

SOUTHEAST MICHIGAN

WIN Labor Market Report





Introduction: Southeast Michigan (WIN 16-County Region)

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 WIN Region as a whole with special sections devoted to 11 occupational groups. WIN's analysis of online job postings, a proxy for employer demand, is a pioneering method for tracking the health of the labor market.

Occupational groups include:

- Agriculture (page 7)
- Business & Finance (page 12)
- Construction (page 19)
- Customer service (formerly retail & hospitality) (page 25)
- Education (page 31)
- Energy (page 37)
- Engineers & designers (manufacturing focused) (page 43)
- Health care (page 49)
- Information technology (page 55)
- Skilled trades & technicians (manufacturing focused) (page 61)
- Transportation, distribution, and logistics (TDL) (page 67)

Data analyzed includes:

- Employer demand
- Top posting jobs
- In-demand credentials, degrees, and skills
- Educational attainment required
- Wages offered in job postings
- Employment
- Unemployment
- Labor force

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

Quarter four of 2017 (Q4 2017, October through December) concludes another year of economic growth as the economy continues to emerge from the recent great recession. Since 2010, when the recession was at its deepest (the trough), the WIN 16-county region recovered 282,261 jobs. In 2017, the total number of jobs held reached 2.66 million workers annually.

Fourth quarter postings are typically lower than third quarter postings any given year. Job postings in Q4 2017 fell by 19 percent between quarters decreasing by 29,557 postings. This is the first time postings fell at this magnitude since a 27 percent drop between Q3 2012 and Q4 2012. However, postings have remained relatively high over the past seven years, with postings increasing nearly three times between Q4 2011 and Q4 2017.

During 2017, the Labor force and Employment numbers hit new eight year high points. The annual Labor Force grew by 28,517 individuals, reaching 2.78 million individuals. Alongside this growth, 50,371 more workers were employed during 2017 in the region boosting employment to 2.66 million workers. With the annual increase in employment being greater than the annual increase in the Labor Force, the number of unemployed individuals fell in the region. A total of 120 individuals identified as unemployed in 2017. Unemployment hit it's lowest point annual point, dropping to 4.3% during 2017. This is a drop of 9.1 percentage points from the 2010 unemployment rate of 13.4%.

While there was a large drop in postings from last quarter, Q4 2017 highlighted typical trends in the labor market. Typically the last quarter of the year is followed by an increase in postings moving into the first quarter of the year, allowing employment to rise throughout the next year. Overall the greater southeast Michigan area is poised to continue to see a strengthening Labor Market.



Introduction: Southeast Michigan (WIN 16-County Region)

Key Findings for Q4 2017

Total online job postings declined by nearly 30,000 advertisements between Q3 and Q4 2017 in the greater southeast Michigan area.

From Q3 to Q4 2017, employer demand decreased by 19 percent to 129,634 online job postings. Online job postings typically decline between Q3 and Q4 in any given year, but the 19 percent decline that occurred in 2017 was the highest recorded since 2012 (-27 percent). See page 4 for more details.

Registered Nurses remains the most in-demand job despite slight drop in online advertisements during Q4 2017.

Registered Nurses remains the top in-demand job for the fourth straight quarter. Employer postings dropped between quarters from 7,774 job ads in Q3 2017 to 7,280 ads in Q4 2017. Despite the small drop in postings there were over 2,500 more postings than the 4,743 ads posted for Retail Salespersons, the second most posted job. Postings for Software Developers, Applications, were also notably high, with 4,548 postings. See page 5 for more details.

Nearly 33,000 job postings advertise opportunities for entry-level workers.

During Q4 2017, there were a total of 32,892 postings open to workers with little to no work experience (zero to two years). The volume of these entry-level postings indicates great mobility in the greater southeastern Michigan labor market, providing opportunities for workers to move into positions without much prior experience. Educational requirements were more evenly split, with 33,731 job ads seeking workers with high school or vocational training and 35,302 postings seeking a bachelor's degree.

The unemployment rate dropped during the most recent quarter, falling 0.5 percent between Q3 2017 and Q4 2017.

The number of unemployed people in greater southeastern Michigan during Q4 2017 decreased by 14,502 individuals, bringing the unemployment rate down to 4.1%. This drop served as a milestone in the annual unemployment rate which dropped to 4.3% during 2017. Since 2010, the unemployment rate has dropped by 9.1 percentage points from 13.4% to 4.3% in 2017. See page 4 for more details.

The Customer Service occupation group reported the largest number of online job postings, smallest decline during Q4 2017.

During Q4 2017, there were a total of 35,266 online job postings related to Customer Service occupations. While most occupation groups reported large declines in the number of postings, there was a drop of only 327 postings between Q3 2017 and Q4 2017 for Customer Service Occupations. Retail Salespersons, and Sales Representatives, Wholesales and Manufacturing, Except Technical and Scientific Products were both within the top five posted occupations during Q4 2017, accounting for over 8,000 postings. See page 25 for more details.

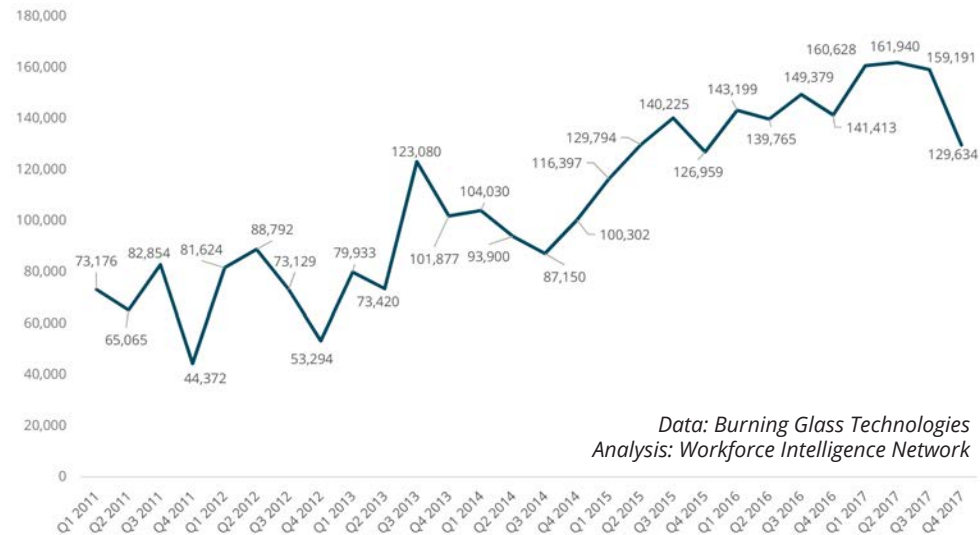


Workforce and Employer Demand Indicators

Postings Over Time

Online job ads for occupations in the greater southeast Michigan area decreased by 19 percent (29,557 postings) from 159,191 in Q3 2017 to 129,634 in Q4 2017. Online job postings typically drop between Q3 and Q4 any given year. This 19 percent drop is the largest recorded fall in demand since 2012 (-27 percent). However, postings have remained relatively high over the past seven years. During Q4 2011, there were 44,372 postings in the area; since then, postings have nearly tripled (+292 percent) to the 129,634 postings during Q4 2017.

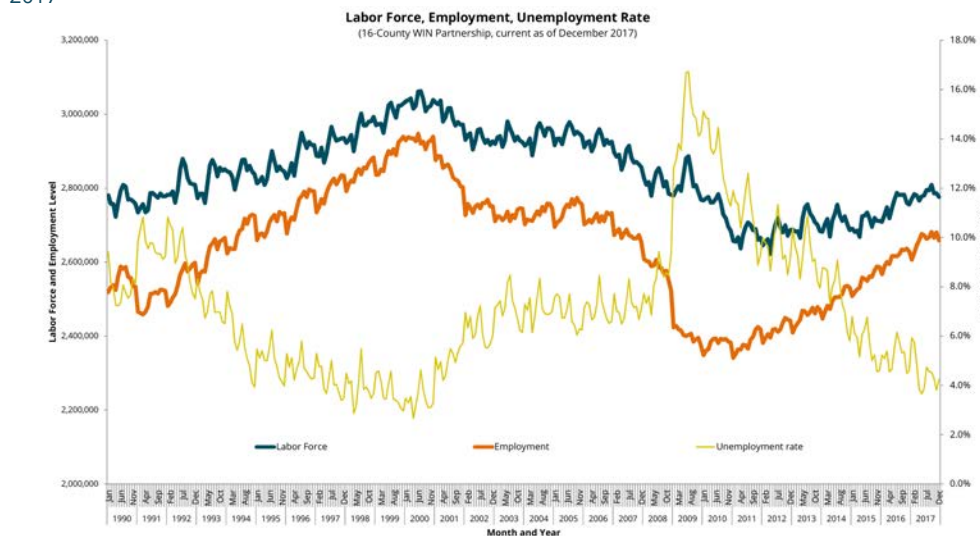
WIN Region Online Job Postings



Labor Force, Employment, and Unemployment

The labor market in the greater southeast Michigan area has experienced relative stability since 2010. The labor force decreased by 16,602 workers (-0.6 percent) between Q3 2017 and Q4 2017. Annually, however, it has increased by 28,517 individuals (+1.0 percent) from 2,755,253 in 2016 to 2,783,770 in 2017. Employment in the 16-county area has decreased slightly from Q3 2017, by 2,119 workers. Annual employment increased by 50,371 (+1.9 percent) from 2,623,697 in Q4 2016 to 2,668,270 in Q4 2017. The annual unemployment rate in this region has also continued to improve by continuously declining over the past seven years to its lowest point in 2017. The quarterly unemployment rate fell by 0.5 percentage points between Q3 2017 and Q4 2017 to 4.1 percent.

Labor Force, Employment, Unemployment Rate



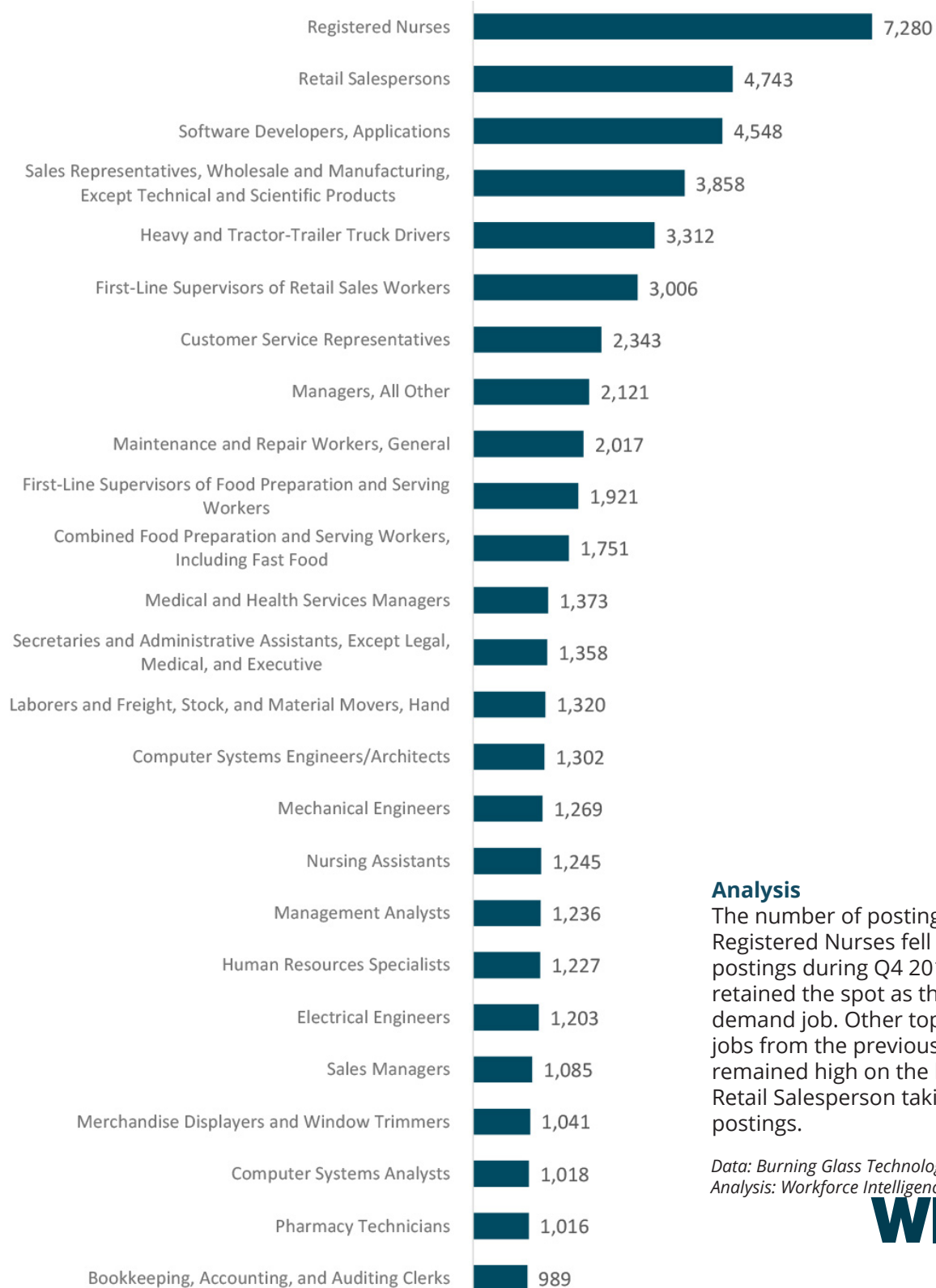


2,668,270 workers employed in
greater southeast Michigan

4.1%
unemployment rate
in Q4 2017

Top Jobs Posted

Quarter 4 2017



Analysis

The number of postings for Registered Nurses fell to 7,280 postings during Q4 2017 but retained the spot as the highest in-demand job. Other top in-demand jobs from the previous quarters remained high on the list, with Retail Salesperson taking with 4,743 postings.

Data: Burning Glass Technologies

Analysis: Workforce Intelligence Network





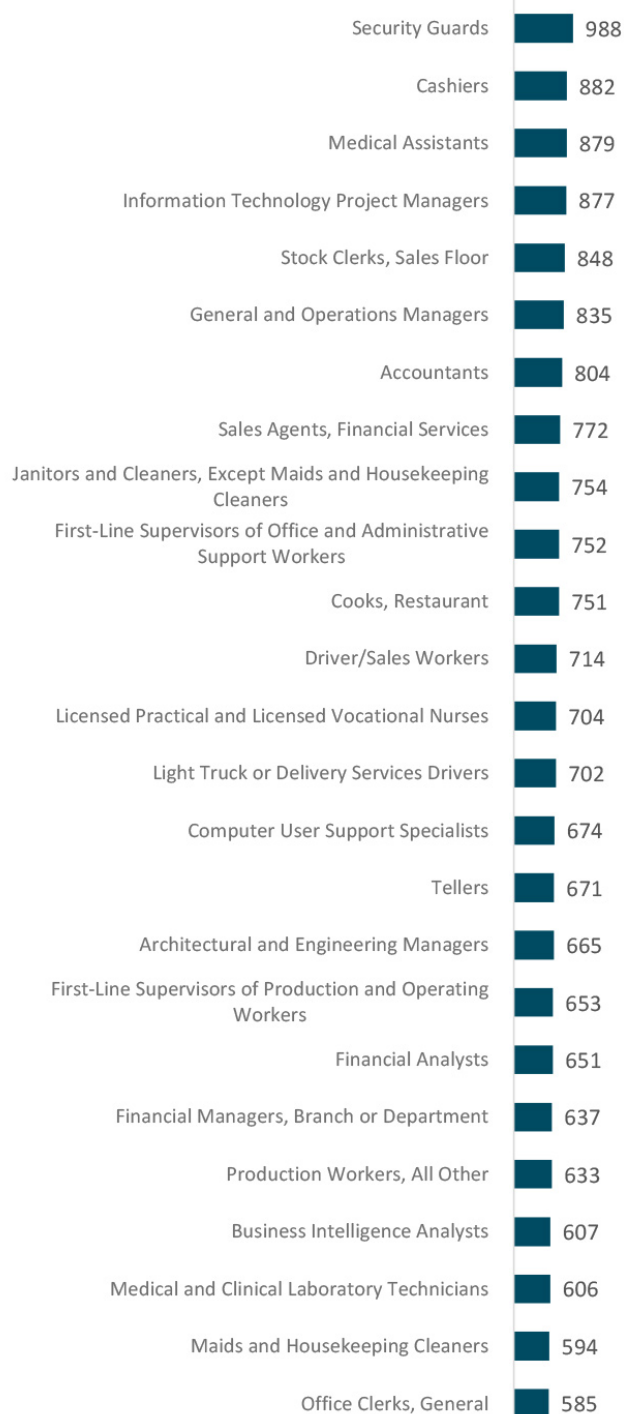
Employer demand:
159,191 online job postings



Registered Nurses top-posted
job in the WIN Region

Top Jobs Posted

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Agriculture Occupation Group

Introduction

WIN's Agriculture 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, and Recreation Workers.

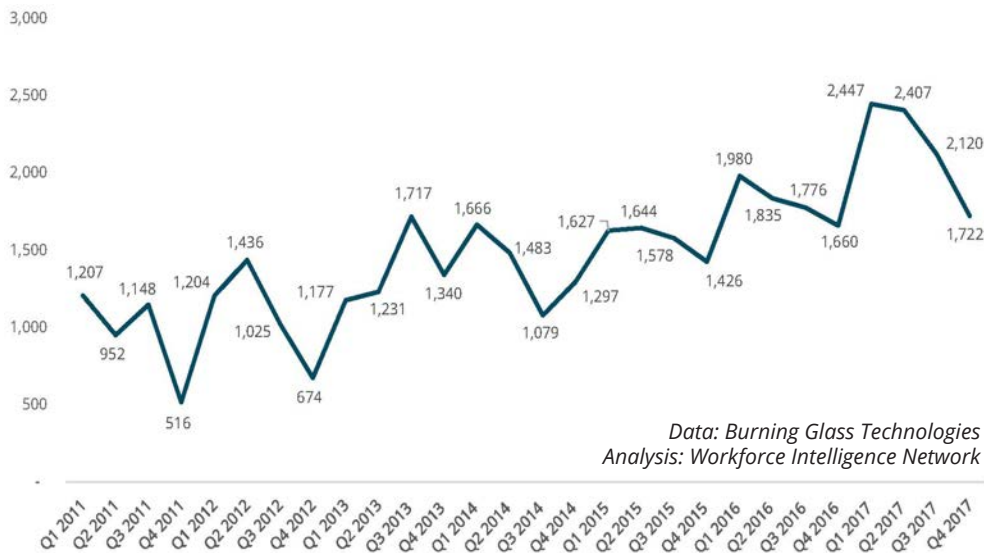
Job Posting Analysis

Job ads for occupations related to Agriculture dropped between Q3 2017 and Q4 2017 from 2,120 postings to 1,722 postings. Demand as shown by online postings demonstrated a slow overall trend of growth over the years despite the recent quarters of decline. Though the occupation group experienced a slight drop, postings in Q4 2017 were 62 postings greater than Q4 2016, and 296 postings greater than Q4 2015.

Employment Analysis

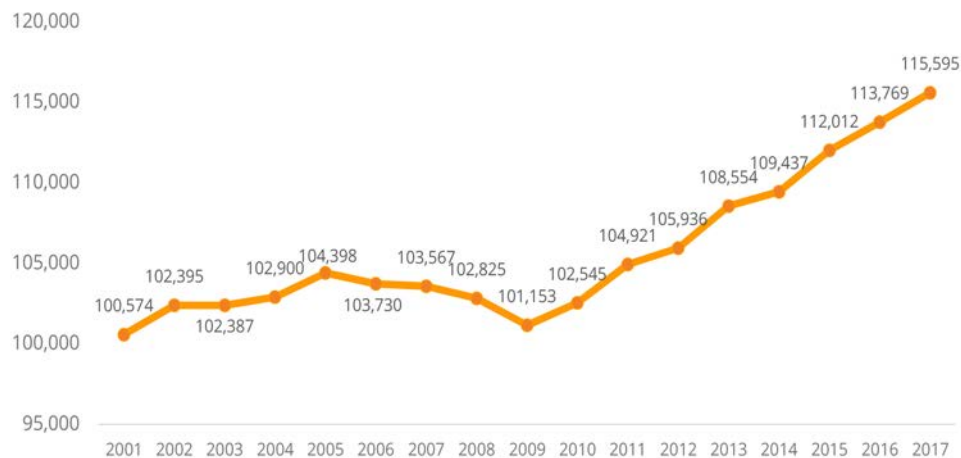
Agriculture employment has seen stable growth during recent years, after a drop between 2005 and 2009. In fact, current employment in the area is at its highest point in 16 years, with 115,595 individuals employed in Agriculture occupations.

Online Job Postings



Employment Over Time

2001 - 2017



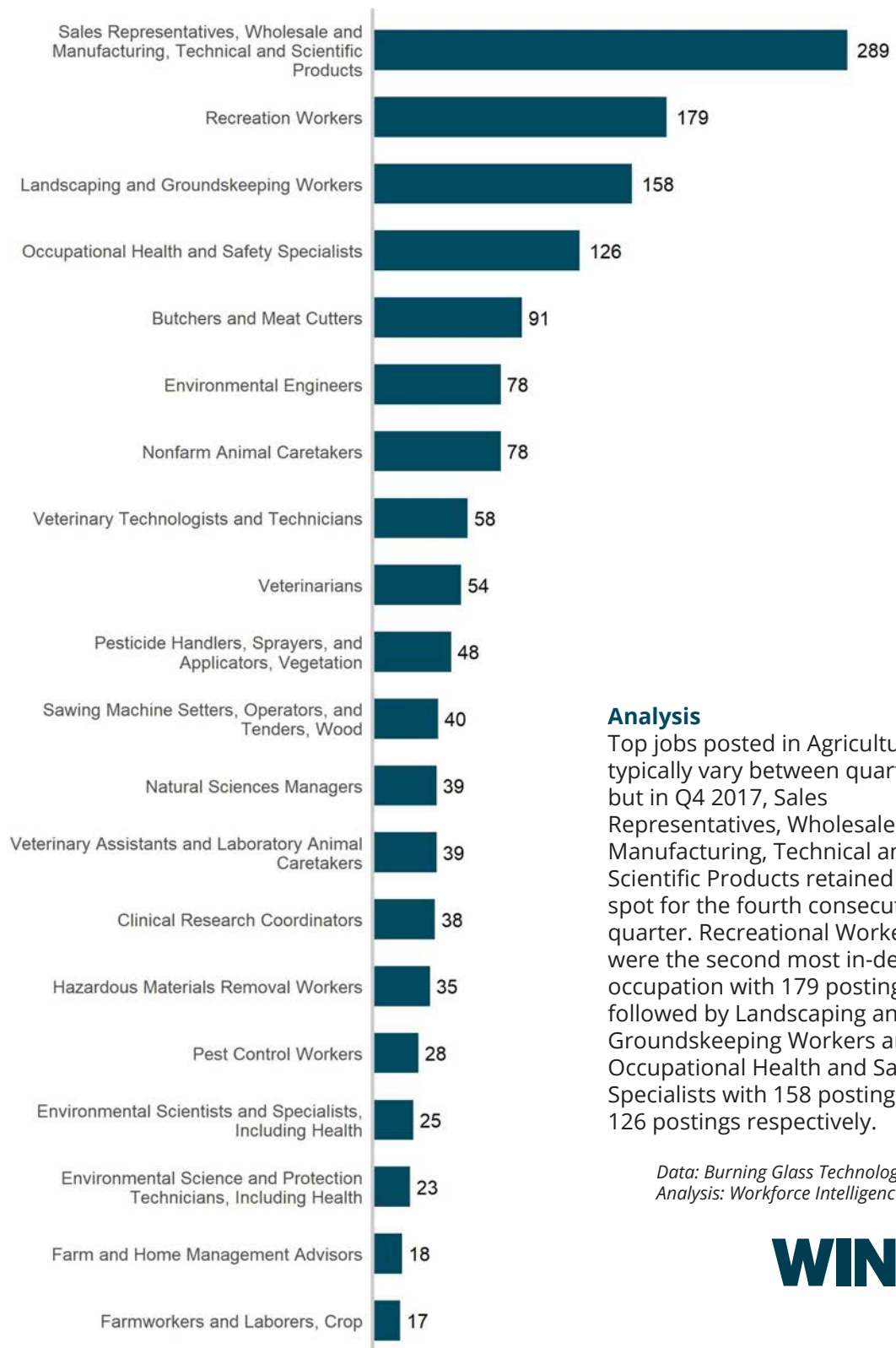


1,722 total postings,
398 fewer than Q3 2017



Sales Representatives: most
in-demand occupation

Agriculture Top Jobs Posted Quarter 4 2017



Analysis

Top jobs posted in Agriculture typically vary between quarters, but in Q4 2017, Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products retained the top spot for the fourth consecutive quarter. Recreational Workers were the second most in-demand occupation with 179 postings, followed by Landscaping and Groundskeeping Workers and Occupational Health and Safety Specialists with 158 postings and 126 postings respectively.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Consistent employment growth in Agriculture since 2009

Agriculture Education and Experience

Many entry-level Agriculture positions are available in the greater southeast Michigan area. Of the 981 Agriculture job postings that specified a desired educational attainment level in Q4 2017, 48 percent or 466 postings preferred workers with high school or vocational training. Bachelor's Degrees were also in-demand with 430 postings requiring four-year degrees.

There were 839 postings that specified a desired experience level in Q4 2017. Of these postings, 91 percent or 762 postings were available to workers with less than five years of experience.

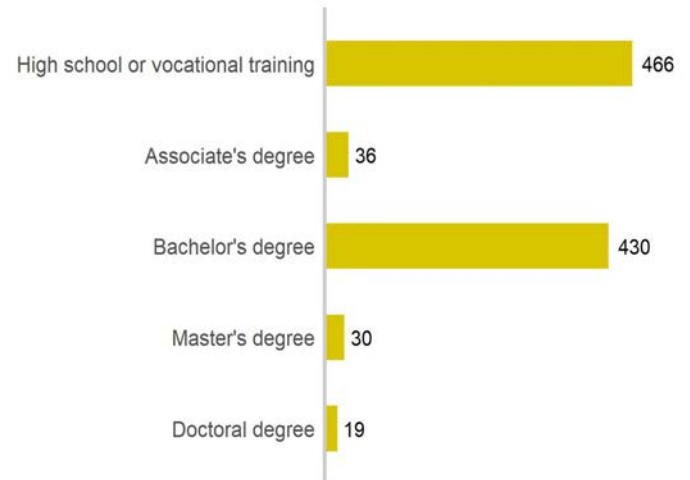
In-Demand Areas of Study

- Engineering, General
- Business Administration and Management, General
- Mechanical Engineering
- Environmental/Environmental Health Engineering
- Electrical and Electronic Engineering Technologies/Technicians, Other



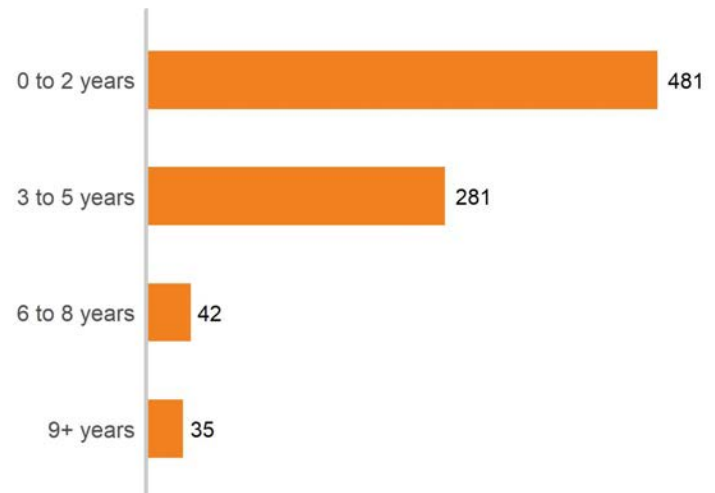
Growing fields of study: Engineering, Environmental Health

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Full-time jobs available
in Agriculture



\$45,000: average
advertised annual salary

Agriculture In-Demand Skills

Occupations in Agriculture require an array of both foundational and agriculture-specific skills. Sought-after technical skills ranged from repair and customer service to lawn care and fertilizers. Based upon the data found in job postings, employers prefer to hire individuals with physical strength and energetic personalities alongside strong writing, math, and computer proficiency skills. This combination of vital skills helps facilitate business transactions in Agriculture-related occupations.

Technical In-Demand Skills

- Sales
- Inspection/Repair
- Customer Service/Customer Contact
- Microsoft Office
- Scheduling

Foundational In-Demand Skills

- Communication Skills
- Organizational Skills
- Ability to Perform Physical Labor
- Writing
- Detail-Oriented/Problem Solving

Job Type

- Full-time: 51.6%
- Part-time: 6.6%
- Temporary: 8.0%

Certifications Required

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



0-5 years, most in-demand
experience



Hot Skills: Sales, Customer
Service, Inspection

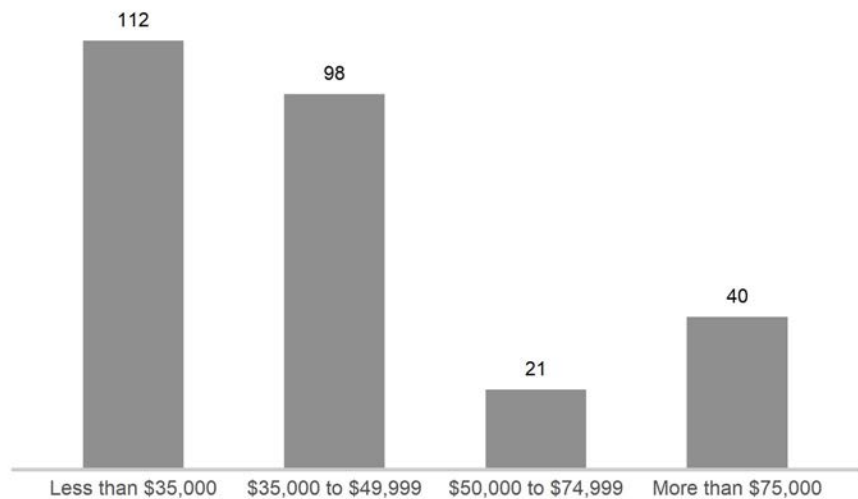
Agriculture Wages and Advertised Salary

Of the 1,722 Agriculture jobs posted in Q4 2017, only 271 specified an annual salary. Among them, 41 percent or 112 postings offered less than \$35,000 per year. The average advertised annual salary was \$45,000.

The table below containing data from BLS estimates that six out of the top ten occupations with wage data have a median salary of less than \$35,000 per year, while the others can earn over \$75,000 per year. The top job in this group, Environmental Engineers, reported median earnings over \$92,000 per year (\$44.57 per hour).

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

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	\$22.24	\$28.25	\$39.64	\$55.99	\$73.99
39-9032	Recreation Workers	\$8.81	\$9.17	\$10.18	\$12.79	\$17.18
37-3011	Landscaping and Groundskeeping Workers	\$9.43	\$10.39	\$12.21	\$14.91	\$18.76
29-9011	Occupational Health and Safety Specialists	\$22.54	\$29.29	\$36.37	\$44.63	\$53.84
51-3021	Butchers and Meat Cutters	\$9.12	\$10.32	\$13.80	\$17.97	\$22.38
17-2081	Environmental Engineers	\$28.03	\$35.59	\$44.57	\$54.25	\$62.93
39-2021	Nonfarm Animal Caretakers	\$8.84	\$9.17	\$9.88	\$12.03	\$14.62
29-2056	Veterinary Technologists and Technicians	\$10.37	\$11.50	\$15.02	\$18.09	\$20.75
29-1131	Veterinarians	\$27.93	\$33.66	\$41.14	\$53.63	\$74.30
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	\$11.89	\$13.50	\$15.85	\$18.43	\$21.21

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Agriculture Occupations

Custom Occupation Group

WIN's Agriculture occupation group brings together occupations that require knowledge of the farming, livestock, the environment, and natural sciences. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
11-9013	Farmers, Ranchers, and Other Agricultural Managers	47-4041	Hazardous Materials Removal Workers
11-9121	Natural Sciences Managers	49-3041	Farm Equipment Mechanics and Service Technicians
13-1021	Buyers and Purchasing Agents, Farm Products	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
13-1041	Compliance Officers	51-3021	Butchers and Meat Cutters
13-1074	Farm Labor Contractors	51-3022	Meat, Poultry, and Fish Cutters and Trimmers
17-2081	Environmental Engineers	51-3023	Slaughterers and Meat Packers
17-3025	Environmental Engineering Technicians	51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
19-1011	Animal Scientists	51-3092	Food Batchmakers
19-1012	Food Scientists and Technologists	51-3093	Food Cooking Machine Operators and Tenders
19-1013	Soil and Plant Scientists	51-7041	Sawing Machine Setters, Operators, and Tenders, Wood
19-1021	Biochemists and Biophysicists	51-8031	Water and Wastewater Treatment Plant and System Operators
19-1023	Zoologists and Wildlife Biologists		
19-1031	Conservation Scientists		
19-1032	Foresters		
19-2041	Environmental Scientists and Specialists, Including Health		
19-4011	Agricultural and Food Science Technicians		
19-4041	Geological and Petroleum Technicians		
19-4091	Environmental Science and Protection Technicians, Including Health		
19-4093	Forest and Conservation Technicians		
19-4099	Life, Physical, and Social Science Technicians, All Other		
25-1099	Postsecondary Teachers		
29-1131	Veterinarians		
29-2056	Veterinary Technologists and Technicians		
29-9011	Occupational Health and Safety Specialists		
29-9012	Occupational Health and Safety Technicians		
31-9096	Veterinary Assistants and Laboratory Animal Caretakers		
33-3031	Fish and Game Wardens		
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers		
37-2021	Pest Control Workers		
37-3011	Landscaping and Groundskeeping Workers		
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation		
37-3013	Tree Trimmers and Pruners		
37-3019	Grounds Maintenance Workers, All Other		
39-2011	Animal Trainers		
39-2021	Nonfarm Animal Caretakers		
39-9032	Recreation Workers		
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products		
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers		
45-2011	Agricultural Inspectors		
45-2021	Animal Breeders		
45-2041	Graders and Sorters, Agricultural Products		
45-2091	Agricultural Equipment Operators		
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse		
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals		
45-3011	Fishers and Related Fishing Workers		
45-3021	Hunters and Trappers		
45-4011	Forest and Conservation Workers		
45-4021	Fallers		



Business & Finance Occupation Group

Introduction

Jobs in the Business and Finance occupation group can be found in nearly every type of business and industry. 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.

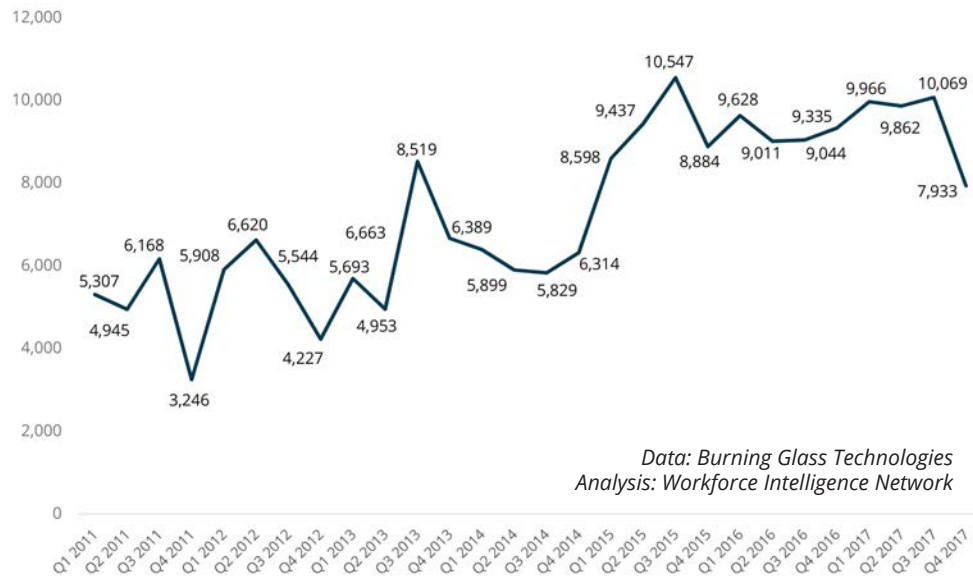
Job Posting Analysis

Business and Finance postings fell by 21 percent between Q3 2017 and Q4 2017, resulting in a total of 7,933 job ads. Despite this drop, postings have shown long-term growth. In Q4 2017, demand has increased by 26 percent, or 1,619 postings, compared to the 6,314 postings in Q4 2014.

Employment Analysis

Employment in Business and Finance related occupations has steadily grown since the Great Recession in 2009. Employment in occupations related to Business and Finance hit its lowest point in 2010, when there were only 109,510 workers. Thus far in 2017, employment has increased by nearly 15,000 individuals to 124,361 workers.

Online Job Postings



Employment Over Time

2001 - 2017



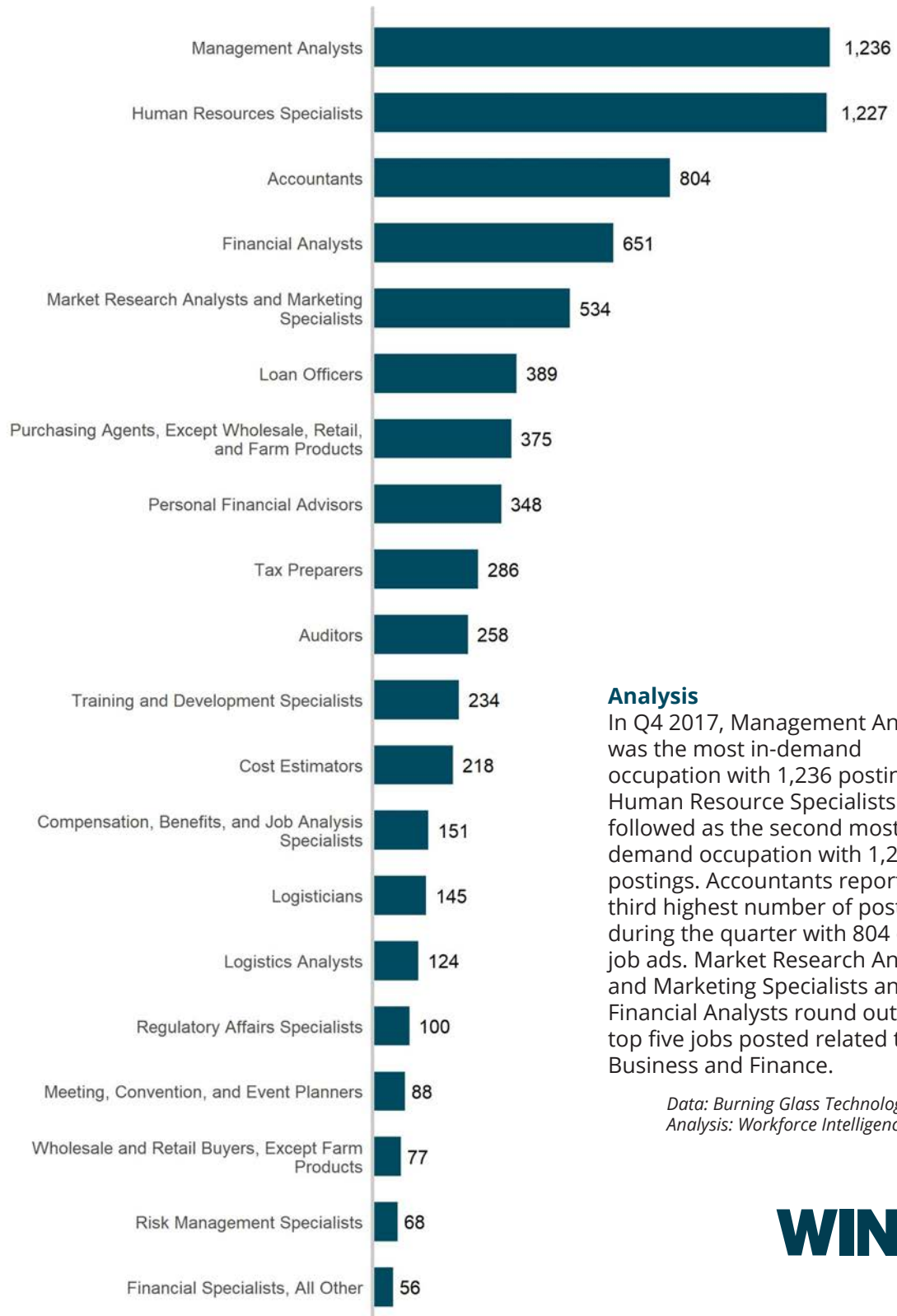


7,933 total job postings related
to Business and Finance



124,361 Business and Finance
workers

Business & Finance
Top Jobs Posted
Quarter 4 2017



Analysis

In Q4 2017, Management Analysts was the most in-demand occupation with 1,236 postings. Human Resource Specialists closely followed as the second most in-demand occupation with 1,227 postings. Accountants reported the third highest number of postings during the quarter with 804 online job ads. Market Research Analysts and Marketing Specialists and Financial Analysts round out the top five jobs posted related to Business and Finance.

*Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network*



Top in-demand job: Management Analysts



Bachelor's degree desired

Business & Finance Education and Experience

Of the 6,110 Business and Finance job postings that specified a desired educational attainment level, 75 percent preferred candidates with a bachelor's degree. High school or vocational training was the next most in-demand level of education.

Among the 5,079 postings that specified desired experience, these were split mostly between zero to two years of experience and three to five years of experience with 1,765 and 2,648 ads, respectively. In Q4 2017, entry-level Business and Finance positions are available to workers in greater southeast Michigan willing to pursue a bachelor's degree.

Educational Attainment

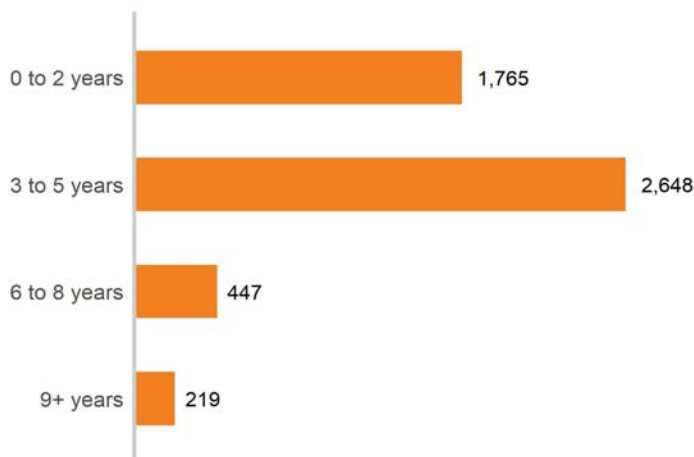


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Areas of Study

- Accounting
- Business Administration and Management, General
- Finance, General
- Engineering, General
- Economics, General

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Typical annual salary:
> \$50,000 per year



Up to five years of experience
required for most jobs

Business & Finance In-Demand Skills

Occupations in Business and Finance require a variety of skills for effective fiscal management. These include interpersonal abilities like customer service alongside accounting and software familiarity. Employers hiring Business and Finance workers also specify common employability skills like communication, writing, and organization.

Technical In-Demand Skills

- Microsoft Office
- Accounting/ Budgeting
- Customer Service/ Customer Contact
- Project Management
- Scheduling

Foundational In-Demand Skills

- Communication Skills
- Writing
- Problem Solving
- Planning
- Organizational Skills

Job Type

- Full-time: 55.7%
- Part-time: 1.8%
- Temporary: 5.4%

Certifications Required

- Certified Public Accountant (CPA)
- Series 7
- Mortgage License
- Project Management Certification (e.g. PMP)
- Certified Information Systems Auditor



Top area of study: Accounting



Accounting and software skills in-demand

Business & Finance

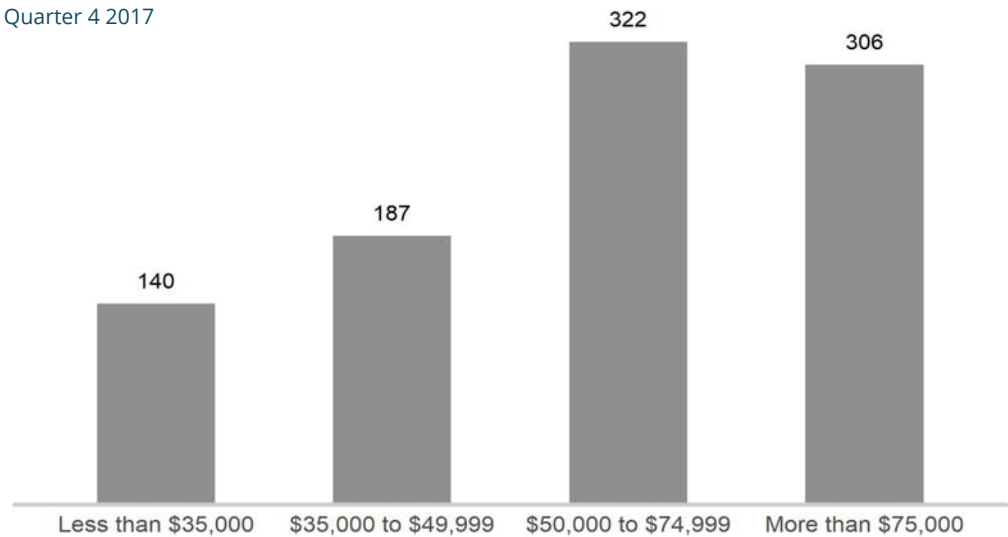
Wages and Advertised Salary

Only 955 postings in Business and Finance specified an annual salary during Q4, but those that did painted an optimistic picture. Of those postings, 66 percent offered \$50,000 or more annually with an average advertised salary of \$65,000.

Lucrative positions in the field exist to suit the high education requirements. Entry-level (tenth percentile) wages for eight of the top ten Business and Finance jobs were over \$15 per hour, and over \$25 at the median wage level.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
13-1111	Management Analysts	\$23.92	\$29.82	\$39.27	\$52.08	\$68.84
13-1071	Human Resources Specialists	\$16.98	\$21.76	\$28.62	\$37.09	\$48.00
13-2011	Accountants	\$20.47	\$25.16	\$32.80	\$43.86	\$57.82
13-2051	Financial Analysts	\$23.85	\$29.51	\$38.40	\$47.98	\$58.38
13-1161	Market Research Analysts and Marketing Specialists	\$18.07	\$23.32	\$32.34	\$43.54	\$54.91
13-2072	Loan Officers	\$11.90	\$17.44	\$23.95	\$32.29	\$46.12
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$20.40	\$25.79	\$33.68	\$42.60	\$53.63
13-2052	Personal Financial Advisors	\$17.73	\$25.83	\$38.64	\$76.18	\$94.01
13-2082	Tax Preparers	\$9.48	\$10.38	\$14.82	\$29.73	\$45.83
13-2011	Auditors	\$20.47	\$25.16	\$32.80	\$43.86	\$57.82

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Business and Finance Occupations

Custom Occupation Group

Jobs in the Business and Finance occupation group can be found in nearly every type of business and industry. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Description
13-1011	Agents and Business Managers of Artists, Performers, and Athletes
13-1021	Buyers and Purchasing Agents, Farm Products
13-1022	Wholesale and Retail Buyers, Except Farm Products
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products
13-1031	Claims Adjusters, Examiners, and Investigators
13-1032	Insurance Appraisers, Auto Damage
13-1041	Compliance Officers
13-1051	Cost Estimators
13-1071	Human Resources Specialists
13-1074	Farm Labor Contractors
13-1075	Labor Relations Specialists
13-1081	Logisticians
13-1111	Management Analysts
13-1121	Meeting, Convention, and Event Planners
13-1131	Fundraisers
13-1141	Compensation, Benefits, and Job Analysis Specialists
13-1151	Training and Development Specialists
13-1161	Market Research Analysts and Marketing Specialists
13-1199	Business Operations Specialists, All Other
13-2011	Accountants and Auditors
13-2021	Appraisers and Assessors of Real Estate
13-2031	Budget Analysts
13-2041	Credit Analysts
13-2051	Financial Analysts
13-2052	Personal Financial Advisors
13-2053	Insurance Underwriters
13-2061	Financial Examiners
13-2071	Credit Counselors
13-2072	Loan Officers
13-2081	Tax Examiners and Collectors, and Revenue Agents
13-2082	Tax Preparers
13-2099	Financial Specialists, All Other



Construction Occupation Groups

Introduction

Jobs in the WIN Construction occupation group are associated with the skilled trades, engineering, management, and planning. Many construction employers are slowly starting to post jobs online, thus, online job ads are not always 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.

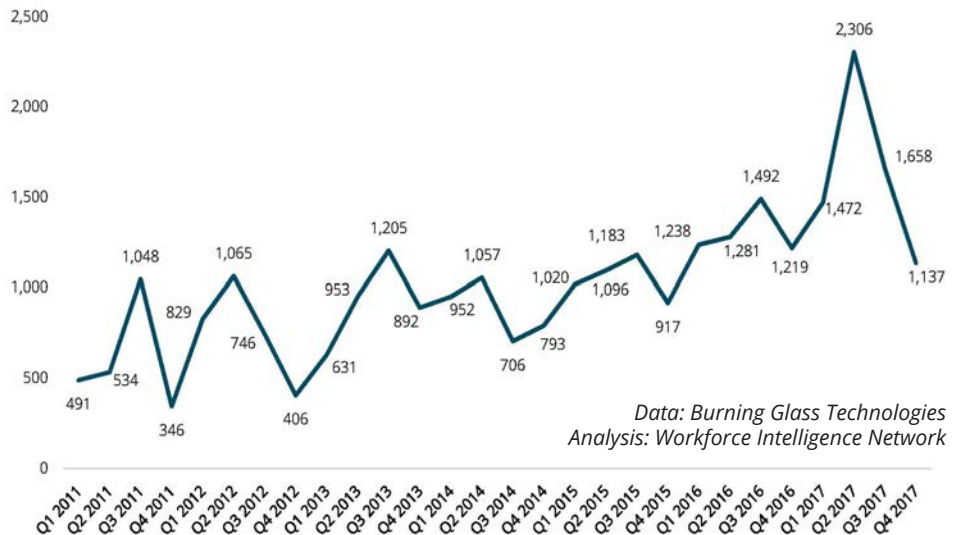
Job Posting Analysis

Online job ads for Construction workers continued to fall this quarter, with only 1,137 postings made during Q4 2017. Postings fell by 31 percent, a decrease of 521 ads, between Q3 2017 and Q4 2017. While construction employers are beginning to utilize online hiring tools, most hiring is done through traditional methods like word-of-mouth, hiring halls, and unions which contributes to lower online job ad levels when compared to other occupation groups.

Employment Analysis

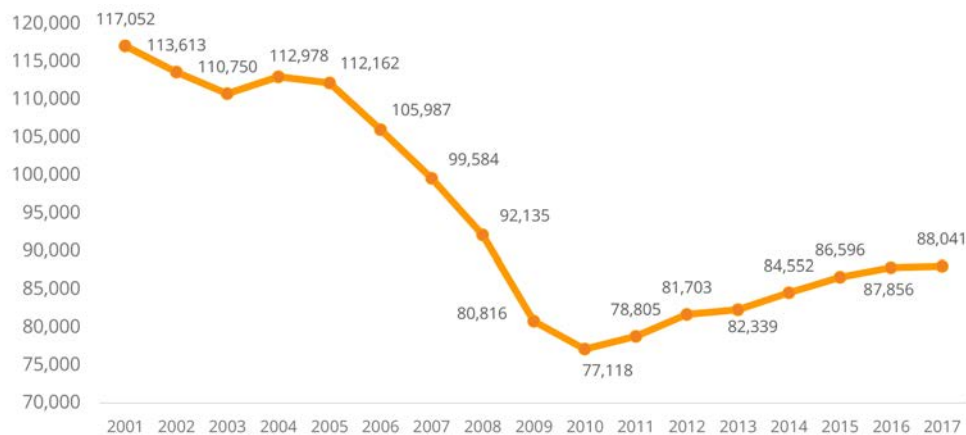
Construction employment has increased nearly 15 percent since 2010, recovering nearly 11,000 jobs from the depths of the recession in 2010. While employment is steadily growing, employment is still 29,011 individuals below the 2001 pre-recession peak.

Online Job Postings



Employment Over Time

2001 - 2017





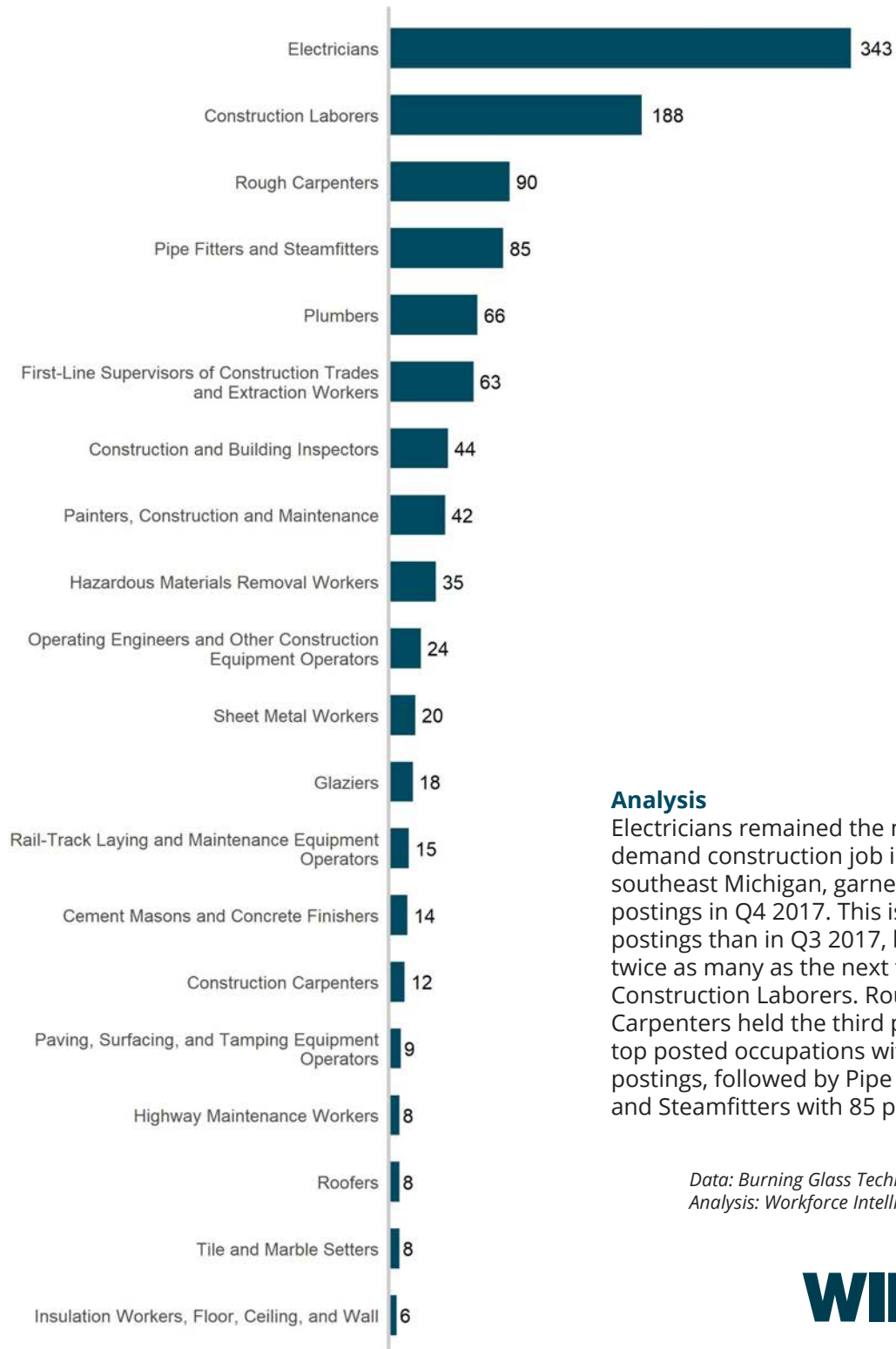
Electricians: most
in-demand job



1,137 online job postings
in Construction

Construction Top Jobs Posted

Quarter 4 2017



Analysis

Electricians remained the most in-demand construction job in greater southeast Michigan, garnering 343 postings in Q4 2017. This is 70 fewer postings than in Q3 2017, but nearly twice as many as the next top job, Construction Laborers. Rough Carpenters held the third place for top posted occupations with 90 postings, followed by Pipe Fitters and Steamfitters with 85 postings.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Vocational training required for most advertised jobs



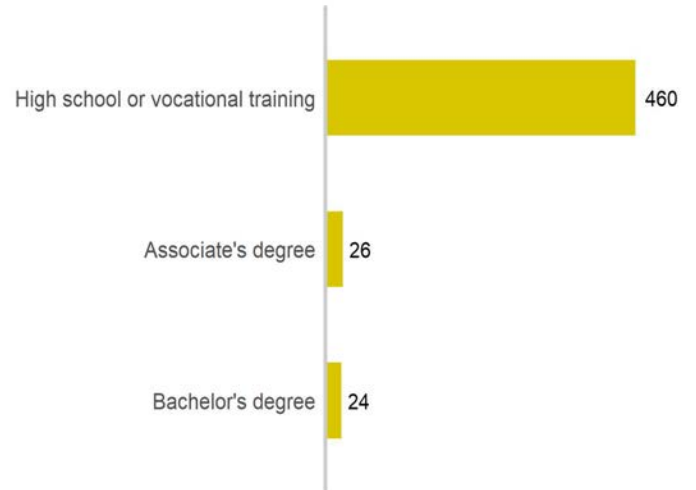
Openings across all experience levels

Construction Education and Experience

Most Construction jobs require a registered apprenticeship or other skilled training credential. While most postings list high school as the only required credential, it is clear from the necessary skills that vocational training is required for Construction jobs.

Many Construction jobs posted this quarter (42 percent) were available to entry-level workers. Workers with three to five years of previous experience were also in-demand, with 40 percent of postings seeking workers with more experience.

Educational Attainment

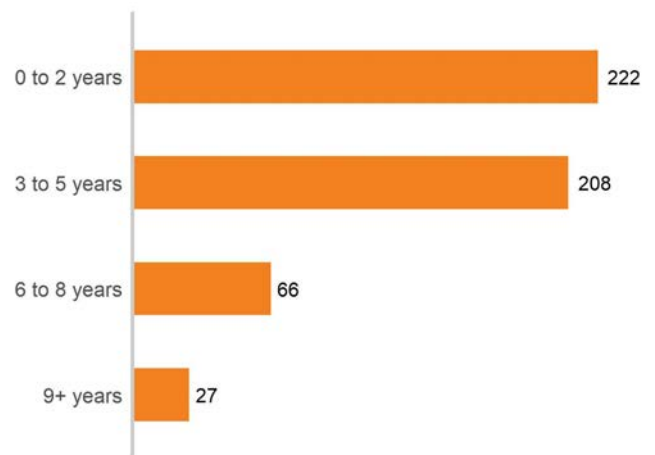


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Areas of Study

- Engineering, General
- Business Administration and Management, General
- Electrical and Electronic Engineering Technologies/ Technicians, Other
- Construction Management
- Engineering Technology, General

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Top skills: Electrical Work,
Machinery, and Repair



60% of job postings
indicate full-time work

Construction In-Demand Skills

In-demand skills for construction workers range from trade specific knowledge to widely applicable foundational abilities. Technical skills are generally occupation-specific and include carpentry, plumbing, electrical work, wiring and repair. Mastery of these abilities requires specialized training outside of high school or an apprenticeship program included as part of a high school curriculum.

Foundational skills are also immensely important. Construction employers want workers to be able to problem solve, manage projects, collaborate, and work well with clients. Construction occupations are also physically demanding.

Technical In-Demand Skills

- Repair/ Inspection
- Electrical Work
- Hand Tools
- Machinery
- Wiring

Foundational In-Demand Skills

- Communication Skills
- Troubleshooting/ Preventive Maintenance
- Ability to Perform Physical Labor
- Organizational Skills
- Planning

Job Type

- Full-time: 59.3%
- Part-time: 0.6%
- Temporary: 5.5%

Certifications Required

- Commercial Driver's License (CDL)
- Electrician Certification
- Hazardous Materials Certification
- Plumbing License
- Master Electrician License



\$53,000: average advertised salary during Q4 2017



Electricians, plumbers, and pipefitter jobs offer high wage potential

Construction

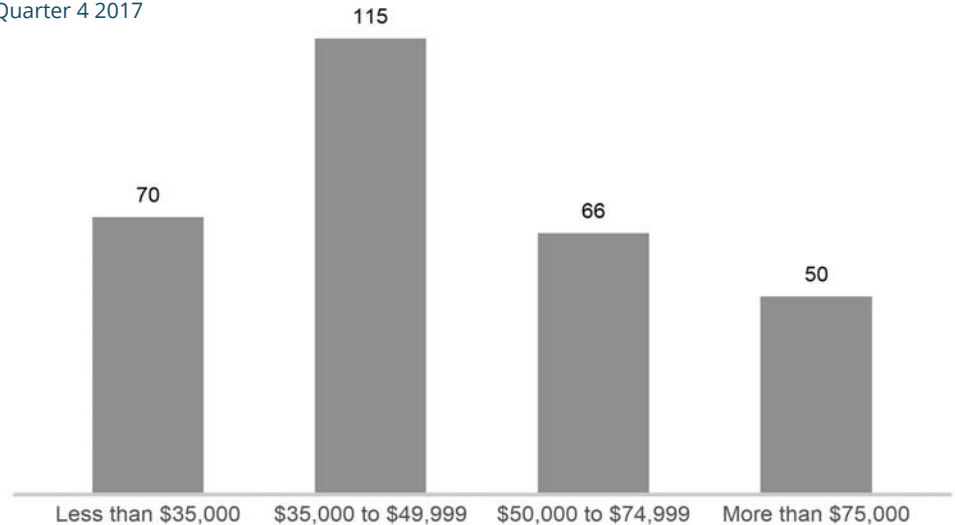
Wages and Advertised Salary

Wages for Construction workers have a broad range and offer growth potential. Twenty-three percent of Q4 2017 postings that advertised salaries offered less than \$35,000 per year. Thirty-eight percent of these postings offer a slightly higher income between \$35,000 and \$50,000 annually. The average advertised annual salary in Q4 2017 was \$53,000.

The importance of experience in the Construction field is evident in the wage table below, in which the difference between tenth and ninetieth percentile wages for Electricians, Rough Carpenters, Construction and Building Inspectors, First-Line Supervisors, Plumbers, Pipe Fitters, and Sheet Metal Workers is over \$20 per hour.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
47-2111	Electricians	\$15.15	\$22.27	\$31.53	\$36.32	\$39.65
47-2061	Construction Laborers	\$11.41	\$14.00	\$18.36	\$23.53	\$29.02
47-2031	Rough Carpenters	\$13.93	\$18.00	\$24.09	\$30.03	\$35.25
47-2152	Pipe Fitters and Steamfitters	\$17.94	\$25.82	\$32.60	\$36.78	\$41.62
47-2152	Plumbers	\$17.94	\$25.82	\$32.60	\$36.78	\$41.62
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$21.07	\$25.15	\$30.16	\$39.29	\$48.36
47-4011	Construction and Building Inspectors	\$16.52	\$21.88	\$27.69	\$32.38	\$37.54
47-2141	Painters, Construction and Maintenance	\$12.91	\$16.52	\$20.99	\$25.73	\$29.52
47-4041	Hazardous Materials Removal Workers	\$14.71	\$18.30	\$22.16	\$25.65	\$29.13
47-2073	Operating Engineers and Other Construction Equipment Operators	\$17.22	\$20.91	\$25.56	\$29.04	\$33.30

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Construction Occupations

Custom Occupation Group

Jobs in the WIN Construction occupation group are associated with the skilled trades, engineering, management, and planning. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	47-5013	Service Unit Operators, Oil, Gas, and Mining
47-2011	Boilermakers	47-5021	Earth Drillers, Except Oil and Gas
47-2021	Brickmasons and Blockmasons	47-5031	Explosives Workers, Ordnance Handling Experts, and Blasters
47-2022	Stonemasons	47-5041	Continuous Mining Machine Operators
47-2031	Carpenters	47-5042	Mine Cutting and Channeling Machine Operators
47-2041	Carpet Installers	47-5049	Mining Machine Operators, All Other
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	47-5051	Rock Splitters, Quarry
47-2043	Floor Sanders and Finishers	47-5061	Roof Bolters, Mining
47-2044	Tile and Marble Setters	47-5071	Roustabouts, Oil and Gas
47-2051	Cement Masons and Concrete Finishers	47-5081	Helpers--Extraction Workers
47-2053	Terrazzo Workers and Finishers	47-5099	Extraction Workers, All Other
47-2061	Construction Laborers		
47-2071	Paving, Surfacing, and Tamping Equipment Operators		
47-2072	Pile-Driver Operators		
47-2073	Operating Engineers and Other Construction Equipment Operators		
47-2081	Drywall and Ceiling Tile Installers		
47-2082	Tapers		
47-2111	Electricians		
47-2121	Glaziers		
47-2131	Insulation Workers, Floor, Ceiling, and Wall		
47-2132	Insulation Workers, Mechanical		
47-2141	Painters, Construction and Maintenance		
47-2142	Paperhangers		
47-2151	Pipelayers		
47-2152	Plumbers, Pipefitters, and Steamfitters		
47-2161	Plasterers and Stucco Masons		
47-2171	Reinforcing Iron and Rebar Workers		
47-2181	Roofers		
47-2211	Sheet Metal Workers		
47-2221	Structural Iron and Steel Workers		
47-2231	Solar Photovoltaic Installers		
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters		
47-3012	Helpers--Carpenters		
47-3013	Helpers--Electricians		
47-3014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons		
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters		
47-3016	Helpers--Roofers		
47-3019	Helpers, Construction Trades, All Other		
47-4011	Construction and Building Inspectors		
47-4021	Elevator Installers and Repairers		
47-4031	Fence Erectors		
47-4041	Hazardous Materials Removal Workers		
47-4051	Highway Maintenance Workers		
47-4061	Rail-Track Laying and Maintenance Equipment Operators		
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners		
47-4091	Segmental Pavers		
47-4099	Construction and Related Workers, All Other		
47-5011	Derrick Operators, Oil and Gas		
47-5012	Rotary Drill Operators, Oil and Gas		



Customer Service Occupation Group

Introduction

The customer service group is the largest occupational 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. 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.

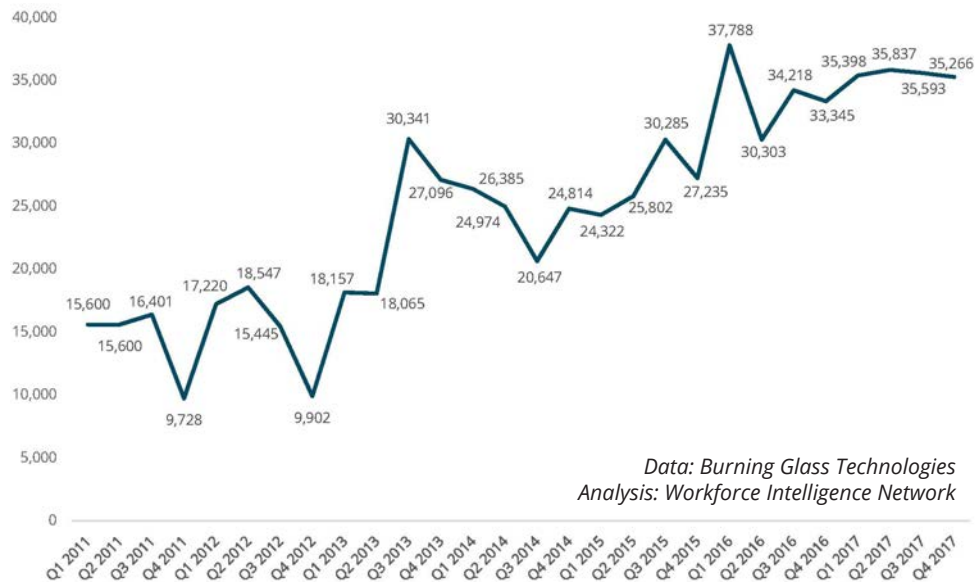
Job Posting Analysis

Online job ads for Customer Service workers fell only one percent between Q3 2017 and Q4 2017, decreasing by 327 postings for a total of 35,266. After reaching a peak of almost 38,000 postings during Q1 2016, postings have stabilized at 35,000 ads.

Employment Analysis

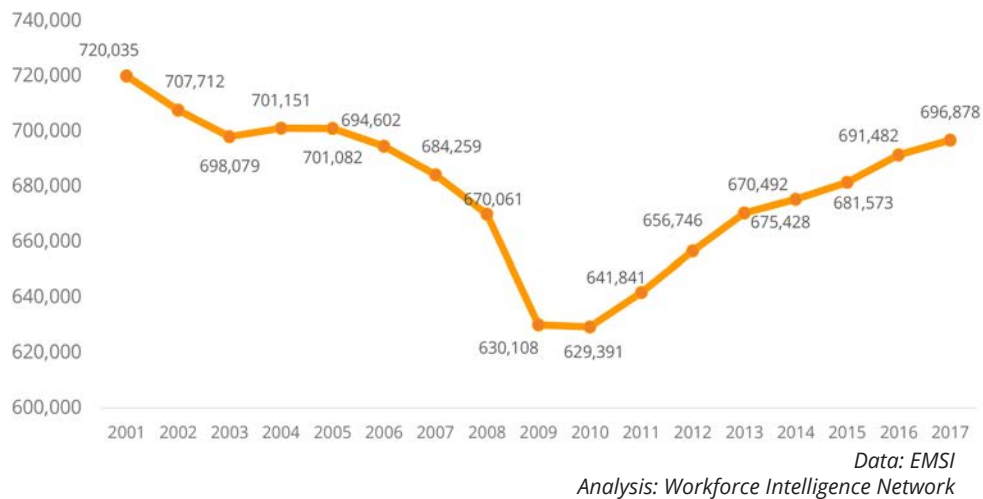
Employment in Customer Service occupations has increased 11 percent since the 2010 recession low, growing by over 70,000 jobs. Estimates for 2017 show that nearly 700,000 individuals are employed in Customer Service-related jobs, making it the region's largest occupation group. Job growth is relatively steady, but employers must hire another 30,000 individuals to reach 2001 employment levels.

Online Job Postings



Employment Over Time

2001 - 2017



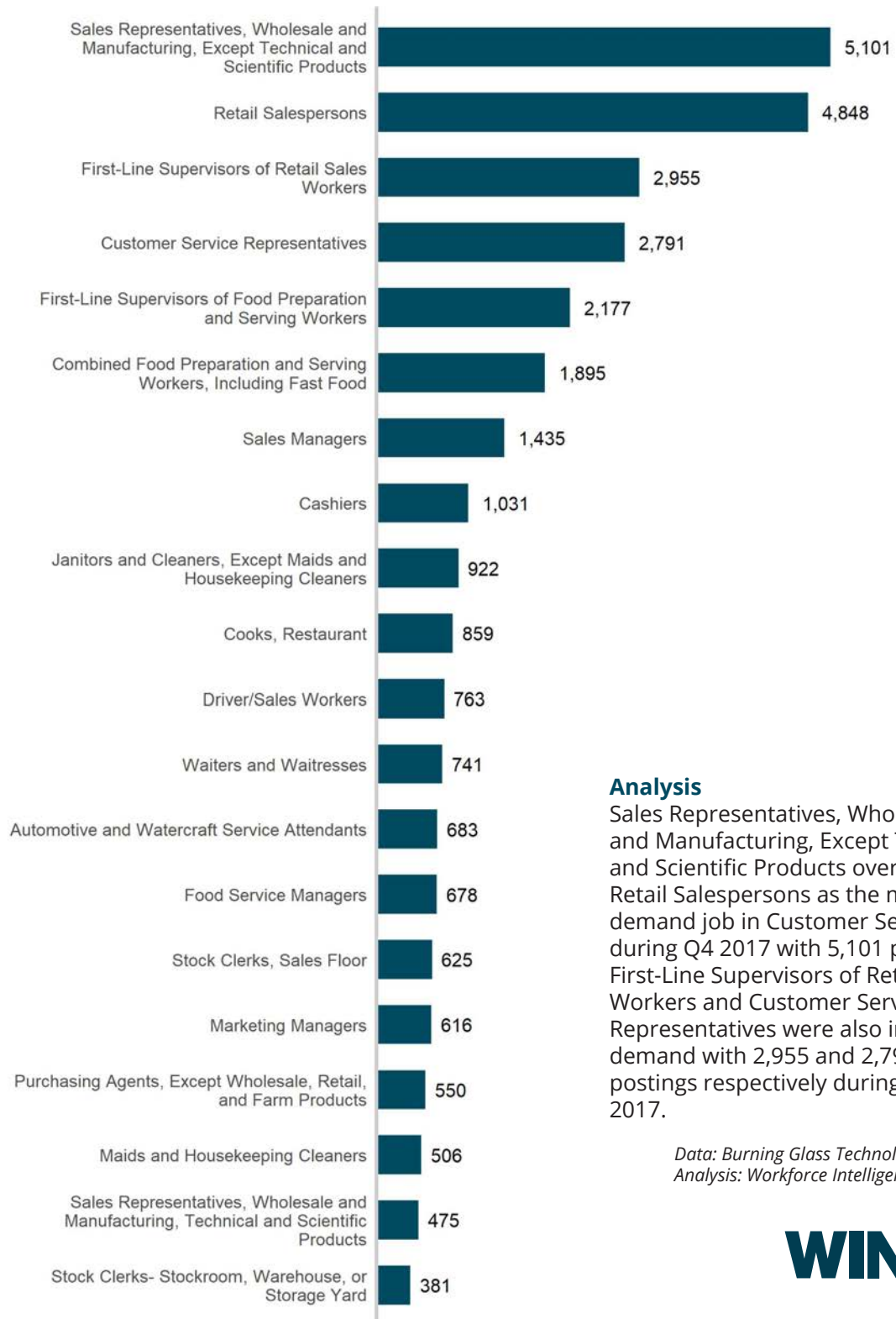


Sales Representatives, Wholesale and Manufacturing: most in-demand



35,266 total job postings during Q4 2017

Customer Service Top Jobs Posted Quarter 4 2017



Analysis

Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products overtook Retail Salespersons as the most in-demand job in Customer Service during Q4 2017 with 5,101 postings. First-Line Supervisors of Retail Sales Workers and Customer Service Representatives were also in high demand with 2,955 and 2,791 postings respectively during Q4 2017.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



696,878 individuals employed
in Customer Service



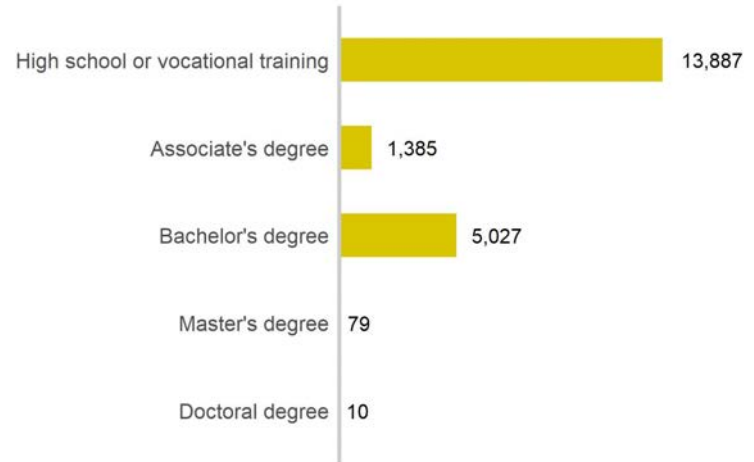
Many entry-level
opportunities available

Customer Service Education and Experience

Customer Service jobs either require little to no training past a high school education or require a bachelor's degree. This is because occupations in the group range from retail sales and other lower skill jobs to those in sales and management positions.

Similarly, many Customer Service jobs are open to entry-level workers, with 8,862 postings citing this experience level in Q4 2017 job ads. Often, these jobs allow individuals to gain experience and foundational skills before transitioning to other career paths or leadership roles.

Educational Attainment

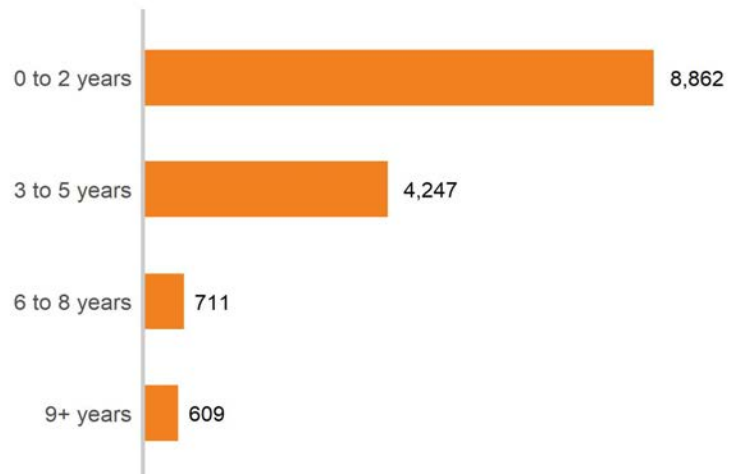


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Areas of Study

- Business Administration and Management, General
- Engineering, General
- Marketing/ Marketing Management, General
- Mechanical Engineering
- Finance, General

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree preferred
for management positions



Essential skills: Sales and
customer service

Customer Service In-Demand Skills

Customer Service employers seek workers with a wide array of high-level communication skills. The most in-demand skillsets in this occupation group were sales and customer service, the feature connecting all jobs in this group. Supervisory skills, such as merchandising and store management, were also present in many of the postings. These abilities are vital for Customer Service workers to build and cultivate relationships with customers and ensure they find the products to meet their needs.

Technical In-Demand Skills

- Sales/ Customer Service/ Customer Contact
- Retail Setting
- Scheduling
- Cleaning/ Repair
- Merchandising

Foundational In-Demand Skills

- Communication Skills/ Teamwork
- Ability to Perform Physical Labor
- Organizational Skills
- Writing/ Problem Solving
- Computer Skills

Job Type

- Full-time: 39.7%
- Part-time: 11.8%
- Temporary: 5.1%

Certifications Required

- SERVSAFE Certification
- Food Service Sanitation Certification
- Project Management Certification (e.g. PMP)
- Insurance License
- Cash Handling Certification



\$49,000: average
advertised annual salary



Sales Managers have high
earning potential

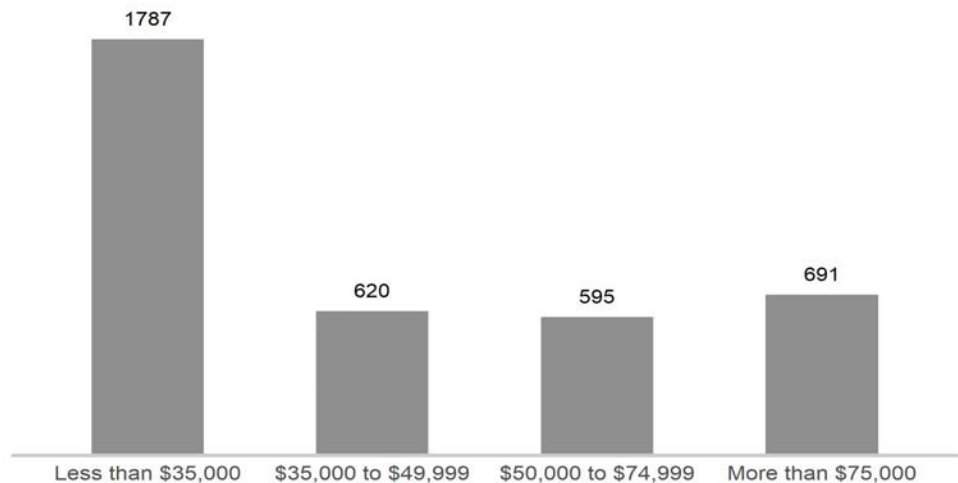
Customer Service Wages and Advertised Salary

Many Customer Service jobs pay relatively low wages, given the low education and experience criteria in most postings. Some occupations offer a great deal of wage potential but also require more education and training.

While 48 percent of postings advertised an annual salary below \$35,000, the average advertised salary in Q4 2017 was \$49,000. Sales managers reported high earning potentials with median annual earnings of over \$125,000 per year.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$14.33	\$20.53	\$29.27	\$44.12	\$60.26
41-2031	Retail Salespersons	\$8.88	\$9.27	\$10.39	\$13.40	\$19.07
41-1011	First-Line Supervisors of Retail Sales Workers	\$11.96	\$15.02	\$19.26	\$25.05	\$33.56
43-4051	Customer Service Representatives	\$9.58	\$11.72	\$15.51	\$20.19	\$26.74
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	\$9.84	\$11.60	\$14.82	\$20.46	\$26.04
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$8.71	\$8.91	\$9.25	\$9.95	\$11.95
11-2022	Sales Managers	\$34.50	\$45.91	\$60.68	\$79.02	\$114.91
41-2011	Cashiers	\$8.74	\$9.05	\$9.67	\$11.61	\$14.71
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$9.07	\$9.65	\$11.36	\$14.66	\$18.58
35-2014	Cooks, Restaurant	\$8.98	\$9.56	\$11.22	\$13.66	\$16.11

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Customer Service Occupations

Custom Occupation Group

The Customer Service group is the largest occupational group that WIN analyzes, both in terms of employment and online job postings. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
11-2021	Marketing Managers	41-9099	Sales and Related Workers, All Other
11-2022	Sales Managers	43-3041	Gaming Cage Workers
11-3061	Purchasing Managers	43-3061	Procurement Clerks
11-9051	Food Service Managers	43-4051	Customer Service Representatives
11-9071	Gaming Managers	43-4081	Hotel, Motel, and Resort Desk Clerks
11-9081	Lodging Managers	43-4151	Order Clerks
13-1022	Wholesale and Retail Buyers, Except Farm Products	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	43-5081	Stock Clerks and Order Fillers
13-1121	Meeting, Convention, and Event Planners	51-3011	Bakers
13-1199	Business Operations Specialists, All Other	51-3021	Butchers and Meat Cutters
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	51-3022	Meat, Poultry, and Fish Cutters and Trimmers
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	51-3023	Slaughterers and Meat Packers
37-2012	Maids and Housekeeping Cleaners	51-6011	Laundry and Dry-Cleaning Workers
39-1011	Gaming Supervisors	53-2031	Flight Attendants
39-1012	Slot Supervisors	53-3031	Driver/Sales Workers
39-3011	Gaming Dealers	53-6021	Parking Lot Attendants
39-3012	Gaming and Sports Book Writers and Runners	53-6031	Automotive and Watercraft Service Attendants
39-3019	Gaming Service Workers, All Other	53-6061	Transportation Attendants, Except Flight Attendants
39-3031	Ushers, Lobby Attendants, and Ticket Takers		
39-3091	Amusement and Recreation Attendants		
39-3093	Locker Room, Coatroom, and Dressing Room Attendants		
39-3099	Entertainment Attendants and Related Workers, All Other		
39-6011	Baggage Porters and Bellhops		
39-6012	Concierges		
39-7011	Tour Guides and Escorts		
39-7012	Travel Guides		
39-9032	Recreation Workers		
39-9041	Residential Advisors		
41-1011	First-Line Supervisors of Retail Sales Workers		
41-1012	First-Line Supervisors of Non-Retail Sales Workers		
41-2011	Cashiers		
41-2012	Gaming Change Persons and Booth Cashiers		
41-2021	Counter and Rental Clerks		
41-2022	Parts Salespersons		
41-2031	Retail Salespersons		
41-3041	Travel Agents		
41-3099	Sales Representatives, Services, All Other		
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products		
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products		
41-9011	Demonstrators and Product Promoters		
41-9041	Telemarketers		
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers		



Education Occupation Group

Introduction

Education-related jobs can be found both in the private and public sectors with teachers and other education-related workers 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.

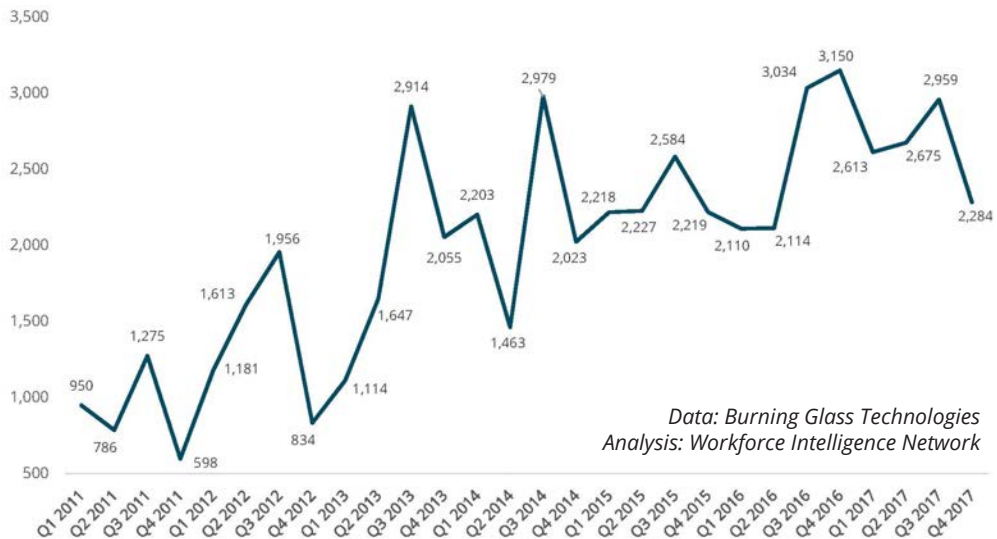
Job Posting Analysis

Job postings in Education do not follow a traditional business cycle like many other occupation groups. Instead, Education hiring peaks during quarter three, particularly in July and August when schools ramp up staffing for the school year. Q4 2017 postings fell by 675 postings after Q3 2017 for a total of 2,284 job ads.

Employment Analysis

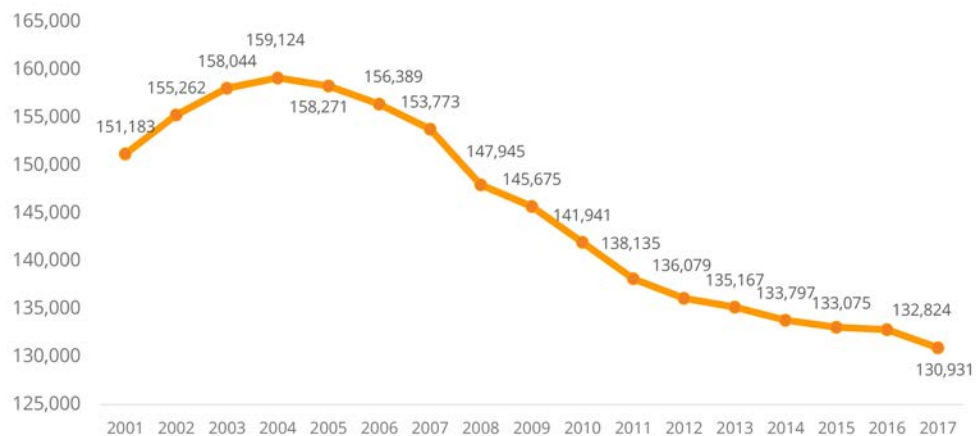
Unlike many other occupation groups that have recovered jobs since the recession, Education employment has been declining since 2004 and had 130,931 workers in 2017 compared to the 159,124 during the peak in 2004. There was also no precipitous drop in employment during 2009 and 2010 as the economy collapsed. Education positions, many of which are publicly funded, typically follow government spending on educator positions and part-time versus full-time faculty choices made by universities in response.

Online Job Postings



Employment Over Time

2001 - 2017



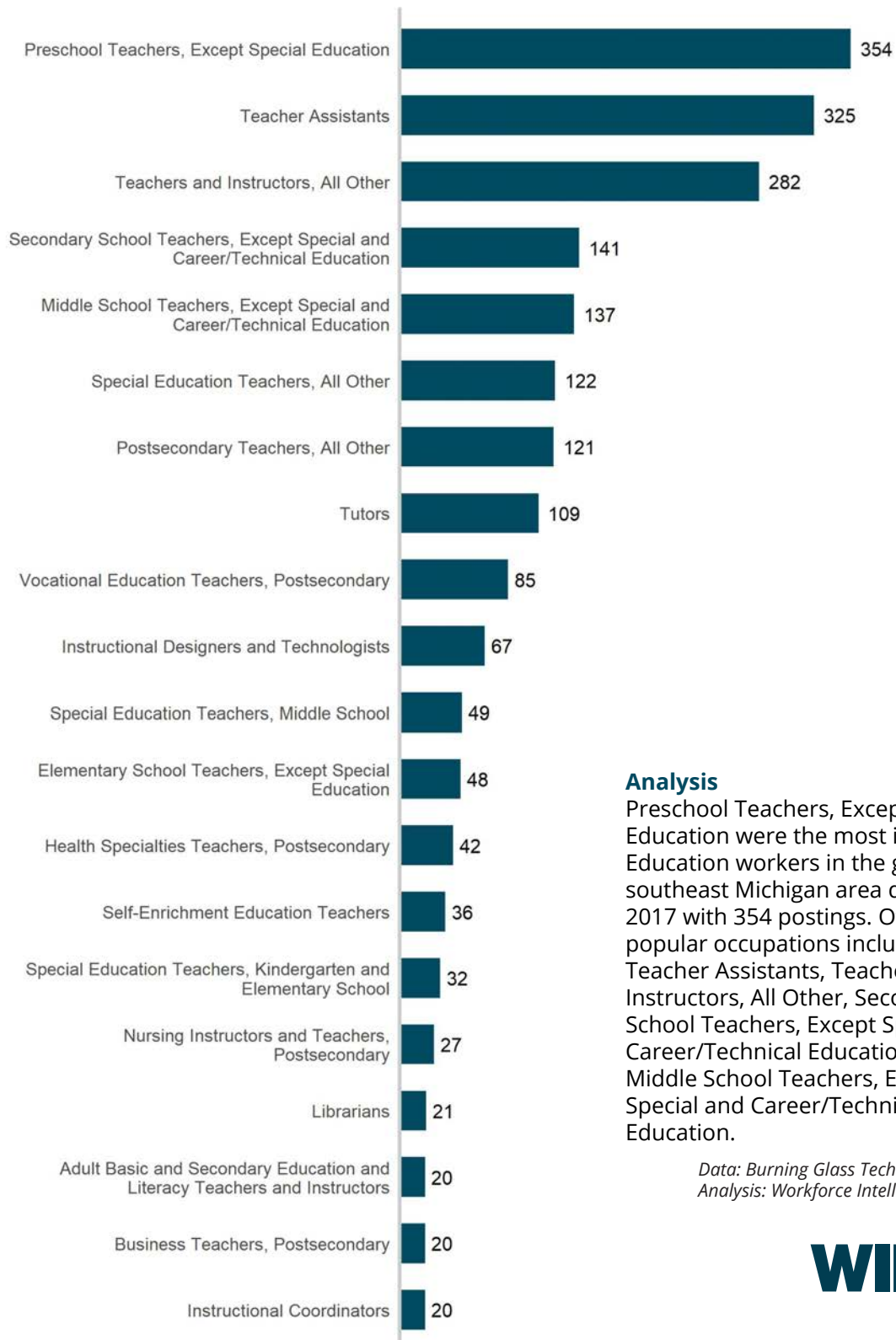


Preschool Teachers: most
in-demand during Q4 2017



2,284 Education jobs posted
during Q4 2017

Education
Top Jobs Posted
Quarter 4 2017



Analysis

Preschool Teachers, Except Special Education were the most in-demand Education workers in the greater southeast Michigan area during Q4 2017 with 354 postings. Other popular occupations include Teacher Assistants, Teachers and Instructors, All Other, Secondary School Teachers, Except Special and Career/Technical Education, and Middle School Teachers, Except Special and Career/Technical Education.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree required for teaching positions



Entry-level opportunities available in Education

Education

Education and Experience

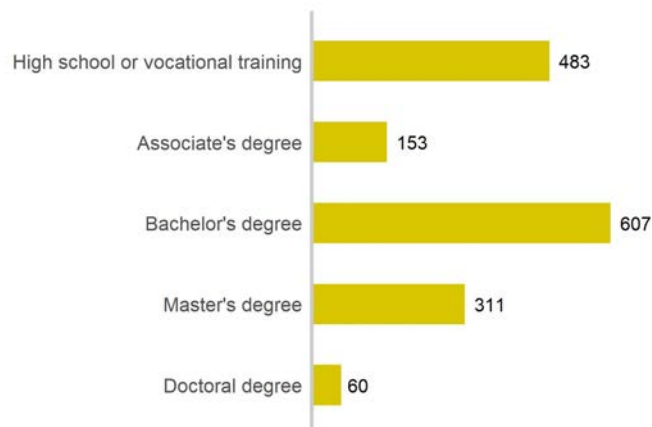
Most positions in Education require college education as training requirements continue to increase. Another large portion of postings are open to those with vocational training, most likely accounting for Teacher Assistants.

Many of the postings that specified required experience levels offered entry-level opportunities. There were a total of 490 postings seeking workers with zero to two years of prior experience. The next most requested experience is three to five years, with 151 ads preferring this criterion. Few postings require more than five years of experience.

In-Demand Areas of Study

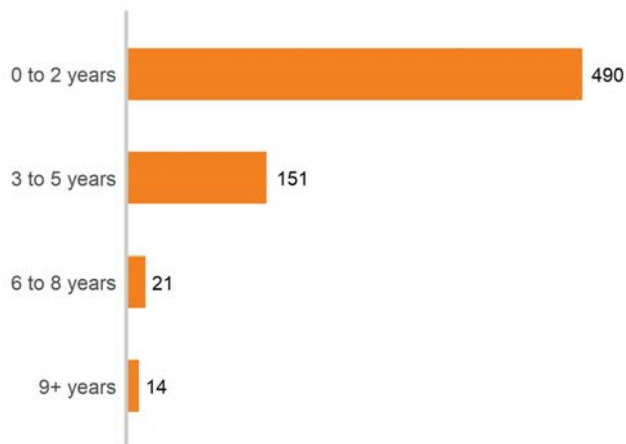
- Early Childhood Education and Teaching
- Child Development
- Computer Science
- Educational/ Instructional Technology
- Nursing Science

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Child Care and Lesson Planning: in-demand skills



Teacher Certification required

Education In-Demand Skills

To effectively prepare students for careers of their own, educators must be proficient in classroom-specific teaching skills bolstered by the communication, planning, and computer skills valued in most industries. Technical skills for teachers and other occupations in the Education occupation group include lesson planning, teaching, and child care.

Technical In-Demand Skills

- Teaching/ Early Childhood Education
- Child Care/ Child Development
- Lesson Planning
- Special Education
- Scheduling

Foundational In-Demand Skills

- Writing/ Planning/ Research
- Communication Skills/ Teamwork
- Organizational Skills
- Problem Solving
- English

Job Type

- Full-time: 59.2%
- Part-time: 14.6%
- Temporary: 7.0%

Certifications Required

- Teaching Certificate
- Certified Teacher
- First Aid CPR AED
- Teaching License
- Special Education Certification



\$46,000: average
advertised annual salary



Earning potential increases
with age of students taught

Education

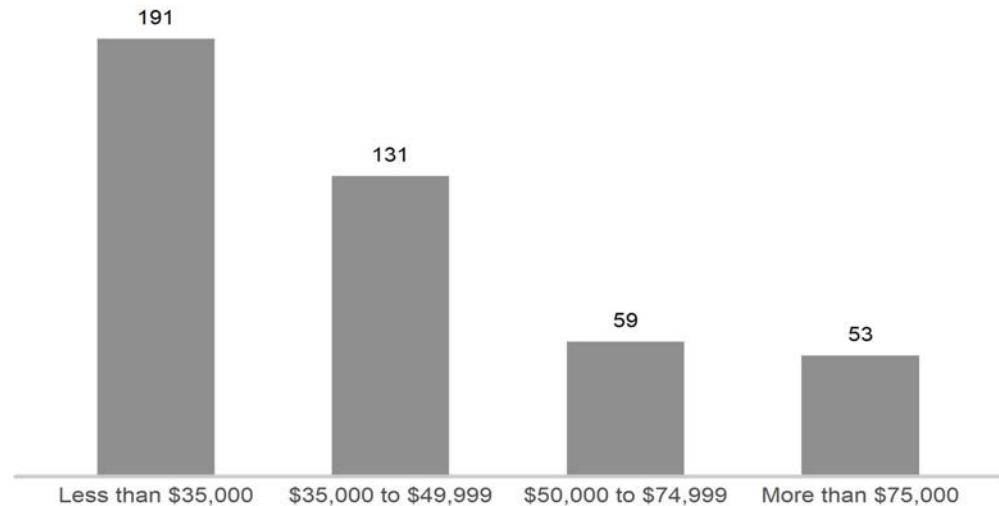
Wages and Advertised Salary

Starting wages for many teaching positions are not competitive within Education-related occupations but do have growth potential. Teachers' wages are generally negotiated by a union and increase over time. The average advertised salary for Education jobs during Q4 2017 was \$46,000 per year. Over 44 percent of postings indicate annual salaries below \$35,000 despite high educational requirements.

In the wage table below, four of the top ten jobs have entry-level wages at or below \$10 per hour, though most show dramatic increases over time. However, Preschool Teachers and Teacher Assistants earn less than \$13 per hour at the median.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
25-2011	Preschool Teachers, Except Special Education	\$9.56	\$10.62	\$12.91	\$17.37	\$22.84
25-9041	Teacher Assistants	\$9.06	\$9.99	\$12.13	\$15.00	\$18.78
25-3099	Teachers and Instructors, All Other	\$9.52	\$11.61	\$16.46	\$27.84	\$38.45
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	\$17.46	\$22.04	\$30.61	\$38.79	\$45.70
25-2022	Middle School Teachers, Except Special and Career/Technical Education	\$18.19	\$23.42	\$32.17	\$38.93	\$44.11
25-2059	Special Education Teachers, All Other	\$17.19	\$23.22	\$32.09	\$39.12	\$47.07
25-1199	Postsecondary Teachers, All Other	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available
25-3099	Tutors	\$9.52	\$11.61	\$16.46	\$27.84	\$38.45
25-1194	Vocational Education Teachers, Postsecondary	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available
25-9031	Instructional Designers and Technologists	\$16.72	\$22.24	\$29.38	\$37.54	\$46.22

Data: EMSI, BLS

Analysis: Workforce Intelligence Network

Education Occupations

Custom Occupation Group

Education-related jobs can be found both in the private and public sectors with teachers and other education-related workers employed in public schools, private schools, and training institutions. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code Occupation

25-1099	Postsecondary Teachers
25-2011	Preschool Teachers, Except Special Education
25-2012	Kindergarten Teachers, Except Special Education
25-2021	Elementary School Teachers, Except Special Education
25-2022	Middle School Teachers, Except Special and Career/Technical Education
25-2023	Career/Technical Education Teachers, Middle School
25-2031	Secondary School Teachers, Except Special and Career/Technical Education
25-2032	Career/Technical Education Teachers, Secondary School
25-2051	Special Education Teachers, Preschool
25-2052	Special Education Teachers, Kindergarten and Elementary School
25-2053	Special Education Teachers, Middle School
25-2054	Special Education Teachers, Secondary School
25-2059	Special Education Teachers, All Other
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors
25-3021	Self-Enrichment Education Teachers
25-3098	Substitute Teachers
25-3099	Teachers and Instructors, All Other
25-4011	Archivists
25-4012	Curators
25-4013	Museum Technicians and Conservators
25-4021	Librarians
25-4031	Library Technicians
25-9011	Audio-Visual and Multimedia Collections Specialists
25-9021	Farm and Home Management Advisors
25-9031	Instructional Coordinators
25-9041	Teacher Assistants
25-9099	Education, Training, and Library Workers, All Other

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.

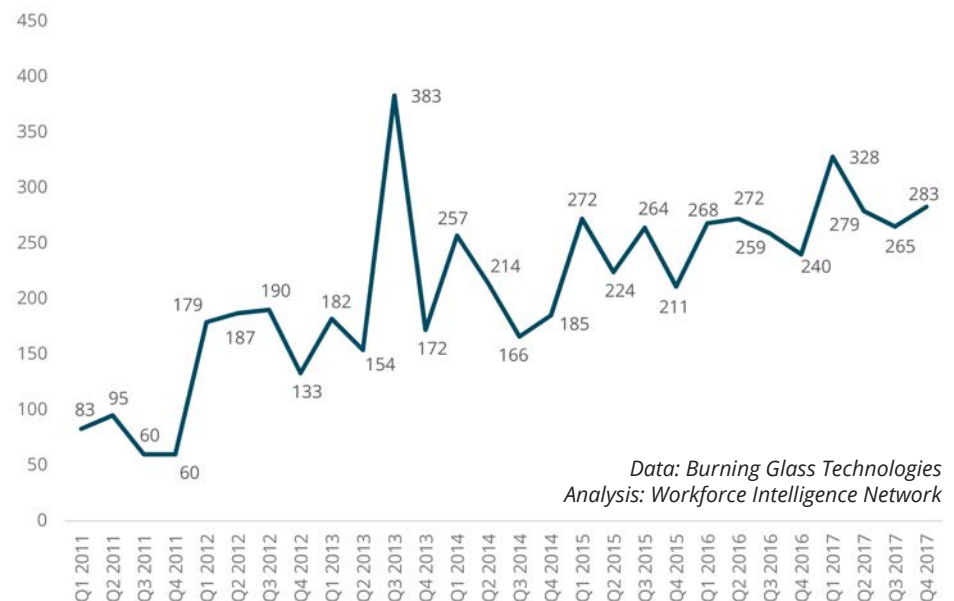
Job Posting Analysis

Online job ads for Energy workers increased slightly during Q4 2017, with 18 more postings than Q3 2017 for a total of 283. Postings had stagnated around an average of 250 job ads for the three years prior. Employer demand this quarter is 18 percent higher than the 240 postings during Q4 2016.

Employment Analysis

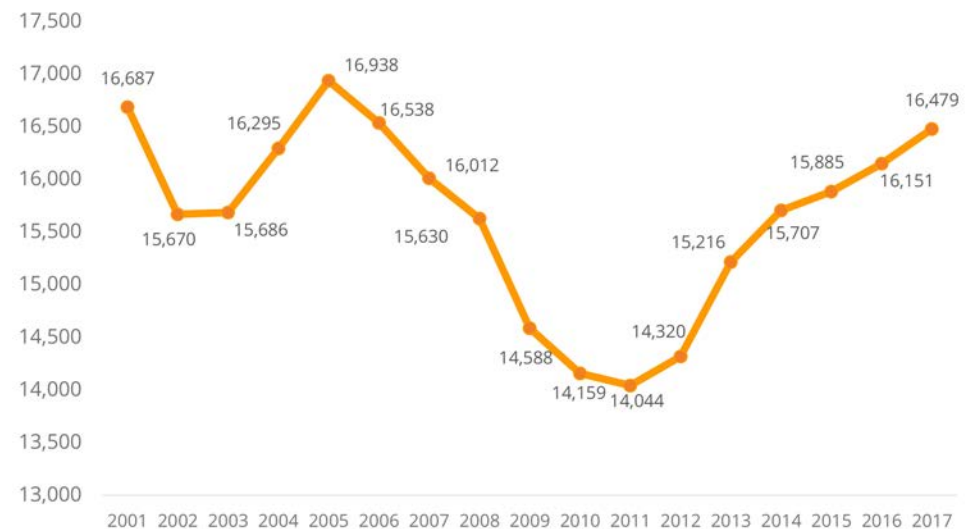
The data presented in the graph to the right represents total employment in the Energy industries (NAICS 2111, 2131, 2211, 2212, 2371), not just WIN-designated Energy occupations. In 2017, 16,479 southeast Michigan workers are employed in these industries. Employment in these industries declined between 2005 and 2011, losing 2,894 jobs. Since then, employment has demonstrated steady growth and recovered 2,435 jobs.

Online Job Postings



Employment Over Time

2001 - 2017



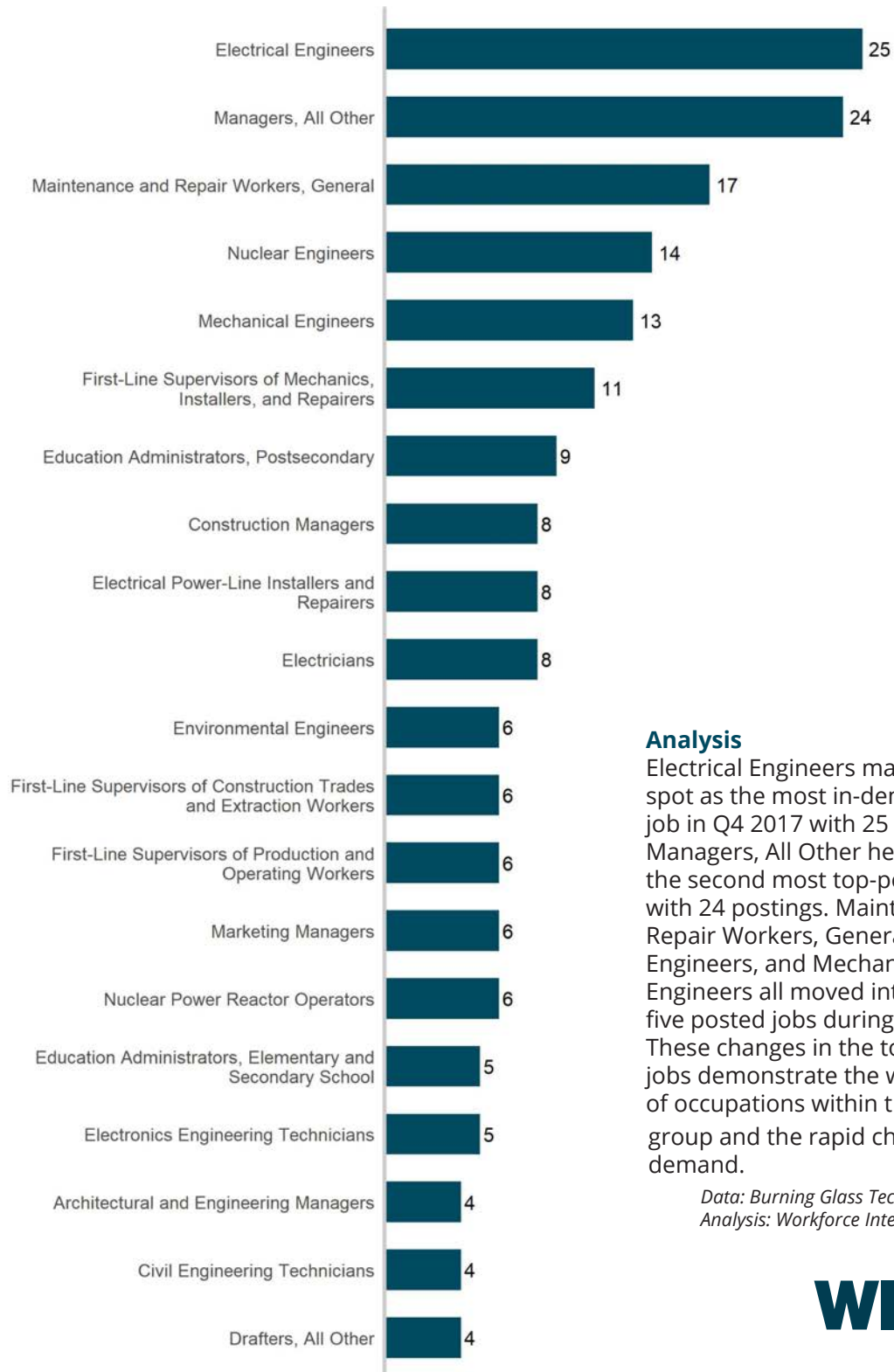


Electrical Engineers:
most in-demand job



Now Hiring: 283 Energy jobs
posted in Q4 2017

Energy
Top Jobs Posted
Quarter 4 2017



Analysis

Electrical Engineers maintained its spot as the most in-demand Energy job in Q4 2017 with 25 postings. Managers, All Other held its spot as the second most top-posted jobs with 24 postings. Maintenance and Repair Workers, General, Nuclear Engineers, and Mechanical Engineers all moved into the top five posted jobs during Q4 2017. These changes in the top-posted jobs demonstrate the wide variety of occupations within the Energy group and the rapid changes in demand.

*Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network*



Bachelor's degree
highly sought after



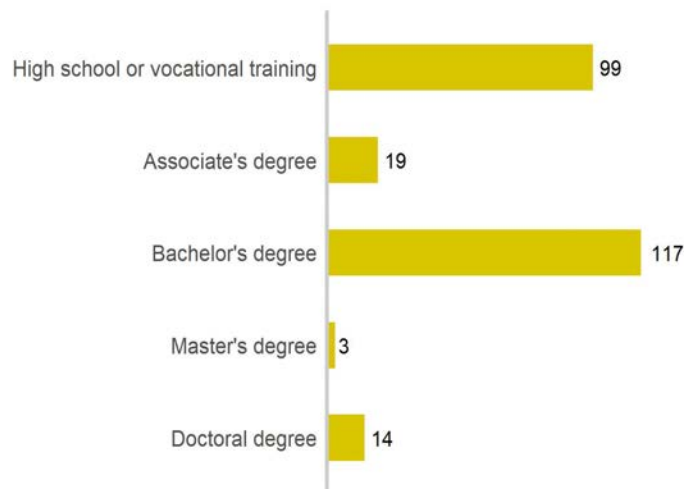
3 to 5 years of experience
required for most jobs

Energy Education and Experience

Many jobs in Energy have an engineering focus and thus require a bachelor's degree for employment. However, there are nearly as many technician-level positions that require vocational training such as an apprenticeship.

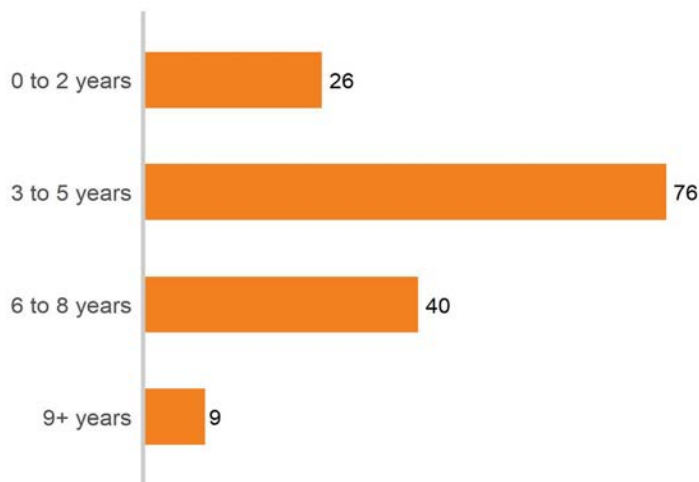
As seen in 53 percent of the postings that specified an experience level, energy companies posting in Q4 2017 preferred three to five years of experience with 76 of the 151 postings. Demand for entry-level workers was much lower, with only 17 percent of postings looking for these workers.

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Engineering, General
- Engineering Technology, General
- Electrical and Electronic Engineering Technologies/ Technicians, Other
- Business Administration and Management, General
- Mechanical Engineering



Management skills in high demand



PMP and CDL certifications in-demand

Energy In-Demand Skills

Employers in the Energy group need workers to have diverse skill sets to suit the many different occupations included. Planning, problem solving, and communications skills are key skills for Energy workers as in many other occupation groups. Since most positions are highly technical, more specific abilities required for Energy jobs reflect engineering and management needs and range from budgeting and management to technical support and repair.

Technical In-Demand Skills

- Budgeting/ Scheduling
- Project Management/Supervisory Skills
- Repair/ Inspection
- Microsoft Office
- Procurement

Foundational In-Demand Skills

- Planning/ Writing/ Research
- Mathematics
- Problem Solving
- Communication Skills
- Ability to Perform Physical Labor

Job Type

- Full-time: 38.9%
- Part-time: Data Not Available
- Temporary: 1.1%

Certifications Required

- Project Management Certification (e.g. PMP)
- Commercial Driver's License (CDL)
- CDL Class A
- Professional Engineer
- Air Brake Certified



\$54,000: Average
advertised annual salary



Engineering and Management positions
provide high earning potential

Energy

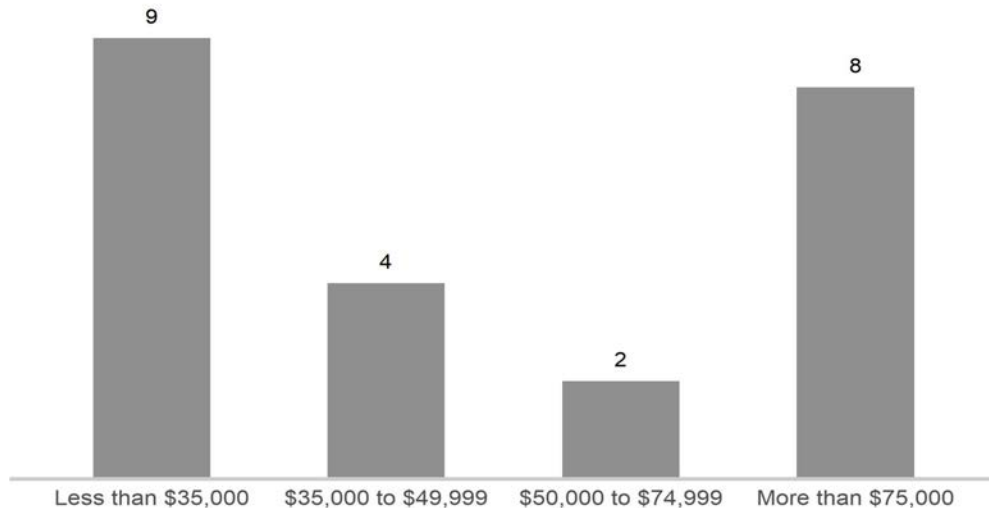
Wages and Advertised Salary

Only eight percent of Q4 2017 Energy postings advertised a salary. Of those that did indicate a salary, most were either advertising under \$35,000 or above \$75,000 annually. The average advertised salary in postings during Q4 2017 was \$54,000.

According to BLS data, wages for energy workers are high and offer upward growth. This is especially true for engineers and managers. Nuclear Engineers reported median annual incomes of nearly \$100,000 per year.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2071	Electrical Engineers	\$28.08	\$34.20	\$42.72	\$50.98	\$61.85
11-9199	Managers, All Other	\$29.81	\$36.73	\$47.75	\$60.25	\$75.86
49-9071	Maintenance and Repair Workers, General	\$10.24	\$12.66	\$16.93	\$22.49	\$27.90
17-2161	Nuclear Engineers	\$34.52	\$41.74	\$47.02	\$52.16	\$59.77
17-2141	Mechanical Engineers	\$27.67	\$34.60	\$43.15	\$52.66	\$61.67
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	\$17.62	\$23.91	\$31.41	\$41.08	\$49.33
11-9021	Construction Managers	\$28.12	\$34.71	\$44.45	\$59.31	\$74.66
49-9051	Electrical Power-Line Installers and Repairers	\$17.16	\$27.40	\$37.27	\$44.69	\$49.61
47-2111	Electricians	\$15.15	\$22.27	\$31.53	\$36.32	\$39.65
17-2081	Environmental Engineers	\$28.03	\$35.59	\$44.57	\$54.25	\$62.93

Data: EMSI, BLS

Analysis: Workforce Intelligence Network

Custom Occupation Group

Jobs in the WIN Energy occupation group are associated with the skilled trades, engineering, management, and planning. Due to the nature of these jobs and the broad industry of Energy as a whole, NAICS codes are used instead of SOC codes to encompass all those employed in Energy related fields. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

NAICS Code Industry

2111	Oil and Gas Extraction
2131	Support Activities for Mining
2211	Electric Power Generation, Transmission and Distribution
2212	Natural Gas Distribution
2371	Utility System Construction



Engineers & Designers Occupation Group (Manufacturing Focused)

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.

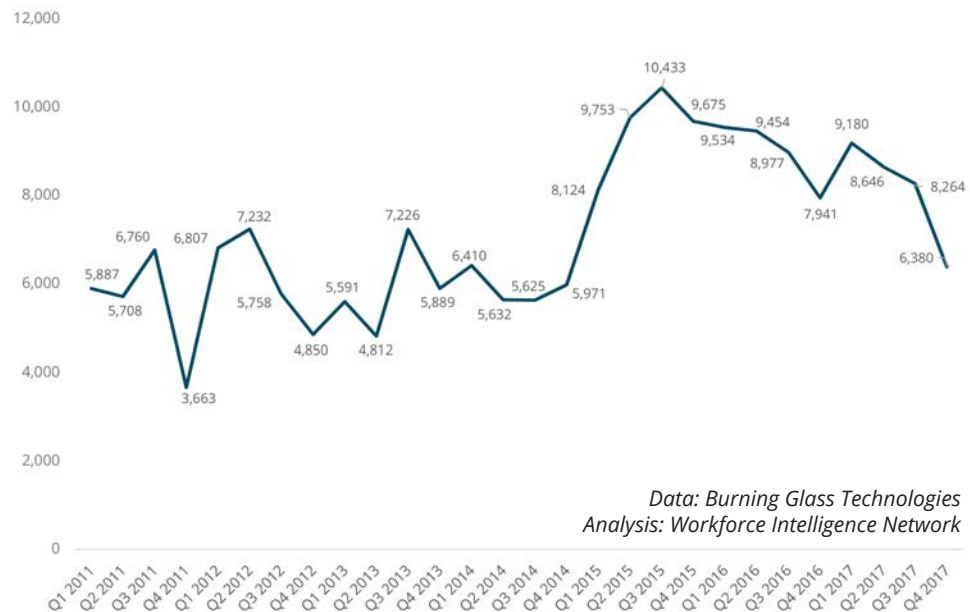
Job Posting Analysis

Online job ads for Engineers and Designers dropped 23 percent to 6,380 during Q4 2017, compared to 8,264 postings during Q3 2017. This drop continues the decline in postings for Engineers and Designers in the greater southeast Michigan region that started in Q1 2015.

Employment Analysis

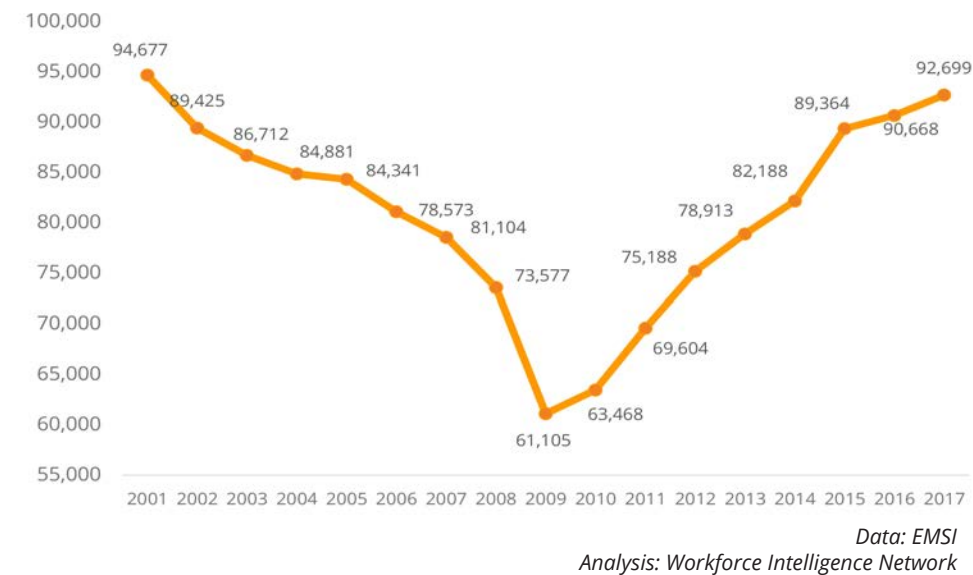
Employment in occupations related to Engineers and Designers grew modestly between 2016 and 2017, gaining 2,031 positions for 92,699 in total. A downward trend of employment for engineers in greater southeastern Michigan began in 2001 when employment peaked at 94,677 jobs, well before the Great Recession of 2009. Since the lowest point of 61,105 workers in 2009, growth has been consistent. Current employment levels are only about 2,000 workers beneath the 2001 peak.

Online Job Postings



Employment Over Time

2001 - 2017



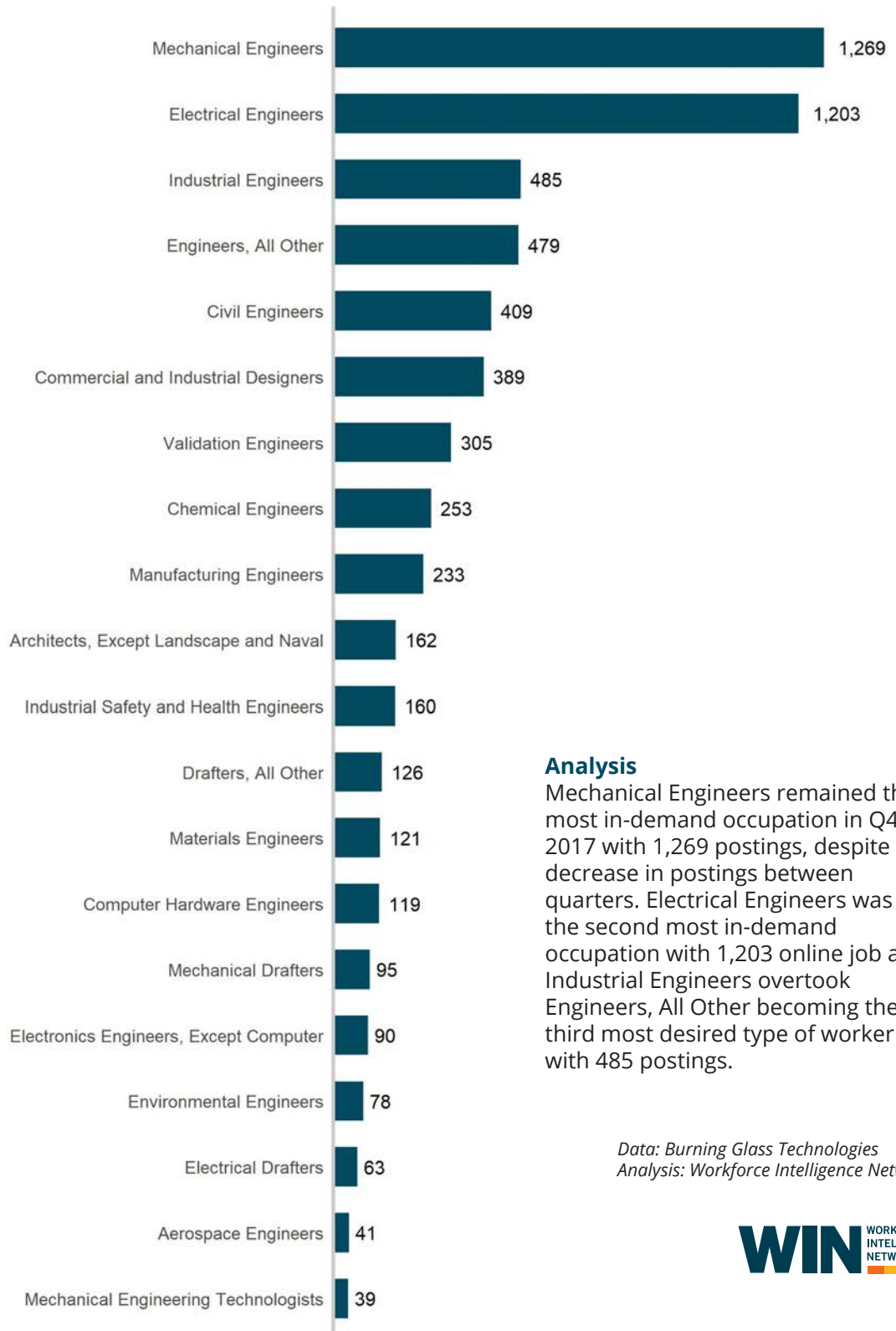


Now Hiring: 6,380 Engineering and Designer job postings



Most desired level of experience: 3 to 5 years

Engineers & Designers Top Jobs Posted Quarter 4 2017



Analysis

Mechanical Engineers remained the most in-demand occupation in Q4 2017 with 1,269 postings, despite the decrease in postings between quarters. Electrical Engineers was the second most in-demand occupation with 1,203 online job ads. Industrial Engineers overtook Engineers, All Other becoming the third most desired type of worker with 485 postings.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



65% of advertised salaries > \$75,000



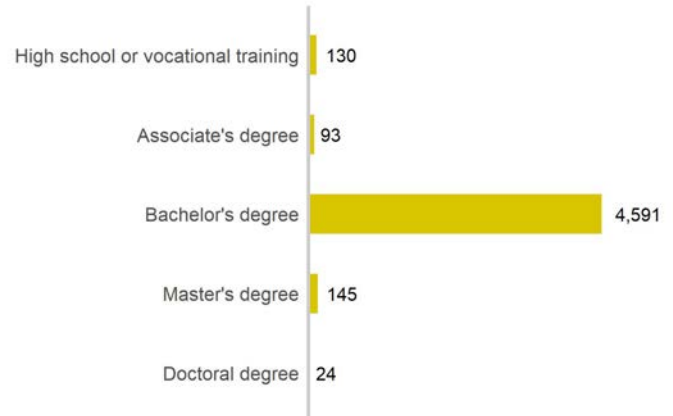
Education desired:
Bachelor's degree

Engineers & Designers Education and Experience

Of the Engineers and Designer job postings that specified a desired experience level during Q4 2017, 78 percent required five years of experience or less. The most in-demand level of experience was three to five years with 2,277 postings. Education is key to augment experience for engineers.

Of the 78 percent of ads that specified educational attainment, or 4,983 postings, most required a bachelor's degree. The near universal requirement for moderate experience alongside a college education suggests that incoming students should seek work experience before leaving school.

Educational Attainment

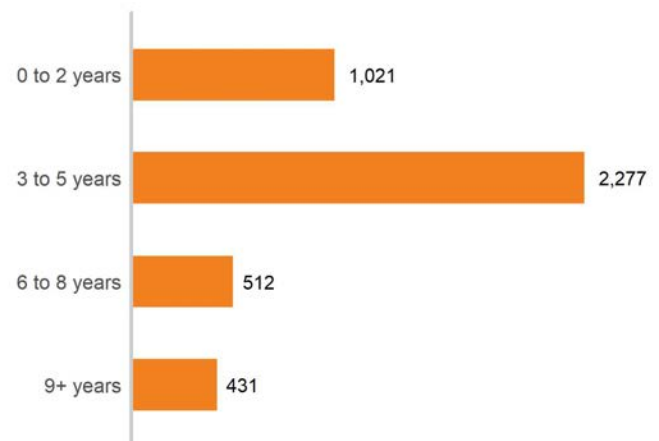


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Engineering, General
- Mechanical Engineering
- Electrical and Electronic Engineering Technologies/ Technicians, Other
- Computer Science
- Aerospace, Aeronautical and Astronautical Engineering

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Top area of study:
Engineering

57%
of job ads offer
full-time employment

Engineers & Designers In-Demand Skills

Engineering and Design occupations require a wide array of skills, from the highly technical to those valued in most modern workplaces. Advanced knowledge of manufacturing processes and project development are desired, as are familiarity with Microsoft Office and scheduling. Employers hiring Engineers and Designers prefer candidates with effective communication, organization, and problem-solving skills.

Technical In-Demand Skills

- Mechanical Engineering
- Microsoft Office
- Electrical Engineering
- Validation
- Project Management

Foundational In-Demand Skills

- Communication Skills
- Problem Solving/ Troubleshooting
- Mathematics
- Writing
- Planning

Job Type

- Full-time: 57.4%
- Part-time: 0.7%
- Temporary: 2.8%

Certifications Required

- American Board for Engineering and Technology (ABET) Accredited
- Six Sigma Certification
- Professional Engineer
- Six Sigma Black Belt
- Security Clearance



Skills: Mechanical Engineering and Project Management



Top certification:
ABET Accredited

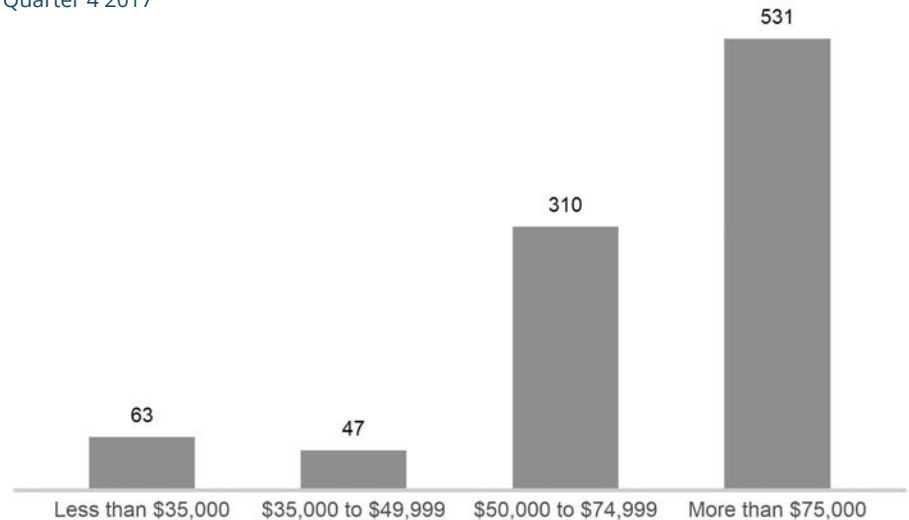
Engineers & Designers Wages and Advertised Salary

Among online job ads that listed salary information, 65 percent offered over \$75,000 annually. With a mean real-time salary for Engineers and Designers of \$83,000, it remains a field well worth the educational investment necessary for entry.

Eight of the ten top jobs have median wages over \$40 hourly, with most having the potential to increase to over \$60 per hour. Even starting wages for half of the top occupations in the Engineers and Designers group are over \$25 per hour.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2141	Mechanical Engineers	\$27.67	\$34.60	\$43.15	\$52.66	\$61.67
17-2071	Electrical Engineers	\$28.08	\$34.20	\$42.72	\$50.98	\$61.85
17-2112	Industrial Engineers	\$29.21	\$35.20	\$43.30	\$52.21	\$60.12
17-2199	Engineers, All Other	\$24.26	\$35.33	\$44.80	\$55.07	\$65.07
17-2051	Civil Engineers	\$24.34	\$28.66	\$35.26	\$43.57	\$55.31
27-1021	Commercial and Industrial Designers	\$25.55	\$33.11	\$40.11	\$46.39	\$50.78
17-2199	Validation Engineers	\$24.26	\$35.33	\$44.80	\$55.07	\$65.07
17-2041	Chemical Engineers	\$35.91	\$40.94	\$48.10	\$57.12	\$65.72
17-2199	Manufacturing Engineers	\$24.26	\$35.33	\$44.80	\$55.07	\$65.07
17-1011	Architects, Except Landscape and Naval	\$21.76	\$26.84	\$33.84	\$42.44	\$52.09

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Engineers and Designers Occupations

Custom Occupation Group

WIN's Engineers and Designers occupation group includes jobs related to engineering and the technicians and designers who aid in the design phase of production. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code Occupation

17-1011	Architects, Except Landscape and Naval
17-1012	Landscape Architects
17-1021	Cartographers and Photogrammetrists
17-1022	Surveyors
17-2011	Aerospace Engineers
17-2021	Agricultural Engineers
17-2031	Biomedical Engineers
17-2041	Chemical Engineers
17-2051	Civil Engineers
17-2061	Computer Hardware Engineers
17-2071	Electrical Engineers
17-2072	Electronics Engineers, Except Computer
17-2081	Environmental Engineers
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
17-2112	Industrial Engineers
17-2121	Marine Engineers and Naval Architects
17-2131	Materials Engineers

SOC Code Occupation

17-2141	Mechanical Engineers
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers
17-2161	Nuclear Engineers
17-2171	Petroleum Engineers
17-2199	Engineers, All Other
17-3011	Architectural and Civil Drafters
17-3012	Electrical and Electronics Drafters
17-3013	Mechanical Drafters
17-3019	Drafters, All Other
17-3021	Aerospace Engineering and Operations Technicians
17-3025	Environmental Engineering Technicians
17-3029	Engineering Technicians, Except Drafters, All Other
17-3031	Surveying and Mapping Technicians
27-1021	Commercial and Industrial Designers

Health Care Occupation Group

Introduction

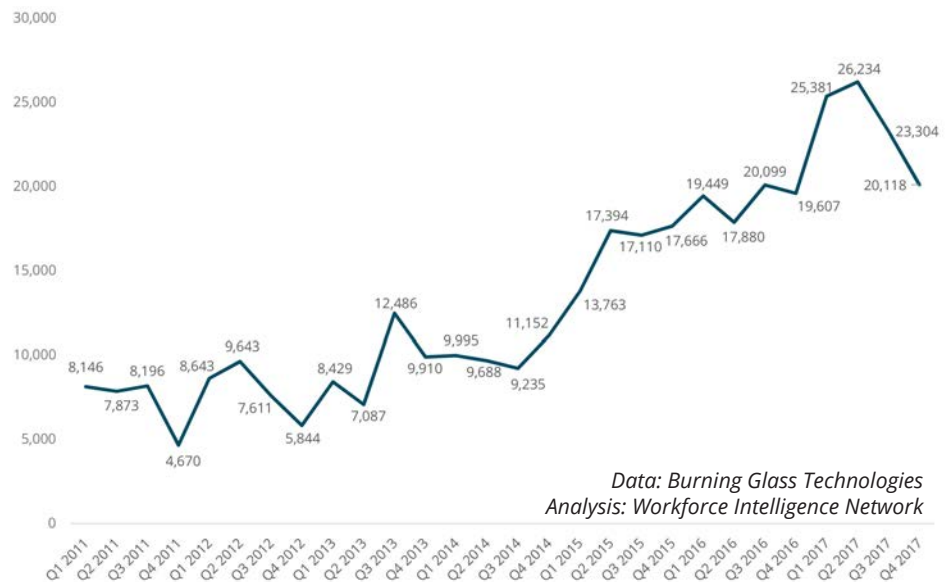
WIN's health care occupation group includes jobs related to health care support and practitioners.

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.

Job Posting Analysis

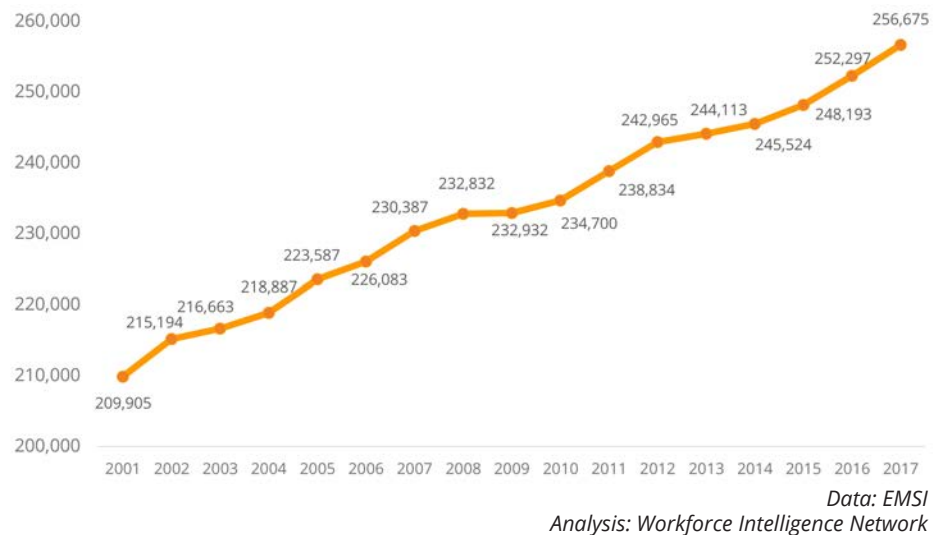
Online job ads for Health Care continued to fall during Q4 2017. Employers listed 20,118 postings, 14 percent less than the 23,304 postings during Q3 2017. Current demand has increased more than 500 postings compared to the 19,607 postings one year ago.

Online Job Postings



Employment Over Time

2001 - 2017



Employment Analysis

With 256,675 jobs, 2017 set a new peak employment level in Health Care, exceeding the previous high of 252,297 jobs in 2016. Employment has shown consistent growth since 2001, and is now 22 percent higher than the 209,905 workers employed in Health Care that year.

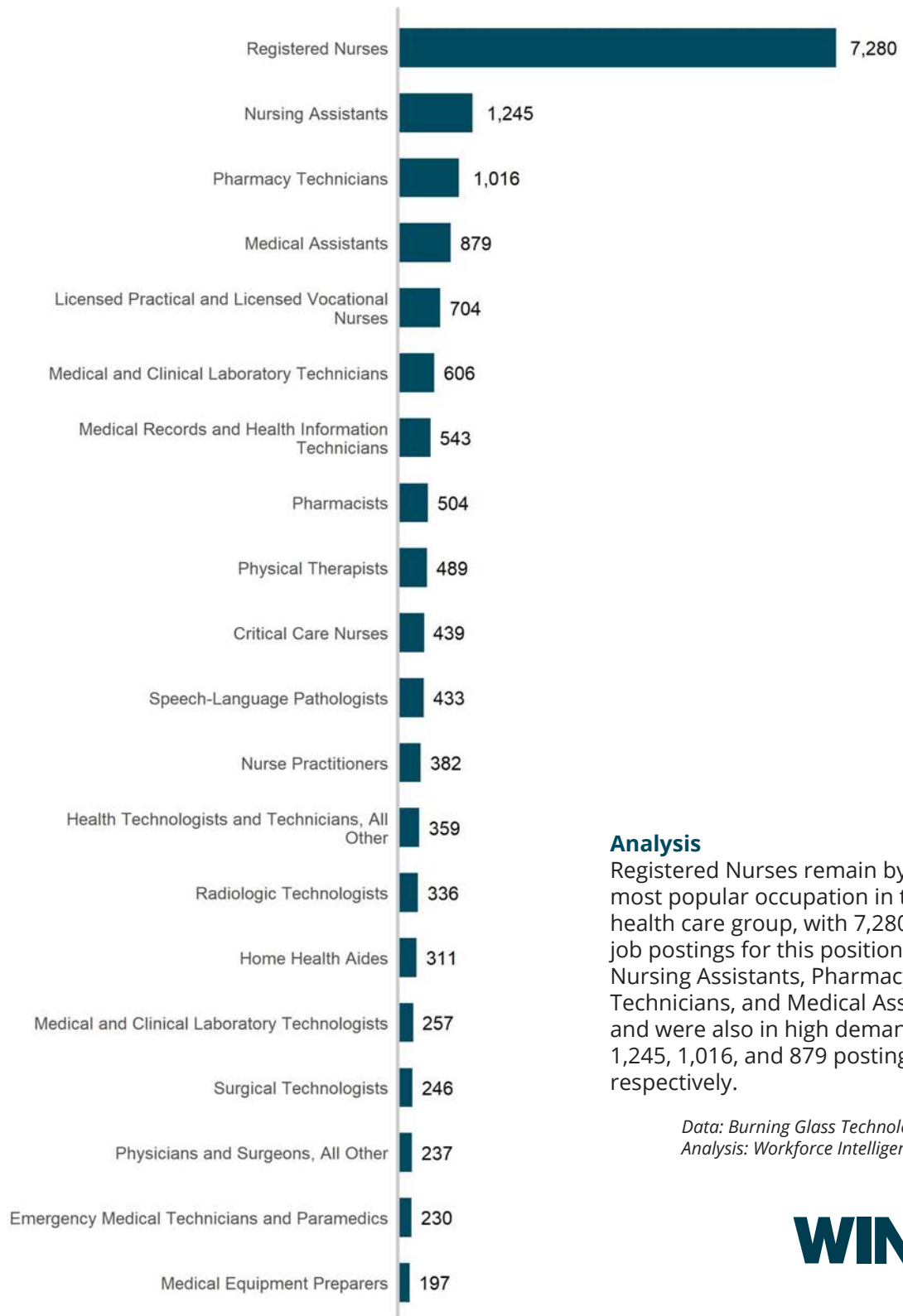


20,118 job postings related
to Health Care



Top in-demand occupation:
Registered Nurses

Health Care
Top Jobs Posted
Quarter 4 2017



Analysis

Registered Nurses remain by far the most popular occupation in the health care group, with 7,280 online job postings for this position. Nursing Assistants, Pharmacy Technicians, and Medical Assistants and were also in high demand with 1,245, 1,016, and 879 postings each, respectively.

*Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network*



Most desired experience
level: 0 to 2 years

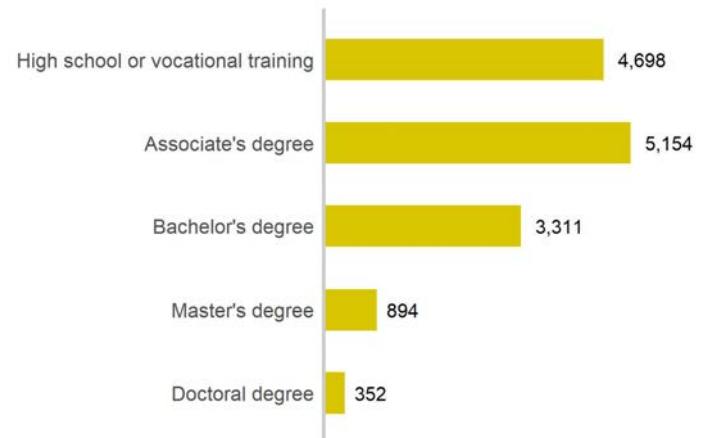
69%
of jobs required an
associate's degree or less

Health Care Education and Experience

Almost all of the Health Care job postings that specified a desired experience level during Q4 2017 were available to workers with under two years of experience. Additionally, 69 percent of postings indicating a desired educational attainment level were open to workers with an associate's degree or less.

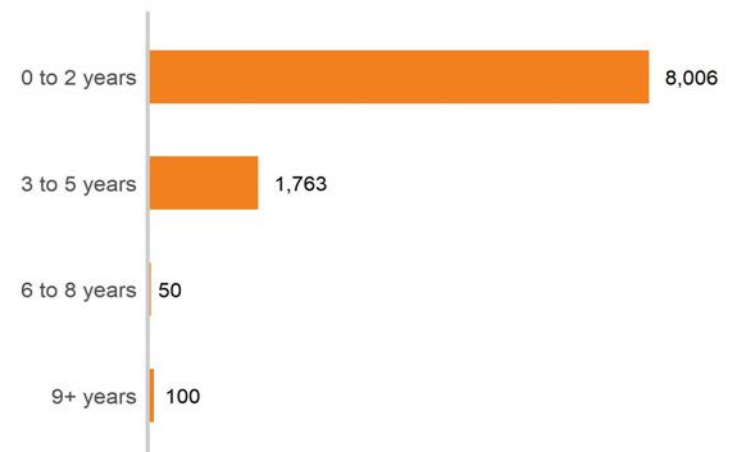
The high proportion of positions requiring limited education and experience combined with the steady employment growth make health care occupations a strong prospect for many workers.

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Nursing Science
- Physical Therapy/ Therapist
- Biology/ Biological Sciences, General
- Radiologic Technology/ Science - Radiographer
- Business Administration and Management, General



Top area of study: Nursing
Science, Physical Therapy

52%
of advertised salaries
> \$50,000

Health Care In-Demand Skills

The occupations in the Health Care group require a wide array of high-level technical skills necessary to effectively provide care. These skills range from technical medical expertise such as CPR, therapy and disease knowledge, to interpersonal and organizational skills like patient care and case management. Employers hiring Health Care workers often post complementary employability skills seeking effective communicators and planners.

Technical In-Demand Skills

- Patient Care/ Treatment Planning
- Teaching
- Supervisory Skills
- Customer Service
- Cardiopulmonary Resuscitation (CPR)

Foundational In-Demand Skills

- Communication Skills/ Teamwork/ Collaboration
- Writing
- Planning
- Problem Solving
- Quality Assurance and Control

Job Type

- Full-time: 53.5%
- Part-time: 9.5%
- Temporary: 11.0%

Certifications Required

- Registered Nurse
- Critical Care Registered Nurse (CCRN)
- First Aid CPR AED
- Basic Cardiac Life Support Certification
- Certified Nursing Assistant



In-demand certifications:
RN, CPR



\$62,000: average
advertised annual salary

Health Care

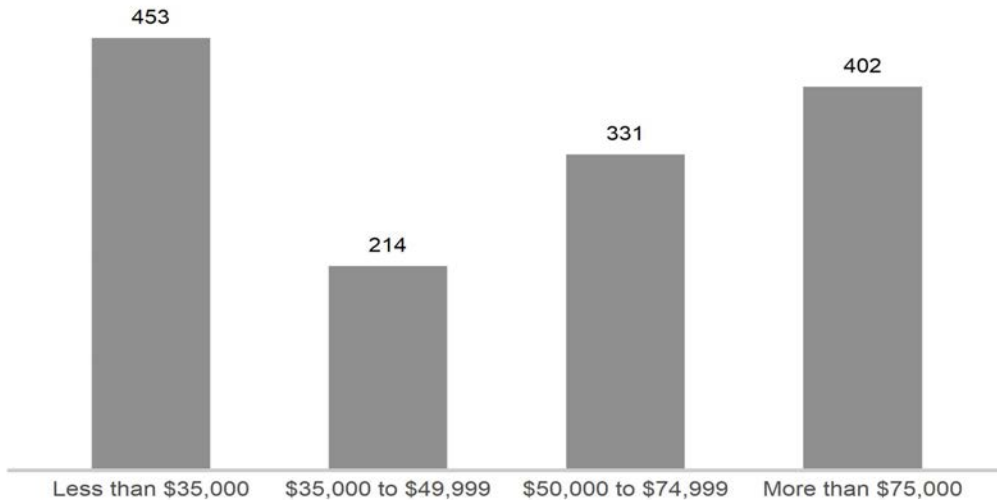
Wages and Advertised Salary

Salary data, where advertised, was evenly distributed during Q4 2017. Of the 20,118 postings, only 1,400 specified a salary. The mean advertised salary was \$62,000 annually, with 48 percent of postings offering below \$50,000 and 52 percent above.

The near equal grouping of salary levels above and below \$50,000 per year shows that despite low education and experience requirements for entry into Health Care occupations, there is plenty of room for advancement in the field. Registered Nurses have strong wage opportunities, offering \$34.10 hourly at the median and \$47.51 at the 90th percentile.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$25.95	\$29.61	\$34.10	\$38.82	\$47.51
31-1014	Nursing Assistants	\$10.39	\$12.14	\$13.88	\$15.97	\$18.10
29-2052	Pharmacy Technicians	\$9.86	\$11.44	\$14.16	\$17.03	\$19.16
31-9092	Medical Assistants	\$11.20	\$12.61	\$14.30	\$16.60	\$18.65
29-2061	Licensed Practical and Licensed Vocational Nurses	\$19.24	\$21.33	\$24.32	\$27.48	\$29.60
29-2012	Medical and Clinical Laboratory Technicians	\$10.85	\$12.86	\$15.16	\$18.18	\$24.16
29-2071	Medical Records and Health Information Technicians	\$11.75	\$13.95	\$17.32	\$22.11	\$27.41
29-1051	Pharmacists	\$45.26	\$52.40	\$57.03	\$61.68	\$67.87
29-1123	Physical Therapists	\$28.14	\$34.33	\$41.38	\$49.30	\$65.68
29-1141	Critical Care Nurses	\$25.95	\$29.61	\$34.10	\$38.82	\$47.51

Data: EMSI, BLS

Analysis: Workforce Intelligence Network



Health Care Occupations

Custom Occupation Group

WIN's Health Care occupation group includes jobs related to health care support and practitioners. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
29-1011	Chiropractors	29-2035	Magnetic Resonance Imaging Technologists
29-1021	Dentists, General	29-2041	Emergency Medical Technicians and Paramedics
29-1022	Oral and Maxillofacial Surgeons	29-2051	Dietetic Technicians
29-1023	Orthodontists	29-2052	Pharmacy Technicians
29-1024	Prosthodontists	29-2053	Psychiatric Technicians
29-1029	Dentists, All Other Specialists	29-2054	Respiratory Therapy Technicians
29-1031	Dietitians and Nutritionists	29-2055	Surgical Technologists
29-1041	Optometrists	29-2056	Veterinary Technologists and Technicians
29-1051	Pharmacists	29-2057	Ophthalmic Medical Technicians
29-1061	Anesthesiologists	29-2061	Licensed Practical and Licensed Vocational Nurses
29-1062	Family and General Practitioners	29-2071	Medical Records and Health Information Technicians
29-1063	Internists, General	29-2081	Opticians, Dispensing
29-1064	Obstetricians and Gynecologists	29-2091	Orthotists and Prosthetists
29-1065	Pediatricians, General	29-2092	Hearing Aid Specialists
29-1066	Psychiatrists	29-2099	Health Technologists and Technicians, All Other
29-1067	Surgeons	29-9011	Occupational Health and Safety Specialists
29-1069	Physicians and Surgeons, All Other	29-9012	Occupational Health and Safety Technicians
29-1071	Physician Assistants	29-9091	Athletic Trainers
29-1081	Podiatrists	29-9092	Genetic Counselors
29-1122	Occupational Therapists	29-9099	Healthcare Practitioners and Technical Workers, All Other
29-1123	Physical Therapists	31-1011	Home Health Aides
29-1124	Radiation Therapists	31-1013	Psychiatric Aides
29-1125	Recreational Therapists	31-1014	Nursing Assistants
29-1126	Respiratory Therapists	31-1015	Orderlies
29-1127	Speech-Language Pathologists	31-2011	Occupational Therapy Assistants
29-1128	Exercise Physiologists	31-2012	Occupational Therapy Aides
29-1129	Therapists, All Other	31-2021	Physical Therapist Assistants
29-1131	Veterinarians	31-2022	Physical Therapist Aides
29-1141	Registered Nurses	31-9011	Massage Therapists
29-1151	Nurse Anesthetists	31-9091	Dental Assistants
29-1161	Nurse Midwives	31-9092	Medical Assistants
29-1171	Nurse Practitioners	31-9093	Medical Equipment Preparers
29-1181	Audiologists	31-9094	Medical Transcriptionists
29-1199	Health Diagnosing and Treating Practitioners, All Other	31-9095	Pharmacy Aides
29-2011	Medical and Clinical Laboratory Technologists	31-9096	Veterinary Assistants and Laboratory Animal Caretakers
29-2012	Medical and Clinical Laboratory Technicians	31-9097	Phlebotomists
29-2021	Dental Hygienists	31-9099	Healthcare Support Workers, All Other
29-2031	Cardiovascular Technologists and Technicians		
29-2032	Diagnostic Medical Sonographers		
29-2033	Nuclear Medicine Technologists		
29-2034	Radiologic Technologists		



Information Technology Occupation Group

Introduction

Information technology 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 meet the employment levels of the others, it is quickly growing.

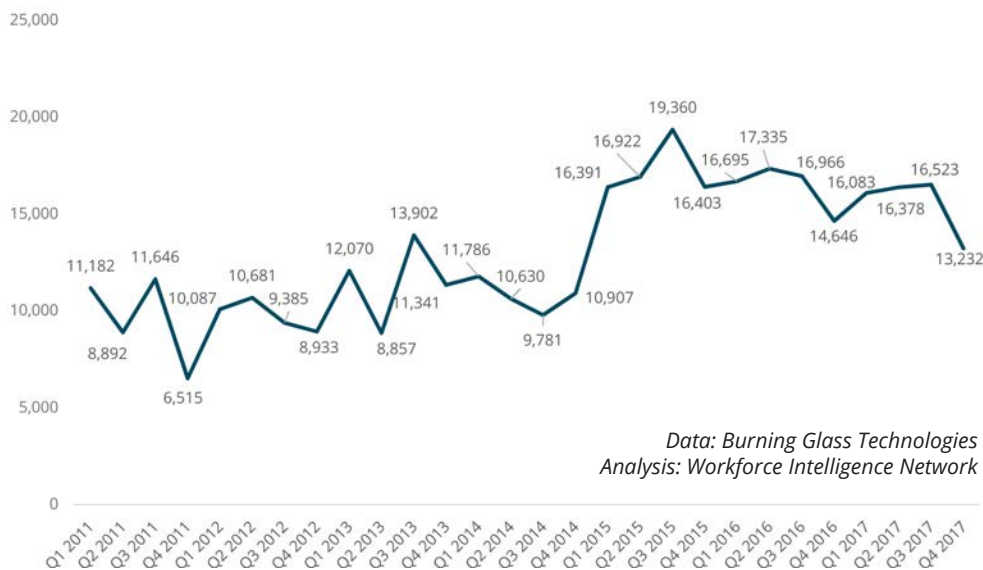
Job Posting Analysis

Online job ads for occupations related to IT fell 20 percent to 13,232 during Q4 2017, compared to 16,523 postings during Q3 2017. Employer demand for IT occupations in greater southeast Michigan last peaked at 19,360 postings in Q3 2015, and has overall decreased slight from this point.

Employment Analysis

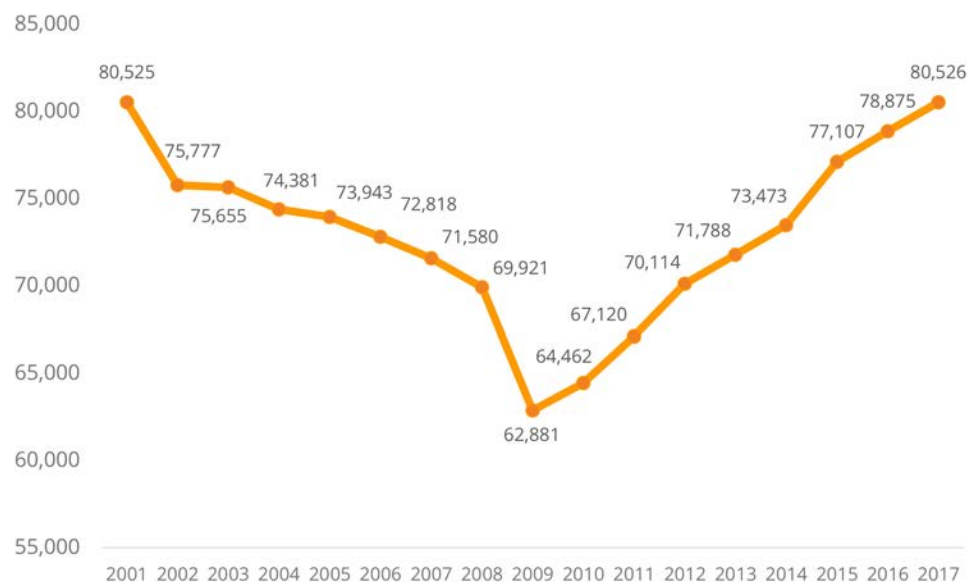
IT-related employment in greater southeast Michigan has maintained consistent growth since 2012, the lowest point in the previous 15 years. To continue this pattern, 2017 reported 80,526 jobs in IT, an increase from 78,875 jobs in 2016.

Online Job Postings



Employment Over Time

2001-2017

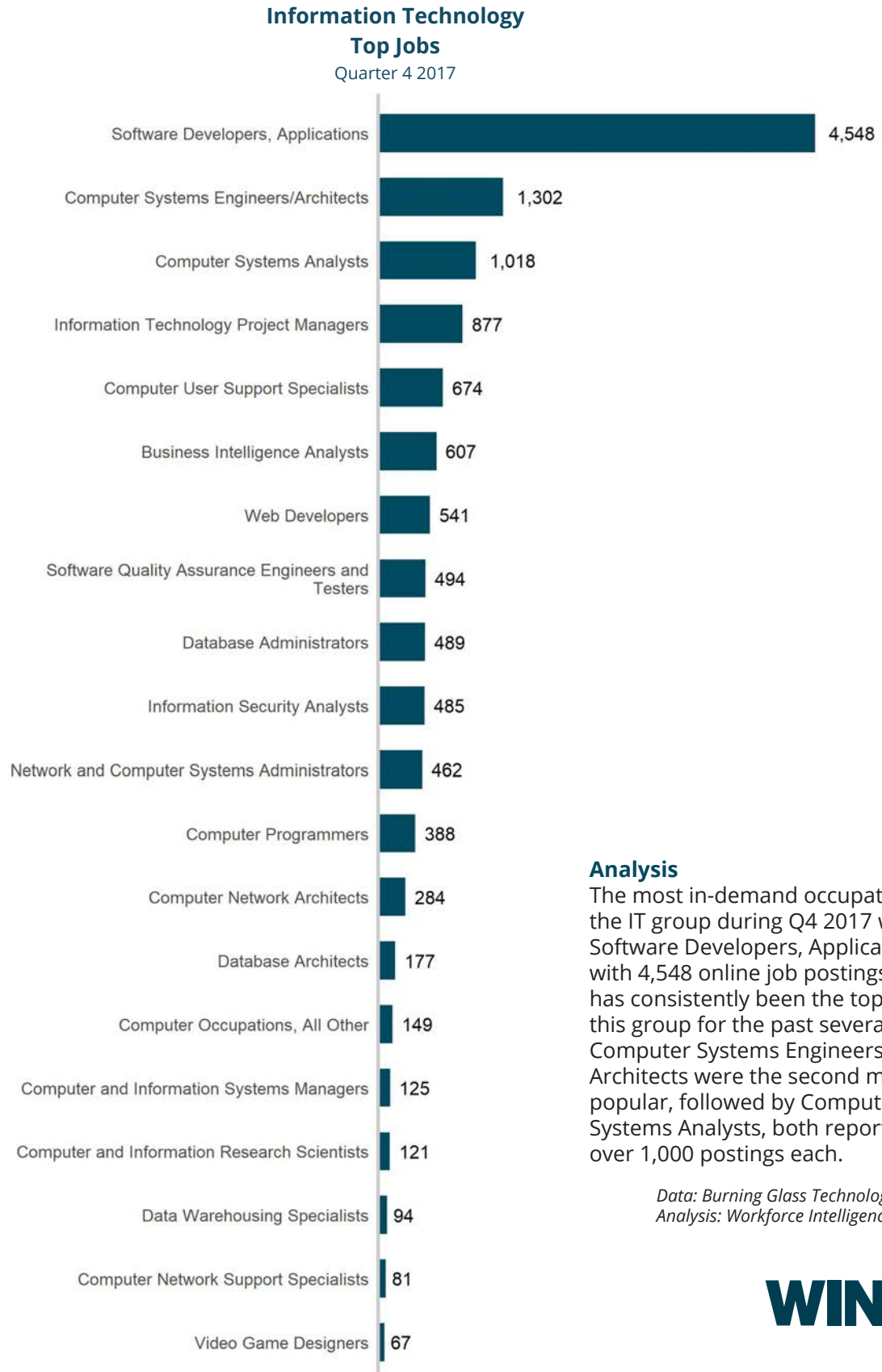




Most in-demand occupation:
Software Developers for Applications



Experience preferred:
3 to 5 years





20% decrease in job postings
between Q3 2017 and Q4 2017

84%

of IT postings require a bachelor's
degree

Information Technology Education and Experience

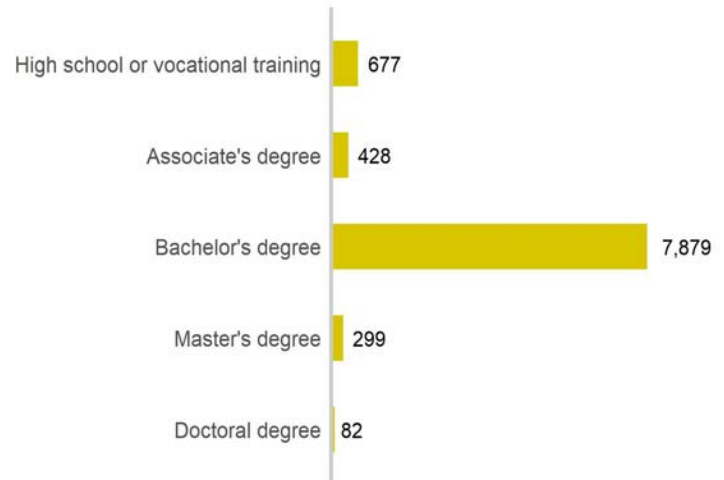
Of the 8,943 IT job postings that specified a desired experience level during Q4 2017, 75 percent were available to workers with under five years of experience. Most of those postings request three to five years of experience, perhaps reflecting the high number of openings for project managers.

Educational requirements were less flexible, with 84 percent of postings that reported a minimum education requirement of a bachelor's degree. The premium put on education over experience illustrates that workers willing to pursue the necessary education will find ample opportunity in IT-related fields.

In-Demand Area of Study

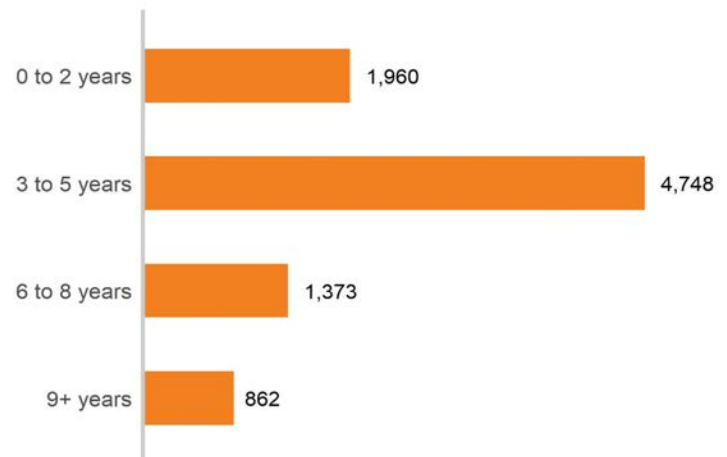
- Computer Science
- Engineering, General
- Electrical and Electronic Engineering Technologies/ Technicians, Other
- Business Administration and Management, General
- Mechanical Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Knowledge areas:
Computer Science, Engineering

66%

of advertised salaries
greater than \$50,000

Information Technology In-Demand Skills

IT occupations require highly technical software proficiency, reflecting the high levels of education for entry. Employers in southeast Michigan hiring during Q4 2017 sought prowess with specific applications like SQL and software engineering. These employers also sought candidates with the ability to effectively problem solve and communicate their solutions to clients.

Technical In-Demand Skills

- Software Development
- SQL
- Project Management
- JAVA/ JavaScript
- Software Engineering

Foundational In-Demand Skills

- Communication Skills
- Problem Solving/ Troubleshooting
- Writing
- Teamwork/ Collaboration
- Planning

Job Type

- Full-time: 49.7%
- Part-time: 0.9%
- Temporary: 3.4%

Certifications Required

- Certified Information Systems Security Professional (CISSP)
- American Board for Engineering and Technology (ABET) Accredited
- Project Management Certification (e.g. PMP)
- Security Clearance
- CISCO Certified Network Associate



Certifications in-demand:
CISSP and ABET



\$91,000: average
advertised annual salary

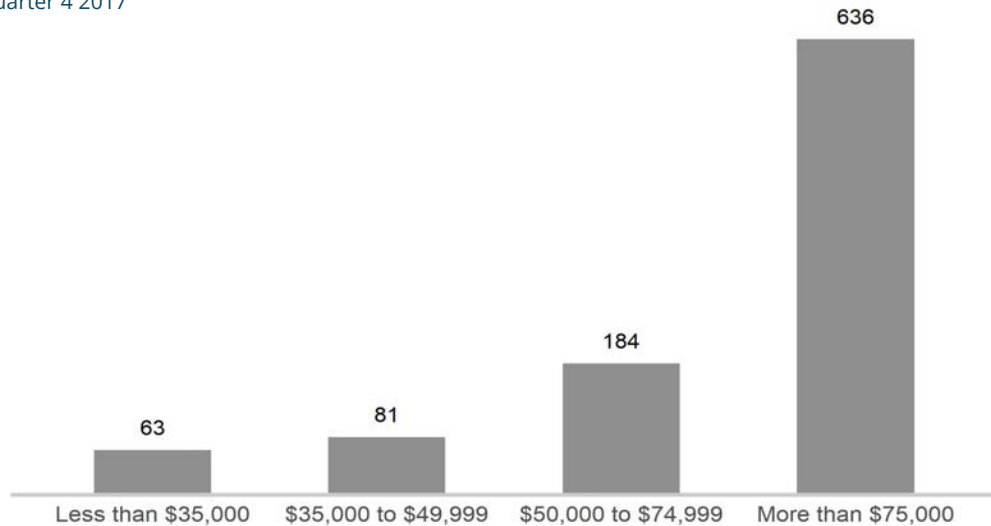
Information Technology Advertised Salary and Wages

Advertised salaries for IT occupations during Q4 2017 were typically above \$75,000 per year, with 66 percent of postings in this category and a mean real-time salary of \$91,000 per year.

The high salaries despite modest experience requirements makes IT a lucrative field in the WIN region for those willing to pursue the necessary training.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	\$24.86	\$32.69	\$42.33	\$53.98	\$63.99
15-1199	Computer Systems Engineers/Architects	\$20.58	\$27.51	\$38.56	\$49.44	\$59.88
15-1121	Computer Systems Analysts	\$25.88	\$33.07	\$42.76	\$52.33	\$61.84
15-1199	Information Technology Project Managers	\$20.58	\$27.51	\$38.56	\$49.44	\$59.88
15-1151	Computer User Support Specialists	\$13.44	\$16.90	\$23.09	\$30.98	\$41.13
15-1199	Business Intelligence Analysts	\$20.58	\$27.51	\$38.56	\$49.44	\$59.88
15-1134	Web Developers	\$19.55	\$24.04	\$30.50	\$38.91	\$46.64
15-1199	Software Quality Assurance Engineers and Testers	\$20.58	\$27.51	\$38.56	\$49.44	\$59.88
15-1141	Database Administrators	\$26.07	\$33.13	\$43.15	\$52.67	\$60.85
15-1122	Information Security Analysts	\$25.68	\$31.15	\$42.24	\$51.81	\$61.97

Data: EMSI, BLS

Analysis: Workforce Intelligence Network

Custom Occupation Group

WIN's Information Technology (IT) occupation group looks at workers tasked to work with and develop programs, websites, and other computer system processes. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation
----------	------------

11-3021	Computer and Information Systems Managers
15-1111	Computer and Information Research Scientists
15-1121	Computer Systems Analysts
15-1122	Information Security Analysts
15-1131	Computer Programmers
15-1132	Software Developers, Applications
15-1133	Software Developers, Systems Software

SOC Code	Occupation
----------	------------

15-1134	Web Developers
15-1141	Database Administrators
15-1142	Network and Computer Systems Administrators
15-1143	Computer Network Architects
15-1151	Computer User Support Specialists
15-1152	Computer Network Support Specialists
15-1199	Computer Occupations, All Other



Skilled Trades & Technicians Occupation Group (Manufacturing Focused)

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.

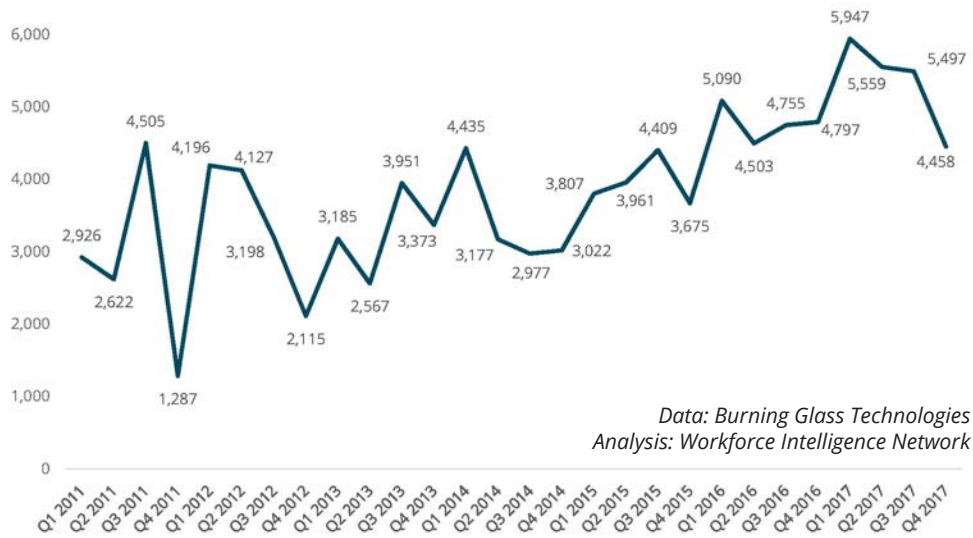
Job Posting Analysis

Online job ads for Skilled Trades occupations fell 19 percent to 4,458 postings during Q4 2017. Despite this decline in postings, demand for Skilled Trades workers in the WIN region has been on the rise since the end of 2012, which reported 2,115 online job ads for Skilled Trades positions.

Employment Analysis

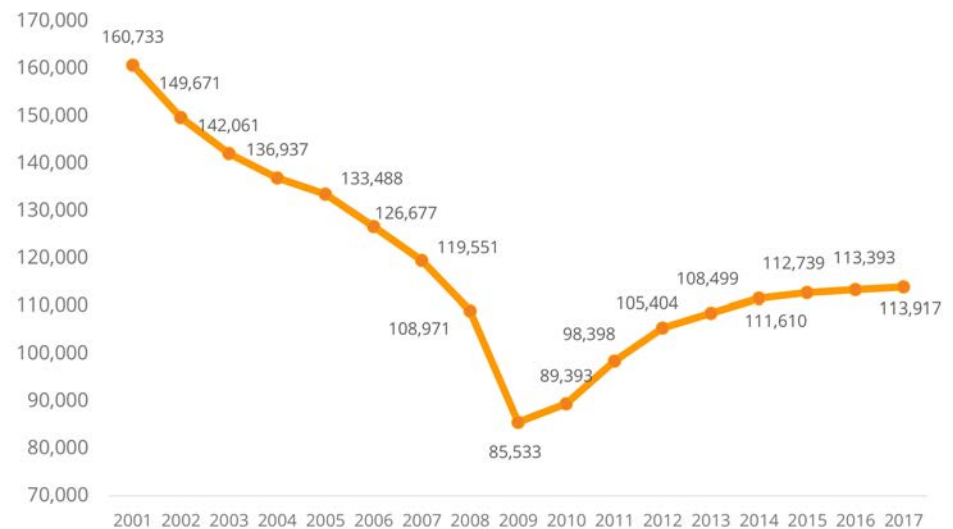
Employment in Skilled Trades declined steeply between 2001 and 2009, but has made consistent, if small, gains since the recession low of 85,533 employed workers. Employment levels have increased one percent since 2015, and 113,917 individuals were employed in Skilled Trades occupations in 2017.

Online Job Postings



Employment Over Time

2001 - 2017





Most in-demand occupation: First-Line Supervisors of Production Workers

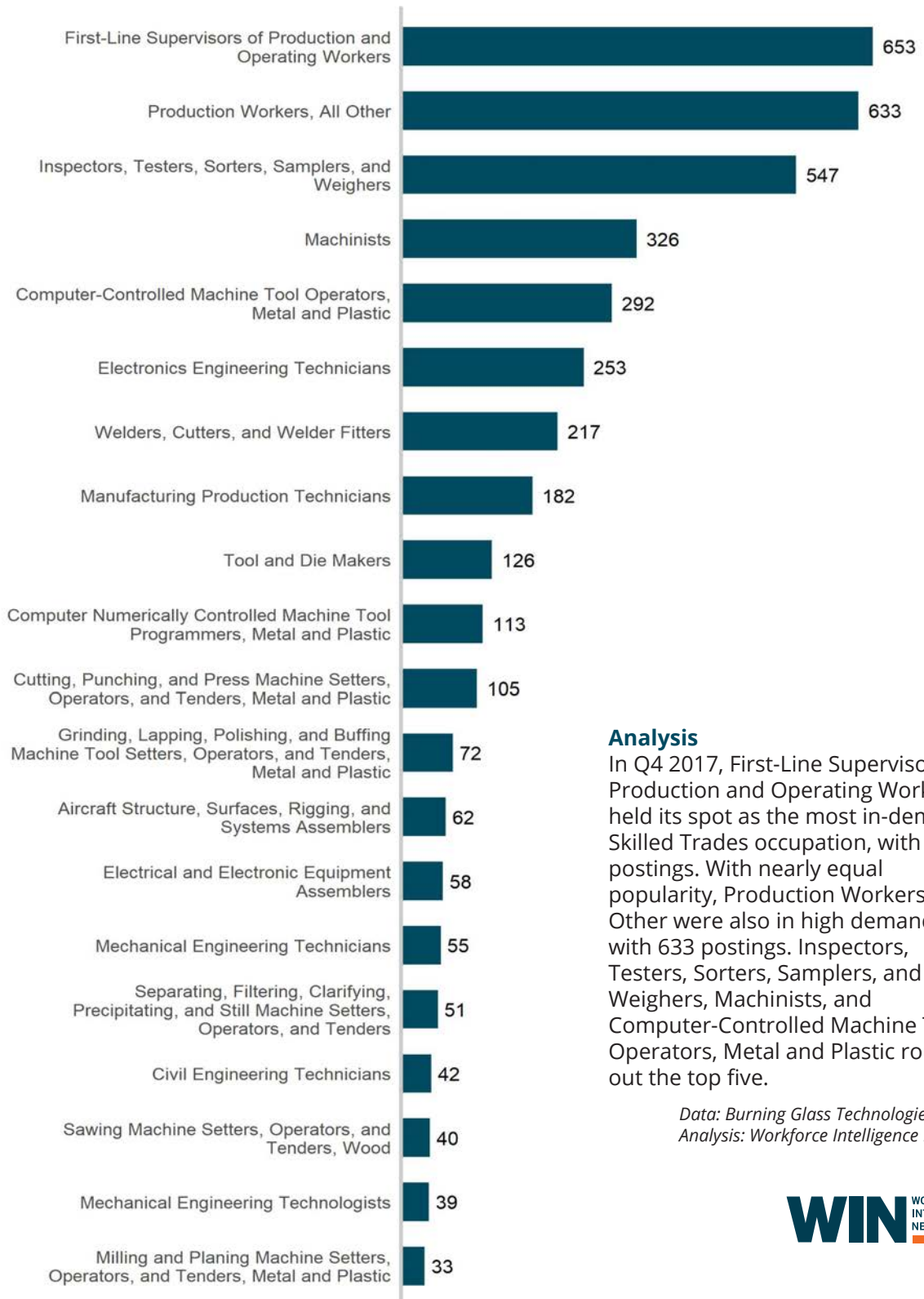


Experience required for most jobs: Less than two years

Skilled Trades & Technicians

Top Jobs Posted

Quarter 4 2017



Analysis

In Q4 2017, First-Line Supervisors of Production and Operating Workers held its spot as the most in-demand Skilled Trades occupation, with 653 postings. With nearly equal popularity, Production Workers, All Other were also in high demand, with 633 postings. Inspectors, Testers, Sorters, Samplers, and Weighers, Machinists, and Computer-Controlled Machine Tool Operators, Metal and Plastic round out the top five.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



\$38,000: average
advertised annual salary



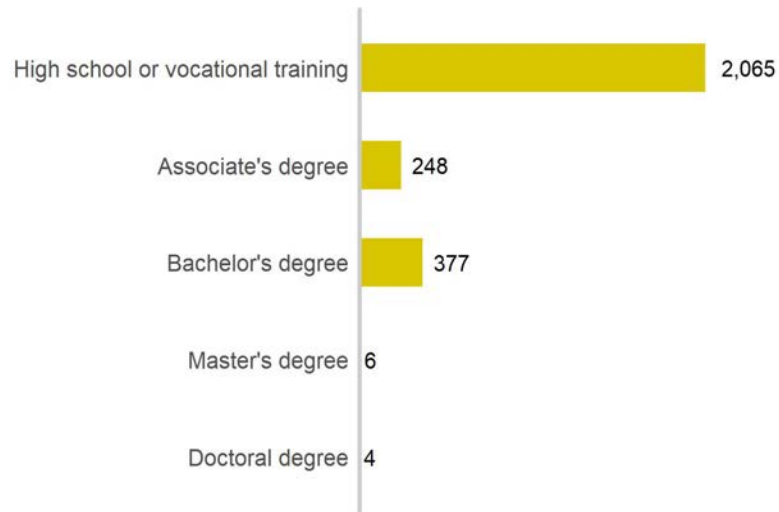
4,458 job postings related to
Skilled Trades in Q4 2017

Skilled Trades & Technicians Educational Attainment Required

Among postings indicating desired experience, 48 percent of postings that specified experience were available to those with fewer than two years of experience. Another 40 percent would like more experienced workers with three to five years. Education requirements are not as variable.

A clear majority (77 percent) of job postings required only a high school diploma or, more commonly, vocational training. The low educational requirements in the Skilled Trades occupations make many positions accessible to entry-level workers willing to put time into on-the-job training and practice.

Educational Attainment

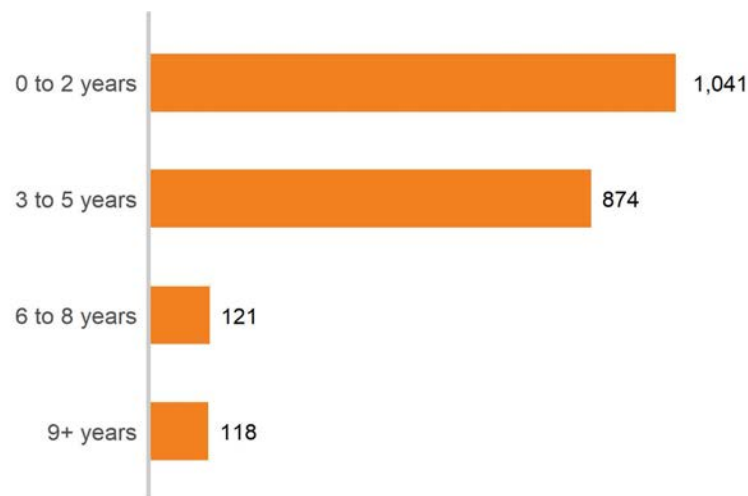


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Engineering, General
- Mechanical Engineering
- Electrical and Electronic Engineering Technologies/ Technicians, Other
- Business Administration and Management, General
- Automotive Engineering Technology/ Technician

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



In-demand certifications:
CDL, Forklift Operator Certification

62%

of job ads indicate
full-time employment

Skilled Trades & Technicians In-Demand Skills

Skilled Trades occupations mainly require manufacturing focused skills and specific tool proficiencies. Employer demand for skills such as CNC milling and repair abilities showcases the technical nature of these positions. Workers will also need more general skills like physical ability, mathematics, and effective communication to succeed in the workplace. With the high demand for supervisors, scheduling, leadership and other supervisory skills were in high demand.

Technical In-Demand Skills

- Repair/ Inspection
- Computer Numerical Control (CNC)
- Machining
- Supervisory Skills
- Welding

Foundational In-Demand Skills

- Communication Skills
- Ability to Perform Physical Labor
- Mathematics
- Problem Solving/ Troubleshooting
- Leadership

Job Type

- Full-time: 61.6%
- Part-time: 1.8%
- Temporary: 6.3%

Certifications Required

- Commercial Driver's License (CDL)
- Forklift Operator Certification
- Security Clearance
- Boiler Operator License
- Welding Certification (e.g. AWS Certified Welder)



Education required: high school diploma and vocational training



Knowledge areas: Engineering, Business Administration

Skilled Trades & Technicians

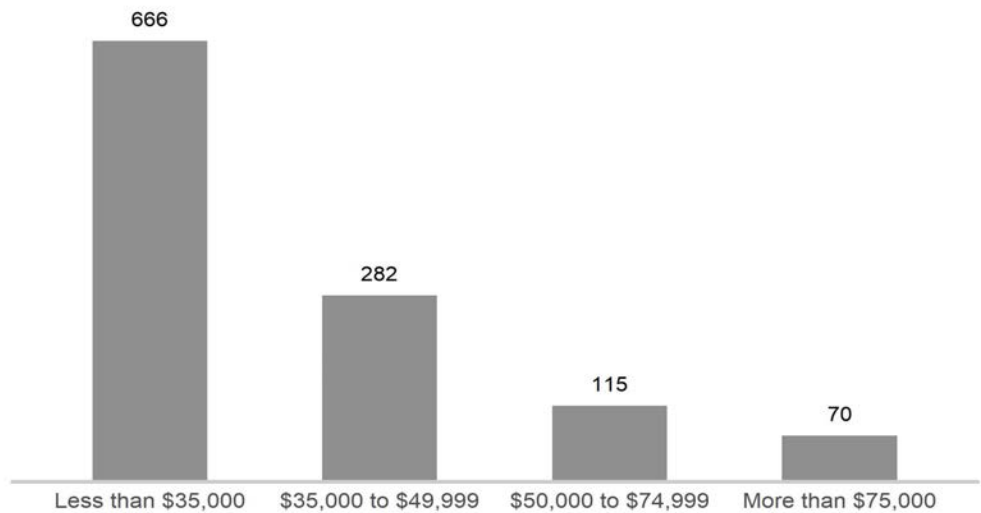
Wages and Advertised Salary

The Skilled Trade occupation group is one of lowest paid occupation groups across southeast Michigan, though this may be due to the high level of entry level postings within the group. In Q4 2017, 59 percent of advertised salaries in the Skilled Trades were below \$35,000 per year.

The median advertised salary was \$38,000 annually. Wage data from the BLS, shown below, reports that half the top ten in-demand Skilled Trades jobs during Q4 2017 have median wages over \$15 per hour with strong growth potential following additional experience.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
51-1011	First-Line Supervisors of Production and Operating Workers	\$17.69	\$23.27	\$30.49	\$40.20	\$49.23
51-9199	Production Workers, All Other	\$10.58	\$13.29	\$17.05	\$20.16	\$24.66
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$9.83	\$11.63	\$16.00	\$22.84	\$29.60
51-4041	Machinists	\$12.87	\$15.69	\$20.00	\$24.87	\$29.13
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$12.00	\$14.90	\$18.67	\$22.27	\$27.46
17-3023	Electronics Engineering Technicians	\$15.77	\$20.31	\$26.74	\$33.16	\$39.30
51-4121	Welders, Cutters, and Welder Fitters	\$13.16	\$15.48	\$18.30	\$22.73	\$29.08
17-3029	Manufacturing Production Technicians	\$18.24	\$24.12	\$31.22	\$37.72	\$46.03
51-4111	Tool and Die Makers	\$16.42	\$20.60	\$25.95	\$32.11	\$36.45
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	\$16.53	\$20.89	\$24.50	\$28.56	\$32.76

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Skilled Trades Occupations

Custom Occupation Group

The Skilled Trades Occupations group encompasses many workers within technical fields and manufacturing. With the automotive industry presence in Southeast Michigan, the Skilled Trades occupation group covers many local workers. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code Occupation

11-3051	Industrial Production Managers
17-3021	Aerospace Engineering and Operations Technicians
17-3022	Civil Engineering Technicians
17-3023	Electrical and Electronics Engineering Technicians
17-3024	Electro-Mechanical Technicians
17-3025	Environmental Engineering Technicians
17-3026	Industrial Engineering Technicians
17-3027	Mechanical Engineering Technicians
17-3029	Engineering Technicians, Except Drafters, All Other
17-3031	Surveying and Mapping Technicians
51-1011	First-Line Supervisors of Production and Operating Workers
51-2021	Coil Winders, Tapers, and Finishers
51-2041	Structural Metal Fabricators and Fitters
51-2091	Fiberglass Laminators and Fabricators
51-3099	Food Processing Workers, All Other
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic

SOC Code Occupation

51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4041	Machinists
51-4051	Metal-Refining Furnace Operators and Tenders
51-4052	Pourers and Casters, Metal
51-4061	Model Makers, Metal and Plastic
51-4062	Patternmakers, Metal and Plastic
51-4071	Foundry Mold and Coremakers
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4111	Tool and Die Makers
51-4121	Welders, Cutters, Solderers, and Brazers
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4192	Layout Workers, Metal and Plastic
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
51-4194	Tool Grinders, Filers, and Sharpeners
51-4199	Metal Workers and Plastic Workers, All Other
51-5111	Prepress Technicians and Workers
51-9199	Production Workers, All Other



Transportation, Distribution, and Logistics (TDL) Occupation Group

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 a consumer. Logistics workers range from materials movers to logistics analysts, coordinating and analyzing material and goods movement.

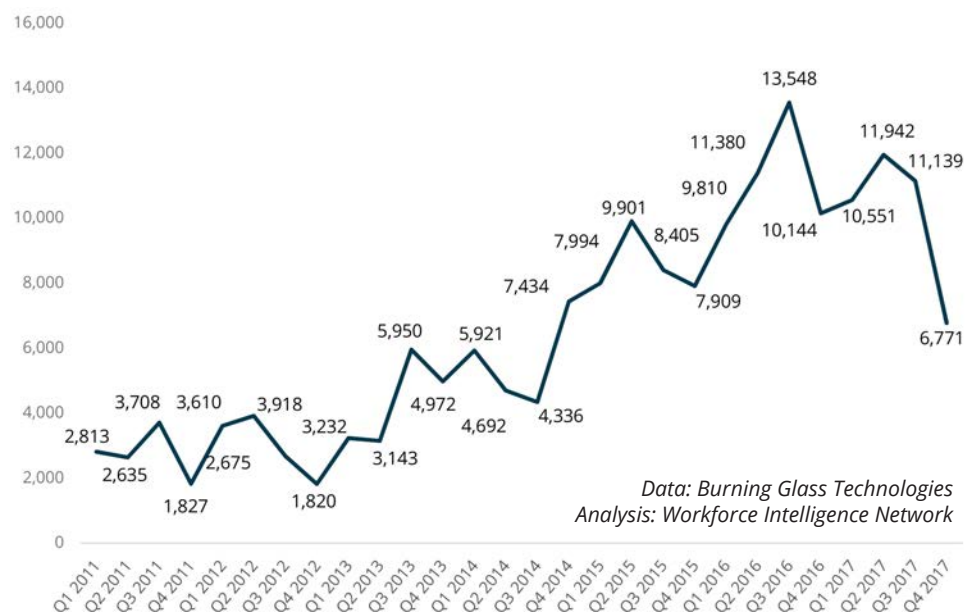
Job Posting Analysis

Online job postings for TDL occupations have declined within the recent quarter. In Q4 2017, there was a 39 percent decline to 6,771 online job ads. Over the past few years, the surge in demand for truck drivers has sustained a high volume of postings in TDL. This drop off may be the result of companies either hiring or taking postings down from various online job boards.

Employment Analysis

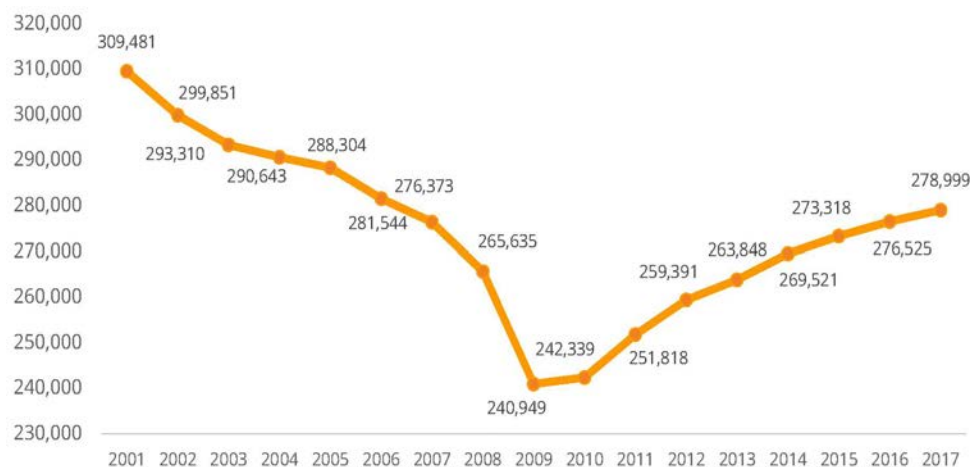
Employment of TDL workers increased to 278,999 workers in 2017. This represents the highest level of employment in southeast Michigan for this occupation group since 2007. Since bottoming out in 2009 during the Great Recession, employment has increased during the past eight consecutive years.

Online Job Postings



Employment Over Time

2001 - 2017





Most in-demand TDL job: Heavy and Tractor-Trailer Truck Drivers

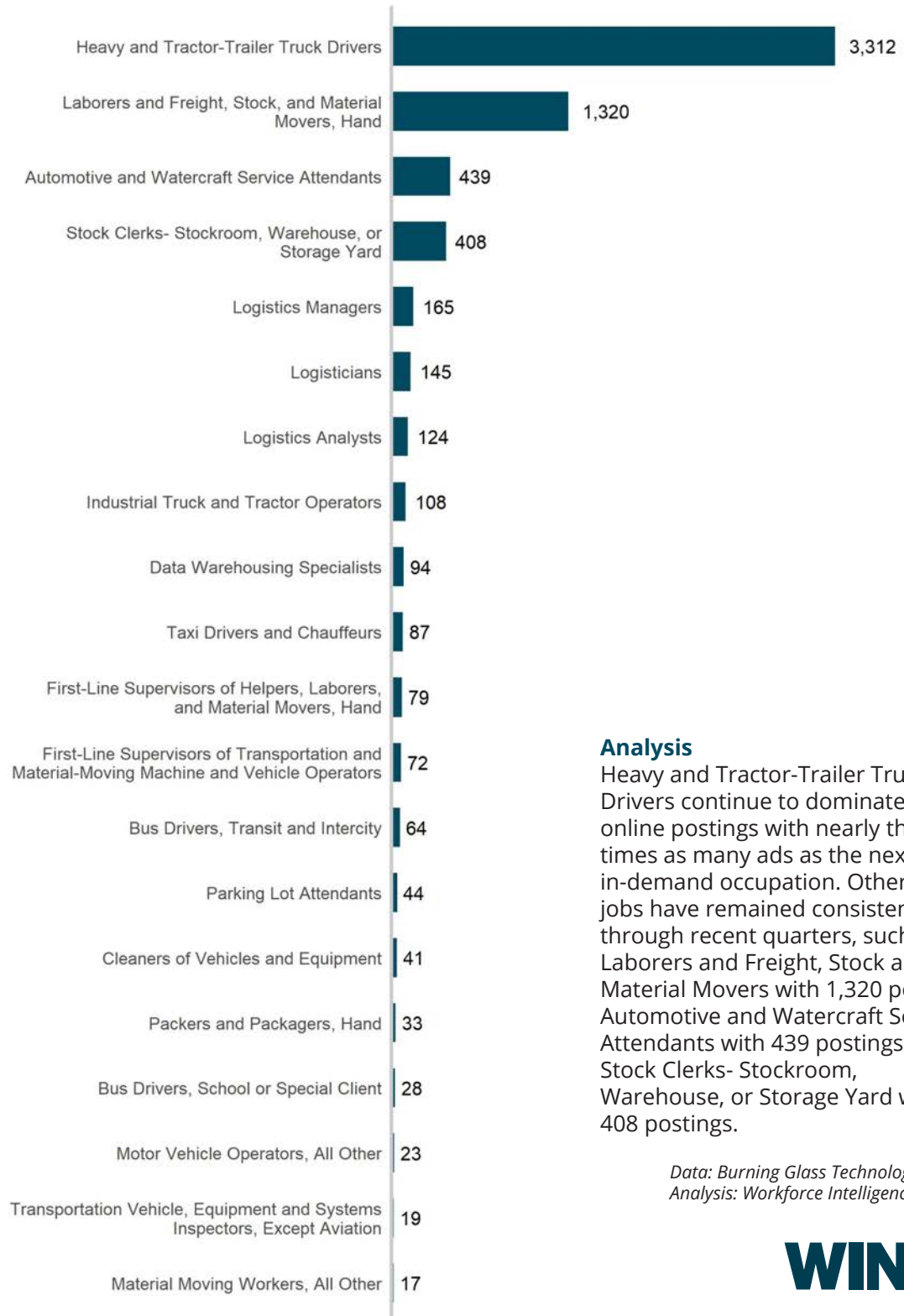


Entry-level opportunities remain high

Transportation, Distribution, and Logistics (TDL)

Top Jobs Posted

Quarter 4 2017



Analysis

Heavy and Tractor-Trailer Truck Drivers continue to dominate TDL online postings with nearly three times as many ads as the next most in-demand occupation. Other top jobs have remained consistent through recent quarters, such as Laborers and Freight, Stock and Material Movers with 1,320 postings, Automotive and Watercraft Service Attendants with 439 postings, and Stock Clerks- Stockroom, Warehouse, or Storage Yard with 408 postings.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



278,999 workers employed
in TDL-related jobs

39%

drop in online postings between
Q3 2017 and Q4 2017

Transportation, Distribution, and Logistics (TDL) Education and Experience

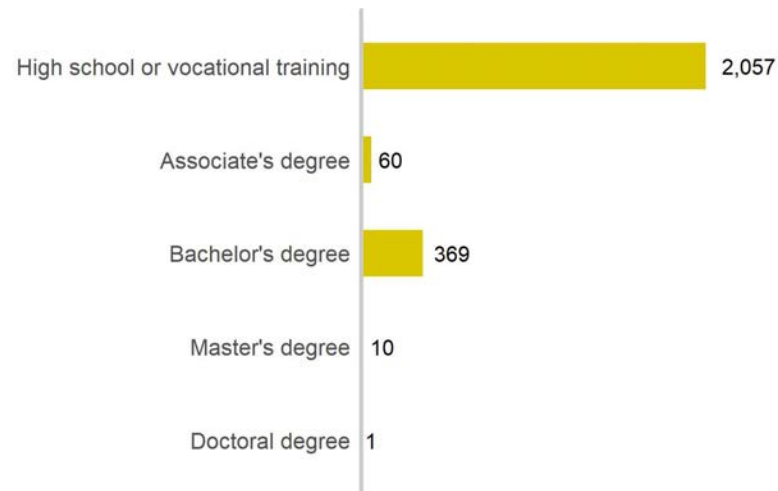
Entry-level job opportunities in TDL are abundant as 73 percent of openings that specified desired experience are available to candidates with zero to two years. The next most in-demand experience level was three to five years, accounting for 21 percent of these postings.

Among postings stating educational requirements, 82 percent of postings required only a high school diploma or vocational training. Bachelor's degrees were the second most in-demand education level for prospective candidates, with 15 percent of job ads. These likely represent logistics analyst and logistician positions. The low requirements for entry and continually growing employment levels make this occupation group a promising one for workers.

In-Demand Area of Study

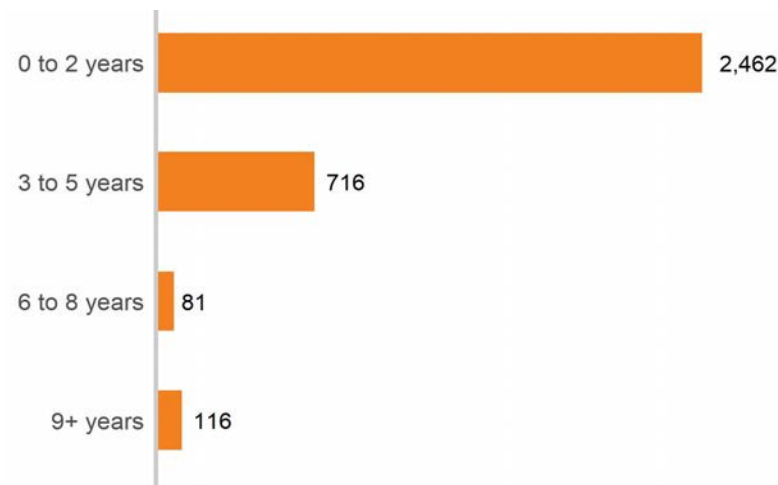
- Business Administration and Management, General
- Logistics, Materials, and Supply Chain Management
- Engineering, General
- Computer Science
- Mechanical Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Hot skills:
Inspection, Repair, Forklift Operation



Bachelor's degree leads to
high wage potential

Transportation, Distribution, and Logistics (TDL) In-Demand Skills

The most often advertised baseline and specialized skills for TDL occupations demonstrate that employers in southeast Michigan seek workers with well-rounded foundational skills along with expertise in TDL-specific duties. In addition to skills in auto repair, logistics, or inventory management, these workers must be able to communicate in teams, problem solve, and effectively perform physical labor.

Technical In-Demand Skills

- Repair/ Inspection
- Forklift Operation
- Logistics
- Customer Service
- Bus Driving

Foundational In-Demand Skills

- Communication Skills
- Ability to Perform Physical Labor
- Organizational Skills/Detail-Oriented
- Writing
- Computer Skills

Job Type

- Full-time: 44.6%
- Part-time: 5.8%
- Temporary: 7.3%

Certifications Required

- Commercial Driver's License (CDL)/CDL Class A
- Automotive Service Excellence (ASE) Certification
- Forklift Operator Certification
- Air Brake Certified
- Hazardous Materials Certification



TDL average advertised
annual salary: \$61,000



\$49.51: median hourly wage
for Logistics Managers

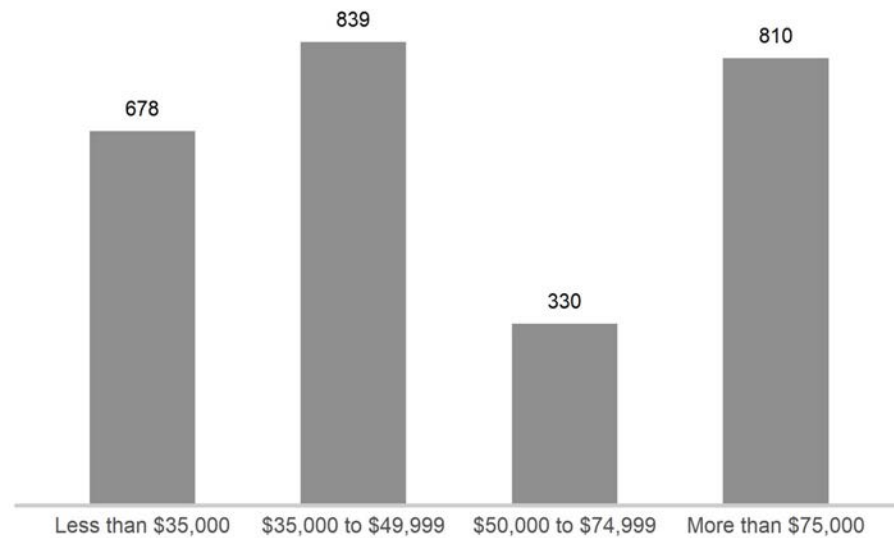
Transportation, Distribution, and Logistics (TDL) Wages and Advertised Salary

While the most common advertised salary for the TDL group in the greater southeast Michigan region was between \$35,000 and \$50,000 annually represented by 32 percent of postings, jobs offering over \$75,000 were relatively common as well with 30 percent of postings offering high salaries. Job postings advertising salaries do not represent wages for all jobs in TDL, but they serve as a sufficient proxy to suggest strong wage growth potential for some occupations. The average advertised salary in Q4 2017 was \$61,000 per year.

With the concentration of most advertised salaries spread relatively evenly between several earning brackets in TDL, the wage table below may provide a better evaluation of earnings. While logistics analysts and other closely related positions may earn more than \$40 per hour at the median, automotive and watercraft attendants, and material moving workers and similar positions earn around \$10 per hour at the median.

Advertised Salary in Job Postings

Quarter 4 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

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	\$13.77	\$16.07	\$19.55	\$24.45	\$30.33
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$9.37	\$10.67	\$13.24	\$16.65	\$20.29
53-6031	Automotive and Watercraft Service Attendants	\$8.80	\$9.15	\$9.96	\$12.01	\$14.25
43-5081	Stock Clerks- Stockroom, Warehouse, or Storage Yard	\$8.86	\$9.33	\$11.04	\$14.72	\$18.63
11-3071	Logistics Managers	\$32.37	\$39.03	\$49.51	\$62.31	\$75.72
13-1081	Logisticians	\$23.50	\$30.34	\$40.67	\$48.55	\$56.46
13-1081	Logistics Analysts	\$23.50	\$30.34	\$40.67	\$48.55	\$56.46
53-7051	Industrial Truck and Tractor Operators	\$10.66	\$12.66	\$16.00	\$21.20	\$25.21
15-1199	Data Warehousing Specialists	\$20.58	\$27.51	\$38.56	\$49.44	\$59.88
53-3041	Taxi Drivers and Chauffeurs	\$8.88	\$9.40	\$10.66	\$12.63	\$15.41

Data: EMSI, BLS

Analysis: Workforce Intelligence Network

Custom Occupation Group

The Transportation, Distribution, and Logistics group (TDL) encompasses jobs focused on the supply chain, with warehouse workers, truck drivers, and logisticians. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
11-3071	Transportation, Storage, and Distribution Managers	49-9099	Installation, Maintenance, and Repair Workers, All Other
11-9199	Managers, All Other	51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
13-1081	Logisticians	51-2031	Engine and Other Machine Assemblers
13-1199	Business Operations Specialists, All Other	53-1011	Aircraft Cargo Handling Supervisors
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand
17-3021	Aerospace Engineering and Operations Technicians	53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators
19-3099	Social Scientists and Related Workers, All Other	53-2011	Airline Pilots, Copilots, and Flight Engineers
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	53-2012	Commercial Pilots
43-5011	Cargo and Freight Agents	53-2021	Air Traffic Controllers
43-5021	Couriers and Messengers	53-2022	Airfield Operations Specialists
43-5032	Dispatchers, Except Police, Fire, and Ambulance	53-2031	Flight Attendants
43-5051	Postal Service Clerks	53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians
43-5052	Postal Service Mail Carriers	53-3021	Bus Drivers, Transit and Intercity
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	53-3022	Bus Drivers, School or Special Client
43-5061	Production, Planning, and Expediting Clerks	53-3032	Heavy and Tractor-Trailer Truck Drivers
43-5071	Shipping, Receiving, and Traffic Clerks	53-3033	Light Truck or Delivery Services Drivers
43-5081	Stock Clerks and Order Fillers	53-3041	Taxi Drivers and Chauffeurs
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	53-3099	Motor Vehicle Operators, All Other
47-2011	Boilermakers	53-4011	Locomotive Engineers
47-4061	Rail-Track Laying and Maintenance Equipment Operators	53-4012	Locomotive Firers
49-2091	Avionics Technicians	53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	53-4021	Railroad Brake, Signal, and Switch Operators
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	53-4031	Railroad Conductors and Yardmasters
49-3011	Aircraft Mechanics and Service Technicians	53-4099	Rail Transportation Workers, All Other
49-3021	Automotive Body and Related Repairers	53-6011	Bridge and Lock Tenders
49-3022	Automotive Glass Installers and Repairers	53-6021	Parking Lot Attendants
49-3023	Automotive Service Technicians and Mechanics	53-6031	Automotive and Watercraft Service Attendants
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	53-6041	Traffic Technicians
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	53-6051	Transportation Inspectors
49-3043	Rail Car Repairers	53-6099	Transportation Workers, All Other
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	53-7011	Conveyor Operators and Tenders
49-3091	Bicycle Repairers	53-7021	Crane and Tower Operators
49-3092	Recreational Vehicle Service Technicians	53-7032	Excavating and Loading Machine and Dragline Operators
49-3093	Tire Repairers and Changers	53-7041	Hoist and Winch Operators
49-9097	Signal and Track Switch Repairers	53-7051	Industrial Truck and Tractor Operators
		53-7061	Cleaners of Vehicles and Equipment
		53-7062	Laborers and Freight, Stock, and Material Movers, Hand
		53-7064	Packers and Packagers, Hand
		53-7121	Tank Car, Truck, and Ship Loaders

Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 Annual	2016 Annual	2017 Annual	Change from 2016	Percent Change from 2016
Labor Force	2,748,569	2,674,603	2,675,835	2,707,407	2,709,990	2,705,375	2,755,253	2,783,770	28,517	1.0%
Employment	2,380,682	2,382,010	2,417,900	2,454,572	2,499,390	2,551,546	2,612,592	2,662,963	50,371	1.9%
Unemployment	367,888	292,593	257,935	252,835	210,601	153,829	142,661	120,807	-21,854	-15.3%
Unemployment Rate	13.4%	10.9%	9.6%	9.3%	7.8%	5.7%	5.2%	4.3%	-0.8%	na

**Note: Monthly data averaged by year*

Data: Bureau of Labor Statistics

Quarterly Labor Market Data

	4th Quarter 2016	1st Quarter 2017	2nd Quarter 2017	3rd Quarter 2017	4th Quarter 2017	Change from 3rd Quarter 2017	Percent Change from 3rd Quarter 2017	One-Year Change from 4th Quarter 2016	One-Year Percent Change from 4th Quarter 2016
Labor Force	2,765,994	2,778,325	2,774,542	2,799,417	2,782,796	-16,620	-0.6%	16,802	0.6%
Employment	2,632,697	2,624,882	2,669,483	2,670,389	2,668,270	-2,119	-0.1%	35,573	1.4%
Unemployment	133,297	153,443	105,059	129,028	114,526	14,502	13.8%	-18,771	-14.1%
Unemployment Rate	4.8%	5.5%	3.8%	4.6%	4.1%	0.5%	na	-0.7%	na

**Note: Monthly data averaged by quarter*

Data: Bureau of Labor Statistics









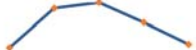


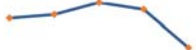
Monthly Labor Market Data

	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017
Labor Force	2,781,878	2,760,458	2,755,647	2,770,797	2,783,790	2,780,388	2,766,314	2,777,497	2,779,815	2,795,262	2,794,401	2,808,587	2,785,767	2,786,335	2,776,287
Employment	2,632,527	2,636,540	2,629,025	2,606,480	2,623,865	2,644,302	2,659,861	2,675,918	2,672,669	2,662,786	2,666,875	2,681,505	2,666,043	2,680,291	2,658,476
Unemployment	149,351	123,918	126,622	164,317	159,925	136,086	106,453	101,579	107,146	132,476	127,526	127,082	119,724	106,044	117,811
Unemployment Rate	5.4%	4.5%	4.6%	5.9%	5.7%	4.9%	3.8%	3.7%	3.9%	4.7%	4.6%	4.5%	4.3%	3.8%	4.2%

** Note: Data shown for 15 most recently available months*

Data: Bureau of Labor Statistics

Job Posting Data by Occupation Group* Over Time

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Change Over Time	Annual Change Q4 2016-Q4 2017	Quarter Growth Q3 2017-Q4 2017
Total Postings	141,413	160,628	161,940	159,191	129,634		-8.3%	-18.6%
Agriculture	1,660	2,447	2,407	2,120	1,722		3.7%	-18.8%
Business & finance	9,335	9,966	9,862	10,069	7,933		-15.0%	-21.2%
Construction	1,219	1,472	2,306	1,658	1,137		-6.7%	-31.4%
Customer service	33,345	35,398	35,837	35,593	35,266		5.8%	-0.9%
Education	3,150	2,613	2,675	2,959	2,284		-27.5%	-22.8%
Energy	240	328	279	265	283		17.9%	6.8%
Engineers & designers	7,941	9,180	8,646	8,264	6,380		-19.7%	-22.8%
Health care	19,607	25,381	26,234	23,304	20,118		2.6%	-13.7%
Information technology	14,646	16,083	16,378	16,523	13,232		-9.7%	-19.9%
Skilled trades & technicians	4,797	5,947	5,559	5,497	4,458		-7.1%	-18.9%
Transportation, distribution, and logistics	10,144	10,551	11,942	11,139	6,771		-33.3%	-39.2%

**Note: Some overlap exists between groups, the occupational groups are not mutually exclusive. Thus, postings should not be added from one group to another but instead should be analyzed on their own.*

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Total Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q4 2017 Total	Change Over Time	Annual Change Q4 2016-Q4 2017	Quarter Growth Q3 2017-Q4 2017
WIN-Region Total	141,413	160,628	161,940	159,191	129,634	100.0%		-8.3%	-18.6%
Detroit	27,288	28,238	31,757	32,332	26,062	20.1%		-4.5%	-19.4%
Genesee & Shiawassee	6,261	7,102	6,463	6,468	5,960	4.6%		-4.8%	-7.9%
Hillsdale & Lenawee	1,848	1,952	2,056	3,261	2,362	1.8%		27.8%	-27.6%
Jackson	2,634	3,432	3,260	3,311	3,141	2.4%		19.2%	-5.1%
Livingston	2,545	2,692	2,539	2,688	2,565	2.0%		0.8%	-4.6%
Macomb	14,694	18,850	17,431	14,601	12,026	9.3%		-18.2%	-17.6%
Monroe	2,940	2,494	2,512	2,541	2,066	1.6%		-29.7%	-18.7%
Oakland	40,027	48,075	47,454	46,790	38,283	29.5%		-4.4%	-18.2%
St. Clair	2,163	2,297	2,210	2,344	1,912	1.5%		-11.6%	-18.4%
Thumb Area	1,608	1,919	1,871	2,004	1,720	1.3%		7.0%	-14.2%
Washtenaw	11,328	12,912	12,921	14,002	10,892	8.4%		-3.8%	-22.2%
Wayne	55,365	58,903	63,223	61,181	48,707	37.6%		-12.0%	-20.4%
Outer Wayne	28,077	30,665	31,466	28,849	22,645	17.5%		-19.3%	-21.5%
Prosperity Region 6	10,032	11,318	10,544	10,816	9,592	7.4%		-4.4%	-11.3%
Prosperity Region 9	21,295	23,482	23,288	25,803	21,026	16.2%		-1.3%	-18.5%
Prosperity Region 10	110,086	125,828	128,108	122,572	99,016	76.4%		-10.1%	-19.2%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Agriculture Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	1,660	2,447	2,407	2,120	1,722	100.0%		3.7%	-18.8%
Detroit	358	386	434	435	331	19.2%		-7.5%	-23.9%
Genesee & Shiawassee	82	140	141	108	113	6.6%		37.8%	4.6%
Hillsdale & Lenawee	10	29	32	34	28	1.6%		180.0%	-17.6%
Jackson	27	48	55	39	41	2.4%		51.9%	5.1%
Livingston	36	66	65	50	54	3.1%		50.0%	8.0%
Macomb	183	315	243	205	171	9.9%		-6.6%	-16.6%
Monroe	29	31	34	35	16	0.9%		-44.8%	-54.3%
Oakland	435	684	645	633	524	30.4%		20.5%	-17.2%
St. Clair	20	42	37	27	19	1.1%		-5.0%	-29.6%
Thumb Area	15	53	22	30	27	1.6%		80.0%	-10.0%
Washtenaw	173	220	240	245	163	9.5%		-5.8%	-33.5%
Wayne	650	817	893	714	566	32.9%		-12.9%	-20.7%
Outer Wayne	292	431	459	279	235	13.6%		-19.5%	-15.8%
Prosperity Region 6	117	235	200	165	159	9.2%		35.9%	-3.6%
Prosperity Region 9	275	394	426	403	302	17.5%		9.8%	-25.1%
Prosperity Region 10	1,268	1,816	1,781	1,552	1,261	73.2%		-0.6%	-18.8%

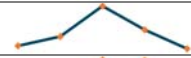
















Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Business and Finance Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	9,335	9,966	9,862	10,069	7,933	100.0%		-15.0%	-21.2%
Detroit	2,310	2,276	2,613	2,919	2,098	26.4%		-9.2%	-28.1%
Genesee & Shiawassee	255	259	236	180	205	2.6%		-19.6%	13.9%
Hillsdale & Lenawee	65	97	65	216	165	2.1%		153.8%	-23.6%
Jackson	196	200	190	129	150	1.9%		-23.5%	16.3%
Livingston	105	103	91	102	108	1.4%		2.9%	5.9%
Macomb	701	903	734	625	542	6.8%		-22.7%	-13.3%
Monroe	172	175	104	117	98	1.2%		-43.0%	-16.2%
Oakland	3,053	3,364	3,210	3,249	2,704	34.1%		-11.4%	-16.8%
St. Clair	115	74	78	77	73	0.9%		-36.5%	-5.2%
Thumb Area	51	41	42	30	18	0.2%		-64.7%	-40.0%
Washtenaw	737	747	743	796	566	7.1%		-23.2%	-28.9%
Wayne	3,884	4,003	4,369	4,548	3,304	41.6%		-14.9%	-27.4%
Outer Wayne	1,574	1,727	1,756	1,629	1,206	15.2%		-23.4%	-26.0%
Prosperity Region 6	421	374	356	287	296	3.7%		-29.7%	3.1%
Prosperity Region 9	1,275	1,322	1,193	1,360	1,087	13.7%		-14.7%	-20.1%
Prosperity Region 10	7,638	8,270	8,313	8,422	6,550	82.6%		-14.2%	-22.2%



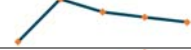














Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Construction Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	1,219	1,472	2,306	1,658	1,137	100.0%		-6.7%	-31.4%
Detroit	253	235	304	303	269	23.7%		6.3%	-11.2%
Genesee & Shiawassee	45	88	92	97	43	3.8%		-4.4%	-55.7%
Hillsdale & Lenawee	13	24	25	43	26	2.3%		100.0%	-39.5%
Jackson	23	33	41	44	32	2.8%		39.1%	-27.3%
Livingston	45	43	37	39	19	1.7%		-57.8%	-51.3%
Macomb	162	241	263	211	183	16.1%		13.0%	-13.3%
Monroe	19	26	37	46	20	1.8%		5.3%	-56.5%
Oakland	311	376	440	419	275	24.2%		-11.6%	-34.4%
St. Clair	11	15	22	24	5	0.4%		-54.5%	-79.2%
Thumb Area	31	29	40	44	36	3.2%		16.1%	-18.2%
Washtenaw	80	91	104	112	93	8.2%		16.3%	-17.0%
Wayne	479	506	556	579	405	35.6%		-15.4%	-30.1%
Outer Wayne	226	271	252	276	136	12.0%		-39.8%	-50.7%
Prosperity Region 6	87	132	154	165	84	7.4%		-3.4%	-49.1%
Prosperity Region 9	180	217	244	284	190	16.7%		5.6%	-33.1%
Prosperity Region 10	952	1,123	1,259	1,209	863	75.9%		-9.3%	-28.6%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Customer Service Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	33,345	35,398	35,837	35,593	35,266	100.0%		5.8%	-0.9%
Detroit	4,888	5,044	5,422	5,524	4,882	13.8%		-0.1%	-11.6%
Genesee & Shiawassee	1,575	1,756	1,701	1,679	1,658	4.7%		5.3%	-1.3%
Hillsdale & Lenawee	485	467	421	698	580	1.6%		19.6%	-16.9%
Jackson	572	767	624	755	656	1.9%		14.7%	-13.1%
Livingston	913	942	880	1,016	949	2.7%		3.9%	-6.6%
Macomb	3,749	4,055	3,979	3,772	3,190	9.0%		-14.9%	-15.4%
Monroe	675	727	637	624	528	1.5%		-21.8%	-15.4%
Oakland	9,614	10,766	11,035	10,919	9,130	25.9%		-5.0%	-16.4%
St. Clair	575	550	547	661	564	1.6%		-1.9%	-14.7%
Thumb Area	355	430	392	561	438	1.2%		23.4%	-21.9%
Washtenaw	2,529	2,705	2,658	2,818	2,432	6.9%		-3.8%	-13.7%
Wayne	12,303	12,233	12,963	12,090	10,730	30.4%		-12.8%	-11.2%
Outer Wayne	7,415	7,189	7,541	6,566	5,848	16.6%		-21.1%	-10.9%
Prosperity Region 6	2,505	2,736	2,640	2,901	2,660	7.5%		6.2%	-8.3%
Prosperity Region 9	5,174	5,608	5,220	5,911	5,145	14.6%		-0.6%	-13.0%
Prosperity Region 10	25,666	27,054	27,977	26,781	23,050	65.4%		-10.2%	-13.9%


















Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Education Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	3,150	2,613	2,675	2,959	2,284	100.0%		-27.5%	-22.8%
Detroit	538	491	629	575	523	22.9%		-2.8%	-9.0%
Genesee & Shiawassee	212	242	200	288	189	8.3%		-10.8%	-34.4%
Hillsdale & Lenawee	61	14	42	49	41	1.8%		-32.8%	-16.3%
Jackson	60	59	64	74	69	3.0%		15.0%	-6.8%
Livingston	21	18	11	21	22	1.0%		4.8%	4.8%
Macomb	337	247	261	331	249	10.9%		-26.1%	-24.8%
Monroe	52	28	24	27	6	0.3%		-88.5%	-77.8%
Oakland	765	659	634	627	516	22.6%		-32.5%	-17.7%
St. Clair	8	17	8	52	25	1.1%		212.5%	-51.9%
Thumb Area	38	37	38	49	28	1.2%		-26.3%	-42.9%
Washtenaw	416	332	297	419	272	11.9%		-34.6%	-35.1%
Wayne	1,180	960	1,018	1,022	867	38.0%		-26.5%	-15.2%
Outer Wayne	642	469	389	447	344	15.1%		-46.4%	-23.0%
Prosperity Region 6	258	296	246	389	242	10.6%		-6.2%	-37.8%
Prosperity Region 9	610	451	438	590	410	18.0%		-32.8%	-30.5%
Prosperity Region 10	2,282	1,866	1,913	1,980	1,632	71.5%		-28.5%	-17.6%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Energy Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	240	328	279	265	283	100.0%		17.9%	6.8%
Detroit	79	123	98	108	93	32.9%		17.7%	-13.9%
Genesee & Shiawassee	1	6	4	2	3	1.1%		200.0%	50.0%
Hillsdale & Lenawee	0	1	1	1	1	0.4%		100.0%	0.0%
Jackson	31	16	33	12	26	9.2%		-16.1%	116.7%
Livingston	0	2	2	1	2	0.7%		100.0%	100.0%
Macomb	6	16	12	9	5	1.8%		-16.7%	-44.4%
Monroe	55	60	50	42	74	26.1%		34.5%	76.2%
Oakland	9	15	27	16	14	4.9%		55.6%	-12.5%
St. Clair	12	34	9	16	10	3.5%		-16.7%	-37.5%
Thumb Area	5	7	3	7	3	1.1%		-40.0%	-57.1%
Washtenaw	7	7	5	9	10	3.5%		42.9%	11.1%
Wayne	114	164	133	150	135	47.7%		18.4%	-10.0%
Outer Wayne	35	41	35	42	42	14.8%		20.0%	0.0%
Prosperity Region 6	18	47	16	25	16	5.7%		-11.1%	-36.0%
Prosperity Region 9	93	86	91	65	113	39.9%		21.5%	73.8%
Prosperity Region 10	129	195	172	175	154	54.4%		19.4%	-12.0%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Engineers & Designers Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	7,941	9,180	8,646	8,264	6,380	100.0%		-19.7%	-22.8%
Detroit	977	1,001	1,140	1,218	942	14.8%		-3.6%	-22.7%
Genesee & Shiawassee	109	104	110	128	108	1.7%		-0.9%	-15.6%
Hillsdale & Lenawee	57	82	69	71	46	0.7%		-19.3%	-35.2%
Jackson	162	129	156	145	87	1.4%		-46.3%	-40.0%
Livingston	62	66	64	47	42	0.7%		-32.3%	-10.6%
Macomb	1,102	1,720	1,236	804	656	10.3%		-40.5%	-18.4%
Monroe	123	95	97	93	95	1.5%		-22.8%	2.2%
Oakland	3,115	3,827	3,725	3,595	2,814	44.1%		-9.7%	-21.7%
St. Clair	86	79	64	57	55	0.9%		-36.0%	-3.5%
Thumb Area	26	22	29	22	52	0.8%		100.0%	136.4%
Washtenaw	372	465	455	493	413	6.5%		11.0%	-16.2%
Wayne	2,727	2,591	2,641	2,809	2,012	31.5%		-26.2%	-28.4%
Outer Wayne	1,750	1,590	1,501	1,591	1,070	16.8%		-38.9%	-32.7%
Prosperity Region 6	221	205	203	207	215	3.4%		-2.7%	3.9%
Prosperity Region 9	776	837	841	849	683	10.7%		-12.0%	-19.6%
Prosperity Region 10	6,944	8,138	7,602	7,208	5,482	85.9%		-21.1%	-23.9%


















Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Health Care Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	19,607	25,381	26,234	23,304	20,118	100.0%		2.6%	-13.7%
Detroit	5,131	5,702	6,287	5,977	4,753	23.6%		-7.4%	-20.5%
Genesee & Shiawassee	1,203	1,589	1,338	1,373	1,430	7.1%		18.9%	4.2%
Hillsdale & Lenawee	213	278	329	474	401	2.0%		88.3%	-15.4%
Jackson	269	488	584	584	756	3.8%		181.0%	29.5%
Livingston	269	309	285	268	329	1.6%		22.3%	22.8%
Macomb	1,999	3,081	2,964	1,855	1,604	8.0%		-19.8%	-13.5%
Monroe	550	254	354	342	309	1.5%		-43.8%	-9.6%
Oakland	4,295	5,802	5,706	5,441	4,548	22.6%		5.9%	-16.4%
St. Clair	480	598	585	488	411	2.0%		-14.4%	-15.8%
Thumb Area	292	347	370	351	331	1.6%		13.4%	-5.7%
Washtenaw	1,926	2,444	2,547	2,530	2,005	10.0%		4.1%	-20.8%
Wayne	10,191	10,191	11,172	9,598	7,994	39.7%		-21.6%	-16.7%
Outer Wayne	5,060	4,489	4,885	3,621	3,241	16.1%		-35.9%	-10.5%
Prosperity Region 6	1,975	2,534	2,293	2,212	2,172	10.8%		10.0%	-1.8%
Prosperity Region 9	3,227	3,773	4,099	4,198	3,800	18.9%		17.8%	-9.5%
Prosperity Region 10	16,485	19,074	19,842	16,894	14,146	70.3%		-14.2%	-16.3%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Information Technology Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	14,646	16,083	16,378	16,523	13,232	100.0%		-9.7%	-19.9%
Detroit	3,795	3,711	4,620	4,587	3,440	26.0%		-9.4%	-25.0%
Genesee & Shiawassee	174	189	124	156	113	0.9%		-35.1%	-27.6%
Hillsdale & Lenawee	40	41	17	171	116	0.9%		190.0%	-32.2%
Jackson	178	171	215	192	175	1.3%		-1.7%	-8.9%
Livingston	72	79	62	73	51	0.4%		-29.2%	-30.1%
Macomb	1,104	1,547	1,284	821	714	5.4%		-35.3%	-13.0%
Monroe	101	106	92	72	56	0.4%		-44.6%	-22.2%
Oakland	5,039	5,991	5,840	5,960	5,011	37.9%		-0.6%	-15.9%
St. Clair	32	45	37	41	36	0.3%		12.5%	-12.2%
Thumb Area	23	21	10	14	18	0.1%		-21.7%	28.6%
Washtenaw	1,255	1,530	1,419	1,591	1,281	9.7%		2.1%	-19.5%
Wayne	6,628	6,363	7,278	7,432	5,661	42.8%		-14.6%	-23.8%
Outer Wayne	2,833	2,652	2,658	2,845	2,221	16.8%		-21.6%	-21.9%
Prosperity Region 6	229	255	171	211	167	1.3%		-27.1%	-20.9%
Prosperity Region 9	1,646	1,927	1,805	2,099	1,679	12.7%		2.0%	-20.0%
Prosperity Region 10	12,771	13,901	14,402	14,213	11,386	86.0%		-10.8%	-19.9%


















Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Skilled Trade & Technician Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	4,797	5,947	5,559	5,497	4,458	100.0%		-7.1%	-18.9%
Detroit	460	502	575	557	403	9.0%		-12.4%	-27.6%
Genesee & Shiawassee	265	253	250	225	189	4.2%		-28.7%	-16.0%
Hillsdale & Lenawee	114	119	169	173	145	3.3%		27.2%	-16.2%
Jackson	129	157	149	131	115	2.6%		-10.9%	-12.2%
Livingston	161	165	167	169	123	2.8%		-23.6%	-27.2%
Macomb	784	1,042	962	1,003	808	18.1%		3.1%	-19.4%
Monroe	102	120	114	119	114	2.6%		11.8%	-4.2%
Oakland	1,225	1,569	1,465	1,393	1,166	26.2%		-4.8%	-16.3%
St. Clair	109	108	121	119	82	1.8%		-24.8%	-31.1%
Thumb Area	156	171	166	120	173	3.9%		10.9%	44.2%
Washtenaw	296	335	365	392	240	5.4%		-18.9%	-38.8%
Wayne	1,456	1,664	1,631	1,653	1,299	29.1%		-10.8%	-21.4%
Outer Wayne	996	1,162	1,056	1,096	896	20.1%		-10.0%	-18.2%
Prosperity Region 6	530	532	537	464	444	10.0%		-16.2%	-4.3%
Prosperity Region 9	802	896	964	984	737	16.5%		-8.1%	-25.1%
Prosperity Region 10	3,465	4,275	4,058	4,049	3,273	73.4%		-5.5%	-19.2%

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Transportation, Distribution, and Logistics Job Postings: WIN Partnership

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Share of Q3 2017 Total	Change Over Time	Annual Change Q3 2016-Q3 2017	Quarter Growth Q2 2017-Q3 2017
WIN-Region Total	10,144	10,551	11,942	11,139	6,771	100.0%		-33.3%	-39.2%
Detroit	1,541	1,339	1,495	1,739	1,710	25.3%		11.0%	-1.7%
Genesee & Shiawassee	503	488	541	497	263	3.9%		-47.7%	-47.1%
Hillsdale & Lenawee	282	288	399	517	243	3.6%		-13.8%	-53.0%
Jackson	227	239	257	368	211	3.1%		-7.0%	-42.7%
Livingston	195	194	213	237	184	2.7%		-5.6%	-22.4%
Macomb	1,202	1,377	1,726	1,295	657	9.7%		-45.3%	-49.3%
Monroe	340	275	367	398	225	3.3%		-33.8%	-43.5%
Oakland	2,030	2,196	2,376	2,214	1,218	18.0%		-40.0%	-45.0%
St. Clair	234	200	220	237	112	1.7%		-52.1%	-52.7%
Thumb Area	200	282	260	307	139	2.1%		-30.5%	-54.7%
Washtenaw	434	419	464	457	311	4.6%		-28.3%	-31.9%
Wayne	4,398	4,593	5,119	4,612	3,208	47.4%		-27.1%	-30.4%
Outer Wayne	2,857	3,254	3,624	2,873	1,498	22.1%		-47.6%	-47.9%
Prosperity Region 6	937	970	1,021	1,041	514	7.6%		-45.1%	-50.6%
Prosperity Region 9	1,478	1,415	1,700	1,977	1,174	17.3%		-20.6%	-40.6%
Prosperity Region 10	7,630	8,166	9,221	8,121	5,083	75.1%		-33.4%	-37.4%

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