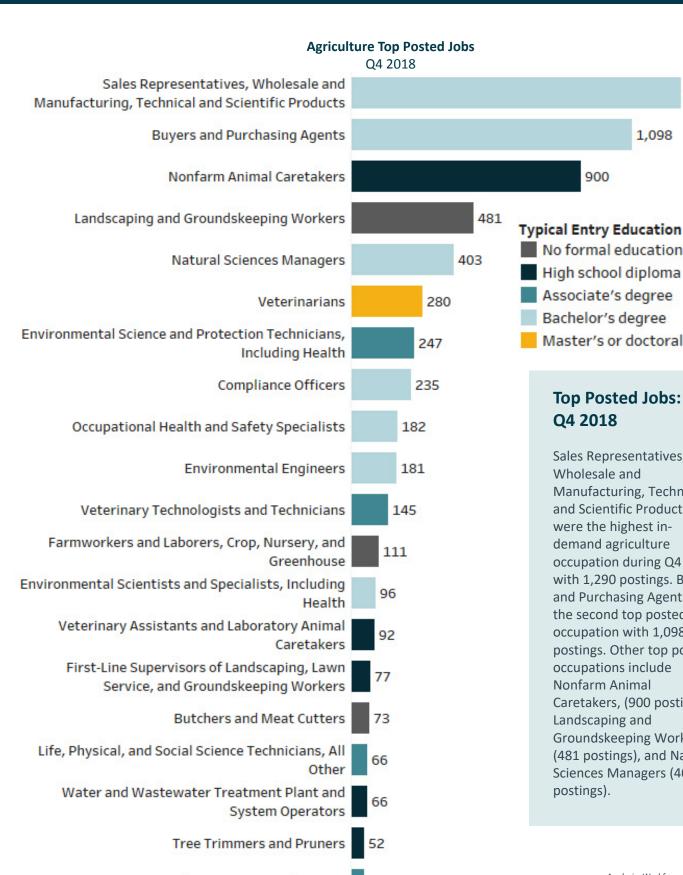
6,473 Agriculture Postings:
483 less than in Q3 2018

Bachelors Degree Required
for Most Agriculture Jobs

Agriculture Top Posted Jobs
Q4 2018

Job	Postings
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,290
Buyers and Purchasing Agents	1,098
Nonfarm Animal Caretakers	900
Landscaping and Groundskeeping Workers	481
Natural Sciences Managers	403
Veterinarians	280
Environmental Science and Protection Technicians, Including Health	247
Compliance Officers	235
Occupational Health and Safety Specialists	182
Environmental Engineers	181
Veterinary Technologists and Technicians	145
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	111
Environmental Scientists and Specialists, Including Health	96
Veterinary Assistants and Laboratory Animal Caretakers	92
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	77
Butchers and Meat Cutters	73
Life, Physical, and Social Science Technicians, All Other	66
Water and Wastewater Treatment Plant and System Operators	66
Tree Trimmers and Pruners	52
Environmental Engineering Technicians	51

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Associate's degree
- Bachelor's degree
- Master's or doctoral degree

Top Posted Jobs: Q4 2018

Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products were the highest in-demand agriculture occupation during Q4 2018, with 1,290 postings. Buyers and Purchasing Agents was the second top posted occupation with 1,098 postings. Other top posted occupations include Nonfarm Animal Caretakers, (900 postings), Landscaping and Groundskeeping Workers (481 postings), and Natural Sciences Managers (403 postings).

Data: Emsi
Analysis: Workforce Intelligence Network

High Earning Potential for
Natural Science Managers

In-Demand Agriculture
Certification: Safety Professional

Agriculture Wage Overview

Of the top posted agriculture-related jobs, seven of the ten offer median wages of more than $30 per hour according to the Bureau of Labor Statistics (BLS). The top posted job, Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products offers median hourly earnings of $38.48, which translates to annual earnings of approximately $80,038.

Wage Overview for Top Posted Agriculture Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	$23.20	$28.03	$38.48	$54.35	$71.56
13-1028	Buyers and Purchasing Agents	$18.12	$24.10	$31.60	$43.27	$56.50
39-2021	Nonfarm Animal Caretakers	$9.15	$9.63	$10.73	$11.91	$14.03
37-3011	Landscaping and Groundskeeping Workers	$9.16	$9.69	$11.61	$14.58	$18.03
11-9121	Natural Sciences Managers	$33.28	$39.28	$48.53	$66.50	$85.48
29-1131	Veterinarians	$27.53	$32.17	$37.77	$48.40	$65.17
19-4091	Environmental Science and Protection Technicians, Including Health	$14.04	$16.50	$21.83	$28.31	$32.60
13-1041	Compliance Officers	$21.48	$27.52	$37.49	$42.71	$48.78
29-9011	Occupational Health and Safety Specialists	$24.93	$30.11	$37.11	$45.74	$54.36
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
- Selling Techniques
- Restaurant Operation
- Procurement
- Landscaping

In-Demand Foundational Skills
- Management
- Communications
- Sales
- Customer Service
- Leadership

In-Demand Education Level*
- High School Diploma: 17.6%
- Associate Degree: 5.2%
- Bachelor's Degree: 35.4%
- Master's Degree: 8.7%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
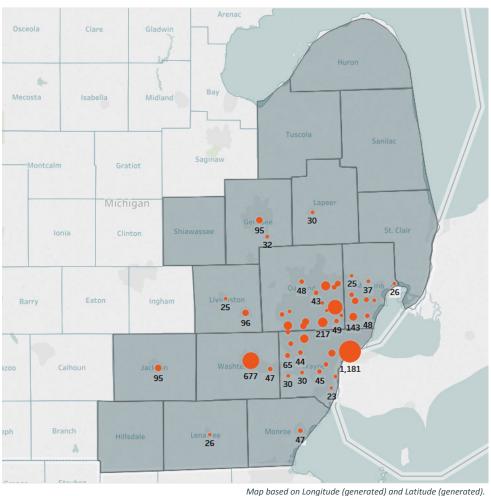
In-Demand Certifications
- Commercial Driver's License (CDL)
- Certified Veterinary Technician
- Professional Engineer
- Certified Safety Professional
- CompTIA Security+

Top Employers of Agriculture-related Workers: Veterinarian Hospitals

Purchasing Skills are in High Demand

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

Top Posting Employers*

- Rover Inc
- Oracle Corporation
- Banfield Pet Hospital
- University of Michigan
- Petco Inc
- The Pet Sitter
- Xpat Inc
- Endevis, L.L.C
- State Farm Insurance
- Henry Ford Health System

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

Job Postings by City

1. Detroit, MI: 1,181 Postings
2. Ann Arbor, MI: 677 Postings
3. Troy, MI: 521 Postings
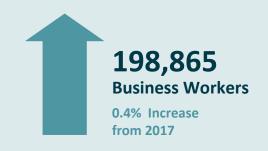4. Southfield, MI: 217 Postings
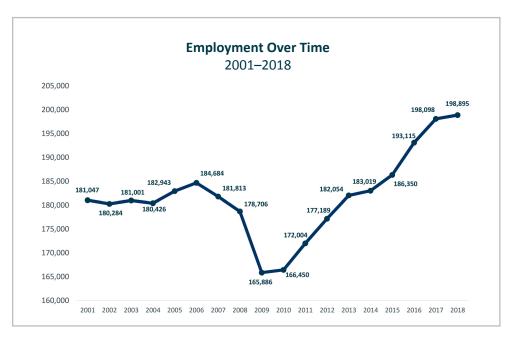5. Auburn Hills, MI: 197 Postings

BUSINESS AND FINANCE OCCUPATION GROUP
16-County WIN Region | Q4 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.

198,865
Business Workers

0.4% Increase from 2017

Employment Over Time
2001–2018

181,047
180,284
181,001
180,426
182,943
184,684
181,813
178,706
165,886
166,450
172,004
177,189
182,054
183,019
186,350
193,115
198,098
198,895

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Population Gender Demographics
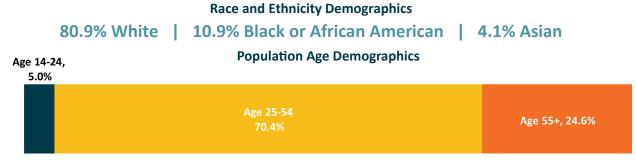
50% Females

50% Males

Business and Finance Worker Demographics

According to the most recent Emsi data set available (2018), the business and finance occupation group is a relatively more diverse occupation group with respect to its over 198,000 workers. Half the working population identify as female (50 percent), but 81 percent of workers identified as white, indicating a much smaller racial diversity compared to that of gender. Only five percent of the working population in business and finance is under the age of 25, indicating a large aging population of business and finance workers.
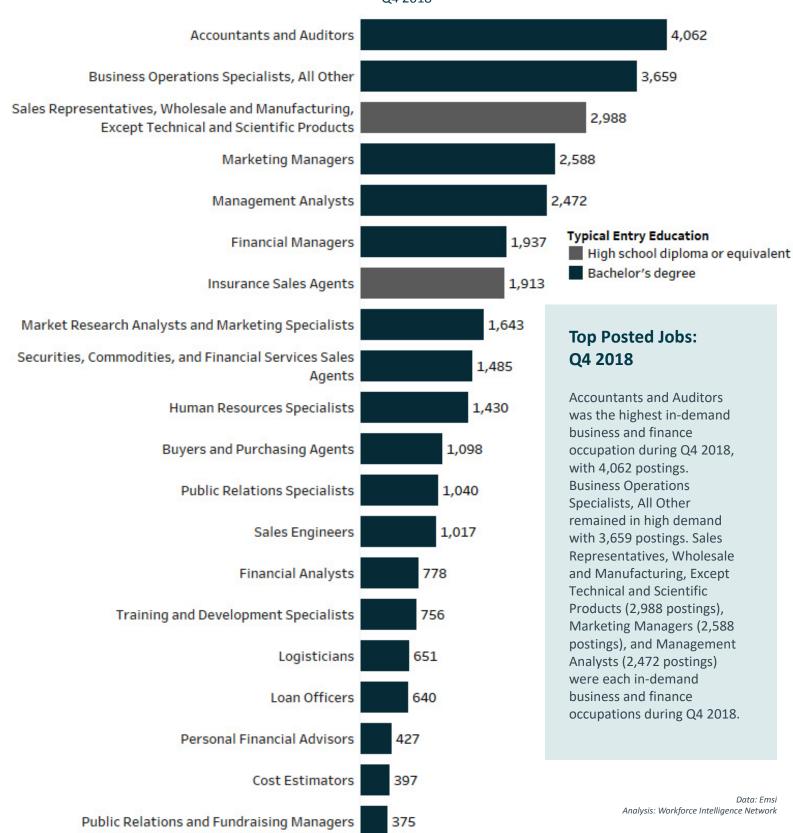
Race and Ethnicity Demographics

80.9% White | 10.9% Black or African American | 4.1% Asian

Population Age Demographics

Age 14-24, 5.0%

Age 25-54 70.4%

Age 55+, 24.6%

Data: Emsi | Analysis: Workforce Intelligence Network

33,114 Business and Finance Postings:
1,497 More than in Q3 2018

Bachelor's Degree Required for
Most Business and Finance Jobs

Business and Finance Top Posted Jobs
Q4 2018

Job	Postings
Accountants and Auditors	4,062
Business Operations Specialists, All Other	3,659
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,988
Marketing Managers	2,588
Management Analysts	2,472
Financial Managers	1,937
Insurance Sales Agents	1,913
Market Research Analysts and Marketing Specialists	1,643
Securities, Commodities, and Financial Services Sales Agents	1,485
Human Resources Specialists	1,430
Buyers and Purchasing Agents	1,098
Public Relations Specialists	1,040
Sales Engineers	1,017
Financial Analysts	778
Training and Development Specialists	756
Logisticians	651
Loan Officers	640
Personal Financial Advisors	427
Cost Estimators	397
Public Relations and Fundraising Managers	375

Typical Entry Education
High school diploma or equivalent
Bachelor's degree

Top Posted Jobs:
Q4 2018

Accountants and Auditors was the highest in-demand business and finance occupation during Q4 2018, with 4,062 postings. Business Operations Specialists, All Other remained in high demand with 3,659 postings. Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (2,988 postings), Marketing Managers (2,588 postings), and Management Analysts (2,472 postings) were each in-demand business and finance occupations during Q4 2018.

Data: Emsi
Analysis: Workforce Intelligence Network

High Earning Potential for Marketing Managers

CPA: In-Demand Business and Finance Certification

Business and Finance Wage Overview

Most business and finance related jobs offer high wages, providing 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, Accountants and Auditors, offers median hourly wages of $32.25, translating to annual earnings of approximately $67,000.

Wage Overview for Top Posted Business and Finance Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
13-2011	Accountants and Auditors	$20.76	$25.02	$32.25	$43.66	$57.71
13-1199	Business Operations Specialists, All Other	$18.19	$23.73	$33.01	$44.66	$56.25
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$14.32	$20.30	$29.53	$44.86	$60.83
11-2021	Marketing Managers	$31.41	$42.22	$60.00	$78.56	$109.24
13-1111	Management Analysts	$24.48	$29.50	$37.55	$51.96	$72.83
11-3031	Financial Managers	$33.51	$41.85	$56.68	$75.81	$105.07
41-3021	Insurance Sales Agents	$14.69	$19.17	$26.00	$40.86	$66.08
13-1161	Market Research Analysts and Marketing Specialists	$16.71	$22.82	$30.98	$42.90	$57.30
41-3031	Securities, Commodities, and Financial Services Sales Agents	$15.79	$18.58	$26.29	$40.09	$70.27
13-1071	Human Resources Specialists	$17.90	$22.40	$28.96	$37.84	$48.83

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Accounting
- Auditing
- Selling Techniques
- Business Development
- Financial Statements

In-Demand Foundational Skills
- Management
- Sales
- Communications
- Operations
- Leadership

In-Demand Education Level*
- High School Diploma: 12.2%
- Associate Degree: 4.5%
- Bachelor's Degree: 49.6%
- Master's Degree: 12.2%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
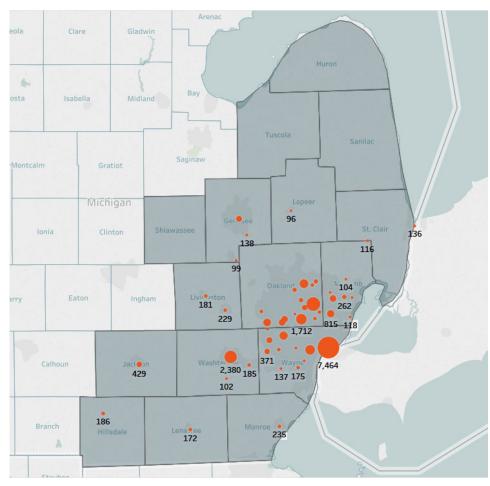
In-Demand Certifications
- Certified Public Accountant
- Series 7 General Securities Representative License (Stockbroker)
- Certified Internal Auditor
- Series 6 Investment Company and Variable Contracts License (Mutual Funds/Variable Annuities)
- Certified Financial Planner

Banks and Financial 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 (Oct 2018–Dec 2018). Details are shown for City.

Top Job Posting Employers*

- Robert Half International Inc.
- Deloitte LLP
- Oracle Corporation
- State Farm Insurance
- Anthem, Inc.
- Intuit Inc.
- Bank of America Corporation
- H&R Block, Inc.
- Virtual Vocations
- Huntington Bancshares Incorporated

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

Job Postings by City

1. Detroit, MI: 7,464 Postings
2. Troy, MI: 2,930 Postings
3. Ann Arbor, MI: 2,380 Postings
4. Southfield, MI: 1,712 Postings
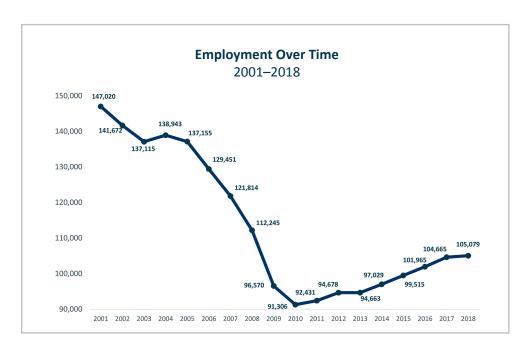5. Dearborn, MI: 1,397 Postings

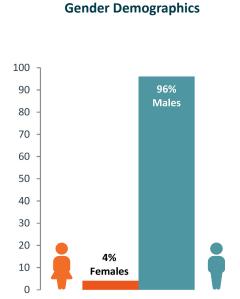# CONSTRUCTION OCCUPATION GROUP
16-County WIN Region | Q4 2018

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.

105,079
Construction Workers
0.4% Increase
from 2017

Employment Over Time
2001–2018

Year	Employment
2001	147,020
2002	141,672
2003	137,115
2004	138,943
2005	137,155
2006	129,451
2007	121,814
2008	112,245
2009	96,570
2010	91,306
2011	92,431
2012	94,678
2013	94,663
2014	97,029
2015	99,515
2016	101,965
2017	104,665
2018	105,079

Population Gender Demographics
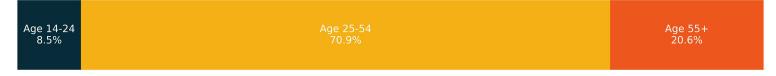

96% Males
4% Females

Construction Worker Demographics

According to the most recent Emsi worker demographic data set available (2018), despite having over 105,000 workers, the workers in the construction occupation group are not very diverse. A large majority of workers are white males between the ages of 25 and 54. Only four percent of workers identified as female, and only 16 percent identified as another race.

Race and Ethnicity Demographics
84.3% White | 7.1% Black or African American | 0.6% Asian
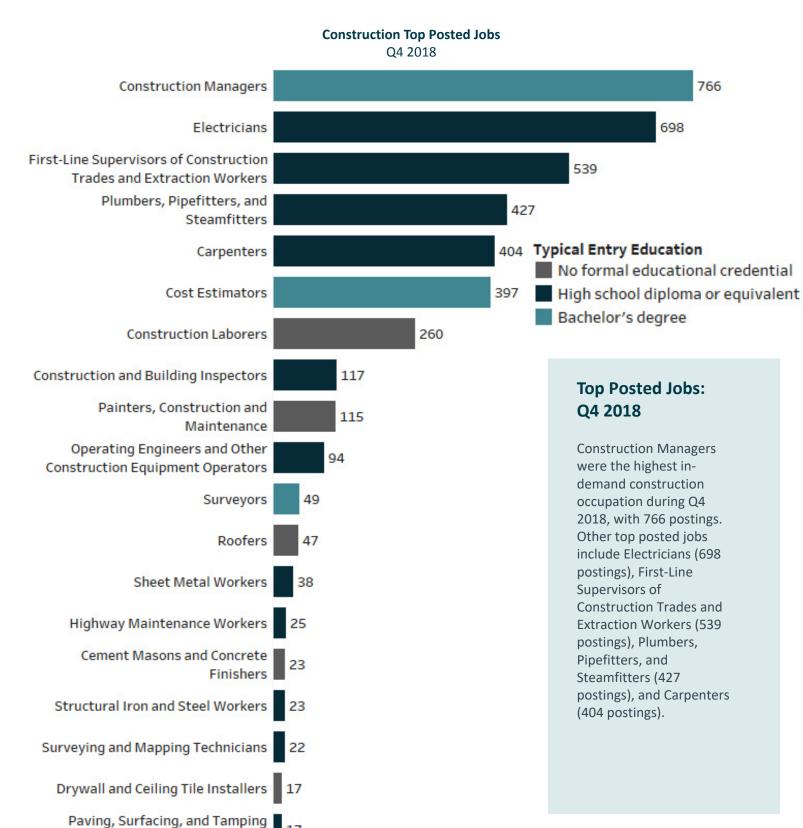
Population Age Demographics

Age 14-24 8.5%	Age 25-54 70.9%	Age 55+ 20.6%

Data: Emsi | Analysis: Workforce Intelligence Network

4,227 Construction Postings: 167 More than in Q3 2018

Vocational Training Required for Most Construction Jobs

Construction Top Posted Jobs
Q4 2018

Job	Postings
Construction Managers	766
Electricians	698
First-Line Supervisors of Construction Trades and Extraction Workers	539
Plumbers, Pipefitters, and Steamfitters	427
Carpenters	404
Cost Estimators	397
Construction Laborers	260
Construction and Building Inspectors	117
Painters, Construction and Maintenance	115
Operating Engineers and Other Construction Equipment Operators	94
Surveyors	49
Roofers	47
Sheet Metal Workers	38
Highway Maintenance Workers	25
Cement Masons and Concrete Finishers	23
Structural Iron and Steel Workers	23
Surveying and Mapping Technicians	22
Drywall and Ceiling Tile Installers	17
Paving, Surfacing, and Tamping Equipment Operators	17
Glaziers	16

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Bachelor's degree

Top Posted Jobs: Q4 2018

Construction Managers were the highest in-demand construction occupation during Q4 2018, with 766 postings. Other top posted jobs include Electricians (698 postings), First-Line Supervisors of Construction Trades and Extraction Workers (539 postings), Plumbers, Pipefitters, and Steamfitters (427 postings), and Carpenters (404 postings).

Data: Emsi
Analysis: Workforce Intelligence Network

High Earning Potential for Plumbers, Pipefitters, and Steamfitters

Professional Engineer: In-Demand Construction Certification

Construction Wage Overview

The top posted construction job, Construction Managers, offers a median wage of $25.08 per hour or $52,000 per year. According to the Bureau of Labor Statistics (BLS), those working in apprentice-able occupations can expect higher wage potential, such as Plumbers, Pipefitters, and Steamfitters reporting a median wage of $32.28 per hour or $67,000 annually.

Wage Overview for Top Posted Construction Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
11-9021	Construction Managers	$13.70	$15.42	$25.08	$46.49	$63.77
47-2111	Electricians	$14.08	$18.01	$29.39	$36.76	$41.83
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$14.69	$19.50	$28.67	$38.33	$48.57
47-2152	Plumbers, Pipefitters, and Steamfitters	$15.83	$22.10	$32.28	$37.17	$40.68
47-2031	Carpenters	$12.90	$14.05	$17.13	$28.05	$35.32
13-1051	Cost Estimators	$16.64	$22.21	$31.21	$41.10	$49.77
47-2061	Construction Laborers	$11.12	$12.54	$14.69	$21.02	$27.22
47-4011	Construction and Building Inspectors	$16.25	$21.50	$27.71	$32.75	$37.71
47-2141	Painters, Construction and Maintenance	$10.60	$12.39	$13.72	$18.02	$25.89
47-2073	Operating Engineers and Other Construction Equipment Operators	$16.21	$19.56	$25.16	$29.67	$33.85

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Construction Management
- Subcontracting
- Carpentry
- Renovation
- Electrical Wirings

In-Demand Foundational Skills
- Construction
- Management
- Operations
- Communications
- Leadership

In-Demand Education Level*
- High School Diploma: 25.5%
- Associate Degree: 6.2%
- Bachelor's Degree: 19.3%
- Master's Degree: 1.6%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
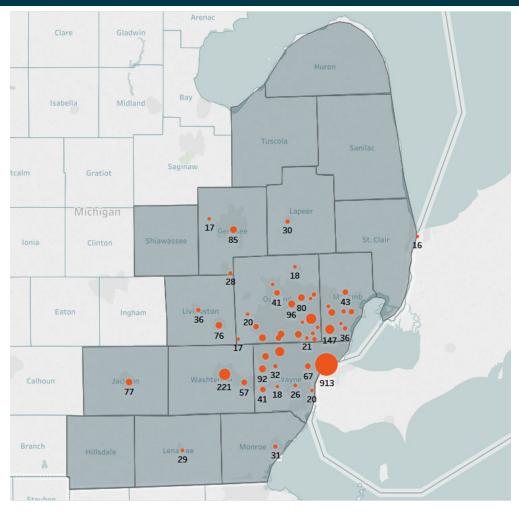
In-Demand Certifications
- Commercial Driver's License (CDL)
- Professional Engineer
- Project Management Professional (PMP) Certification
- ASNT Non-Destructive Tester
- Certified Welding Inspector

Entry-Level Electricians 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 (Oct 2018–Dec 2018). Details are shown for City.

Top Posting Employers*

- Tradesmen International, Inc
- Homeadvisor, Inc.
- Page Michael International Inc
- Cybercoders, Inc.
- Interstate Companies, Inc.
- City of Detroit
- Gw Electric USA Inc
- Mississippi Granite Works
- Walbridge Aldinger LLC
- Industrial Contracting, Inc.

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

Job Postings by City

1. Detroit, MI: 913 Postings
2. Ann Arbor, MI: 221 Postings
3. Troy, MI: 185 Postings
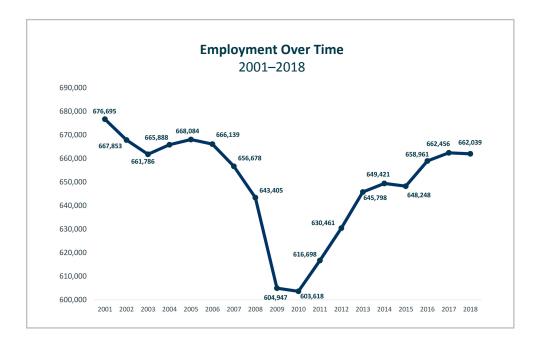4. Livonia, MI: 157 Postings
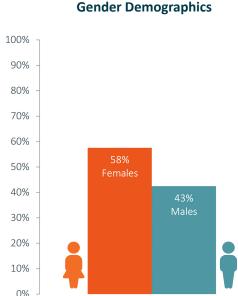5. Warren, MI: 147 Postings

CUSTOMER SERVICE OCCUPATION GROUP
16-County WIN Region | Q4 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

Employment Over Time
2001–2018

Year	Employment
2001	676,695
2002	667,853
2003	661,786
2004	665,888
2005	668,084
2006	666,139
2007	656,678
2008	643,405
2009	604,947
2010	603,618
2011	616,698
2012	630,461
2013	645,798
2014	649,421
2015	648,248
2016	658,961
2017	662,456
2018	662,039

Population Gender Demographics

58% Females

43% Males

Customer Service Worker Demographics

According to the most recent Emsi data set available (2018), having over 662,00 workers, the customer service occupation group is more diverse than other occupation groups. During 2017, 58 percent of workers identified as female. Twenty-seven percent of workers in customer service identified as a racial minority. A quarter of the customer service workers (25 percent) were under the age of 24, a much higher percentage than in other occupation groups analyzed by WIN.

Race and Ethnicity Demographics
73.4% White | 17.2% Black or African American | 2.9% Asian

Population Age Demographics
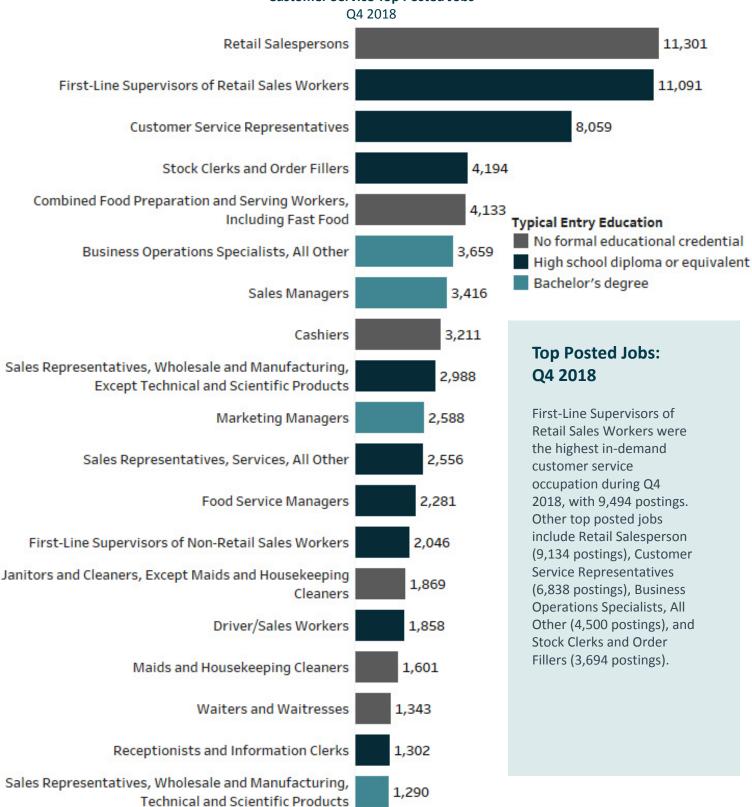
Age 14-24 24.9%	Age 25-54 55.6%	Age 55+ 19.5%

Data: Emsi | Analysis: Workforce Intelligence Network

81,206 Customer Service Postings: 8,513 More than in Q3 2018

High School Diploma Required for Most Customer Service Jobs

Customer Service Top Posted Jobs
Q4 2018

Job	Postings
Retail Salespersons	11,301
First-Line Supervisors of Retail Sales Workers	11,091
Customer Service Representatives	8,059
Stock Clerks and Order Fillers	4,194
Combined Food Preparation and Serving Workers, Including Fast Food	4,133
Business Operations Specialists, All Other	3,659
Sales Managers	3,416
Cashiers	3,211
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,988
Marketing Managers	2,588
Sales Representatives, Services, All Other	2,556
Food Service Managers	2,281
First-Line Supervisors of Non-Retail Sales Workers	2,046
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,869
Driver/Sales Workers	1,858
Maids and Housekeeping Cleaners	1,601
Waiters and Waitresses	1,343
Receptionists and Information Clerks	1,302
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,290
Demonstrators and Product Promoters	1,269

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Bachelor's degree

Top Posted Jobs: Q4 2018

First-Line Supervisors of Retail Sales Workers were the highest in-demand customer service occupation during Q4 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).

Data: Emsi
Analysis: Workforce Intelligence Network

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, Retail Salespersons, offers a median hourly wage of $10.66 or an annual salary of over $22,000.

Wage Overview for Top Posted Customer Service Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
41-2031	Retail Salespersons	$9.06	$9.47	$10.66	$13.83	$18.68
41-1011	First-Line Supervisors of Retail Sales Workers	$11.89	$13.94	$17.48	$23.98	$32.41
43-4051	Customer Service Representatives	$9.90	$12.05	$15.63	$20.41	$26.82
43-5081	Stock Clerks and Order Fillers	$9.16	$9.66	$11.25	$15.02	$18.84
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$9.00	$9.21	$9.52	$10.23	$12.20
13-1199	Business Operations Specialists, All Other	$18.19	$23.73	$33.01	$44.66	$56.25
11-2022	Sales Managers	$32.77	$45.14	$61.72	$78.33	$115.34
41-2011	Cashiers	$9.03	$9.24	$9.84	$11.62	$14.46
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$14.32	$20.30	$29.53	$44.86	$60.83
11-2021	Marketing Managers	$31.41	$42.22	$60.00	$78.56	$109.24

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Merchandising
- Selling Techniques
- Restaurant Operation
- Customer Experience
- Cash Register

In-Demand Foundational Skills
- Sales
- Customer Service
- Management
- Communications
- Operations

In-Demand Education Level*
- High School Diploma: 31.3%
- Associate Degree: 4.3%
- Bachelor's Degree: 16.5%
- Master's Degree: 2.6%

*Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
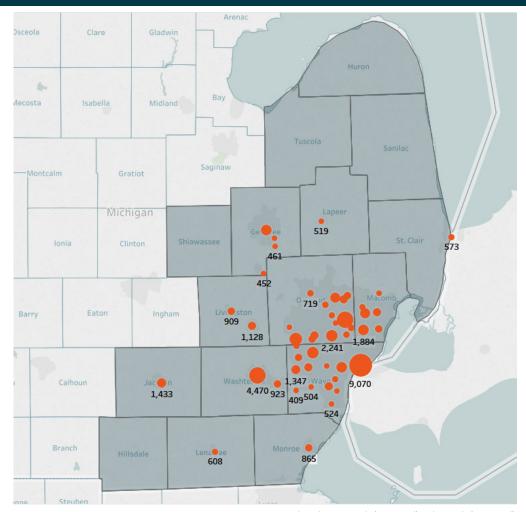
In-Demand Certifications
- Commercial Driver's License (CDL)
- NHA Certified
- CompTIA Security+
- Certified Financial Planner
- Certified Public Accountant

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 (Oct 2018–Dec 2018). Details are shown for City.

Top Posting Employers*

- Shipt LLC
- Dollar General Corporation
- McDonald's Corporation
- The Home Depot Inc
- H&R Block, Inc.
- The Kroger Co
- CVS Health Corporation
- Target Corporation
- Autozone, Inc.
- Walgreens Boots Alliance, Inc.

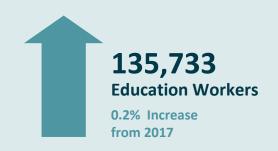*Employer names are listed as they appear in online job postings.*

Job Postings by City

1. Detroit, MI: 9,070 Postings
2. Troy, MI: 4,606 Postings
3. Ann Arbor, MI: 4,470 Postings
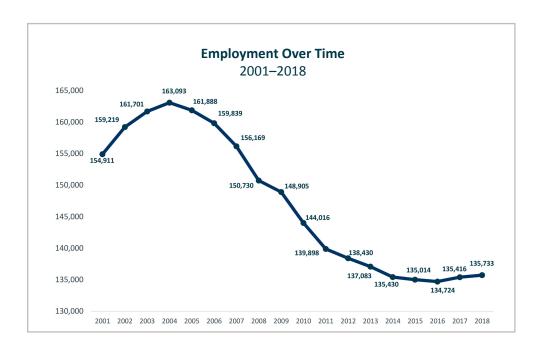4. Novi, MI: 2,705 Postings
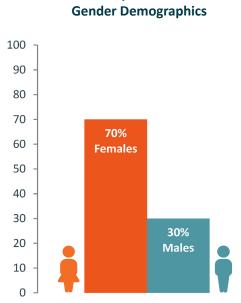5. Livonia, MI: 2,277 Postings

EDUCATION OCCUPATION GROUP
16-County WIN Region | Q4 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.

135,733
Education Workers

0.2% Increase from 2017

Employment Over Time
2001–2018

Year	Employment
2001	154,911
2002	159,219
2003	161,701
2004	163,093
2005	161,888
2006	159,839
2007	156,169
2008	150,730
2009	148,905
2010	144,016
2011	139,898
2012	138,430
2013	137,083
2014	135,430
2015	135,014
2016	134,724
2017	135,416
2018	135,733

Population Gender Demographics

- 70% Females
- 30% Males

Education Worker Demographics

According to the most recent Emsi data set available (2018), among its 135,000 workers, the education occupation group is composed primarily of white females between the ages of25 and 54. Only 30 percent of workers are males, and only 20 percent of workers are of a minority race.

Race and Ethnicity Demographics

79.8% White | 12.1% Black or African American | 3.6% Asian
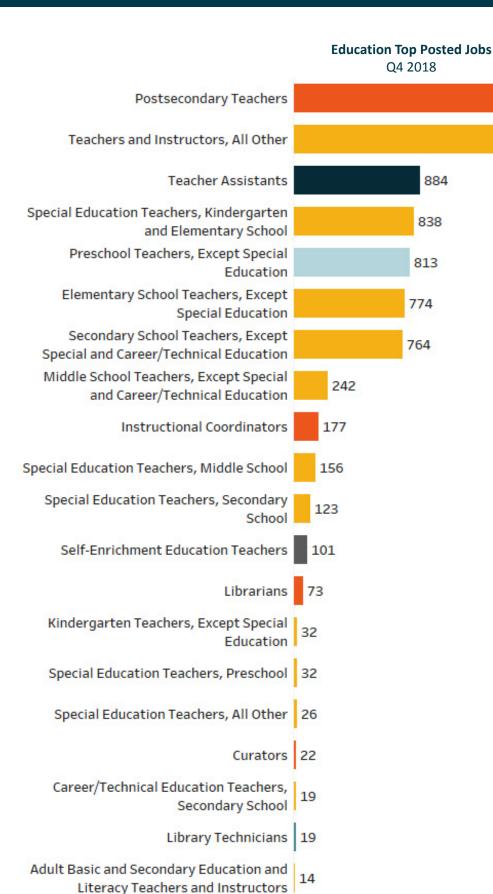
Population Age Demographics

Age 14-24	Age 25-54	Age 55+
9.2%	63.9%	26.9%

Data: Emsi | Analysis: Workforce Intelligence Network

10,004 Education Postings: 1,382 More than in Q3 2018

Bachelor's Degree Required for Most Education Jobs

Education Top Posted Jobs
Q4 2018

Job	Postings
Postsecondary Teachers	2,623
Teachers and Instructors, All Other	2,278
Teacher Assistants	884
Special Education Teachers, Kindergarten and Elementary School	838
Preschool Teachers, Except Special Education	813
Elementary School Teachers, Except Special Education	774
Secondary School Teachers, Except Special and Career/Technical Education	764
Middle School Teachers, Except Special and Career/Technical Education	242
Instructional Coordinators	177
Special Education Teachers, Middle School	156
Special Education Teachers, Secondary School	123
Self-Enrichment Education Teachers	101
Librarians	73
Kindergarten Teachers, Except Special Education	32
Special Education Teachers, Preschool	32
Special Education Teachers, All Other	26
Curators	22
Career/Technical Education Teachers, Secondary School	19
Library Technicians	19
Adult Basic and Secondary Education and Literacy Teachers and Instructors	14

Typical Entry Education
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree
- Bachelor's degree
- Master's or doctoral degree

Top Posted Jobs: Q4 2018

Postsecondary Teachers were the highest in-demand education occupation during Q4 2018, with 2,623 postings. Most of the top jobs in the education occupation group typically require at least a bachelor's degree, but there are many openings for Teaching Assistants and Preschool Teachers, Except Special Education for those without the educational attainment.

Data: Emsi
Analysis: Workforce Intelligence Network

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), half of the top ten posted education jobs offer median wages of over $30 per hour. The top posted job, Postsecondary Teachers, offers a median wage of $32.90 hourly, translating to annual earnings of nearly $69,000.

Wage Overview for Top Posted Education Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
25-1099	Postsecondary Teachers	$14.26	$21.32	$32.90	$48.60	$63.01
25-3097	Teachers and Instructors, All Other	$9.97	$12.45	$18.52	$27.23	$36.88
25-9041	Teacher Assistants	$9.29	$10.20	$12.16	$14.83	$17.89
25-2052	Special Education Teachers, Kindergarten and Elementary School	$18.34	$24.51	$31.74	$38.46	$45.29
25-2011	Preschool Teachers, Except Special Education	$9.53	$10.73	$13.42	$18.82	$24.77
25-2021	Elementary School Teachers, Except Special Education	$17.29	$21.68	$30.76	$39.10	$46.66
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	$17.90	$23.07	$31.68	$39.28	$46.38
25-2022	Middle School Teachers, Except Special and Career/Technical Education	$17.92	$22.75	$31.17	$38.83	$45.43
25-9031	Instructional Coordinators	$16.14	$20.65	$28.62	$36.87	$44.38
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
- Child Development
- Learning Platforms
- Developmental Psychology
- International Education

In-Demand Foundational Skills
- Teaching
- Chinese Language
- Innovation
- Research
- Mentorship

In-Demand Education Level*
- High School Diploma: 15.2%
- Associate Degree: 20.3%
- Bachelor's Degree: 45.7%
- Master's Degree: 8.8%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
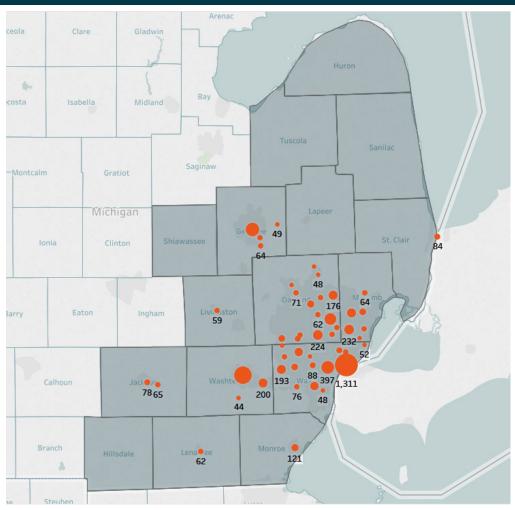
In-Demand Certifications
- NHA Certified
- Certificate in English Language Teaching to Adults (CELTA)
- Medical License
- Advanced Practice Registered Nurse
- CompTIA Security+

Child Care and Health Organizations are Top Employers of Education Workers

Lesson Planning and Child Development Skills are in High Demand

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

Top Posting Employers

- Tutree, Inc.
- Soliant Health, Inc
- Ef Education First, Inc.
- VIP Kidz LLC
- University of Michigan
- Kindercare Learning Centers
- Sunbelt Staffing, LLC
- National Heritage Academies, Inc.
- Virtual Vocations
- Vipride International, LLC

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

Job Postings by City

1. Detroit, MI: 1,311 Postings
2. Ann Arbor, MI: 767 Postings
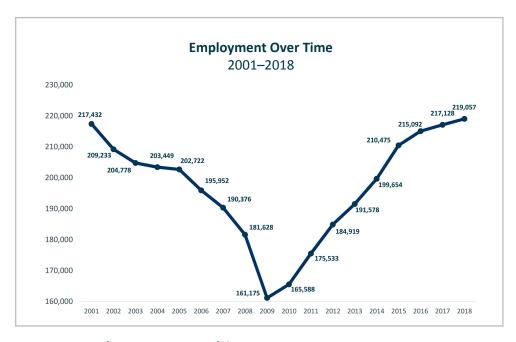3. Flint, MI: 452 Postings
4. Dearborn, MI: 397 Postings
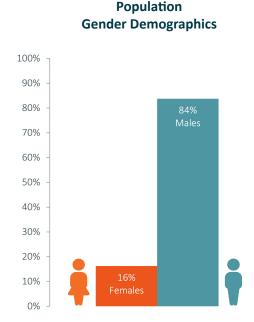5. Troy, MI: 330 Postings

ENERGY OCCUPATION GROUP
16-County WIN Region | Q4 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.

219,057
Energy Workers

0.9% Increase from 2017

Employment Over Time
2001–2018

217,432
209,233
204,778
203,449
202,722
195,952
190,376
181,628
161,175
165,588
175,533
184,919
191,578
199,654
210,475
215,092
217,128
219,057

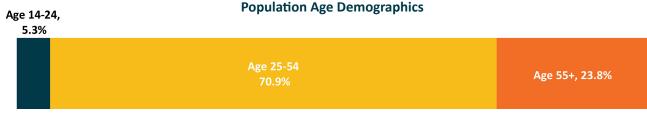### Population Gender Demographics

84% Males

16% Females

Energy Worker Demographics

According to the most recent Emsi data set available (2018), The over 219,057 workers in the energy occupation group are primarily white males between the ages of twenty-five and fifty-four, with 16 percent of workers identifying as female and just 19 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
80.8% White | 9.5% Black or African American | 5.5% Asian

Population Age Demographics

Age 14-24, 5.3%

Age 25-54 70.9%

Age 55+, 23.8%

Data: Emsi | Analysis: Workforce Intelligence Network

**287 Energy Postings:
17 More than in Q3 2018**

**Bachelors Degree Required
for Most Energy Jobs**

Energy Top Posted Jobs
Q4 2018

Job	Postings
Electrical Engineers	49
Industrial Engineers	40
Mechanical Engineers	31
First-Line Supervisors of Construction Trades and Extraction Workers	15
Architectural and Engineering Managers	14
Civil Engineers	14
Managers, All Other	14
Electrical Power-Line Installers and Repairers	13
General and Operations Managers	9
Power Distributors and Dispatchers	9
Telecommunications Equipment Installers and Repairers, Except Line Installers	8
Nuclear Engineers	7
Petroleum Engineers	7
Power Plant Operators	7
Architectural and Civil Drafters	5
Environmental Engineers	5
Civil Engineering Technicians	4
Industrial Engineering Technicians	4
Wind Turbine Service Technicians	4
Industrial Production Managers	3

Typical Entry Education
- High school diploma or equivalent
- Postsecondary nondegree award
- Associate's degree
- Bachelor's degree

Top Posted Jobs:
Q4 2018

Electrical Engineers took the top spot as the highest in-demand energy occupation during Q4 2018, with 49 postings. Industrial Engineers which held the top spot last quarter fell into the second position with 40 postings. Other top posted jobs include Mechanical Engineers (31 postings), First-Line Supervisors of Construction Trades and Extraction Workers (15 postings), and Architectural and Engineering Managers (14 postings).

*Data: Emsi
Analysis: Workforce Intelligence Network*

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), the top posted energy job, Electrical Engineers, offers a median hourly wage of $42.62, or annual earnings of approximately $89,000. Technician and construction-focused positions related to energy 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 Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2071	Electrical Engineers	$28.56	$34.40	$42.62	$51.65	$61.96
17-2112	Industrial Engineers	$30.26	$35.69	$44.19	$53.65	$61.98
17-2141	Mechanical Engineers	$29.26	$35.42	$44.19	$54.54	$63.25
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$14.69	$19.50	$28.67	$38.33	$48.57
11-9041	Architectural and Engineering Managers	$43.57	$52.40	$63.16	$75.82	$89.58
11-9199	Managers, All Other	$13.41	$15.46	$19.80	$46.22	$63.16
17-2051	Civil Engineers	$25.70	$29.96	$36.45	$45.50	$55.71
49-9051	Electrical Power-Line Installers and Repairers	$16.05	$25.89	$36.18	$45.03	$51.54
11-1021	General and Operations Managers	$23.81	$34.60	$52.09	$79.91	$111.85
51-8012	Power Distributors and Dispatchers	$31.47	$35.24	$40.46	$48.07	$56.20

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Customer Satisfaction
- Electrical Engineering
- Engineering Design Process
- Corporate Social Responsibility
- Continuous Improvement Process

In-Demand Foundational Skills
- Operations
- Management
- Communications
- Leadership
- Problem Solving

In-Demand Education Level*
- High School Diploma: 20.7%
- Associate Degree: 8.6%
- Bachelor's Degree: 53.7%
- Master's Degree: 12.9%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
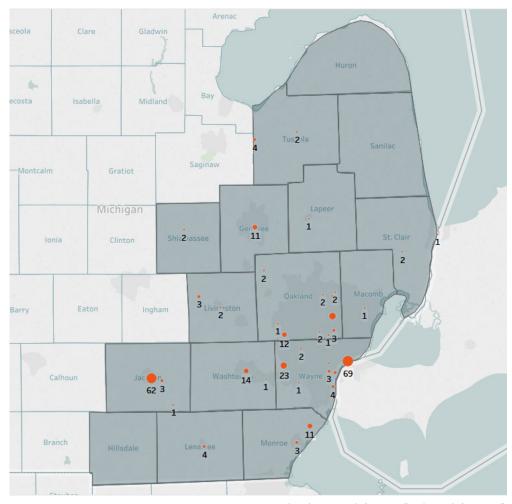
In-Demand Certifications
- Professional Engineer
- Commercial Driver's License (CDL)
- Drug Recognition Expert
- Certification in Clinical Cytogenetics
- Licensed Professional Engineer

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 (Oct 2018–Dec 2018). Details are shown for City.

Top Posting Employers*

- DTE Energy Company
- CMS Energy Corporation
- Lg Electronics
- Schlumberger Limited
- Itc Holdings Corp.
- Henkels & McCoy, Inc.
- Communications Construction Group, LLC
- Nextera Energy, Inc.
- Veolia Energy
- Crossfire, LLC

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

Job Postings by City

1. Detroit, MI: 69 Postings
2. Jackson, MI: 62 Postings
3. Troy, MI: 26 Postings
4. Canton, MI: 23 Postings
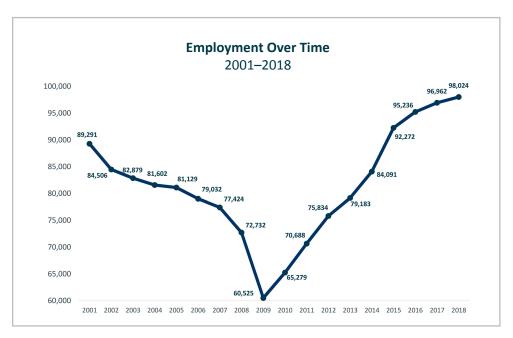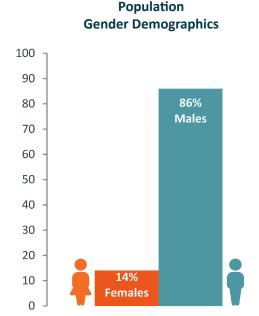5. Ann Arbor, MI: 14 Postings
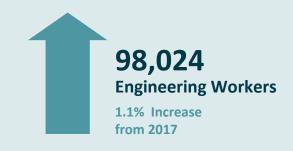
ENGINEERING AND DESIGN OCCUPATION GROUP
16-County WIN Region | Q4 2018

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.

98,024
Engineering Workers

1.1% Increase from 2017

Employment Over Time
2001–2018

Year	Value
2001	89,291
2002	84,506
2003	82,879
2004	81,602
2005	81,129
2006	79,032
2007	77,424
2008	72,732
2009	60,525
2010	65,279
2011	70,688
2012	75,834
2013	79,183
2014	84,091
2015	92,272
2016	95,236
2017	96,962
2018	98,024

Population Gender Demographics
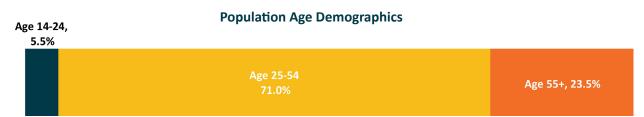
86% Males

14% Females

Engineering and Design Worker Demographics

According to the most recent Emsi data set available (2018), the nearly 98,024 workers in the engineering and design group are not particularly diverse. Under six percent of the related workforce is under 25, likely due to the consistently high educational requirements. Fourteen percent of current workers are female, and only 20 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

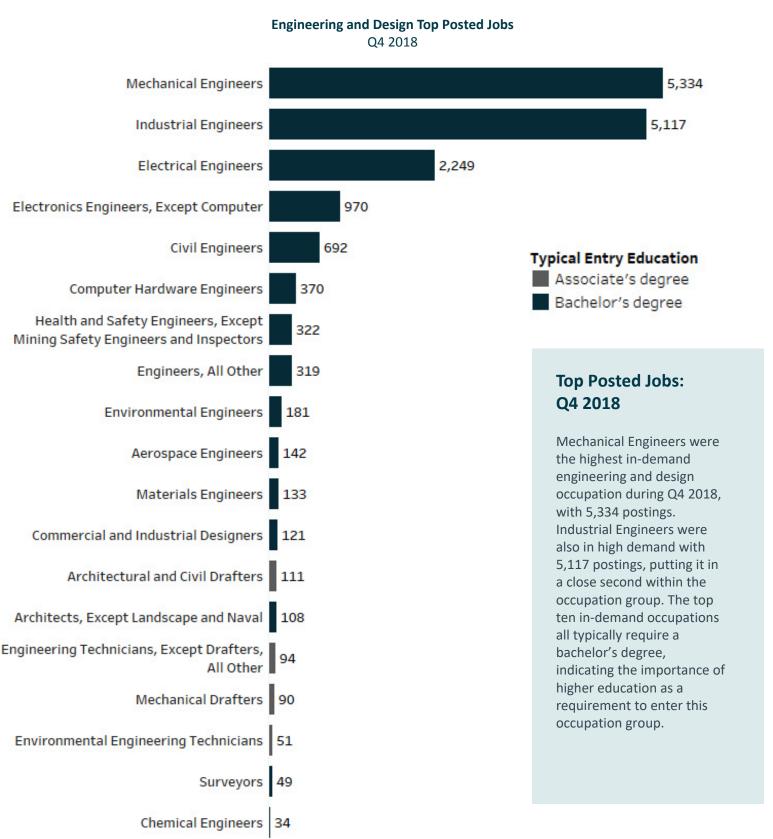**79.7% White | 7.6% Black or African American | 8.9% Asian**

Population Age Demographics

Age 14-24, 5.5%

Age 25-54 71.0%

Age 55+, 23.5%

Data: Emsi | Analysis: Workforce Intelligence Network

16,629 Engineering and Design Postings: 1,047 More than in Q3 2018

Bachelor's Degree Required for Most Engineering and Design Jobs

Engineering and Design Top Posted Jobs
Q4 2018

Occupation	Postings
Mechanical Engineers	5,334
Industrial Engineers	5,117
Electrical Engineers	2,249
Electronics Engineers, Except Computer	970
Civil Engineers	692
Computer Hardware Engineers	370
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	322
Engineers, All Other	319
Environmental Engineers	181
Aerospace Engineers	142
Materials Engineers	133
Commercial and Industrial Designers	121
Architectural and Civil Drafters	111
Architects, Except Landscape and Naval	108
Engineering Technicians, Except Drafters, All Other	94
Mechanical Drafters	90
Environmental Engineering Technicians	51
Surveyors	49
Chemical Engineers	34
Landscape Architects	26

Typical Entry Education
- Associate's degree
- Bachelor's degree

Top Posted Jobs: Q4 2018

Mechanical Engineers were the highest in-demand engineering and design occupation during Q4 2018, with 5,334 postings. Industrial Engineers were also in high demand with 5,117 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.

Data: Emsi
Analysis: Workforce Intelligence Network

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, Mechanical 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 Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2141	Mechanical Engineers	$29.26	$35.42	$44.19	$54.54	$63.25
17-2112	Industrial Engineers	$30.26	$35.69	$44.19	$53.65	$61.98
17-2071	Electrical Engineers	$28.56	$34.40	$42.62	$51.65	$61.96
17-2072	Electronics Engineers, Except Computer	$28.00	$33.48	$40.92	$48.49	$57.71
17-2051	Civil Engineers	$25.70	$29.96	$36.45	$45.50	$55.71
17-2061	Computer Hardware Engineers	$19.59	$28.49	$43.51	$56.19	$64.57
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	$26.35	$28.74	$34.20	$50.33	$60.86
17-2199	Engineers, All Other	$24.10	$34.90	$44.87	$56.26	$66.82
17-2081	Environmental Engineers	$28.95	$35.11	$44.64	$55.77	$65.12
17-2011	Aerospace Engineers	$22.48	$31.44	$37.69	$49.70	$60.29

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Mechanical Engineering
- Electrical Engineering
- Engineering Mathematics
- Engineering Education
- Automotive Industry

In-Demand Foundational Skills
- Management
- Communications
- Operations
- Innovation
- Leadership

In-Demand Education Level*
- High School Diploma: 4.2%
- Associate Degree: 5.6%
- Bachelor's Degree: 68.2%
- Master's Degree: 15.5%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
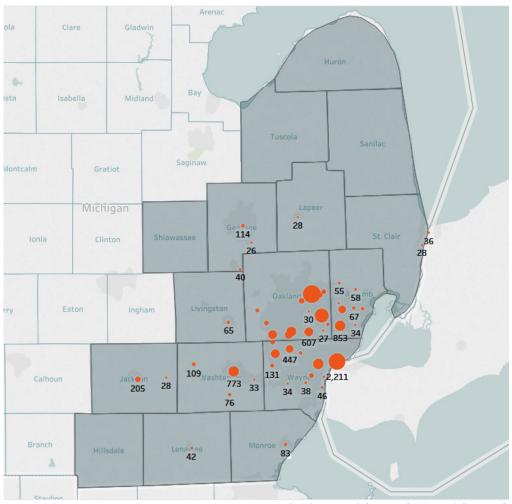
In-Demand Certifications
- Professional Engineer
- Drug Recognition Expert
- Certified Quality Engineer
- Licensed Professional Engineer
- American Society for Quality (ASQ) Certified

Automakers and Manufactures are Top Employers of Engineers

Automotive Industry Knowledge is in High Demand

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

Top Posting Employers*

- FCA US LLC
- General Motors Company
- Endevis, L.L.c
- Gtech Services, Inc
- Ford Motor Company
- ALTAIR ENGINEERING, INC.
- Cybercoders, Inc.
- Wilson, Jeff Chrysler Automobiles, Inc
- American Axle & Manufacturing, Inc.
- Robert Bosch LLC

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

Job Postings by City

1. Auburn Hills, MI: 2,552 Postings
2. Detroit, MI: 2,211 Postings
3. Troy, MI: 1,329 Postings
4. Warren, MI: 967 Postings
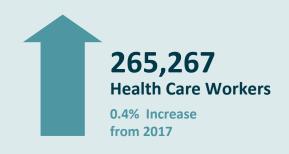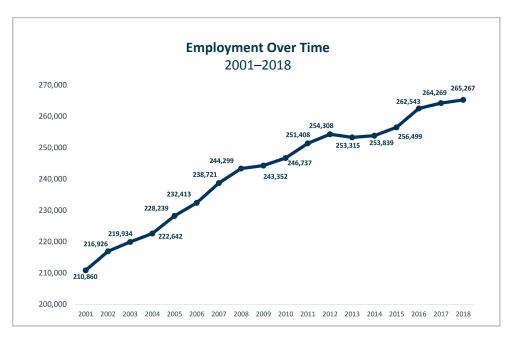5. Dearborn, MI: 710 Postings

HEALTH CARE OCCUPATION GROUP
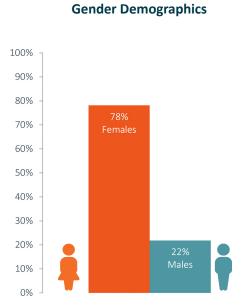## 16-County WIN Region | Q4 2018

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.

265,267
Health Care Workers
0.4% Increase from 2017

Employment Over Time
2001–2018

- 2001: 210,860
- 2002: 216,926
- 2003: 219,934
- 2004: 222,642
- 2005: 228,239
- 2006: 232,413
- 2007: 238,721
- 2008: 244,299
- 2009: 243,352
- 2010: 246,737
- 2011: 251,408
- 2012: 254,308
- 2013: 253,315
- 2014: 253,839
- 2015: 256,499
- 2016: 262,543
- 2017: 264,269
- 2018: 265,267

Population Gender Demographics

78% Females | 22% Males

Health Care Worker Demographics

According to the most recent Emsi data set available (2018), the health care occupation group employs around 265,267 workers, who are primarily female (78 percent) and between the ages of 25 and 54 (70 percent), although 22 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

70.3% White | 19.7% Black or African American | 5.5% Asian

Population Age Demographics

Age 14-24 7.8%	Age 25-54 70.1%	Age 55+ 22.1%

Data: Emsi | Analysis: Workforce Intelligence Network

37,248 Health Care Postings:
5,678 More than in Q3 2018

Bachelor's Degree Required for
High Paying Health Care Jobs

Health Care Top Posted Jobs
Q4 2018

Job	Postings
Registered Nurses	11,908
Pharmacy Technicians	2,239
Nursing Assistants	2,085
Medical and Health Services Managers	1,881
Medical Assistants	1,878
Speech-Language Pathologists	1,316
Licensed Practical and Licensed Vocational Nurses	1,192
Home Health Aides	1,058
Clinical Laboratory Technologists and Technicians	1,004
Physical Therapists	963
Radiologic Technologists	689
Family and General Practitioners	586
Healthcare Support Workers, All Other	551
Pharmacists	540
Physicians and Surgeons, All Other	538
Surgical Technologists	524
Physician Assistants	516
Medical Records and Health Information Technicians	496
Respiratory Therapists	429
Cardiovascular Technologists and Technicians	408

Typical Entry Education
- High school diploma or equivalent
- Postsecondary nondegree award
- Associate's degree
- Bachelor's degree
- Master's or doctoral degree

Top Posted Jobs: Q4 2018

Registered Nurses was the highest in-demand health care occupation during Q4 2018, with 11,908 postings. Other top posted jobs include Pharmacy Technicians (2,239 postings), Nursing Assistants (2,085 postings), Medical and Health Services Managers (1,881 postings), and Medical Assistants (1,878 postings).

Data: Emsi
Analysis: Workforce Intelligence Network

High Earning Potential for Medical and Health Services Managers

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 Q4 2018, offers a median hourly wage of $34.02 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	$25.57	$29.25	$34.02	$38.62	$45.06
29-2052	Pharmacy Technicians	$10.03	$11.80	$14.91	$18.08	$21.30
31-1014	Nursing Assistants	$10.59	$12.26	$14.00	$15.98	$18.24
11-9111	Medical and Health Services Managers	$26.68	$33.78	$46.10	$61.87	$89.69
31-9092	Medical Assistants	$11.66	$12.95	$14.75	$17.15	$19.25
29-1127	Speech-Language Pathologists	$26.29	$31.13	$37.27	$44.85	$52.90
29-2061	Licensed Practical and Licensed Vocational Nurses	$19.52	$21.65	$24.79	$28.03	$30.19
31-1011	Home Health Aides	$9.05	$9.47	$10.52	$12.14	$14.22
29-2018	Clinical Laboratory Technologists and Technicians	$15.31	$22.55	$30.41	$40.74	$64.95
29-1123	Physical Therapists	$29.23	$34.49	$42.03	$48.45	$59.67

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
- Leadership
- Communications
- Cardiopulmonary Resuscitation
- Research

In-Demand Education Level*
- High School Diploma: 23.7%
- Associate Degree: 20.9%
- Bachelor's Degree: 24.7%
- Master's Degree: 9.3%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
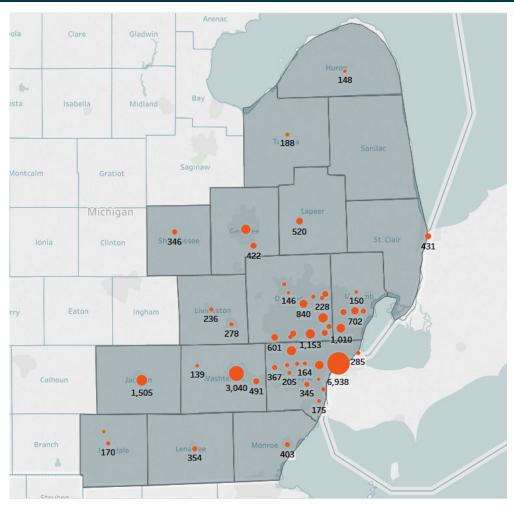
In-Demand Certifications
- Licensed Practical Nurse
- Certified Nursing Assistant
- Nurse Practitioner
- Patient Care Technician
- CompTIA Security+

Hospitals and Pharmacies were Top Employers of Health Care Workers

Nursing and Management Skills are in High Demand

Huron 148

188

Shiawassee 346

Genesee

422

Lapeer 520

St. Clair 431

146   228   Macomb 150
840   702

601   1,153   1,010

Livingston 236

278

139   Washtenaw   367   164   285
3,040   491   205   6,938
345
175

Jackson
1,505

170   Lenawee 354   Monroe 403

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

Top Posting Employers*

- Henry Ford Health System
- William Beaumont Hospital
- Ascension Health
- University of Michigan
- CVS Health Corporation
- Tenet Healthcare Corporation
- Trinity Health Corporation
- Manor Care, Inc.
- Sunbelt Staffing, LLC
- Soliant Health, Inc

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

Job Postings by City

1. Detroit, MI: 6,938 Postings
2. Ann Arbor, MI: 3,040 Postings
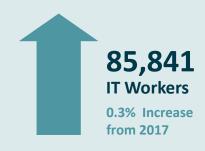3. Jackson, MI: 1,505 Postings
4. Flint, MI: 1,220 Postings
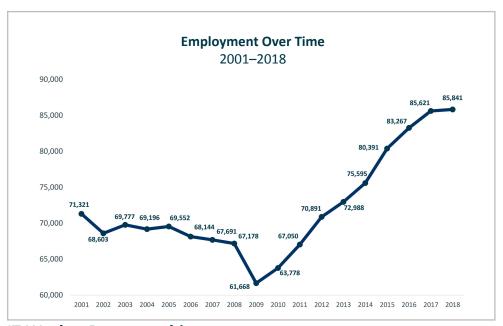5. Troy, MI: 1,171 Postings

INFORMATION TECHNOLOGY (IT) OCCUPATION GROUP
16-County WIN Region | Q4 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.

85,841
IT Workers

0.3% Increase from 2017

Employment Over Time
2001–2018

Year	Value
2001	71,321
2002	68,603
2003	69,777
2004	69,196
2005	69,552
2006	68,144
2007	67,691
2008	67,178
2009	61,668
2010	63,778
2011	67,050
2012	70,891
2013	72,988
2014	75,595
2015	80,391
2016	83,267
2017	85,621
2018	85,841

Population Gender Demographics
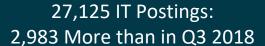
74% Males

26% Females

IT Worker Demographics

According to the most recent Emsi data set available (2018), despite having over 85,000 workers, the IT occupation group is not very diverse. A large majority of workers are white males between the ages of 25 and 54. Currently, 74 percent of the workers in IT in southeast Michigan 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
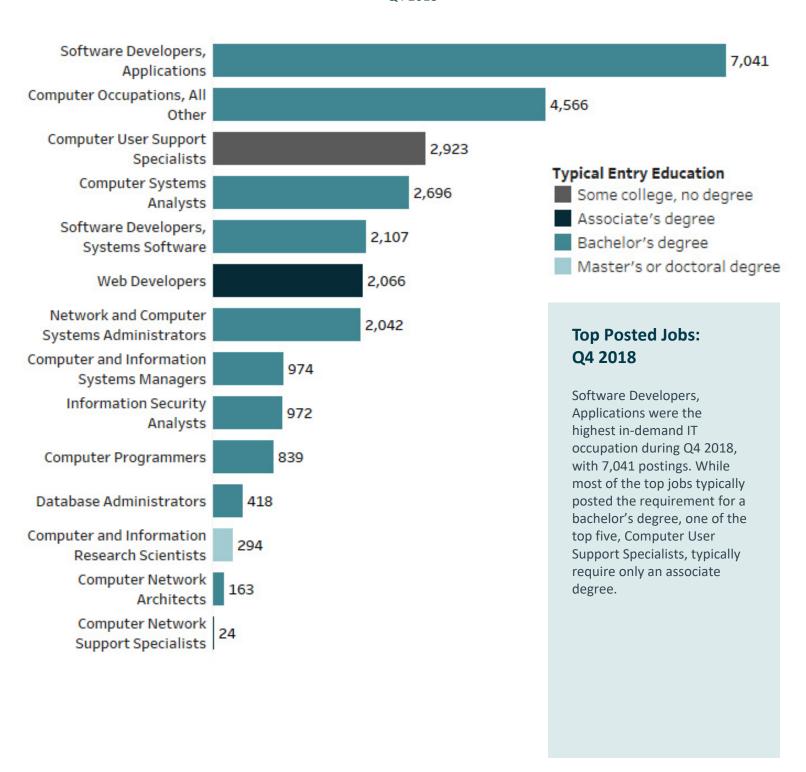
68.8% White | 10.4% Black or African American | 16.9% Asian

Population Age Demographics

Age 14-24, 5.6%

Age 25-54 79.0%

Age 55+, 15.4%

Data: Emsi | Analysis: Workforce Intelligence Network

27,125 IT Postings:
2,983 More than in Q3 2018

Bachelors Degree
Required for Most IT Jobs

Information Technology Top Posted Jobs
Q4 2018

Occupation	Postings
Software Developers, Applications	7,041
Computer Occupations, All Other	4,566
Computer User Support Specialists	2,923
Computer Systems Analysts	2,696
Software Developers, Systems Software	2,107
Web Developers	2,066
Network and Computer Systems Administrators	2,042
Computer and Information Systems Managers	974
Information Security Analysts	972
Computer Programmers	839
Database Administrators	418
Computer and Information Research Scientists	294
Computer Network Architects	163
Computer Network Support Specialists	24

Typical Entry Education
- Some college, no degree
- Associate's degree
- Bachelor's degree
- Master's or doctoral degree

Top Posted Jobs:
Q4 2018

Software Developers, Applications were the highest in-demand IT occupation during Q4 2018, with 7,041 postings. While most of the top jobs typically posted the requirement for a bachelor's degree, one of the top five, Computer User Support Specialists, typically require only an associate degree.

Data: Emsi
Analysis: Workforce Intelligence Network

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 Q4 2018, offers a median hourly wage of $43.86 per hour or over $91,000 per year according to the Bureau of Labor Statistics (BLS).

Wage Overview for Top Posted IT Jobs in Q4 2018

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	$27.35	$34.35	$43.86	$54.65	$64.11
15-1199	Computer Occupations, All Other	$20.23	$25.44	$36.54	$48.88	$59.61
15-1151	Computer User Support Specialists	$13.70	$17.28	$23.11	$29.77	$38.21
15-1121	Computer Systems Analysts	$24.99	$31.08	$40.47	$49.67	$60.12
15-1133	Software Developers, Systems Software	$24.57	$32.53	$42.42	$52.44	$62.60
15-1134	Web Developers	$15.30	$18.14	$27.14	$37.35	$46.44
15-1142	Network and Computer Systems Administrators	$24.79	$30.34	$38.14	$47.25	$56.08
11-3021	Computer and Information Systems Managers	$39.27	$49.55	$61.82	$76.26	$95.03
15-1122	Information Security Analysts	$28.42	$34.26	$45.36	$57.04	$66.97
15-1131	Computer Programmers	$21.30	$25.89	$33.28	$41.56	$49.12

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- SQL
- Java
- Software Engineering
- Agile Software Development
- Software Development

In-Demand Foundational Skills
- Management
- Communications
- Integration
- Operations
- Information Technology

In-Demand Education Level*
- High School Diploma: 4.7%
- Associate Degree: 3.9%
- Bachelor's Degree: 57.9%
- Master's Degree: 14.1%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
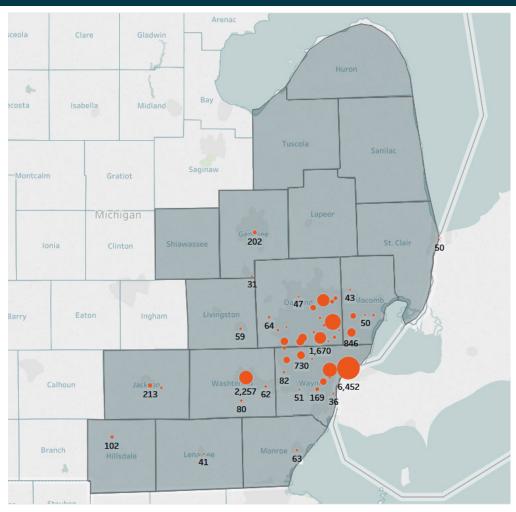
In-Demand Certifications
- Certified Information Systems Security Professional
- Microsoft Certified Professional
- Cisco Certified Network Associate
- Certified Information Security Manager
- Microsoft Certified Systems Engineer

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 Oct 2018–Dec 2018). Details are shown for City.

Top Posting Employers*

- Oracle Corporation
- Ford Motor Company
- Virtual Vocations
- Teksystems, Inc.
- General Motors Company
- Deloitte LLP
- Msx International, Inc.
- Anthem, Inc.
- Cybercoders, Inc.
- Quicken Loans Inc.

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

Job Postings by City

1. Detroit, MI: 6,452 Postings
2. Troy, MI: 3,112 Postings
3. Dearborn, MI: 2,426 Postings
4. Ann Arbor, MI: 2,257 Postings
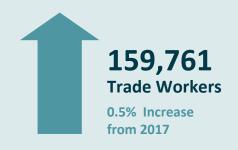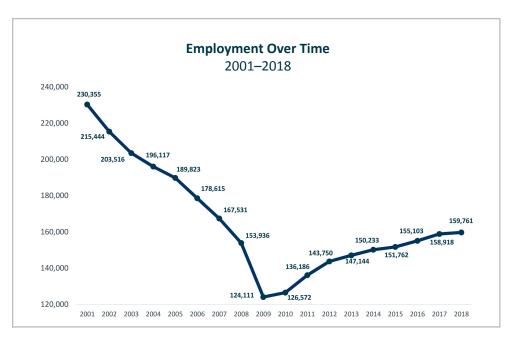5. Auburn Hills, MI: 1,871 Postings

SKILLED TRADES AND TECHNICIANS (MANUFACTURING) OCCUPATION GROUP
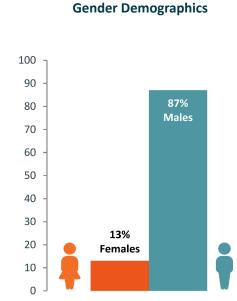## 16-County WIN Region | Q4 2018

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.

159,761
Trade Workers
0.5% Increase from 2017

Employment Over Time
2001–2018

Year	Employment
2001	230,355
2002	215,444
2003	203,516
2004	196,117
2005	189,823
2006	178,615
2007	167,531
2008	153,936
2009	124,111
2010	126,572
2011	136,186
2012	143,750
2013	147,144
2014	150,233
2015	151,762
2016	155,103
2017	158,918
2018	159,761

Population Gender Demographics

87% Males
13% Females

Skilled Trades and Technicians Worker Demographics

According to the most recent Emsi data set available (2018), the skilled trades occupation group employs about 160,000 workers in southeast Michigan. A majority of skilled trades workers are white males between the ages of 25 and 54. Additional outreach may be necessary in the near future, as at 25.8 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
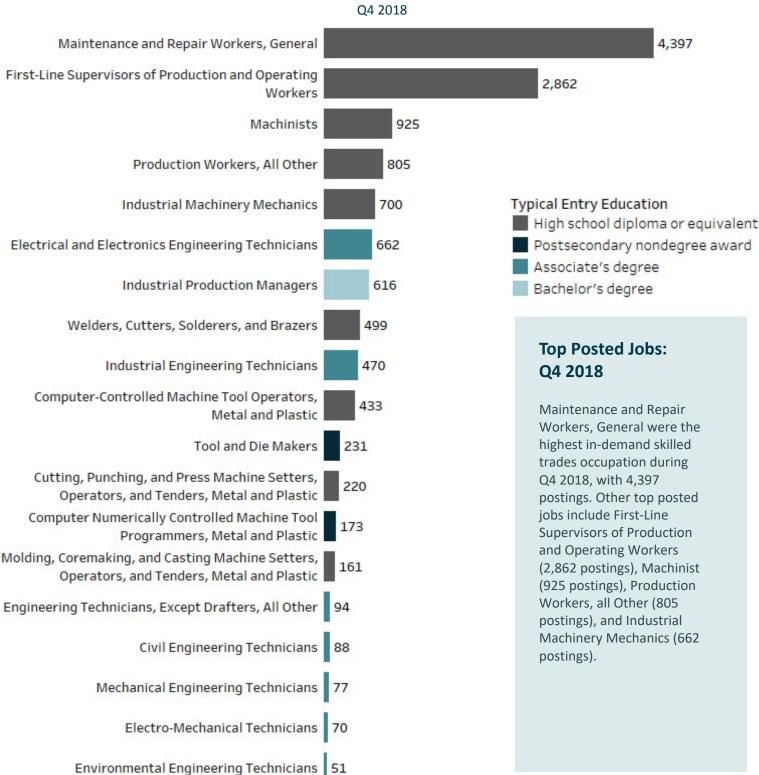
Population Age Demographics

| Age 14-24 6.8% | Age 25-54 67.5% | Age 55+ 25.8% |

Data: Emsi | Analysis: Workforce Intelligence Network

13,913 Skilled Trades Postings:
801 More than in Q3 2018

Vocational Training Required
for Most Skilled Trades Jobs

Skilled Trades and Technicians Top Posted Jobs
Q4 2018

Job	Postings
Maintenance and Repair Workers, General	4,397
First-Line Supervisors of Production and Operating Workers	2,862
Machinists	925
Production Workers, All Other	805
Industrial Machinery Mechanics	700
Electrical and Electronics Engineering Technicians	662
Industrial Production Managers	616
Welders, Cutters, Solderers, and Brazers	499
Industrial Engineering Technicians	470
Computer-Controlled Machine Tool Operators, Metal and Plastic	433
Tool and Die Makers	231
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	220
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	173
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	161
Engineering Technicians, Except Drafters, All Other	94
Civil Engineering Technicians	88
Mechanical Engineering Technicians	77
Electro-Mechanical Technicians	70
Environmental Engineering Technicians	51
Sheet Metal Workers	38

Typical Entry Education
- High school diploma or equivalent
- Postsecondary nondegree award
- Associate's degree
- Bachelor's degree

Top Posted Jobs: Q4 2018

Maintenance and Repair Workers, General were the highest in-demand skilled trades occupation during Q4 2018, with 4,397 postings. Other top posted jobs include First-Line Supervisors of Production and Operating Workers (2,862 postings), Machinist (925 postings), Production Workers, all Other (805 postings), and Industrial Machinery Mechanics (662 postings).

Data: Emsi
Analysis: Workforce Intelligence Network

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 Q4 2018, offers a median hourly wage of $17.00, which translates to an annual salary of nearly $35,000.

Wage Overview for Top Posted Skilled Trades and Technicians Jobs in Q4 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	$10.35	$12.90	$17.00	$22.78	$28.65
51-1011	First-Line Supervisors of Production and Operating Workers	$18.32	$23.46	$31.41	$41.14	$51.04
51-4041	Machinists	$12.24	$15.29	$19.94	$25.20	$29.74
51-9199	Production Workers, All Other	$10.41	$14.70	$18.16	$22.21	$26.47
49-9041	Industrial Machinery Mechanics	$16.33	$20.61	$26.11	$32.04	$37.50
17-3023	Electrical and Electronics Engineering Technicians	$16.76	$21.70	$28.88	$34.68	$40.35
11-3051	Industrial Production Managers	$34.05	$43.44	$56.03	$71.07	$87.14
51-4121	Welders, Cutters, Solderers, and Brazers	$12.99	$15.16	$18.12	$22.36	$27.51
17-3026	Industrial Engineering Technicians	$16.73	$20.01	$25.35	$32.28	$38.92
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	$12.31	$14.48	$19.12	$23.87	$28.45

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- HVAC
- Continuous Improvement Process
- Machining
- Plumbing
- Lathe Experience

In-Demand Foundational Skills
- Management
- Operations
- Troubleshooting (Problem Solving)
- Communications
- Leadership

In-Demand Education Level*
- High School Diploma: 40.0%
- Associate Degree: 9.7%
- Bachelor's Degree: 13.7%
- Master's Degree: 1.6%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
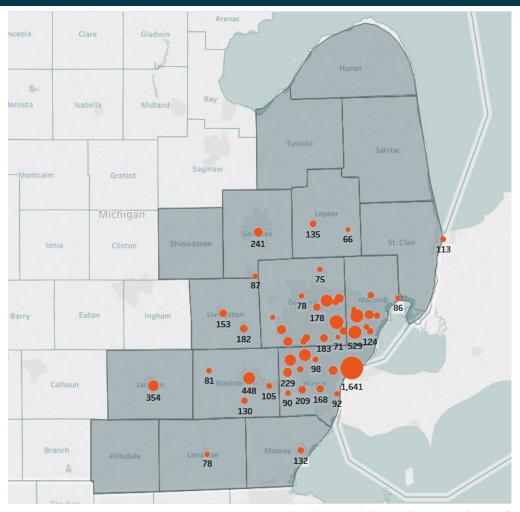
In-Demand Certifications
- Commercial Driver's License (CDL)
- Certified Quality Engineer
- American Society for Quality (ASQ) Certified
- Operator Certification
- Certified Quality Manager

Staffing Agencies and Manufacturers: Top Employers of Skilled Trades Workers

HVAC and Management Skills are in High Demand

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

Top Posting Employers*

- McDonald's Corporation
- Kelly Services, Inc.
- Express Services Inc
- Shipt LLC
- Aerotek, Inc.
- Nesco Resource
- FCA US LLC
- The Home Depot Inc
- Trillium Staffing
- Start

Employer names are listed as they appear in online job postings.
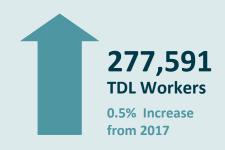
Job Postings by City

1. Detroit, MI: 1,641 Postings
2. Warren, MI: 600 Postings
3. Troy, MI: 529 Postings
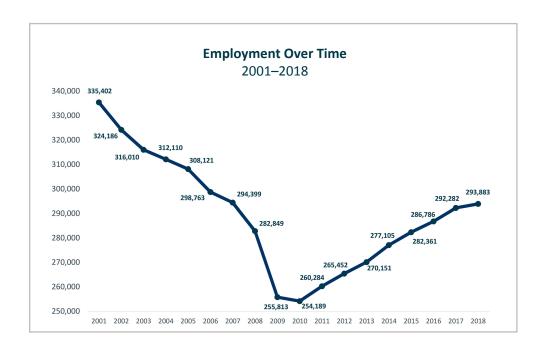4. Sterling Heights, MI: 500 Postings
5. Auburn Hills, MI: 448 Postings

TRANSPORTATION, DISTRIBUTION, AND LOGISTICS (TDL) OCCUPATION GROUP
16-County WIN Region | Q4 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

Employment Over Time
2001–2018

- 2001: 335,402
- 2002: 324,186
- 2003: 316,010
- 2004: 312,110
- 2005: 308,121
- 2006: 298,763
- 2007: 294,399
- 2008: 282,849
- 2009: 255,813
- 2010: 254,189
- 2011: 260,284
- 2012: 265,452
- 2013: 270,151
- 2014: 277,105
- 2015: 282,361
- 2016: 286,786
- 2017: 292,282
- 2018: 293,883

Population Gender Demographics

26% Females

74% Males

TDL Worker Demographics

According to the most recent Emsi data set available (2018), the TDL occupation group has a large workforce, employing 293,883 individuals. These workers are 74 percent male and 72 percent white. Only 12 percent of the workers in this occupation group are under the age of 24, indicating an aging TDL workforce.

Race and Ethnicity Demographics

72.2% White | 19.5% Black or African American | 2.2% Asian

Population Age Demographics

Age 14-24 12.3%	Age 25-54 64.2%	Age 55+ 23.6%

Data: Emsi | Analysis: Workforce Intelligence Network

67,827 TDL Postings:
1,963 More than in Q3 2018
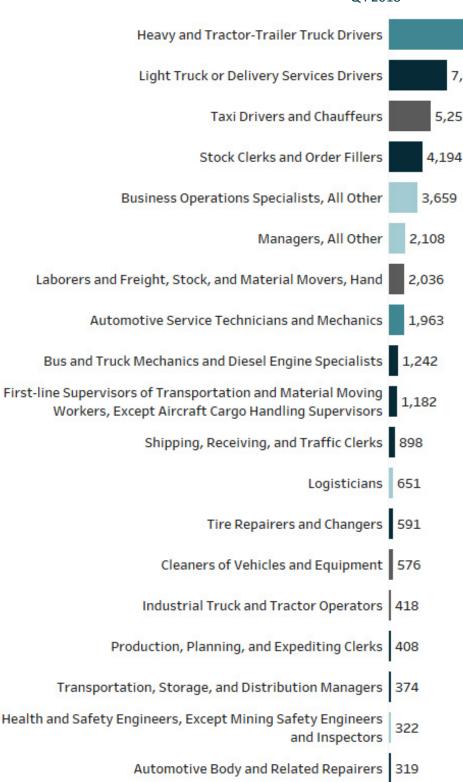
High School Diploma
Required for Most TDL Jobs

TDL Top Posted Jobs
Q4 2018

Job	Postings
Heavy and Tractor-Trailer Truck Drivers	32,743
Light Truck or Delivery Services Drivers	7,268
Taxi Drivers and Chauffeurs	5,252
Stock Clerks and Order Fillers	4,194
Business Operations Specialists, All Other	3,659
Managers, All Other	2,108
Laborers and Freight, Stock, and Material Movers, Hand	2,036
Automotive Service Technicians and Mechanics	1,963
Bus and Truck Mechanics and Diesel Engine Specialists	1,242
First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	1,182
Shipping, Receiving, and Traffic Clerks	898
Logisticians	651
Tire Repairers and Changers	591
Cleaners of Vehicles and Equipment	576
Industrial Truck and Tractor Operators	418
Production, Planning, and Expediting Clerks	408
Transportation, Storage, and Distribution Managers	374
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	322
Automotive Body and Related Repairers	319
Bus Drivers, School or Special Client	239

Typical Entry Education
- No formal educational credential
- High school diploma or equivalent
- Postsecondary nondegree award
- Bachelor's degree

Top Posted Jobs: Q4 2018

Heavy and Tractor-Trailer Truck Drivers were the highest in-demand TDL occupation during Q4 2018, with 32,743 postings. Other top posted jobs include Light Truck or Delivery Services Drivers (7,268 postings), Taxi Drivers and Chauffeurs (5,252 postings), Stock Clerks and Order Fillers (4,194 postings), and Business Operations Specialists, All Other (3,659 postings).

Data: Emsi
Analysis: Workforce Intelligence Network

High Earning Potential for
Managers, All Other

CDL: Most In-Demand
TDL Certification

TDL Wage Overview

According to the Bureau of Labor Statistics (BLS), three 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 Q4 2018, offers a median hourly wage of $18.59, 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 Q4 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	$12.92	$15.56	$18.59	$22.94	$27.93
53-3033	Light Truck or Delivery Services Drivers	$9.57	$11.43	$15.48	$21.39	$28.10
53-3041	Taxi Drivers and Chauffeurs	$8.11	$8.93	$9.77	$12.09	$15.82
43-5081	Stock Clerks and Order Fillers	$9.16	$9.66	$11.25	$15.02	$18.84
13-1199	Business Operations Specialists, All Other	$18.19	$23.73	$33.01	$44.66	$56.25
11-9199	Managers, All Other	$13.41	$15.46	$19.80	$46.22	$63.16
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$9.60	$11.01	$13.63	$17.04	$20.66
49-3023	Automotive Service Technicians and Mechanics	$9.70	$11.26	$17.72	$26.83	$32.42
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	$14.47	$17.55	$21.45	$25.92	$30.92
53-1048	First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	$14.98	$19.33	$25.58	$33.91	$40.89

Data: Emsi, BLS | Analysis: Workforce Intelligence Network

In-Demand Technical Skills
- Warehousing
- Truckload Shipping
- Merchandising
- Capital Markets
- Purchasing

In-Demand Foundational Skills
- Management
- Operations
- Customer Service
- Communications
- Driving

In-Demand Education Level*
- High School Diploma: 13.2%
- Associate Degree: 1.2%
- Bachelor's Degree: 5.8%
- Master's Degree: 1.7%

Not all job postings indicate the required educational attainment level, therefore the percentages found here may not add up to 100 percent
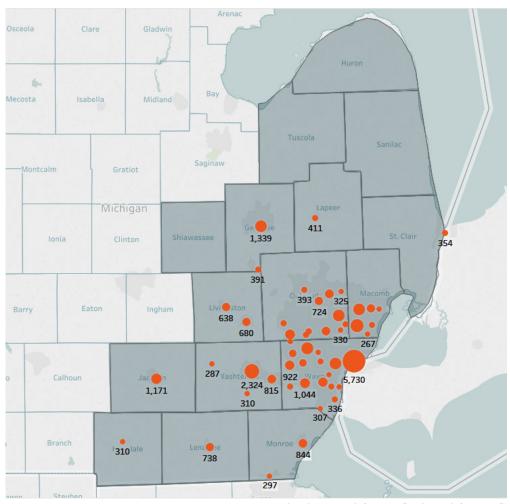
In-Demand Certifications
- Commercial Driver's License (CDL)
- Transportation Worker Identification Credential (TWIC) Card
- PMI/PMP Certified
- Certified Benefits Professional
- Certified Power Quality Professional

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

Truckload Shipping Skills are in High Demand

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

Top Posting Employers*

- CRST International, Inc.
- Uber Technologies, Inc.
- J.B. Hunt Transport Services, Inc.
- Lyft, Inc.
- C.R. England, Inc.
- USA Truck, Inc.
- Roehl Transport, Inc.
- U. S. Xpress, Inc.
- Shipt LLC
- Schneider National, Inc.

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

Job Postings by City

1. Detroit, MI: 5,730 Postings
2. Ann Arbor, MI: 2,324 Postings
3. Warren, MI: 1,870 Postings
4. Livonia, MI: 1,567 Postings
5. Troy, MI: 1,490 Postings

Website
www.WINintelligence.org

Email
info@WINintelligence.org

Phone
313.744.2946

Address
25363 Eureka Road
Taylor, MI 48180

Facebook
@workforceintelligencenetwork

Twitter
@WIN-semich

WIN WORKFORCE
INTELLIGENCE
NETWORK