



SOUTHEAST MICHIGAN

WIN Quarterly 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 17)
- Customer service (formerly retail & hospitality) (page 22)
- Education (page 27)
- Energy (page 32)
- Engineers & designers (manufacturing focused) (page 37)
- Health care (page 42)
- Information technology (page 47)
- Skilled trades & technicians (manufacturing focused) (page 52)
- Transportation, distribution, and logistics (TDL) (page 57)

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 Partnership Region

Quarter four 2016 (Q4 2016, October thru December) represented a series of milestone highs as the economy continued to emerge from the recent great recession. Since January 2010, when the recession was at its deepest (the trough), the region recovered 284,095 jobs. In Q4 2016, the total number of jobs held reached 2.63 million, a number not seen since 2007.

Between Q3 2016 and Q4 2016, employment in the region expanded 0.4%, with 11,655 additional individuals employed. The labor force fell by 7,045 individuals (0.3%) during this timeframe. Because employment grew while the labor force fell, many of the jobs added in Q4 2016 went to workers who were unemployed in the previous quarter. Despite the decrease in the labor force, the number unemployed individuals fell in the region. These changes brought the unemployment rate to 4.8% for Q4, a low not experienced in southeast Michigan since 2001.

Q3 2016 postings reached a new relative 5 year high, resulting in employment growth in Q4 2016. However, job postings in Q4 2016 were 5% lower than in Q3, declining by 7,966. While several occupation groupings experienced lower job demand in Q4 compared to Q3 2016, some experienced growth, including Business and Finance, Education, and Skilled Trades. The total decline was modest across the region, and overall posting levels remained high. In Q4 2016, postings were 11% higher (14,454 total) than a year ago in Q2 2015.



Introduction: Southeast Michigan (WIN 16-County Region)

Key Findings for Q4 2016

Employment reached a new high, expanding 0.4% and adding over 11,000 jobs between Q3 and Q4 2016.

With the addition of 11,655 jobs in Q4 2016, the total number of jobs held in the region increased to over 2.63 million. This milestone employment number was last experienced in late 2007, before the recession.

Unemployment fell back to 2001 numbers between Q3 and Q4 2016.

The labor force fell during Q4 2016, with 7,000 less people participating in the workforce. Despite this drop, employment saw a modest increase which indicated many unemployed individuals found work. The unemployment rate fell to 4.8%, a low it has not reached since the early 2000's.

Online job ads fell by 5% through Q4 2016.

Most occupation groups witnessed a slight decline in postings after the increase during Q3 2016. Despite the drop, postings remain relatively high with over 140,000 total postings in the region.

Lucrative opportunities in Engineering and Design and IT group.

Both the Engineering and Design and IT occupation groups offered higher than average advertised salaries compared to the other groups. Engineers and Designers average advertised salary was about \$80,000 per year while IT was slightly higher at \$90,000 per year. Those willing to overcome the education barriers in these fields can expect high potential earnings.

Registered Nurses overtook truck drivers as top in-demand occupation during Q4 2016.

With 6,483 online job postings, registered nurses moved into the top in-demand job during Q4 2016. Despite being the top in-demand job, demand for all healthcare occupations fell.

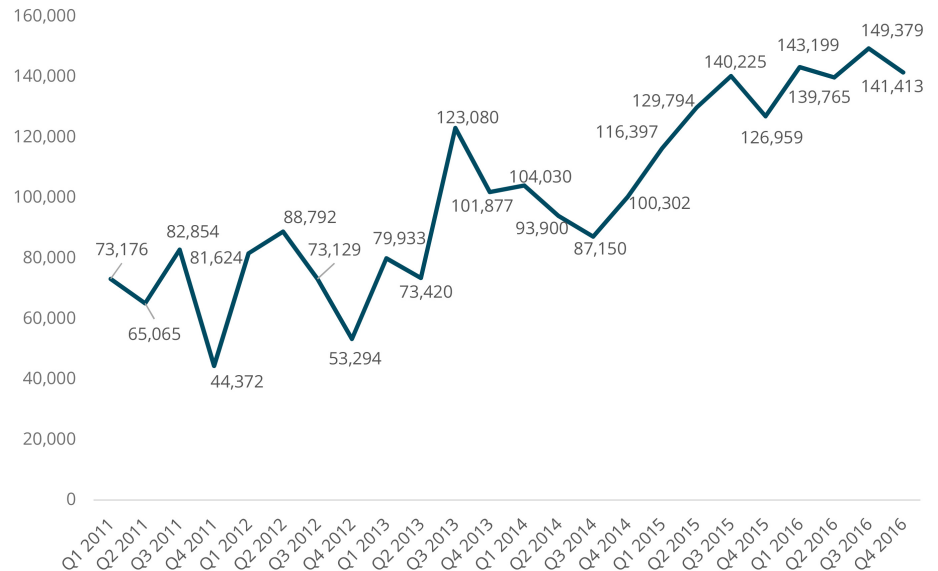


Workforce Indicators

Postings over time

Between Q3 2016 and Q4 2016, online job postings declined modestly falling from 149,379 in Q3 to 141,413 in Q4. This is a 5 percent drop with the region losing 7,966 job ads between the two quarters. Compared to one year prior, Q4 2015, postings were 11 percent higher (14,454 additional postings in Q4 2016 compared to Q4 2015). While postings dropped in the recent quarter, the general trend is positive and posting levels remain high.

WIN Region Online Job Postings



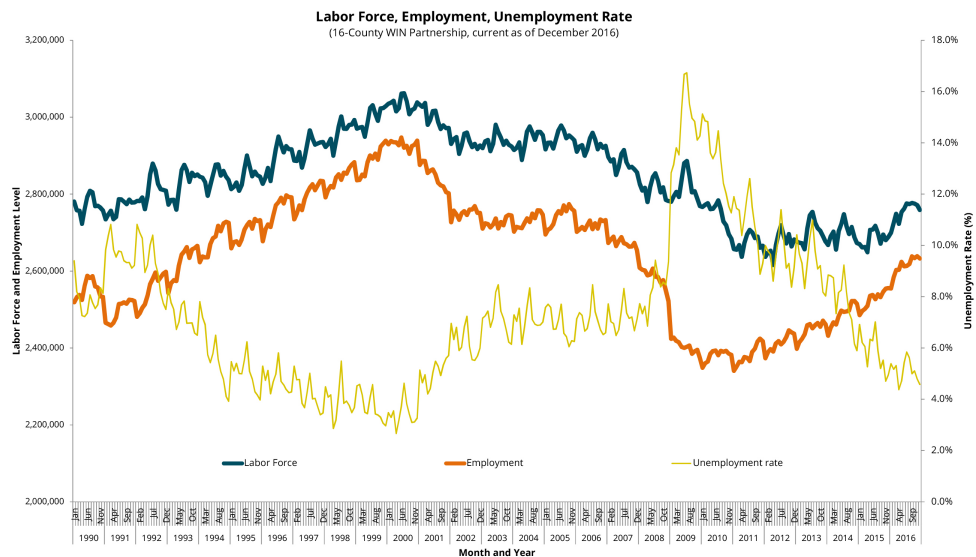
Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Labor force/employment/unemployment

Between Q3 2016 and Q4 2016, employment in the region expanded 0.4%, with 11,655 additional individuals employed. The labor force fell by 7,045 individuals (0.3%) during this timeframe. Because employment grew while the labor force fell, many of the jobs added in Q4 2016 went to workers who were unemployed in the previous quarter. Despite the decrease in the labor force, the number unemployed individuals fell in the region. These changes brought the unemployment rate to 4.8% for Q4, a low not experienced in southeast Michigan since 2001.

Labor Force, Employment, Unemployment Rate

2016



Data: BLS
Analysis: Workforce Intelligence Network



Total of 141,413 postings

0.4%

Increase in Employment
during Q4 2016

Top Jobs Posted

Q4 2016



Analysis

Registered nurses moved into the highest in-demand job during Q4 2016, overtaking heavy and tractor trailer truck drivers. Other top in-demand jobs from the previous remained high on the list.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



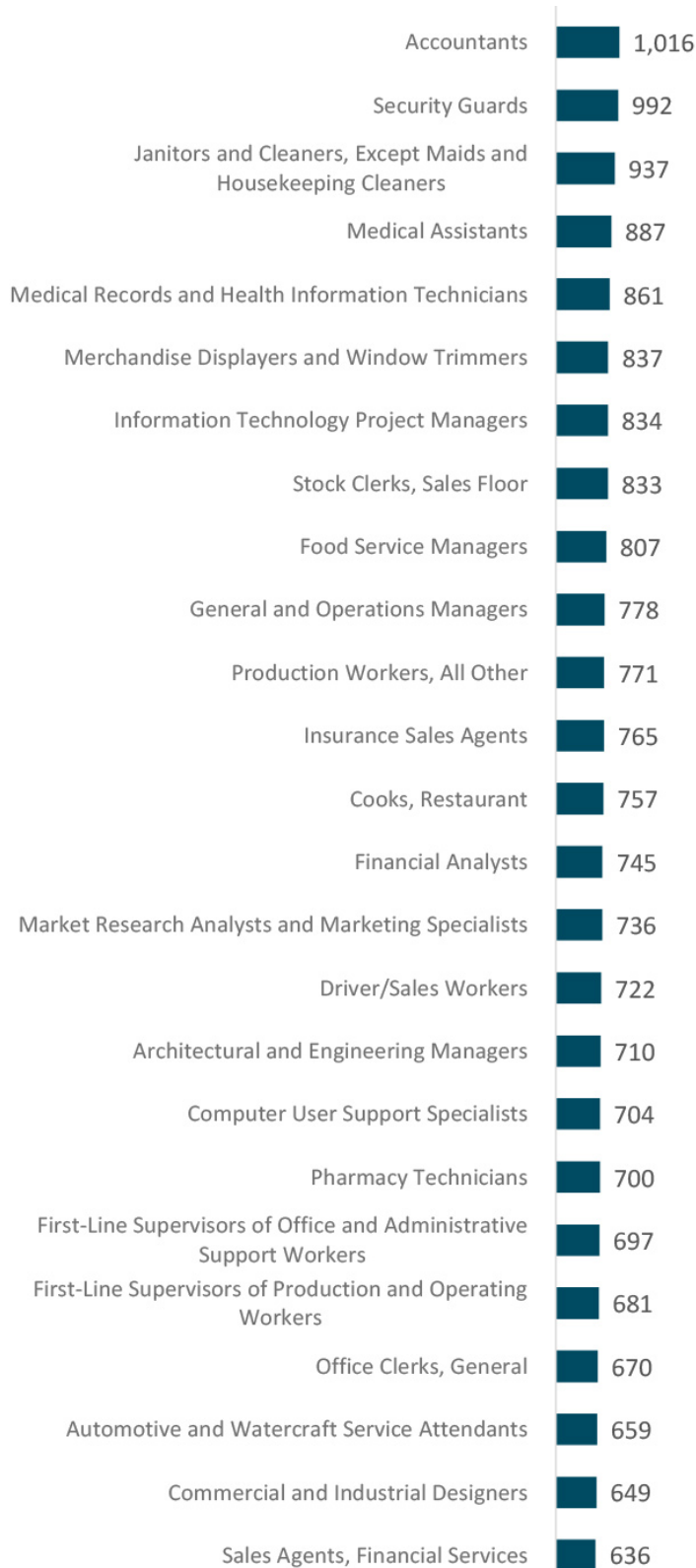
Top Job In-Demand:
Registered Nurses



Unemployment Rate:
4.8%

Top Jobs Posted

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

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.

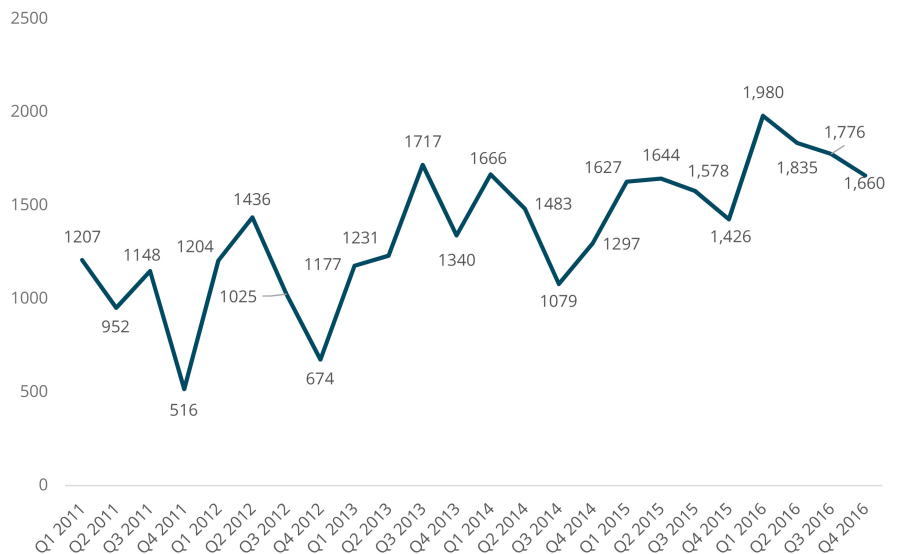
Job Posting Analysis

Job postings for Agriculture-related occupations dropped 6%, falling by 116 from 1,776 in Q3 2016 to 1,660 in Q4 2016. Postings remain high and are 14% above levels from Q2 2015, one year prior to this report's analysis.

Employment Analysis

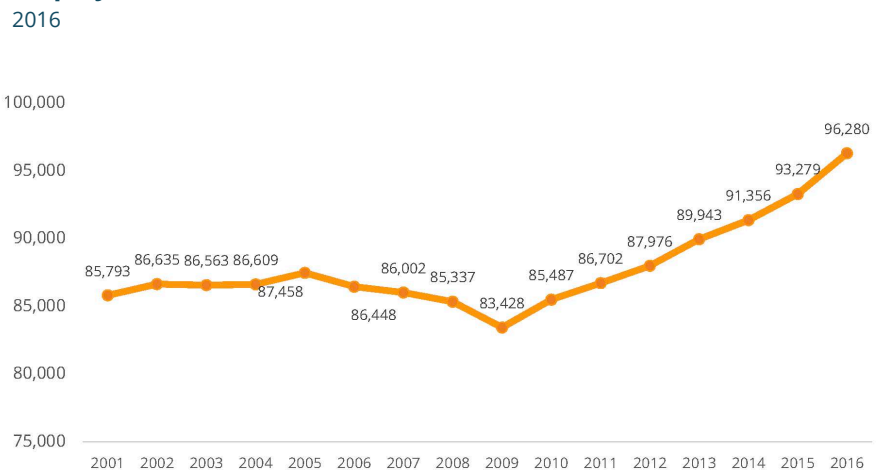
Agriculture employment is growing rapidly and has surpassed pre-recession job level peaks by nearly 10,000 workers. While the Great Recession hit many industries, Agriculture was able to maintain its employment well and regain jobs to pre-recession employment by 2012.

Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time



Data: EMSI
Analysis: Workforce Intelligence Network

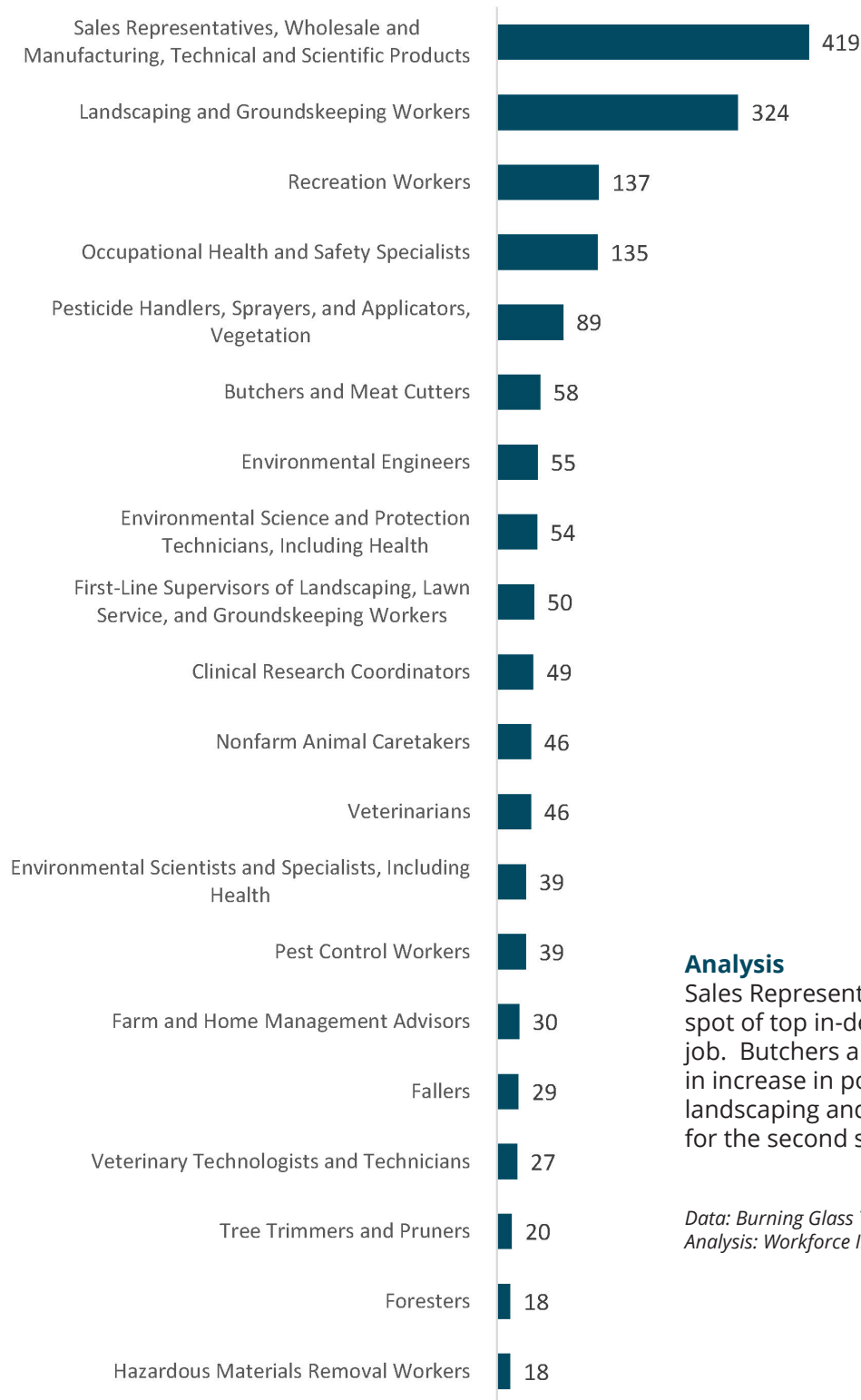


Technical sales: top in-demand job



Most jobs require training or obtaining a Bachelor's degree

Agriculture
Top Jobs Posted
Q4 2016



Analysis

Sales Representatives retained the spot of top in-demand Agriculture job. Butchers and Meat Cutters saw an increase in postings overtaking landscaping and recreation workers for the second spot.

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



Most jobs require five years or less of experience

%

Total of 1,660 jobs posted

Agriculture Educational Attainment Required

Most Agriculture jobs require vocational training or a Bachelor's degree with little in between. This is because most jobs are focused on skilled labor (vocational training) or technical sales and management (Bachelor's degree).

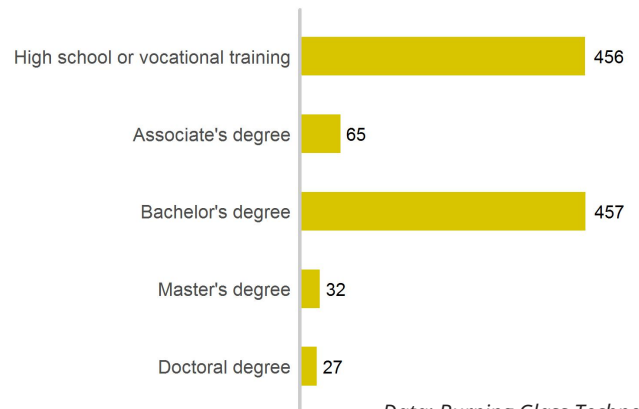
Of the postings that listed required experience, most require five years or less. Over 50 percent of these postings advertised 0 to 2 years of experience required indicating a large volume of entry level jobs available.

In-demand degrees for workers interested in Agriculture range from engineering to business to environmental science. A wide variety of areas of study prepare a person for these careers.

In-Demand Areas of Study

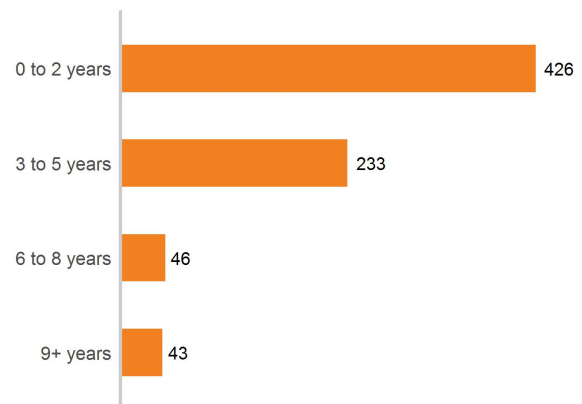
- Engineering, General
- Business Administration and Management
- Marketing/Marketing Management
- Mechanical Engineering
- Environmental/Environmental Health Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Sales and communications:
essential skills

%

At least half of available jobs
are full-time

Agriculture in-Demand Skills

Q4 2016 postings require a wide variety of skills ranging from more technical (inspection, use of fertilizers, occupational health and safety) to foundational skills that every worker needs such as communications, problem solving, and customer service. Many Agriculture jobs also include an element of physical demand.

Technical in-Demand Skills

- Sales
- Customer Service
- Inspection
- Microsoft Office
- Budgeting

Foundational In-Demand Skills

- Communication Skills
- Writing/ Planning
- Organizational Skills
- Problem Solving
- Ability to perform physical tasks

Job Type

- Full Time- 48.9%
- Part Time- 6.7%
- Temp- 7.2%

Certifications Required

- Commercial Driver's License
- Veterinary Technician
- Certified Safety Professional
- Applicators License
- Certified Hazardous Materials Manager



\$52,783: Average advertised wage in postings



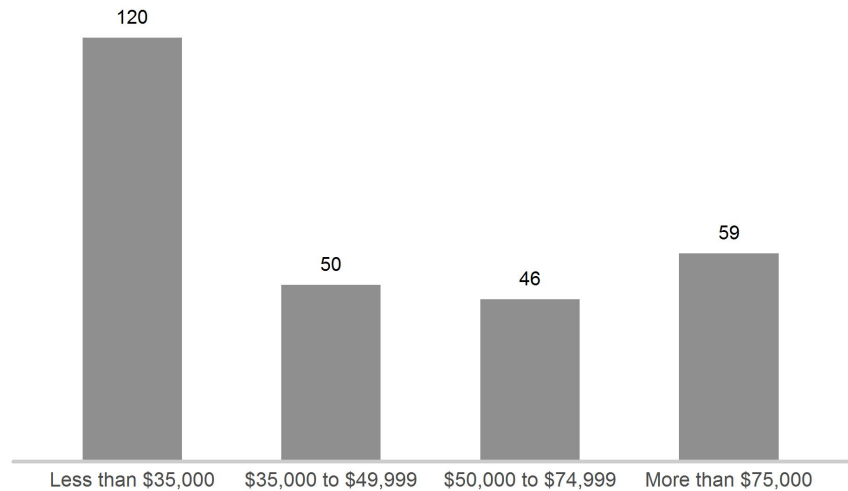
CDL and Vet Tech Certifications in-demand

Agriculture Wages

Many Agriculture jobs start with wages below \$35,000, especially those that do not require experience or a degree. However, many jobs offer wages much higher. The average wage advertised in postings during Q4 2016 was \$52,783 an increase from \$52,235 during Q3. Of the top ten in-demand occupations, half reported median salaries of over \$60,000 per year.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

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	\$18.78	\$26.09	\$36.74	\$51.21	\$69.44
51-3021	Butchers and Meat Cutters	\$9.30	\$11.39	\$14.58	\$18.23	\$22.05
39-9032	Recreation Workers	\$8.22	\$8.89	\$10.16	\$12.51	\$15.67
37-3011	Landscaping and Groundskeeping Workers	\$8.53	\$9.71	\$11.34	\$14.84	\$19.69
29-9011	Occupational Health and Safety Specialists	\$20.67	\$24.18	\$32.08	\$37.88	\$45.15
17-2081	Environmental Engineers	\$25.89	\$35.00	\$42.62	\$50.78	\$58.39
39-2021	Nonfarm Animal Caretakers	\$8.16	\$8.70	\$9.77	\$12.15	\$15.48
29-1131	Veterinarians	\$32.76	\$38.53	\$51.43	\$61.44	\$69.68
11-9121	Clinical Research Coordinators	\$31.69	\$38.00	\$47.70	\$60.12	\$83.53
29-2056	Veterinary Technologists and Technicians	\$9.81	\$12.31	\$15.24	\$17.92	\$20.85

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



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.

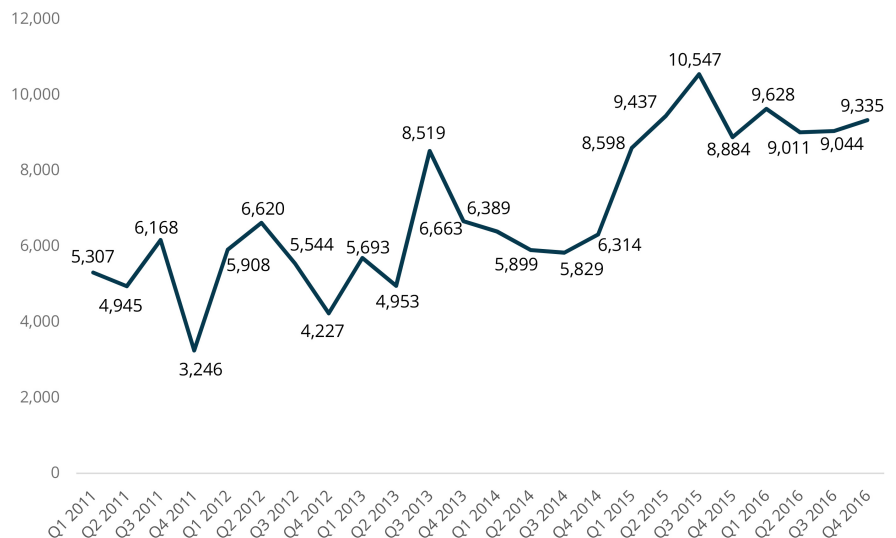
Job Posting Analysis

Online job ads for Business and Finance positions rose by a modest 3 percent between Q3 and Q4 2016, increasing by 291 postings from 9,044 in Q3 to 9,335 in Q4. Recent postings have been lower than the Q3 2015 all-time high but remain much higher than the 4,000 to 6,000 average postings between 2011 and 2014.

Employment Analysis

Employment in business and finance positions in the region increased over 120,000 between 2015 and 2016 marking nearly 17% growth since the recession low of 104,314 workers employed in 2009. The region must gain another 5,000 jobs before moving back to the pre-recession high employment level of 126,899 from 2001.

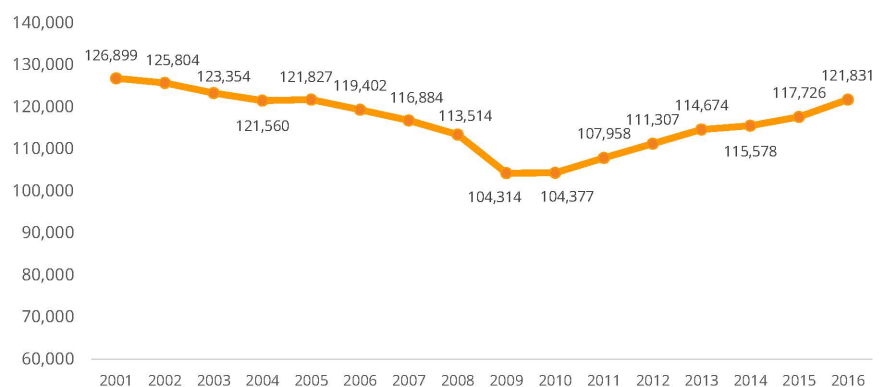
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

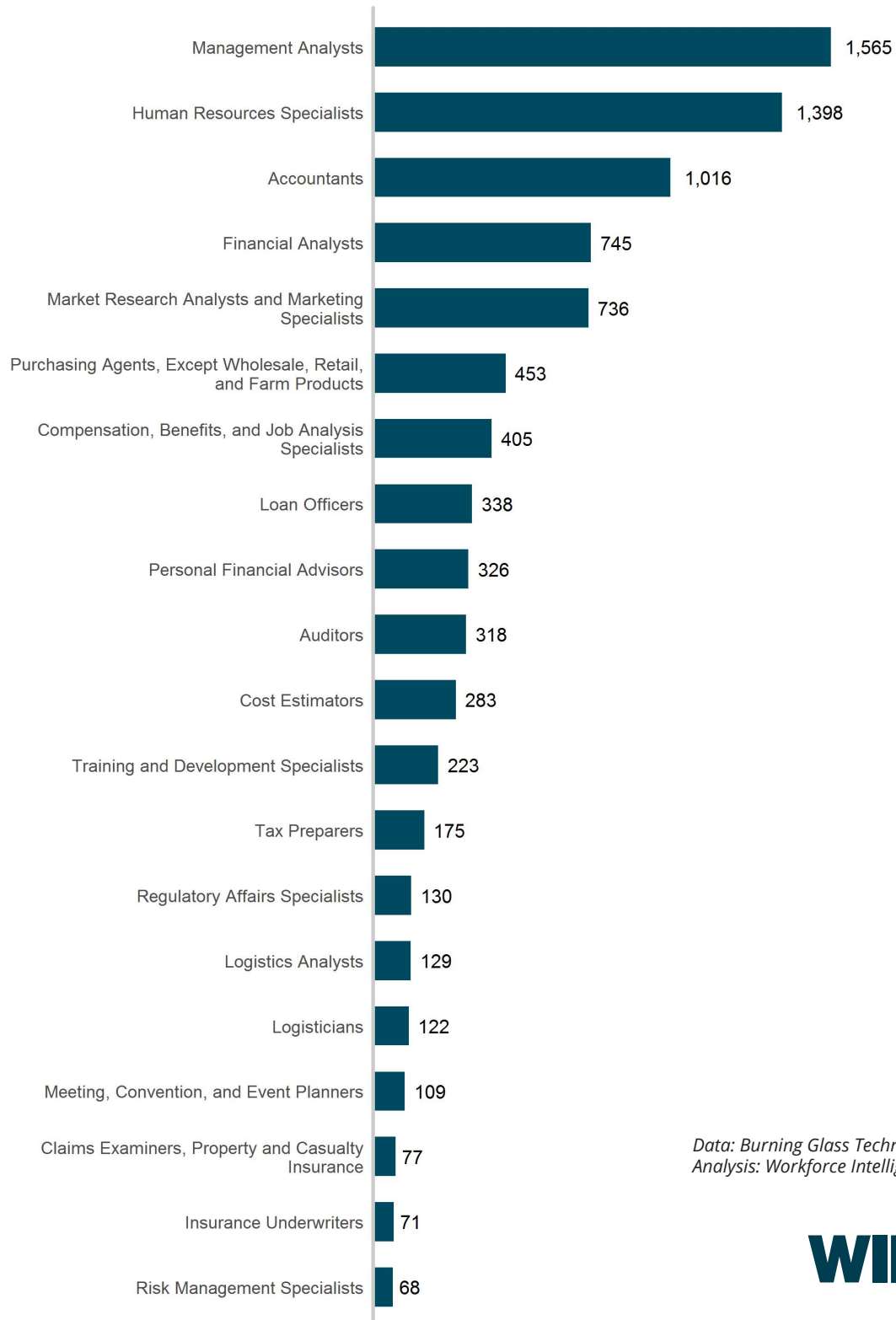


Total of 9,011 job postings



2 Management Analysts: most in-demand occupation

Business & Finance
Top Jobs Posted
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree required for most jobs

%

Finance degrees highly sought after

Business & Finance Educational Attainment Required

The vast majority of Business and Finance jobs posted require a Bachelor's degree. Due to most jobs requiring high-level mathematics skills and management abilities, a Bachelor's degree is the most common in-demand credential. This can present a lucrative opportunity for those willing to obtain the required education.

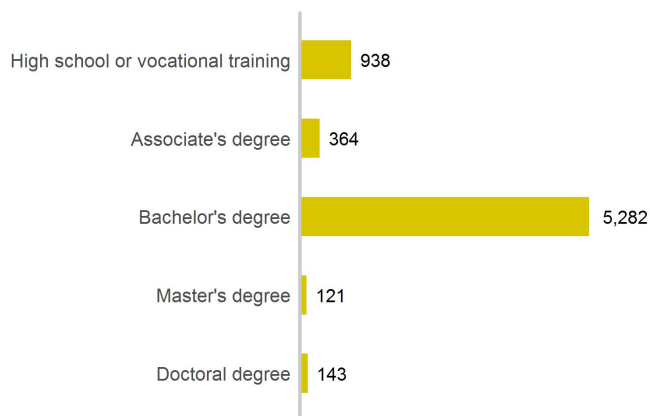
Most available jobs are five or fewer years of experience. Most employers want to see three to five years of experience, stressing the importance of internships and other on-the-job work-and-learn experiences. Another large proportion of jobs are available to those at the entry-level as well.

In-demand degrees for workers interested in Business and Finance comes mostly from business related majors such as accounting, finance, and human resources development but do include other fields such as engineering and computer science.

In-Demand Areas of Study

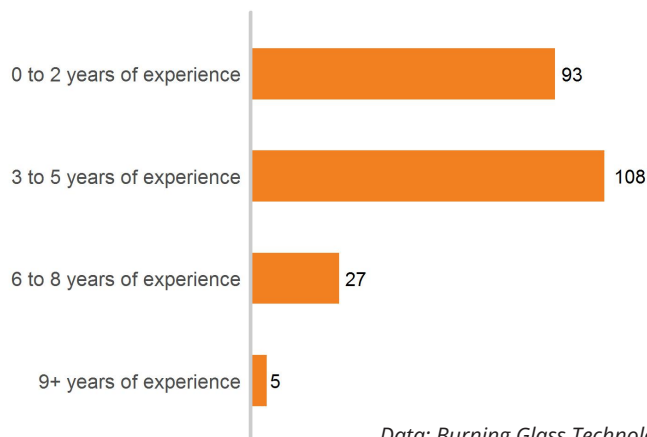
- Accounting
- Business Administration and Management, general
- Finance, General
- Engineering, General
- Human Resources Development

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Employers in need of workers
with finance and analysis skills

%

Most positions available are
full-time

Business & Finance in-Demand Skills

The occupations in the Business and Finance group require a variety of skills. Communication skills tend to represent the highest in-demand skills consisting of customer service, relationship building, and teamwork. Management skills are also highly sought out over a broad area of business disciplines. Advanced technical skills also show up on this list with a focus in data and finance. Data entry, business analysis, and research skill show a spring of demand for analytics in the business environment. Financial skills such as accounting and financial analysis were also highly demand skills showing strong demand for accounting and finance workers. Traditional business skills appear as well with emphasis on leadership, self-management, and motivational skills for individuals. These skills reflect a desired business environment with an ample amount of managerial skills, with individuals who are strong in communication, analytical/technical thought, and self-motivated.

Technical in-Demand Skills

- Microsoft Office
- Accounting/ Financial Analysis
- Project Management/ Budgeting
- Customer Service
- Business Analysis

Foundational In-Demand Skills

- Communication Skills
- Writing/ Planning
- Problem Solving
- Organizational Skills
- Detail-Oriented

Job Type

- Full Time- 57.7%
- Part Time- 2.0%
- Temp- 5.8%

Certifications Required

- Certified Public Accountant (CPA)
- Series 7
- Mortgage License
- Certified Financial Planner
- Project Management Certification (E.G. PMP)



\$65,168: average advertised salary during Q4 2016



Most available jobs pay \$50,000+

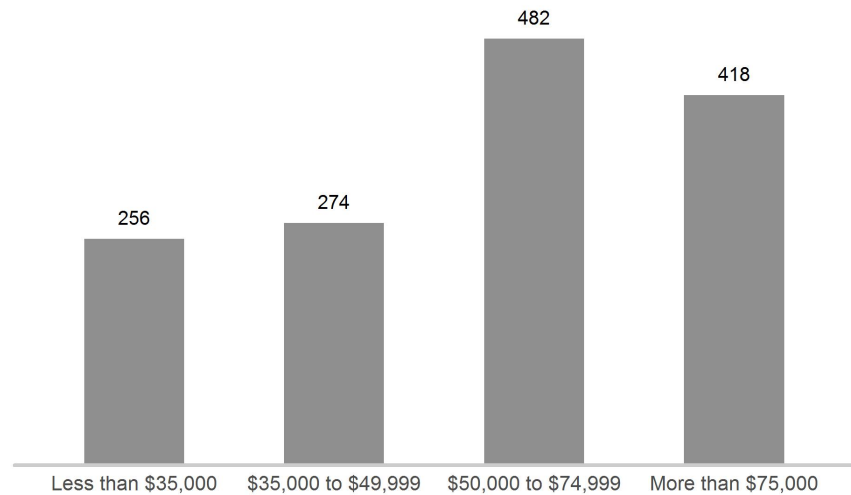
Business & Finance Wages

Most jobs postings that listed a wage highlighted salaries between \$50,000 to \$75,000 a year. Many open positions also offer wages over \$75,000, likely for jobs requiring more experience.

The mean salary for these Business and Finance postings during Q4 2016 was \$65,168. Management Analysts reporting the highest mean salary of \$82,909 per year.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
13-1111	Management Analysts	\$21.00	\$29.35	\$39.86	\$51.57	\$66.61
13-1071	Human Resources Specialists	\$16.76	\$21.08	\$27.22	\$34.67	\$43.98
13-2011	Accountants	\$19.28	\$23.73	\$31.10	\$40.29	\$52.77
13-2051	Financial Analysts	\$23.39	\$28.10	\$35.93	\$45.34	\$54.76
13-1161	Market Research Analysts and Marketing Specialists	\$17.48	\$22.55	\$29.96	\$41.41	\$51.89
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$19.41	\$24.16	\$31.79	\$41.78	\$50.98
13-1141	Compensation, Benefits, and Job Analysis Specialists	\$20.13	\$24.14	\$29.36	\$37.41	\$45.90
13-2072	Loan Officers	\$13.69	\$18.64	\$25.14	\$34.19	\$47.69
13-2052	Personal Financial Advisors	\$18.56	\$23.69	\$31.85	\$53.69	\$87.06
13-2011	Auditors	\$19.28	\$23.73	\$31.10	\$40.29	\$52.77

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



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.

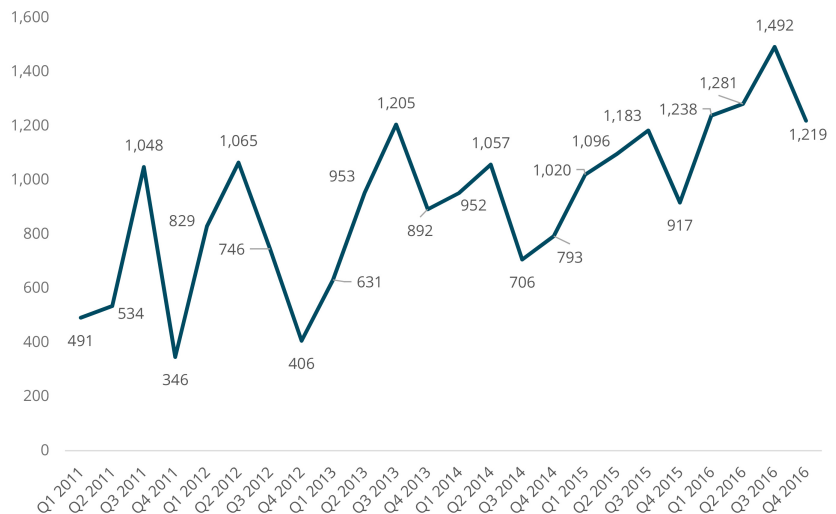
Job Posting Analysis

During Q4 2016, postings for Construction workers declined. Postings fell a modest 18 percent, 273 fewer postings, between Q3 and Q4 2016. After reaching a historic high of 1,492 job ads during Q3 2016, this decline in postings is the first after 3-quarters increase. Despite the drop, postings still fall within the 1,200 range and remain relatively high over the 5 years observed. Construction employers are beginning to post more online but the trend for most construction hiring is more traditional through word-of-mouth, hiring halls, and unions.

Employment Analysis

Construction employment has grown nearly 25% since 2010, recovering 13,000 jobs from the depths of the recession in 2010. While employment is steadily growing, employment is still 27,204 individuals below the 2001 pre-recession peak.

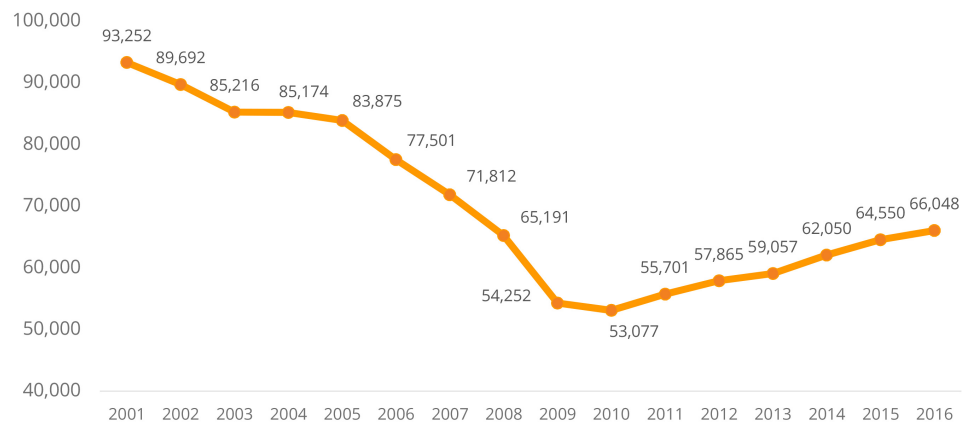
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

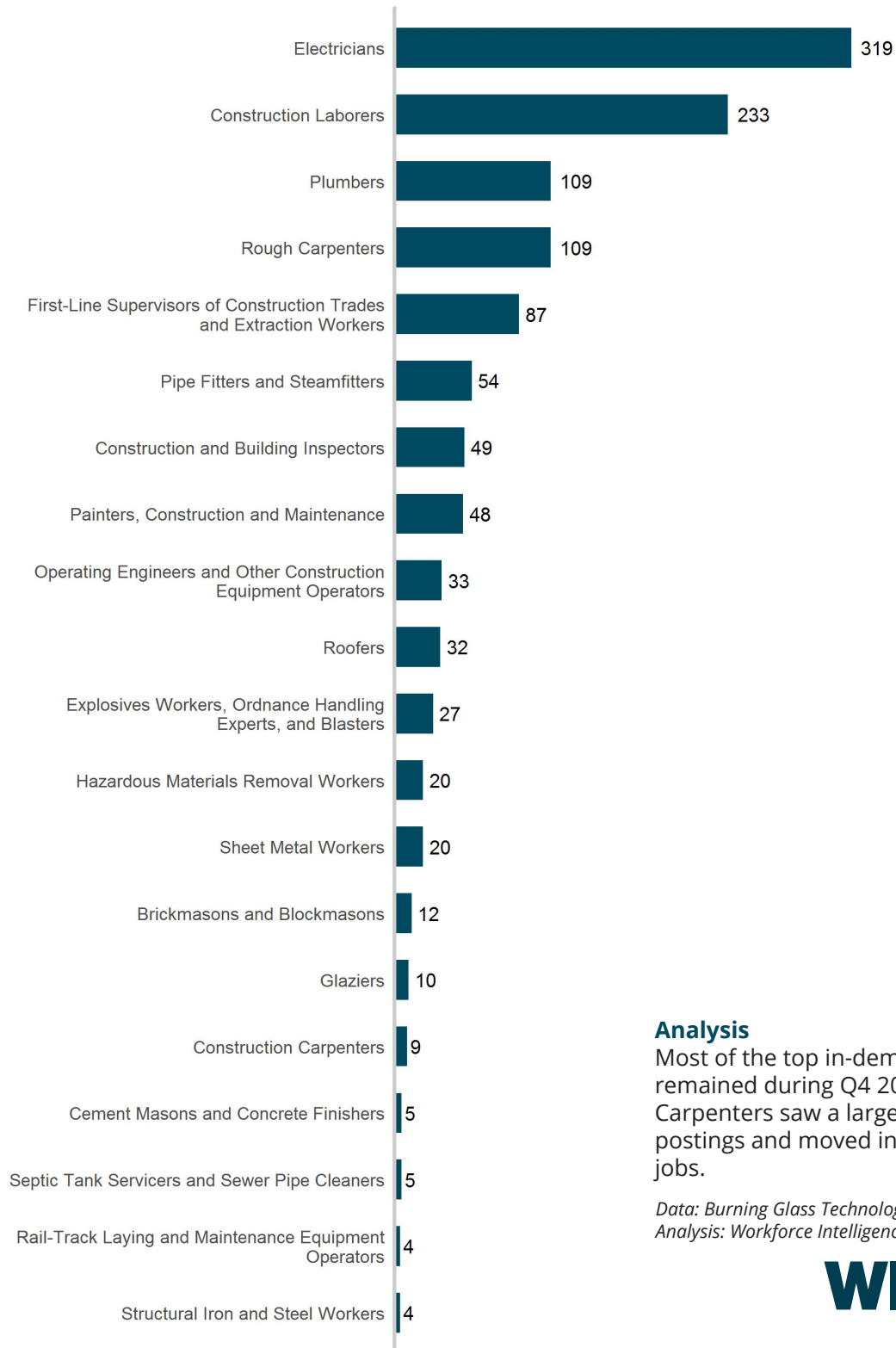


Electricians most in-demand
job



Over 1,200 online jobs
postings

**Construction
Top Jobs Posted**
Q4 2016



Analysis

Most of the top in-demand jobs remained during Q4 2016. Rough Carpenters saw a large increase in postings and moved into the top 10 jobs.

Data: Burning Glass Technologies

Analysis: Workforce Intelligence Network





Specialized vocational training
is required for most jobs

%

Most jobs require five years or
less of experience

Construction Educational Attainment Required

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

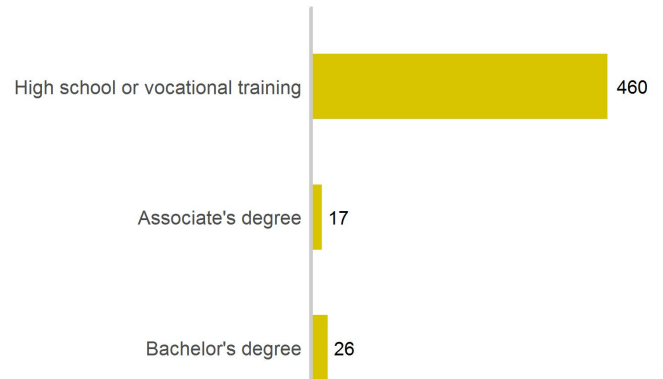
Many construction jobs require three to five years of experience. Entry-level jobs are available to those who have the requisite skills for employment and represent the second most desired experience level for Construction jobs.

In-demand degrees for workers interested in Construction focus on business and engineering related studies. These degrees represent the demand for leaders and designers within the construction occupation group.

In-Demand Areas of Study

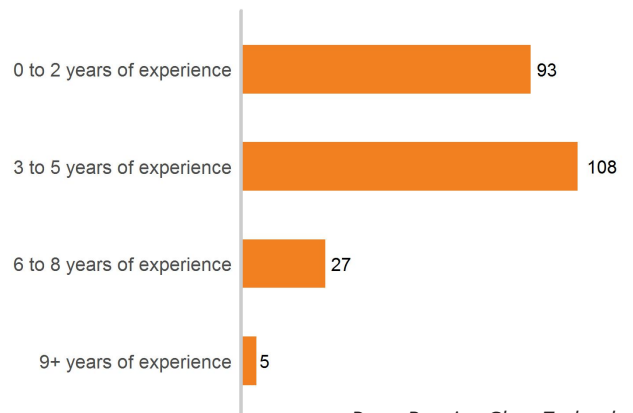
- Business Administration and Management, General
- Engineering, General
- Mechanical Engineering
- Engineering/Industrial Management
- Finance, General

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Technical Skills: Electrical Work, Plumbing, Carpentry

%

Over half of job postings are for full-time work

Construction in-Demand Skills

In-demand skills for Construction workers range from the highly technical to overarching foundational skills necessary for many jobs in the 21st century. Technical skills in-demand include carpentry, plumbing, electrical work, repair, and schematic diagram reading and writing. All of these require specialized training outside of high school or an apprenticeship program included as part of a high school curriculum. Foundational skills are also high-level. Construction employers want workers to be able to problem solve, manage projects, have strong collaboration skills, and work well with clients. Construction occupations also require physical demand.

Technical in-Demand Skills

- Repair/ Inspection
- Electrical Work
- Hand Tools
- Plumbing
- Carpentry

Foundational In-Demand Skills

- Troubleshooting/ Preventive Maintenance
- Writing/Communication Skills
- Ability to perform physical labor
- Organizational Skills
- Detail-Oriented

Job Type

- Full Time- 57.8%
- Part Time- 5.1%
- Temp- 5.1%

Certifications Required

- Commercial Driver's License
- Electrician Certification
- Occupational Safety and Health Administration Certification
- Boiler Operator License
- Plumbing Certification



\$44,793: average advertised wage during Q4 2016



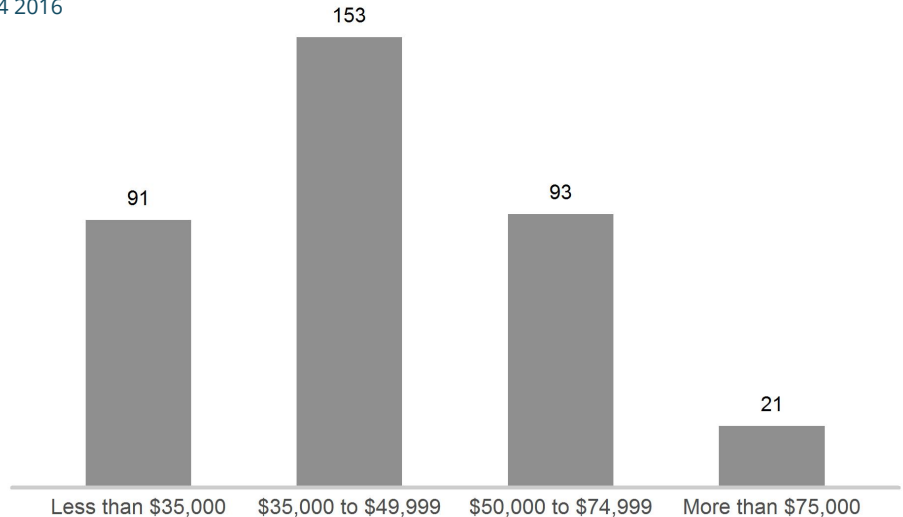
Electricians, plumbers, pipefitters: most wage growth potential outside of management

Construction Wages

Wages for Construction workers have a broad range and grow with experience. Most of the postings during Q4 that advertised salaries offered less than \$35,000, taking 44% of these postings. The remaining 56 percent was distributed relatively evenly between other salary brackets with over 20 percent of postings offering over \$75,000 per year. The average advertised wage in Q4 was \$44,793.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
47-2111	Electricians	\$18.06	\$23.94	\$31.09	\$35.32	\$41.37
47-2061	Construction Laborers	\$11.35	\$13.99	\$18.56	\$22.59	\$26.66
47-2152	Plumbers	\$15.69	\$22.35	\$31.21	\$35.49	\$40.14
47-2031	Rough Carpenters	\$13.97	\$18.22	\$23.85	\$29.03	\$33.29
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$20.30	\$24.06	\$29.07	\$37.38	\$45.30
47-2152	Pipe Fitters and Steamfitters	\$15.69	\$22.35	\$31.21	\$35.49	\$40.14
47-4011	Construction and Building Inspectors	\$15.23	\$20.59	\$26.40	\$30.96	\$35.92
47-2141	Painters, Construction and Maintenance	\$12.00	\$13.92	\$20.07	\$26.03	\$30.71
47-2073	Operating Engineers and Other Construction Equipment Operators	\$18.32	\$20.28	\$23.46	\$27.64	\$31.06
47-2181	Roofers	\$14.56	\$18.03	\$24.58	\$30.32	\$33.66

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Customer Service

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.

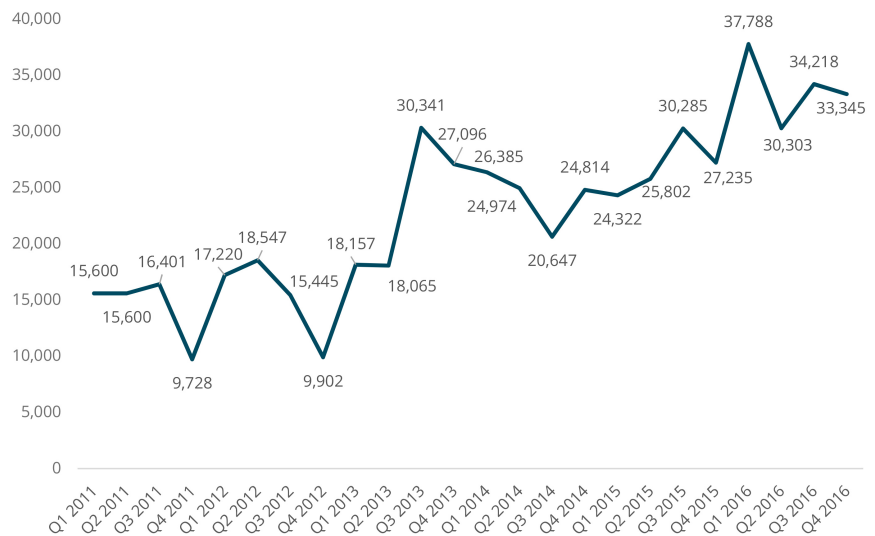
Job Posting Analysis

Online job ads for Customer Service workers dropped 3% between Q3 and Q4 2016 falling by 873 postings. After reaching a peak of almost 38,000 postings during Q1 2016 postings have stabilized near 33,000 ads. 2016 marks a relative high for customer service postings over the last 5 years.

Employment Analysis

Employment in Customer Service occupations has increased 13% since the 2009 recession low, adding nearly 200,000 jobs. 2016 estimates show that nearly 1.6 million individuals are employed in Customer Service-related jobs making it the largest occupation group in the region. Jobs are growing slowly and employers must add another 200,000 jobs to reach 2001 pre-recession highs.

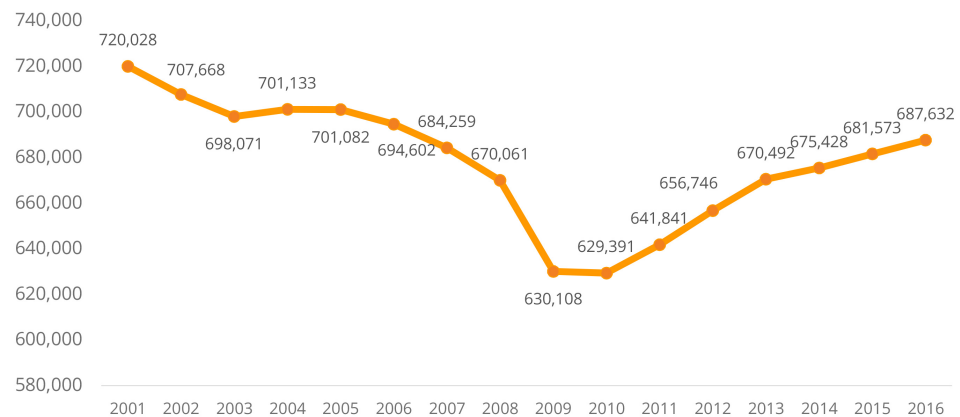
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network



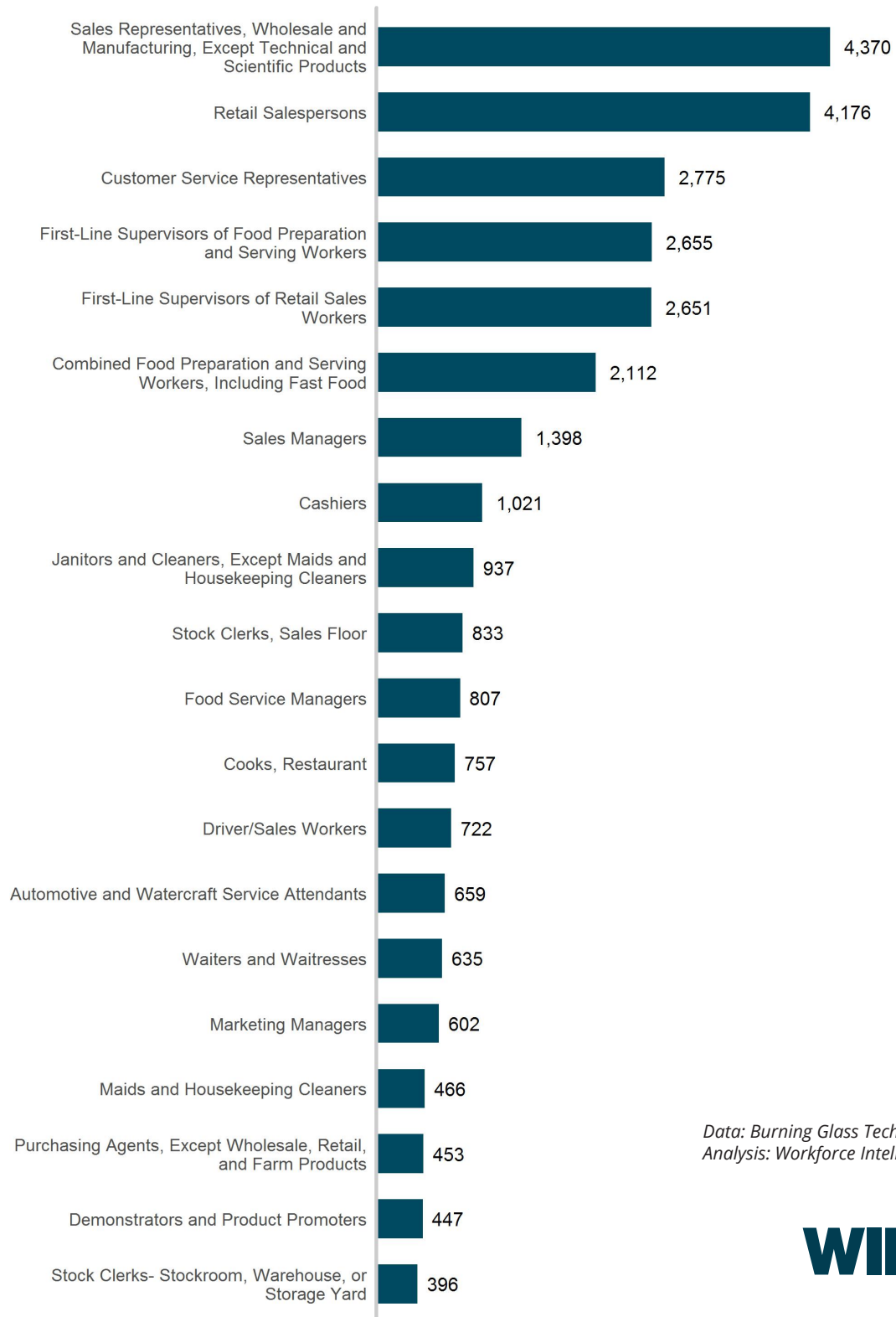
Wholesale and manufacturing
sales: most in-demand



33,345 total job postings

Customer Service Top Jobs Posted

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Entry-level opportunities
available

%

Bachelor's degree required for
management

Customer Service Educational Attainment Required

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 technical skill jobs to those in technical sales and management positions.

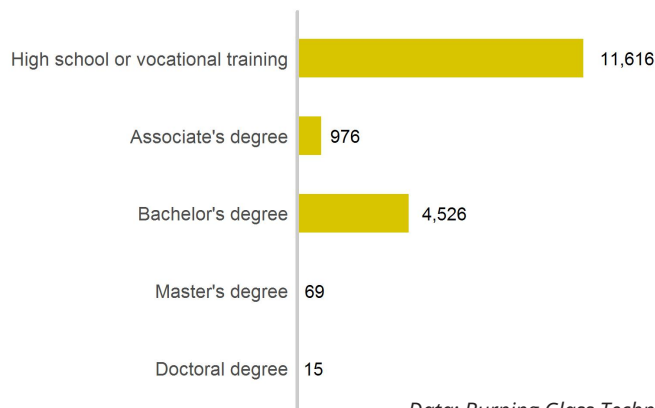
Because many Customer Service jobs do not require higher levels of education many are open to entry-level workers allowing individuals to gain experience and basic skills before transitioning to another career path or into leadership roles.

In-demand degrees for workers interested in Customer Service focus on business and engineering related studies. These degrees represent the demand for leaders with a focus in marketing and for those understanding of highly technical products to better promote and sell equipment.

In-Demand Areas of Study

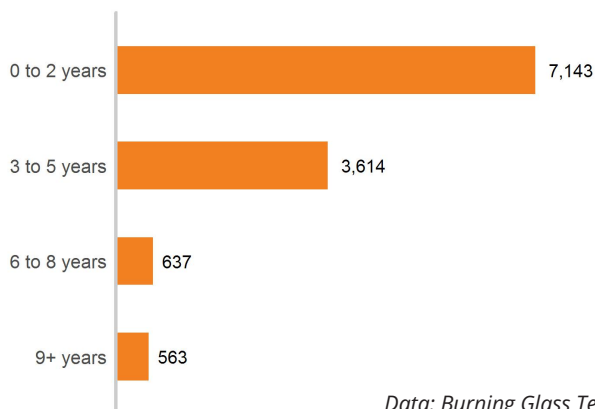
- Business Administration and Management, General
- Engineering, General
- Marketing/Marketing Management, General
- Finance, General
- Mechanical Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Essential Skills: Sales and Customer Service

%

More than 1/3 of the positions are full-time

Customer Service in-Demand Skills

The postings in the Customer Service group required a wide array of high-level communication skills. The most demanding skill in this occupation group was sales and customer service, the skill that links all of the jobs in this occupation group. Management skills, such as scheduling and budgeting, were also present in many of the postings for Customer Service related jobs. The skills listed below are vital for Customer Service to build and cultivate relationships with customers and provide them with particular products to meet their needs.

Technical in-Demand Skills

- Sales/ Customer Service/ Customer Contact
- Retail Setting
- Cleaning
- Scheduling/ Store Management/ Supervisory Skills
- Merchandising/ Sales Goals

Foundational In-Demand Skills

- Communication Skills/ Team Work
- Organizational Skills
- Ability to perform physical labor
- Writing/ Problem Solving
- Computer Skills/ Microsoft Office

Job Type

- Full Time- 36.8%
- Part Time- 11.4%
- Temp- 6.0%

Certifications Required

- SERVSAFE
- Automotive Service Excellence (ASE) Certification
- Mortgage License
- Commercial Driver's License
- Food Service Sanitation Certification



\$51,505
average advertised wage



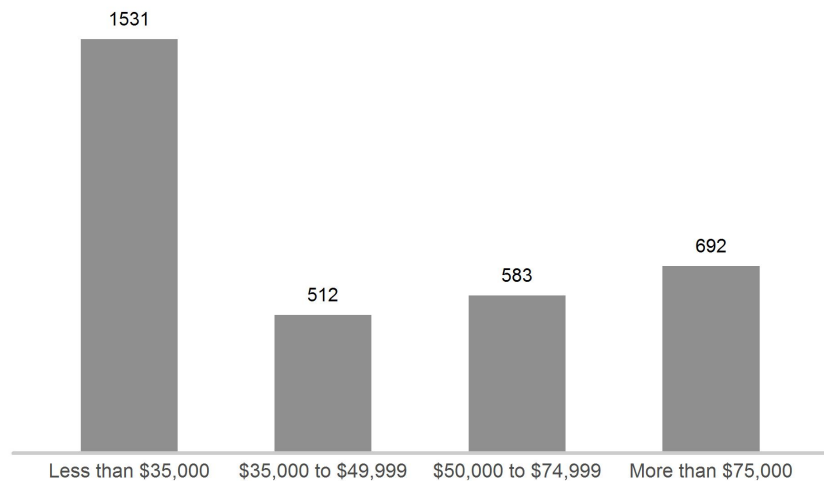
Sales Manager = highest
earning potential

Customer Service Wages

Many Customer Service jobs pay lower wages due to the requirement of fewer technical skills, less training, and many positions are open to workers with little to no experience. Some occupations offer a great deal of wage potential but also require more education and training. While most postings listed wage below \$35,000 the average advertised wage in Q4 2016 was \$51,505. Higher wages for workers with certain credentials and experiences highlight the opportunity in this career area.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

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	\$12.68	\$18.66	\$27.10	\$39.62	\$55.93
41-2031	Retail Salespersons	\$8.27	\$8.90	\$10.16	\$13.10	\$19.10
43-4051	Customer Service Representatives	\$9.22	\$11.38	\$14.86	\$18.90	\$24.29
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	\$8.89	\$10.52	\$14.25	\$19.31	\$24.15
41-1011	First-Line Supervisors of Retail Sales Workers	\$11.52	\$14.25	\$18.39	\$23.70	\$30.16
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$8.15	\$8.52	\$9.14	\$9.92	\$12.12
11-2022	Sales Managers	\$29.05	\$39.39	\$53.42	\$71.56	\$108.82
41-2011	Cashiers	\$8.17	\$8.68	\$9.57	\$11.62	\$15.08
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$8.30	\$9.38	\$11.71	\$15.15	\$18.64
43-5081	Stock Clerks, Sales Floor	\$8.29	\$9.11	\$11.00	\$14.40	\$18.58

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Education

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.

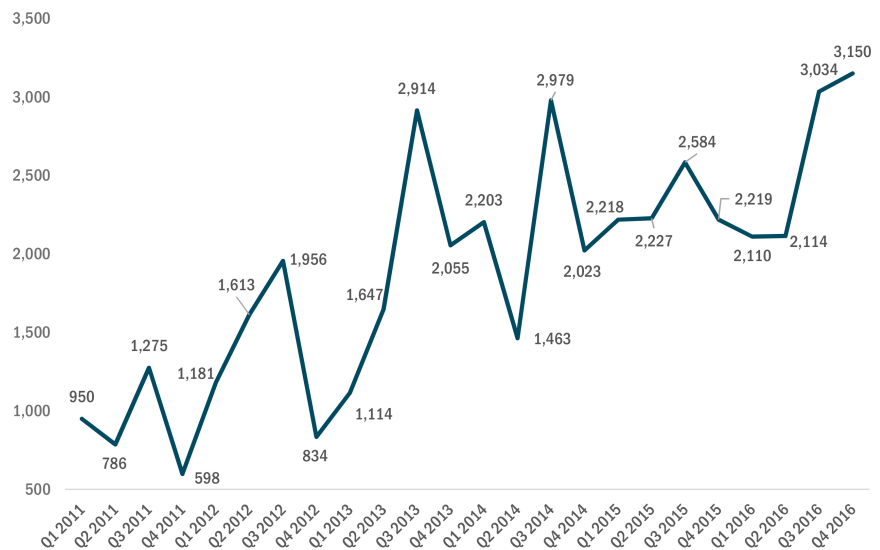
Job Posting Analysis

Job postings for jobs in Education do not follow a traditional business cycle like many other occupation groups. Instead, postings for Education positions peak during quarter three, particularly in July and August when schools ramp up hiring for the school year. Q4 2016 postings increased by 116 postings after the typical Q3 spike. The past two quarters represent a new high in education postings with over 3,000 postings during the second half of 2016.

Employment Analysis

Unlike many other occupation groups that have experienced employment gains since the recession, Education employment has declined. Also, unlike others, there was no precipitous drop in employment during 2009 and 2010 as the economy collapsed. Education positions, many of which are publicly funded, have fallen more in line with government spending on educator positions and universities changing from tenured faculty to adjust and part-time staff that are not counted in full-time employment numbers. Compared to a pre-recession high employment level of 144,216 in 2004, employment has dropped 18.6% with 26,828 fewer individuals employed in Education occupations.

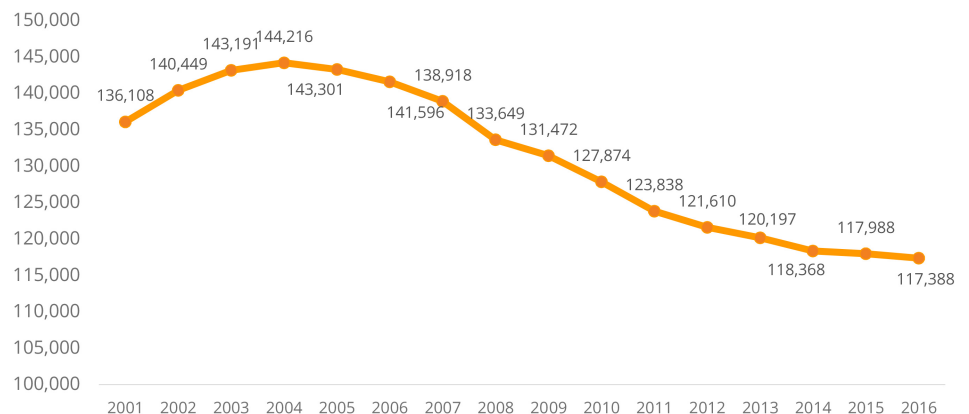
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

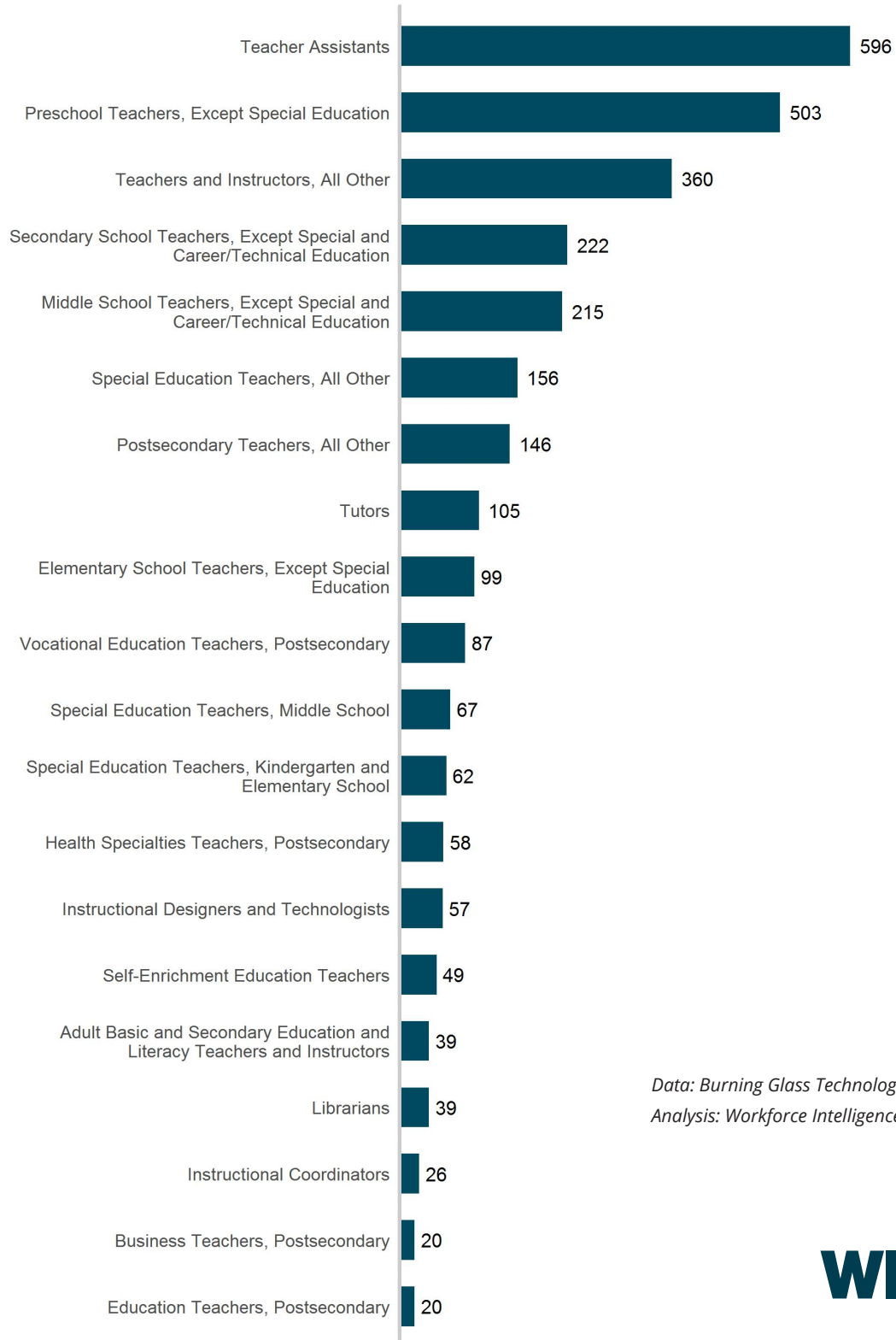


Teaching Assistants and preschool teachers: most in-demand



New high in postings during Q4 2016: 3,150 postings

Education
Top Jobs Posted
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree required for teachers

%

Entry-level opportunities available

Education

Educational Attainment Required

Most positions in Education require college education as training requirements have increased. Most these postings ask for applicants holding a bachelor's degree. Some positions, like those for teacher aids, require vocational training instead of a degree.

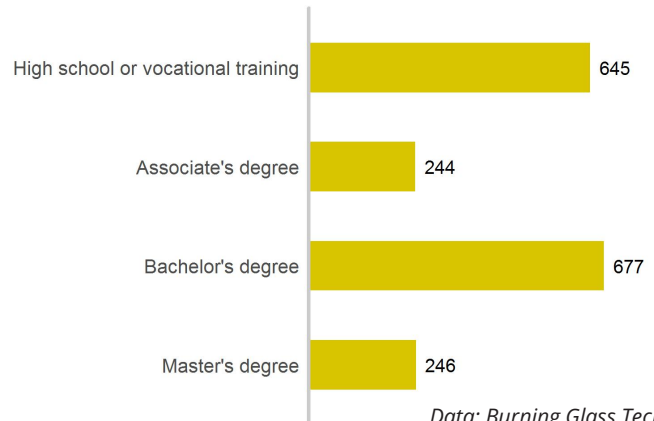
Many positions are open to less experienced workers with over half of postings listing entry-level positions. The next most requested experience is three to five years. Few postings require more than five years of experience.

In-demand degrees for workers interested in Education focus on Childhood education and development. Specialized degrees such as nursing, computer, and business were also in-demand for their more technical skills and applications.

In-Demand Areas of Study

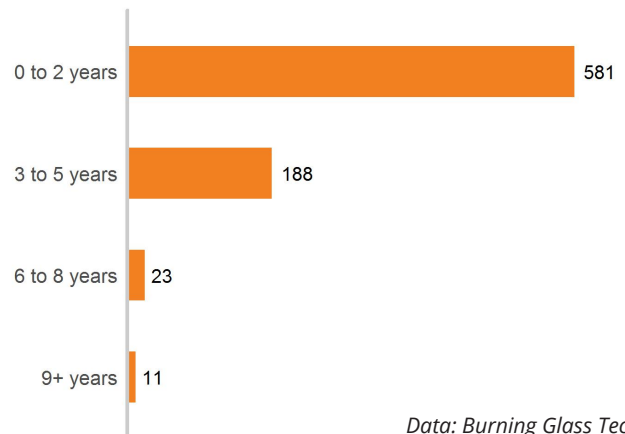
- Early Childhood Education and Teaching
- Child Development
- Nursing Science
- Computer Science
- Business Administration and Management

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Early childhood education and lesson planning: in-demand skills

%

Teacher certification required

Education in-Demand Skills

The foundational skills required for Education jobs are similar to those required for many other jobs. Communications, organization, computer skills, and others are all required of most jobs in the 21st century. Technical skills for teachers and other occupations in Education include lesson planning, knowledge of child development, mathematics, special education, and other teaching-specific skills. Management skills also make an appearance with supervision, planning, and presenting adding to a teachers skill set.

Technical In-Demand Skills

- Teaching
- Early Childhood Education/ Child Development
- Lesson Planning
- Supervisory Skills
- Special Education

Foundational In-Demand Skills

- Communication Skills/ Team Work
- Writing/ Planning/ Research
- Organizational Skills
- Ability to perform physical labor
- Computer Skills/ Microsoft Office

Job Type

- Full Time- 52.8%
- Part Time- 12.3%
- Temp- 9.4%

Certifications Required

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



\$54,793: average advertised wage in Q4 2016



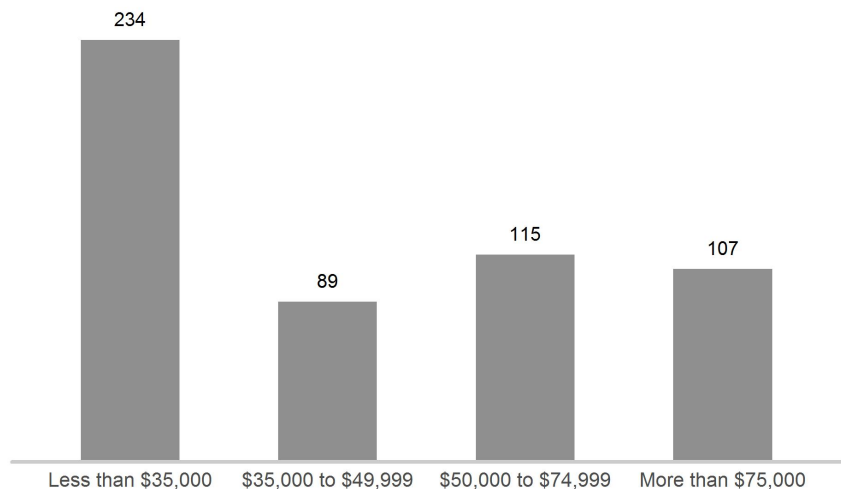
Earning potential increases with ago of students taught

Education Wages

Starting wages for many teaching positions are not competitive but have the opportunity to grow. For many positions, wages are negotiated by a union and increase over time. The average wage for a teacher, as advertised in postings during Q4 2016, was \$54,793. While over half of postings list wages below \$35,000, most open positions require little to no experience so it stands to reason that wages in postings are low even though most jobs require at least a Bachelor's degree.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
25-9041	Teacher Assistants	\$8.67	\$10.04	\$11.95	\$14.88	\$18.42
25-2011	Preschool Teachers, Except Special Education	\$9.29	\$10.77	\$13.47	\$16.51	\$22.18
25-3099	Teachers and Instructors, All Other	\$10.11	\$15.70	\$26.12	\$33.71	\$40.66
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	\$18.43	\$23.15	\$30.87	\$38.63	\$44.48
25-2022	Middle School Teachers, Except Special and Career/Technical Education	\$18.38	\$23.85	\$31.86	\$38.46	\$44.02
25-2059	Special Education Teachers, All Other	\$16.01	\$20.46	\$25.64	\$35.20	\$44.48
25-1199	Postsecondary Teachers, All Other	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available
25-3099	Tutors	\$10.11	\$15.70	\$26.12	\$33.71	\$40.66
25-2021	Elementary School Teachers, Except Special Education	\$17.66	\$22.87	\$32.12	\$38.30	\$43.69
25-1194	Vocational Education Teachers, Postsecondary	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

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.

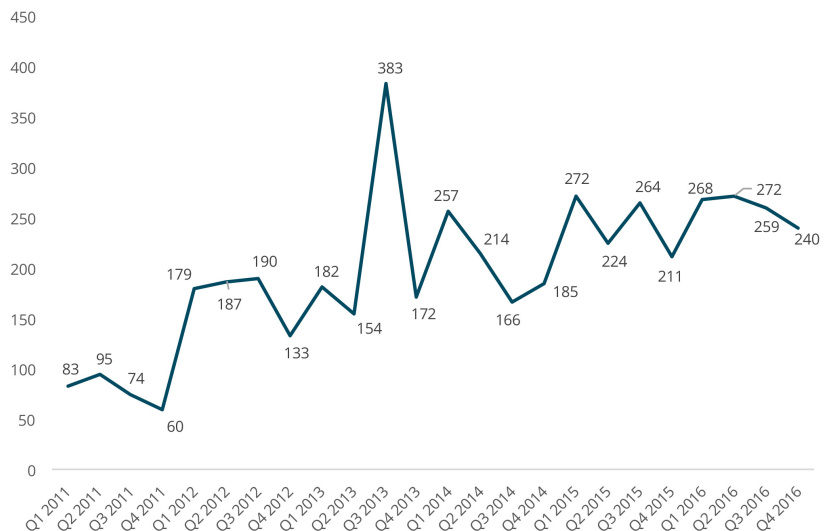
Job Posting Analysis

Online job ads for workers in Energy fell between Q3 and Q4 2016 with postings decreasing by 19. Postings have remained relatively stagnant for the past six quarters hovering around an average of 250 job ads per quarter despite the decline over the past two quarters. Postings are 12 percent higher during this Q4 compared to Q4 of 2015 with 29 additional postings.

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 2016, 15,448 workers are employed in these Energy industries in southeast Michigan. Employment in these industries dipped in 2011, losing 2,734 jobs. Employment has since recovered to just over 15,000 workers, a 1,663 job gain between 2011 and 2015, but employment looks to be dropping again.

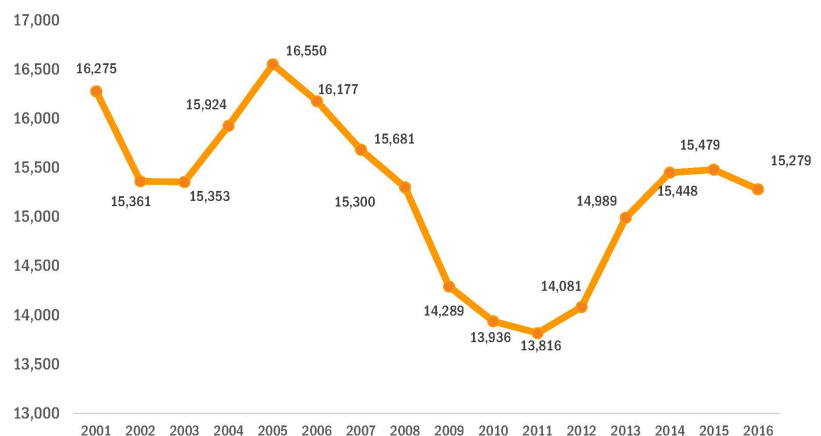
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



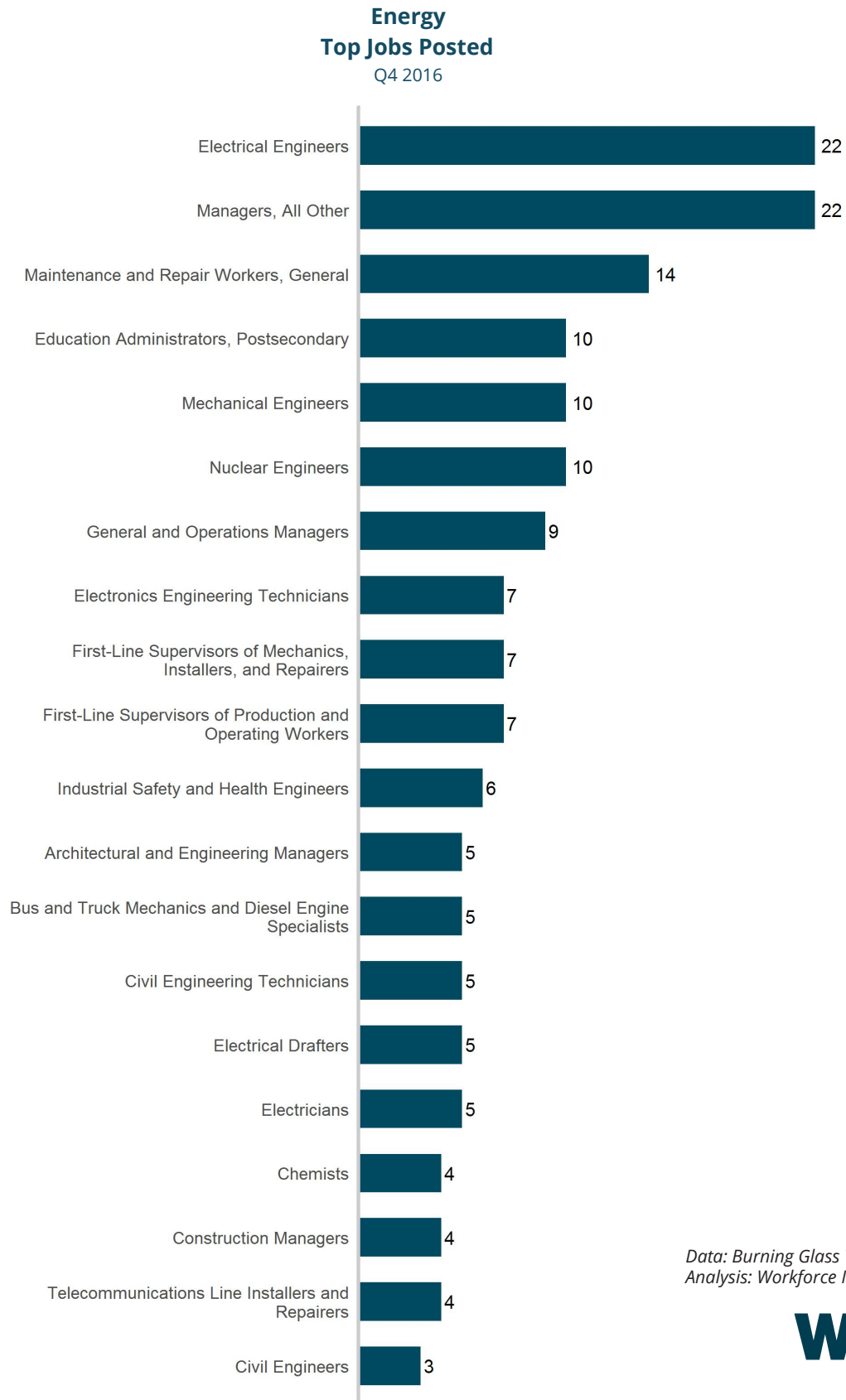
Data: EMSI
Analysis: Workforce Intelligence Network



Managers and engineers: most
in-demand jobs



Postings holding steady around
250, demand not increasing



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Technical and vocational training highly sought after

%

3 to 5 years of experience

Energy Educational Attainment Required

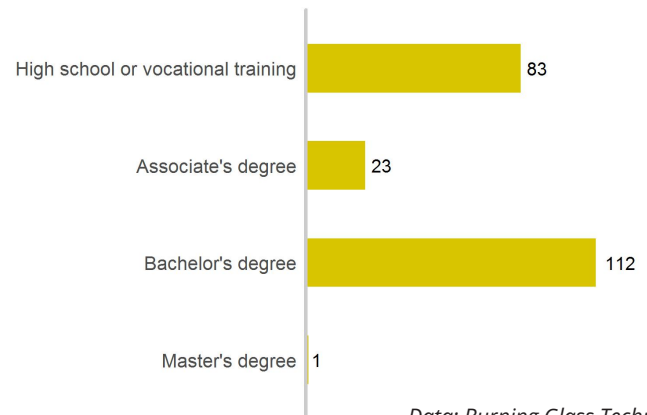
Jobs in Energy tend to have an engineering focus and thus require at least a Bachelor's degree for employment. Select available jobs at the technician level require vocational training such as an apprenticeship. Energy companies posting in Q4 2016 required three to five years of experience with little open to entry-level talent.

In-demand degrees for workers interested in Energy focus primarily on Engineering fields. While general engineering degrees were the most sought out, focus in electrical and mechanical engineering appeared along top degrees most likely due to the operations of energy plants.

In-Demand Areas of Study

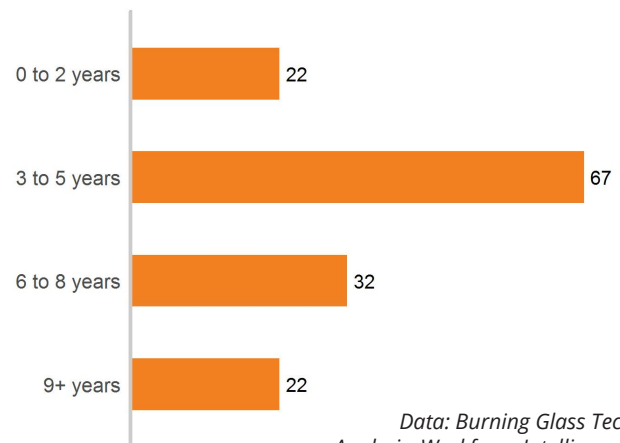
- Engineering, General
- Engineering Technology, General
- Business Administration and Management, General
- Electrical and Electronic Engineering Technologies/Technicians, Other
- Mechanical Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Managements skills in high demand

%

PMP and ABET certifications in-demand

Energy In-Demand Skills

Foundational skills for jobs in Energy fields are similar to those across the WIN-analyzed occupation groups. Planning, problem solving, and communications skills are necessary for workers. Technical skills in Energy jobs range from budgeting to nuclear energy and repair. A wide variety of skills are demanded in these highly skilled jobs, especially for those looking to lead and design.

Technical In-Demand Skills

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

Foundational In-Demand Skills

- Problem Solving
- Planning/ Writing/ Research
- Communication Skills
- Mathematics
- Ability to perform physical labor

Job Type

- Full Time- 35.0%
- Part Time- less than 0.1%
- Temp- 0.1%

Certifications Required

- Professional Engineer
- Project Management Certification (E.G. PMP)
- Commercial Driver's License
- Air Brake Certified
- American Board for Engineering and Technology (ABET) Accredited



\$76,752: Average wage
advertised



Engineer and Management
positions provide high wage growth

Energy Wages

Few postings in Energy advertise a salary. Of those that did list a wage, most were either advertising \$35,000 to \$49,999 or above \$75,000 annually. The average advertised wage in a posting during Q4 2016 was \$76,752. According to BLS data, wages for energy workers are high and offer upward growth. With greater education requirements comes higher pay and Energy jobs are a great example of this. Nuclear Engineers in particular reported median annual incomes greater than \$100,000.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2071	Electrical Engineers	\$28.62	\$34.37	\$41.93	\$49.17	\$57.20
11-9199	Managers, All Other	\$27.60	\$34.55	\$45.50	\$56.62	\$69.64
49-9071	Maintenance and Repair Workers, General	\$10.08	\$12.52	\$16.67	\$21.78	\$27.39
11-9033	Education Administrators, Postsecondary	\$26.36	\$35.36	\$49.35	\$68.26	\$91.15
17-2141	Mechanical Engineers	\$29.71	\$36.70	\$44.39	\$53.14	\$59.51
17-2161	Nuclear Engineers	\$35.80	\$43.46	\$50.81	\$56.88	\$64.21
11-1021	General and Operations Managers	\$22.71	\$31.64	\$46.76	\$71.04	\$103.16
17-3023	Electronics Engineering Technicians	\$15.36	\$19.52	\$24.83	\$31.34	\$36.25
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	\$16.48	\$22.09	\$29.56	\$38.49	\$46.06
51-1011	First-Line Supervisors of Production and Operating Workers	\$17.30	\$22.00	\$29.37	\$38.40	\$46.29

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Engineers & Designers (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.

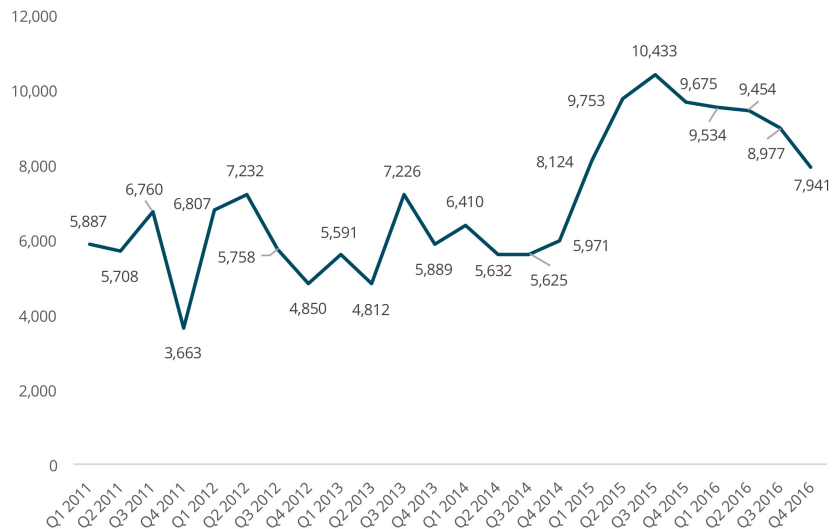
Job Posting Analysis

Job postings for occupations in the Engineering and Design group dropped between Q3 and Q4 2016 falling by 1,036 postings. This 11% drop in postings represents the fifth consecutive quarter of decline for this occupation group after reaching over 10,000 postings during Q3 2016.

Employment Analysis

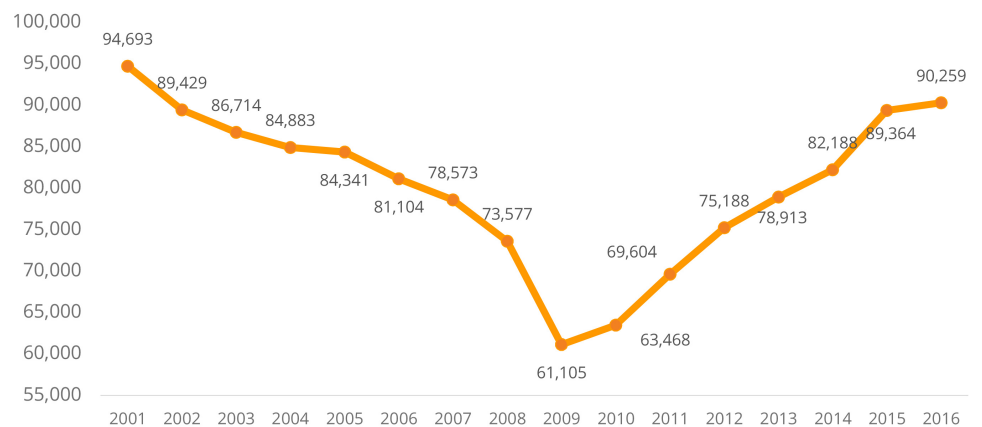
Employment in Engineering and Design occupations has increased 35.3% since the lowest point in the recession during 2009 recovering 32,213 jobs over a seven-year period. Postings for these workers are continuously high and hiring has been steady. While growth has been strong, another 9,251 workers need to be employed for job levels to reach 2001 peak pre-recession numbers.

Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time 2016



Data: EMSI
Analysis: Workforce Intelligence Network

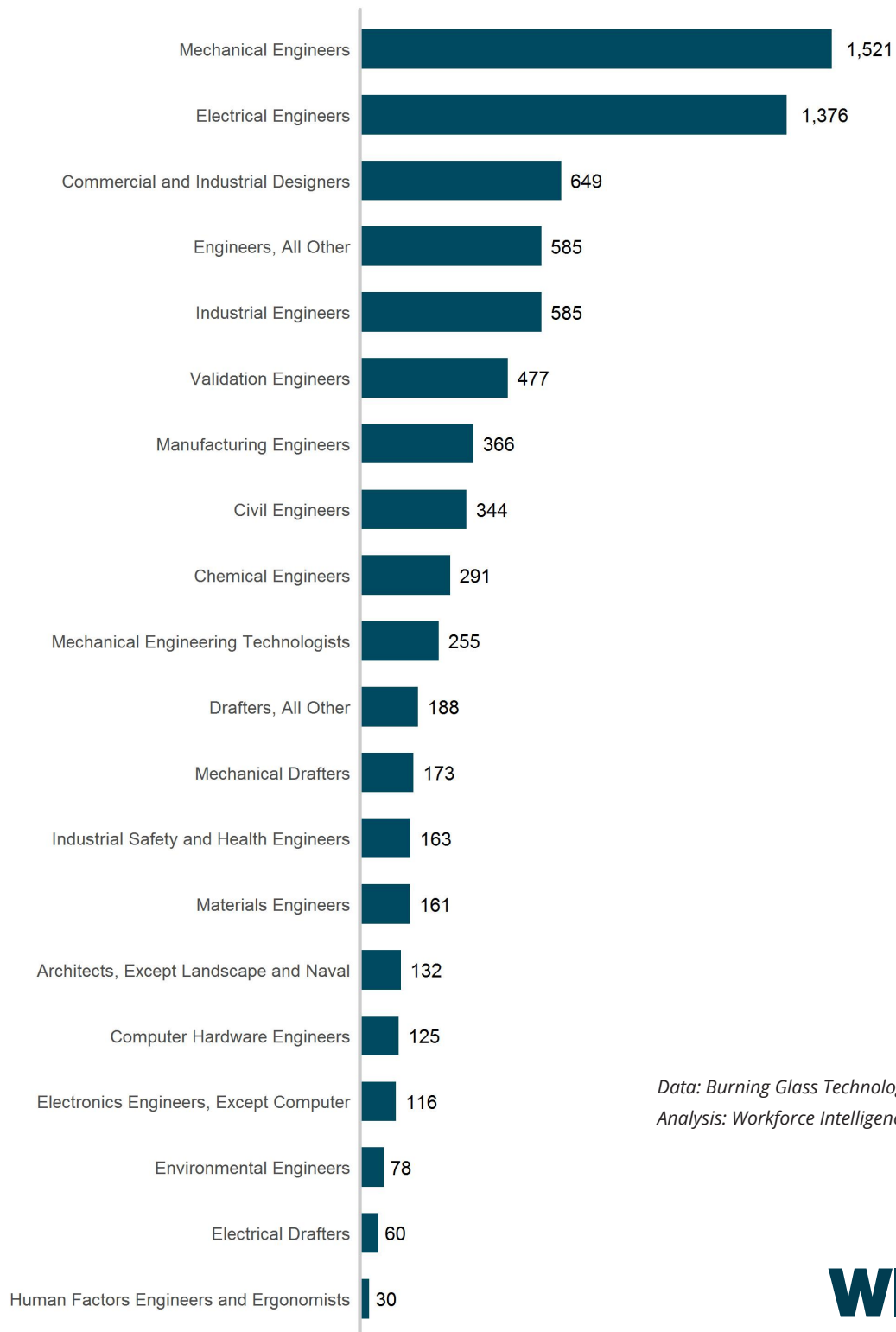


Most in-demand: mechanical
and electrical engineers



7,941 job postings during
Q4 2016

Engineers & Designers
Top Jobs Posted
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree required

%

Employers seeking applicants with 3 to 5 years of experience

Engineers & Designers Educational Attainment Required

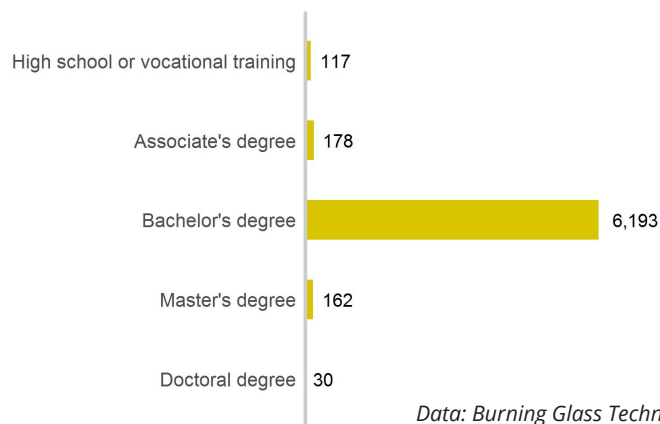
Engineering and Design jobs almost exclusively require a Bachelor's degree. Experience however, is a range with many application looking for individuals with 0 to 5 years of experience. Most of these jobs require three to five years of experience, but there is a large volume of postings targeted to entry-level applicants.

In-demand degrees for workers interested in Engineering and Design focus primarily on engineering fields. Mechanical, electrical, and computer engineering all round out the top in-demand fields of engineering demand in this occupation group.

In-Demand Areas of Study

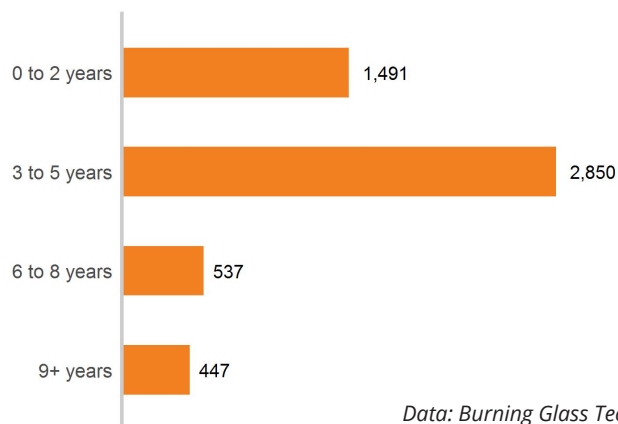
- Engineering, General
- Mechanical Engineering
- Electrical and Electronic Engineering Technologies/Technicians, Other
- Computer Science
- Computer Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Validation: in-demand skill

%

Engineering certification from
ABET Required

Engineers & Designers In-Demand Skills

The foundational skills required to be an engineer or designer are similar to those for other occupational groups. Communications, management, problem solving, and computer skills are all important for workers in the current economy. Technical skills for engineers are more specific. Mechanical engineering, the top skill is also the top in-demand job. Many employers also want engineers to be part of the product development and project management processes.

Technical In-Demand Skills

- Mechanical Engineering
- Microsoft Office
- Electrical Engineering
- Validation/ Product Development
- Project Management

Foundational In-Demand Skills

- Communication Skills
- Problem Solving/ Troubleshooting
- Mathematics
- Writing/ Planning/ Research
- Organizational Skills/ Detail Oriented

Job Type

- Full Time- 59.6%
- Part Time- less than 0.1%
- Temp- 3.9%

Certifications Required

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



\$79,802: Average advertised wage



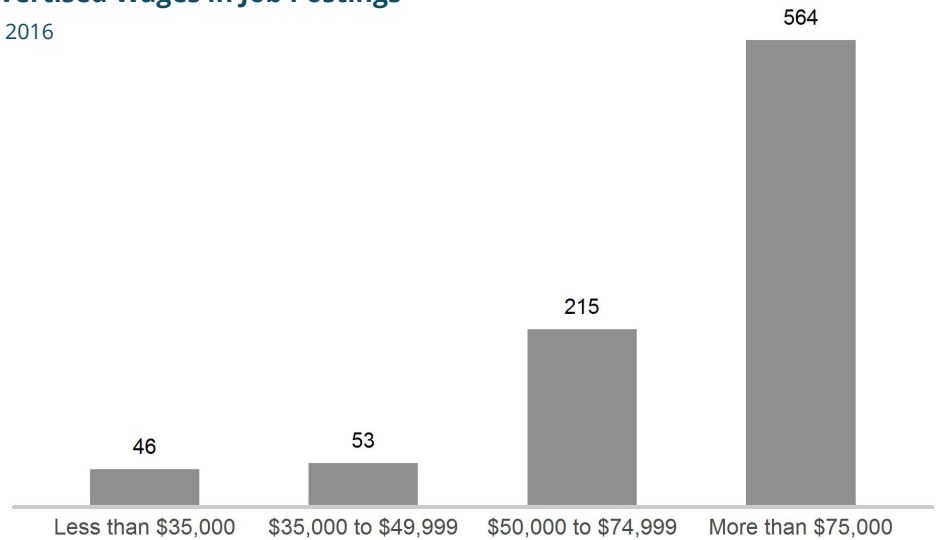
59% of postings for full-time positions

Engineers & Designers Wages

With such high educational attainment requirements, it follows that most jobs posted for engineers pay more than \$75,000 annually. These are great jobs but require many years of training and a lot of skill. The average posted wage in Q4 2016 was \$79,802. Median wages for the top ten in-demand occupations all reported median salaries of over \$60,000 per year.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
17-2141	Mechanical Engineers	\$29.71	\$36.70	\$44.39	\$53.14	\$59.51
17-2071	Electrical Engineers	\$28.62	\$34.37	\$41.93	\$49.17	\$57.20
27-1021	Commercial and Industrial Designers	\$25.92	\$32.08	\$38.07	\$44.01	\$49.28
17-2199	Engineers, All Other	\$24.12	\$35.91	\$45.03	\$55.10	\$66.56
17-2112	Industrial Engineers	\$27.77	\$33.54	\$40.47	\$47.49	\$55.75
17-2199	Validation Engineers	\$24.12	\$35.91	\$45.03	\$55.10	\$66.56
17-2199	Manufacturing Engineers	\$24.12	\$35.91	\$45.03	\$55.10	\$66.56
17-2051	Civil Engineers	\$23.15	\$27.80	\$33.73	\$39.42	\$46.77
17-2041	Chemical Engineers	\$27.64	\$31.64	\$37.98	\$45.50	\$54.33
17-3029	Mechanical Engineering Technologists	\$16.09	\$21.56	\$29.59	\$36.19	\$45.70

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Introduction

WIN's health care occupation group includes jobs related to health care support and practitioners. Employment in this group has been consistently growing due to Michigan's aging population, as well as regulatory and other industry trends. Registered nurses are routinely the most in-demand job in this group. See page 6 for a full list of occupations included in this group.

Job Posting Analysis

Health Care job ads dropped 2 percent to 19,607 postings, losing 492 between Q3 and Q4 2016. This drop comes after a five-year peak during Q3 2016 of 20,099 postings. Despite the decline, postings remain relatively high over the five years analyzed.

Employment Analysis

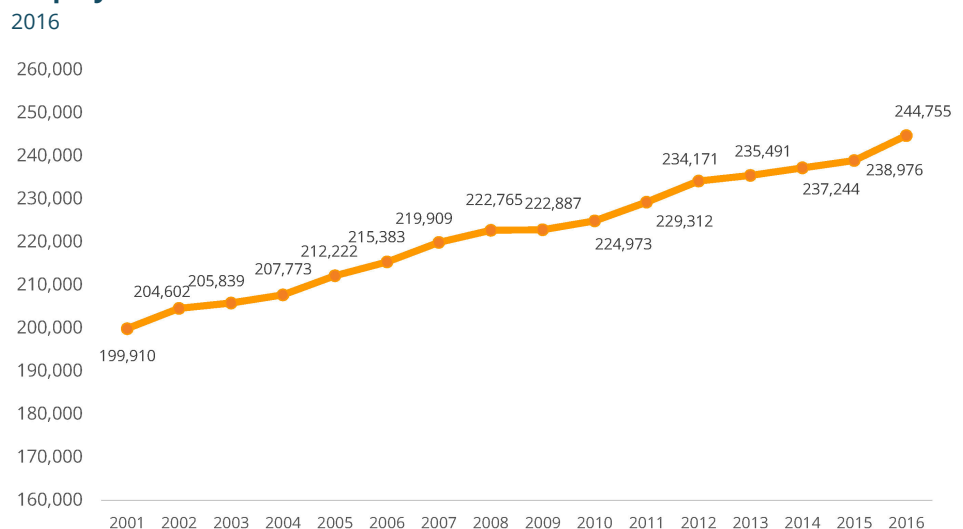
Health Care employment had proven to be one of few "recession-proof" occupation groups. Employment growth slowed modestly during the recession but there was at least a modest net gain in each year. Employment in Health Care jobs grew 2.42% adding 5,779 workers between 2015 and 2016. Growth is likely to continue as demand for services rises.

Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time



Data: EMSI
Analysis: Workforce Intelligence Network

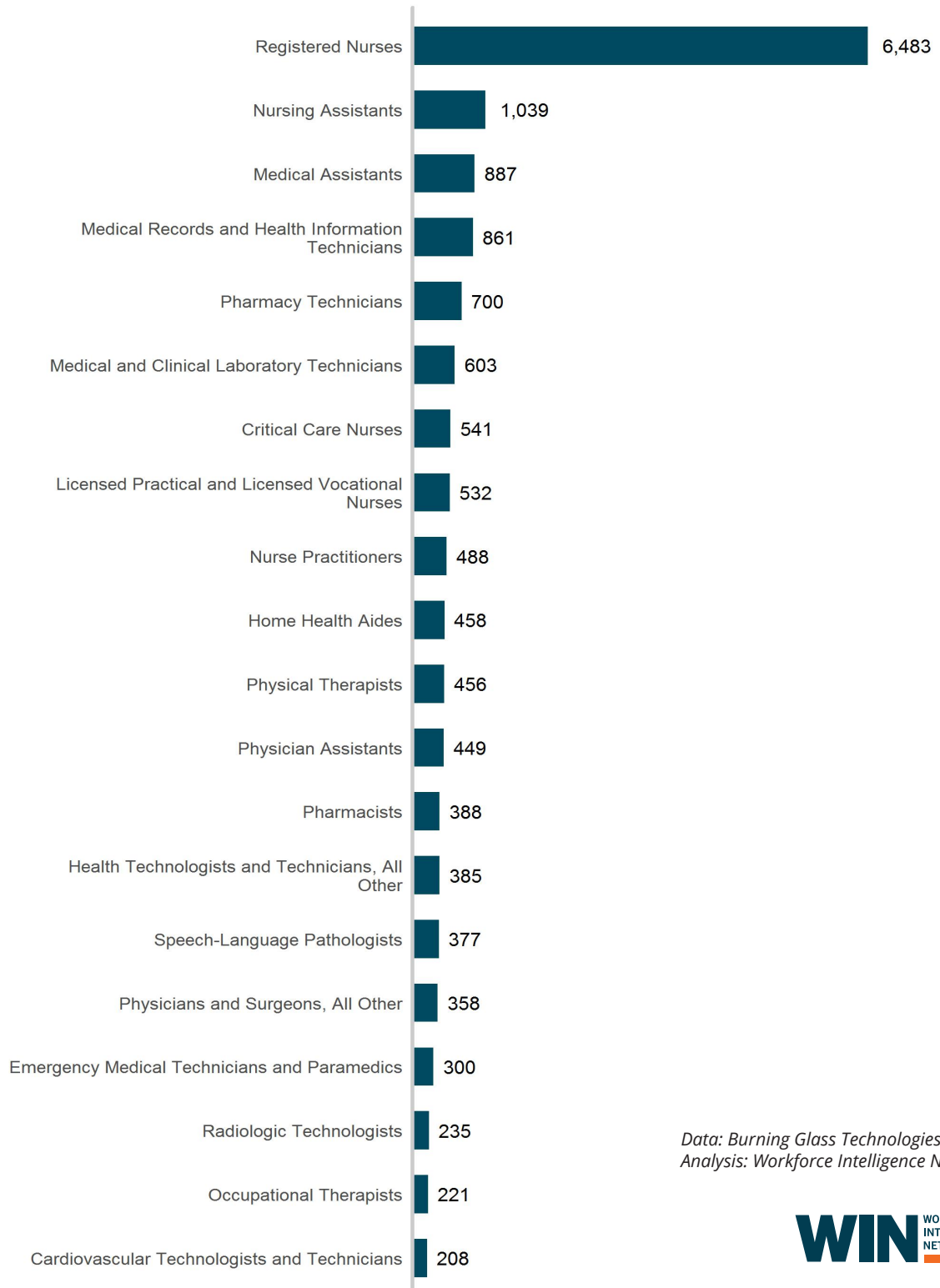


Registered Nurses:
most in-demand job



\$60,169: average
advertised wage

**Health Care
Top Jobs Posted**
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



19,607 total health care job postings during Q4 2016

%

Wages tend to increase with education level

Health Care Educational Attainment Required

Educational attainment for the Health Care group is not uniform across occupations. Health Care careers are open to individuals across the educational attainment spectrum, with the largest volume of postings searching for applicants holding an Associate's degree. Higher paying positions such as registered nurses, physicians, and physical therapists tend require more education.

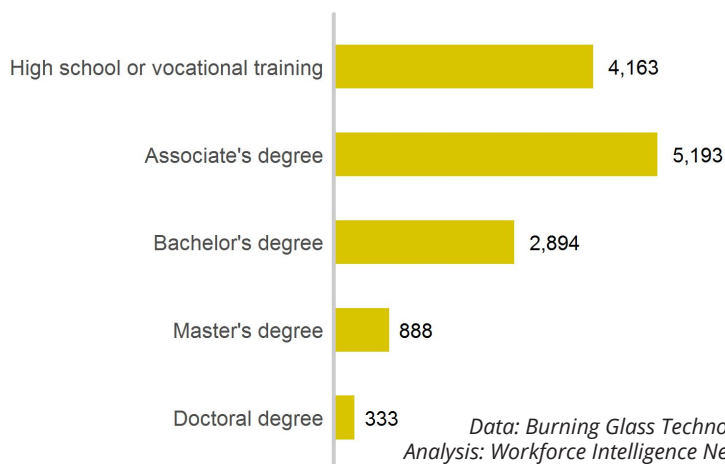
Many Health Care jobs are open to those at the entry-level. Most employers that list a desired level of experience are open to hiring workers with two years or fewer of related work experience.

In-demand degrees for workers interested in Health Care focus primarily on Nursing, Physical Therapy, and other health related degrees. With high demand for registered nurses, education in nursing sciences is sought-after in the health care occupation group.

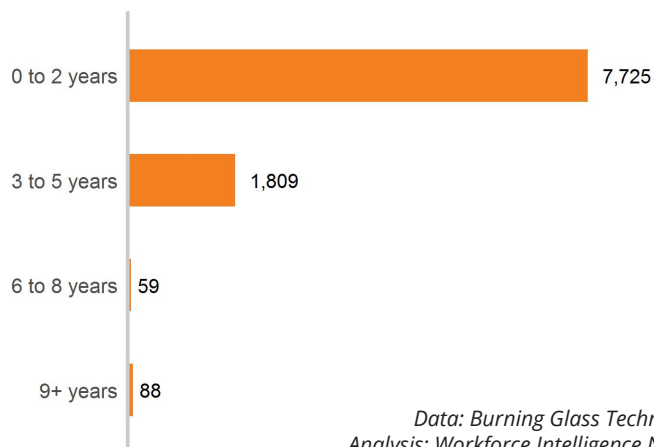
In-Demand Areas of Study

- Nursing Science
- Physical Therapy/Therapist
- Radiologic Technology/Science - Radiographer
- Public Health, General
- Social Work

Educational Attainment



Experience Required





Opportunities exist for all educational attainment levels

%

Patient care and communication skills are in-demand

Health Care In-Demand Skills

The skills required of Health Care workers are focused on patient care and communication. The most in-demand technical skills outside of patient care include the ability to train patients and families about treatment. Basic skills in planning, organization, and quality assurance and control are sought-after.

Technical In-Demand Skills

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

Foundational In-Demand Skills

- Communication Skills/ Teamwork
- Writing/ Planning/ Research
- Quality Assurance and Control
- Organizational Skills/ Detail Oriented
- Problem Solving

Job Type

- Full Time: 54.3%
- Part Time: 8.5%
- Temporary: 10.8%

Certifications Required

- Registered Nurse
- First Aid CPR AED
- Basic Cardiac Life Support Certification
- American Heart Association Certificate
- Certified Nursing Assistant



Entry-level opportunities are available in health care



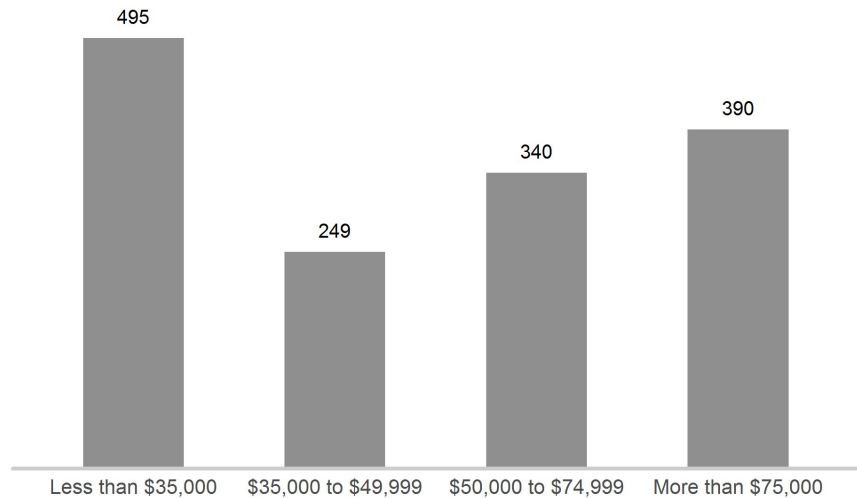
RN certification highly sought after according to job postings

Health Care Wages

As with educational attainment, salaries offered to Health Care workers vary widely. Higher wages are often available to worker with more education. With the large volume of entry level positions available, most advertised salaries were less than \$35,000 per year. The average salary advertised in Health Care postings during Q4 2016 was \$60,169 per year.

Advertised Wages in Job Postings

2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$25.01	\$28.52	\$32.88	\$37.34	\$46.95
31-1014	Nursing Assistants	\$10.16	\$11.73	\$13.47	\$15.35	\$17.39
31-9092	Medical Assistants	\$10.53	\$12.07	\$13.83	\$16.16	\$18.59
29-2071	Medical Records and Health Information Technicians	\$11.70	\$14.01	\$17.78	\$21.89	\$25.65
29-2052	Pharmacy Technicians	\$9.26	\$11.38	\$14.08	\$16.71	\$19.00
29-2012	Medical and Clinical Laboratory Technicians	\$11.23	\$12.89	\$15.75	\$20.28	\$27.61
29-1141	Critical Care Nurses	\$25.01	\$28.52	\$32.88	\$37.34	\$46.95
29-2061	Licensed Practical and Licensed Vocational Nurses	\$17.66	\$19.98	\$22.80	\$25.84	\$28.22
29-1171	Nurse Practitioners	\$33.37	\$39.27	\$44.58	\$51.92	\$58.85
31-1011	Home Health Aides	\$8.17	\$8.88	\$10.01	\$11.44	\$13.80

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Information Technology

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.

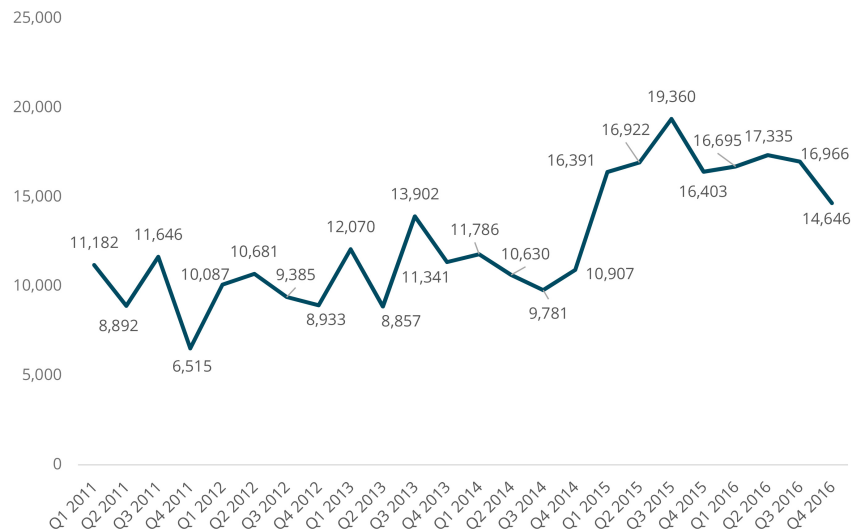
Job Posting Analysis

Postings for IT workers decreased between Q3 and Q4 2016. Postings for IT workers drop by 13 percent to 14,646. This is the second drop in postings after postings peaked during Q3 2016.

Employment Analysis

IT employment has increased nearly 26% with 16,231 jobs recovered between 2009 and 2016. Employment is growing rapidly and nearing the 2001 pre-recession high. An additional 1,150 workers in IT jobs in the region will push employment above pre-recession peak levels.

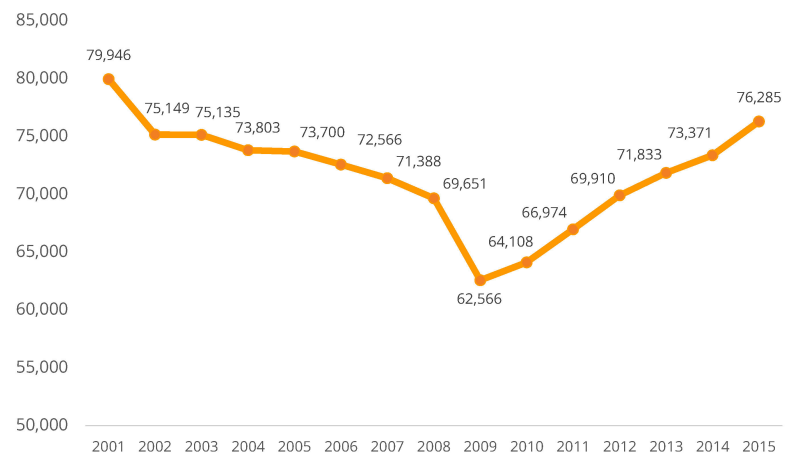
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

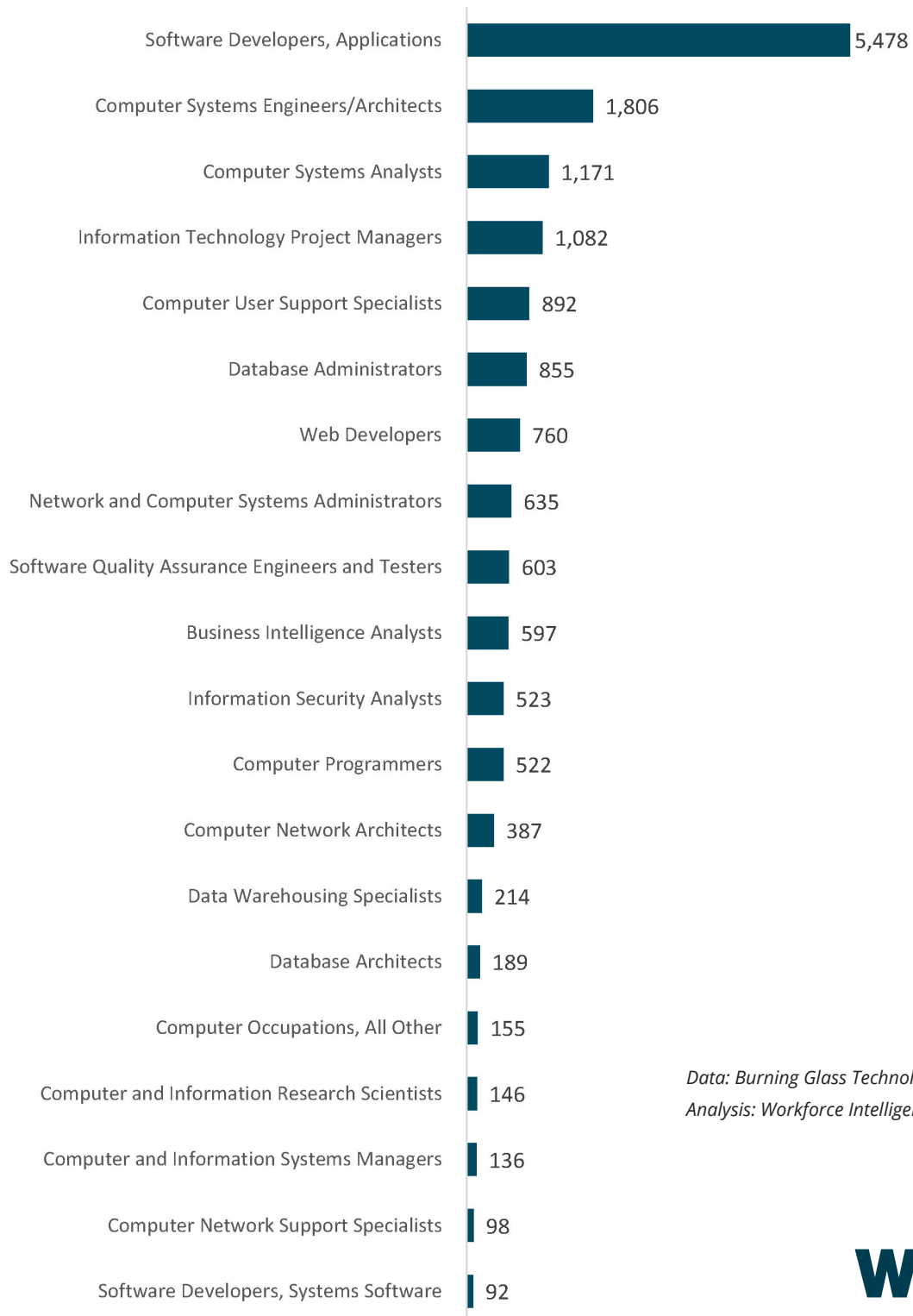


Application software
developers: most in-demand



14,646 total postings during
Q4 2016

Information Technology
Top Jobs Posted
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degree required

%

Workers with 3 to 5 years of experience in-demand

Information Technology Educational Attainment Required

Of the employers that posted required educational attainment for IT jobs, a strong majority require workers to have a Bachelor's degree. Some IT positions can be obtained with shorter term training or certification.

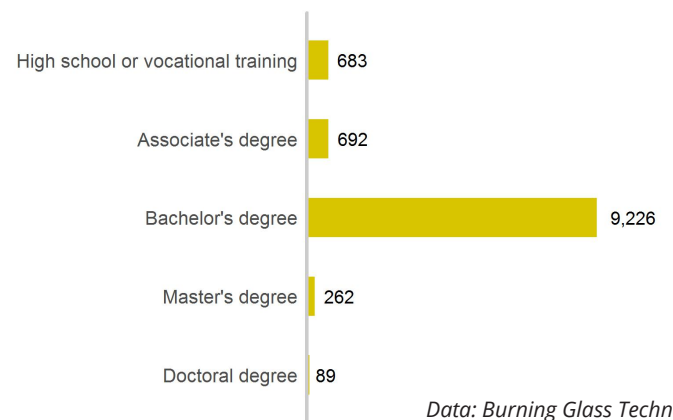
Many employers want IT workers with three to five years of experience. Jobs are available at the entry-level but with the rapid pace of technology change and adaption employers are seeking experienced talent.

In-demand degrees for workers interested in IT focus primarily on computer science and engineering degrees. As IT workers work specifically with various technology, degrees focusing on computer applications, understanding advanced technologies, and the designing of components and programs are vital in this occupation group.

In-Demand Areas of Study

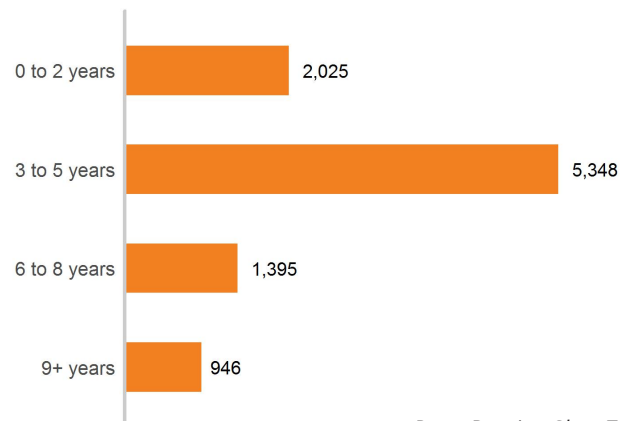
- Computer Science
- Engineering, General
- Electrical and Electronic Engineering Technologies/Technicians, Other
- Mechanical Engineering
- Computer Engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



SQL, JAVA, LINUX: In-demand languages

%

PMP and CSSIP Certifications in Demand

Information Technology In-Demand Skills

IT employers are seeking candidates who have a combination of highly technical skills and coding language fluency as well as foundational skills important for any job in the 21st century. Several coding languages are often listed in postings such as JAVA and C++. In-demand foundational skills include communications, project management, and problem solving.

Technical In-Demand Skills

- Software Development
- SQL/ JAVA
- Project Management
- Oracle
- LINUX

Foundational In-Demand Skills

- Communication Skills/ Team Work
- Writing/ Planning/ Research
- Problem Solving/ Trouble Shooting
- Organizational Skills/ Detail Oriented
- Mathematics

Job Type

- Full Time- 71.4%
- Part Time- less than 0.1%
- Temp- 1.2%

Certifications Required

- Project Management Certification (E.G. PMP)
- Certified Information Systems Security Professional (CISSP)
- American Board for Engineering and Technology (ABET) Accredited
- Six Sigma Certification
- Security Clearance



\$87,120: Average
advertised salary



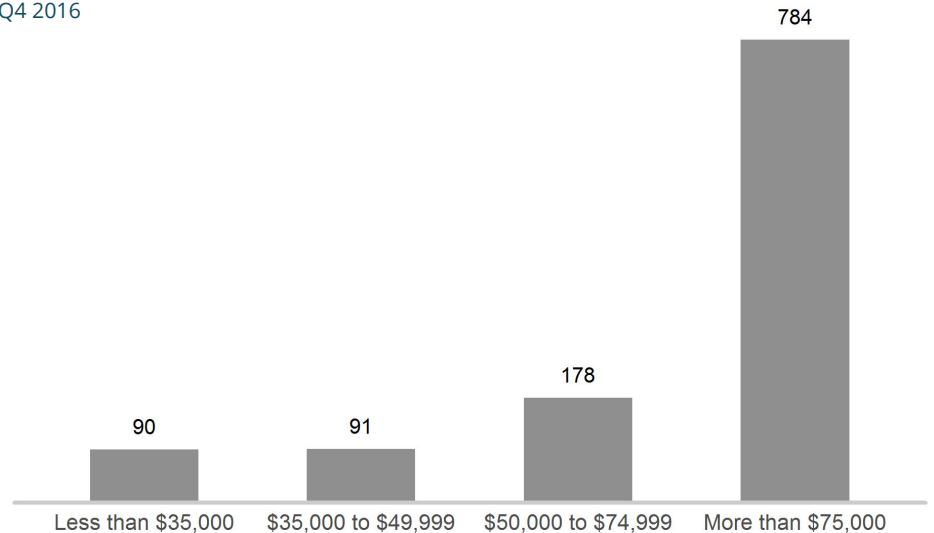
Software developers reported
high wage growth potential

Information Technology Wages

Wages for IT workers are high and growing. Of the postings that list wages, most offer workers over \$75,000 per year. The average advertised salary during Q4 2016 was \$87,120. The average median salary for the top ten in-demand occupations for IT reported \$75,000 per year.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	\$25.13	\$31.37	\$39.46	\$49.62	\$59.11
15-1199	Computer Systems Engineers/Architects	\$23.30	\$30.60	\$38.96	\$49.35	\$57.64
15-1121	Computer Systems Analysts	\$25.15	\$32.13	\$40.07	\$49.50	\$58.95
15-1199	Information Technology Project Managers	\$23.30	\$30.60	\$38.96	\$49.35	\$57.64
15-1151	Computer User Support Specialists	\$12.23	\$15.79	\$21.41	\$28.91	\$36.83
15-1141	Database Administrators	\$23.68	\$31.25	\$40.92	\$49.92	\$58.00
15-1134	Web Developers	\$18.26	\$22.41	\$29.30	\$37.46	\$45.63
15-1199	Software Quality Assurance Engineers and Testers	\$23.30	\$30.60	\$38.96	\$49.35	\$57.64
15-1142	Network and Computer Systems Administrators	\$21.49	\$27.15	\$35.54	\$43.29	\$51.36
15-1199	Business Intelligence Analysts	\$23.30	\$30.60	\$38.96	\$49.35	\$57.64

Data: EMSI, BLS

Analysis: Workforce Intelligence Network



Skilled Trades & Technicians (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.

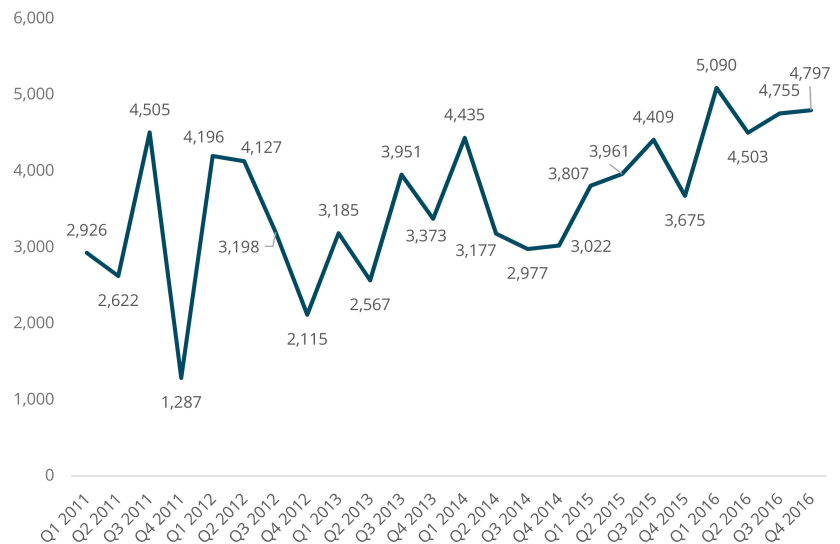
Job Posting Analysis

Skilled trade job ads rose by 42, about 1% of the previous total, between Q3 and Q4. This is the second consecutive quarter with a modest rise in skilled trades postings. This continues a general upward trend in demand for Skilled Trade workers over the past four years, as postings remain just under their five-year peak achieved in Q1 2016.

Employment Analysis

Employment in Skilled Trades and Technician occupations has increased 33.4% since 2009, the lowest employment point during the recession. Since 2009, 29,077 jobs have been recovered. Employment growth has been consistent but not rapid. Another 49,000 workers must be hired for employment to reach pre-recession peaks.

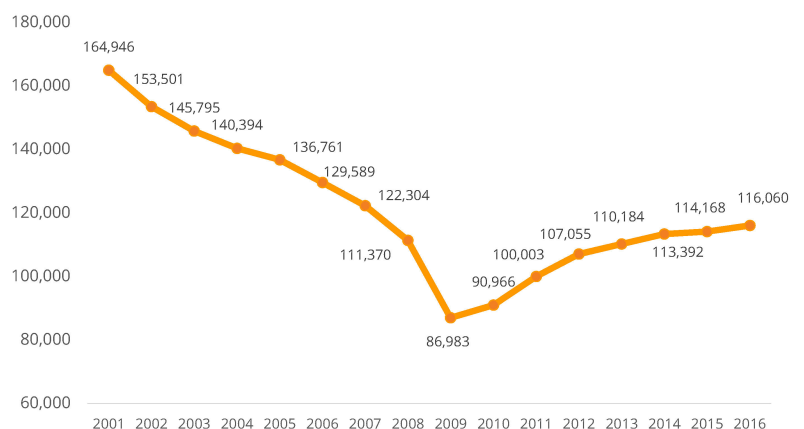
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

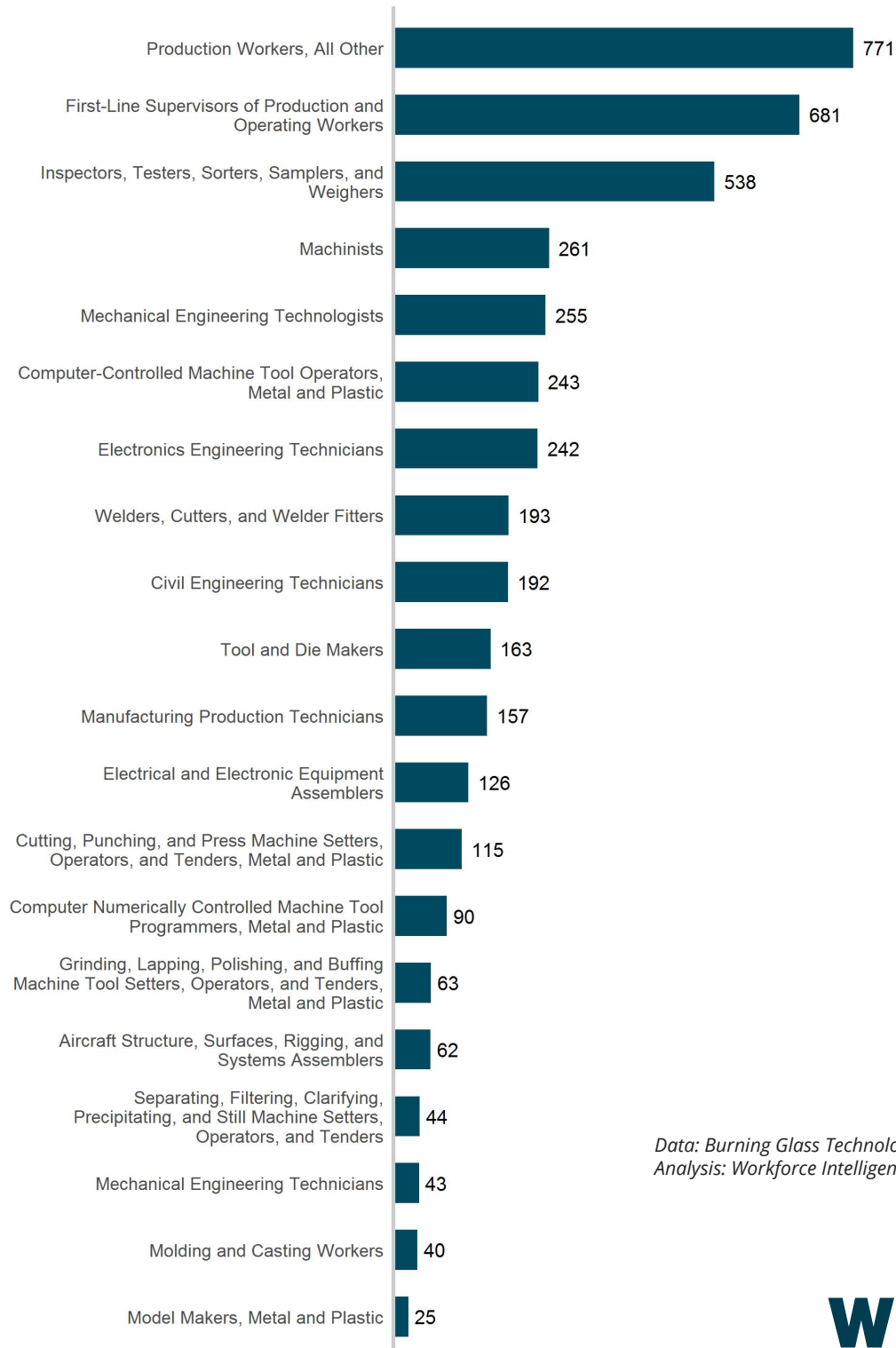


4,797 skilled trades job ads, second highest quarter in five years



50% of skilled trades postings require only vocational training

Skilled Trades & Technicians Top Jobs Posted Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Skills: communication, attention to detail, problem solving

69%

of skilled trades postings for full time workers

Skilled Trades & Technicians Educational Attainment Required

Most positions in the Skilled Trades and Technicians occupation group require specialized training. While employers do not always spell out training requirements in job postings, employers and employment agencies tell us that a certificate, registered apprenticeship, or other specialized training is often required for employment.

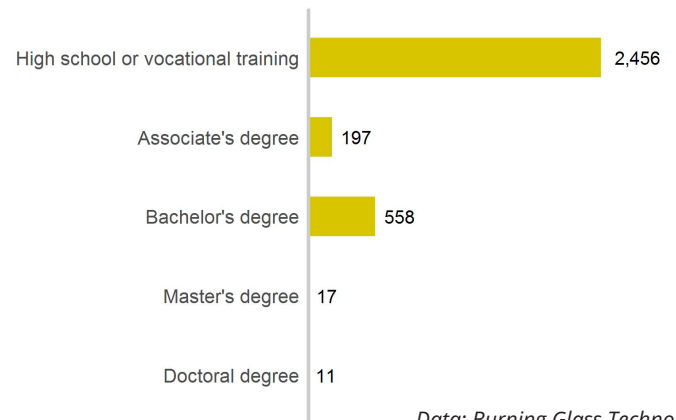
Over 50% of skilled trades postings cited a high school diploma as the minimum required education, though 11.5% of the postings required a bachelor's degree and 4% required an associate's degree. These postings may represent management positions in fields employing skilled trades. Over 93% of postings did not specify an area of study, but those that did do so focused on engineering and business skills, with general engineering and mechanical engineering being the most commonly cited.

Jobs are open to those with little experience. Employers are interested in hiring entry-level workers and experienced workers with three to five years of experience.

In-Demand Areas of Study

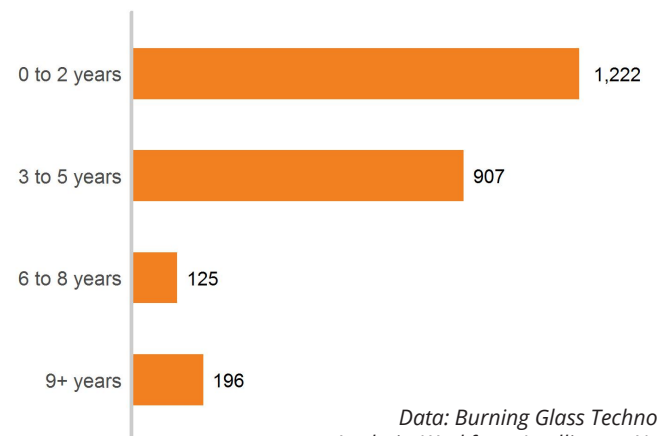
- Engineering, general
- Mechanical engineering
- Electrical and electronic engineering technologies/technicians, other
- Business administration and management, general
- Computer science

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Forklift operator certification
in-demand

94%

of postings do not specify any
certification needed

Skilled Trades & Technicians In-Demand Skills

Workers in Skilled Trade and Technician positions must have a combination of technical and foundational skills. Employers during Q4 2016 were most interested in skills such as inspection, CNC machining, repair, and welding. Mathematics skills are also sought after. Foundational skills that are important to employers include communication, organizations, attention to detail, and problem solving. These jobs also have a degree of physical demand.

Technical In-Demand Skills

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

Foundational In-Demand Skills

- Communication Skills
- Ability to perform physical tasks
- Mathematics
- Detail-Oriented
- Problem Solving

Job Type

- Full Time- 69%
- Part Time- 3.2%
- Temp- 7.3%

Certifications Required

- Forklift operator certification
- Welding certification (e.g. AWS certified Welder)
- Commercial driver's license
- Automotive service excellence (ASE) certification
- American society for quality (ASQ) certification



Average Advertised Wage:
\$38,912



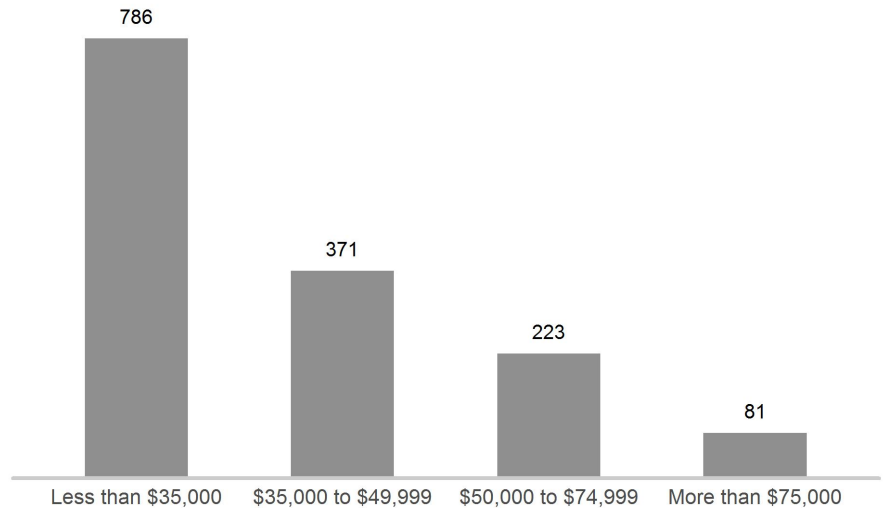
Supervisors and Technicians
reported high wage potential

Skilled Trades & Technicians Wages

Most employers do not post wages or salaries in job postings for Skilled Trade and Technician workers. Of those that do, many are below \$35,000. There is wage growth opportunity in many occupations in this group, especially for those working as production technicians and supervisors. The average wage posted during Q4 2016 was \$38,912.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
51-9199	Production Workers, All Other	\$10.21	\$13.16	\$16.12	\$19.27	\$24.02
51-1011	First-Line Supervisors of Production and Operating Workers	\$17.30	\$22.00	\$29.37	\$38.40	\$46.29
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$9.57	\$11.60	\$15.66	\$22.71	\$28.52
51-4041	Machinists	\$12.08	\$15.37	\$19.57	\$25.29	\$30.40
17-3029	Mechanical Engineering Technologists	\$16.09	\$21.56	\$29.59	\$36.19	\$45.70
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$10.62	\$12.77	\$17.85	\$21.97	\$27.34
17-3023	Electronics Engineering Technicians	\$15.36	\$19.52	\$24.83	\$31.34	\$36.25
51-4121	Welders, Cutters, and Welder Fitters	\$12.30	\$14.76	\$17.69	\$22.44	\$28.18
17-3022	Civil Engineering Technicians	\$13.12	\$16.24	\$20.39	\$25.81	\$28.75
51-4111	Tool and Die Makers	\$16.67	\$20.89	\$26.80	\$32.55	\$35.51

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Transportation, Distribution, and Logistics (TDL)

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.

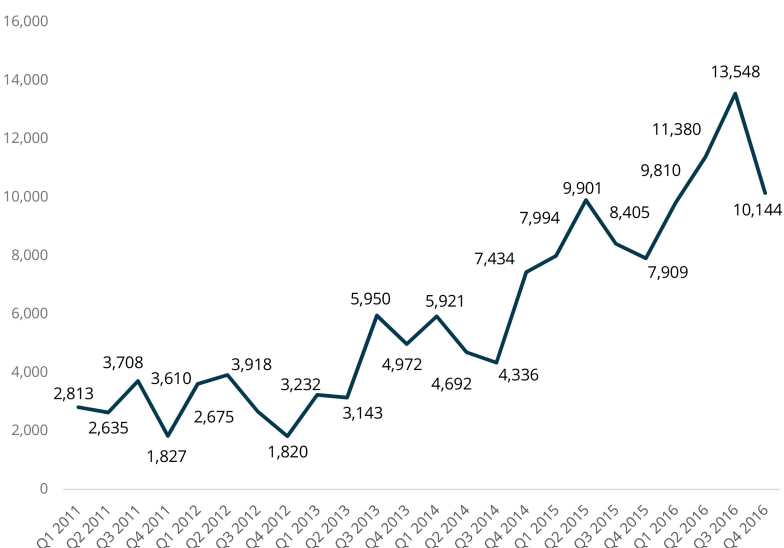
Job Posting Analysis

Demand for TDL workers, specifically truck drivers, has made TDL among the fastest growing occupation group in terms of employer demand in recent years. While there was a 25% drop in postings from Q3 to Q4 2016 (a drop of 3,404), the 10,144 job postings in Q4 2016 is still higher than any quarter before 2016 and remains consistent with a broad long-term upward trend. Most TDL postings were for truck drivers and material handling positions.

Employment Analysis

Employment in TDL jobs has grown 15% since 2009 with 33,846 jobs recovered from the recession drop. While growth is positive, it is not swift and jobs have been added rapidly enough to fill employer needs. An additional 37,865 workers need to be hired for job levels to reach pre-recession peak levels.

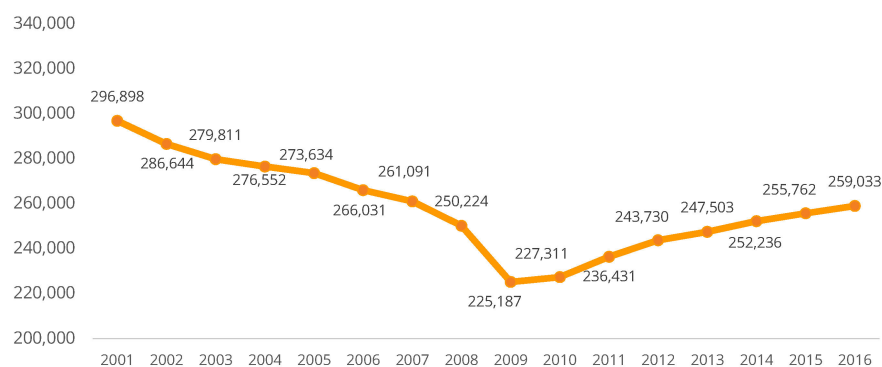
Online Job Postings



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Employment Over Time

2016



Data: EMSI
Analysis: Workforce Intelligence Network

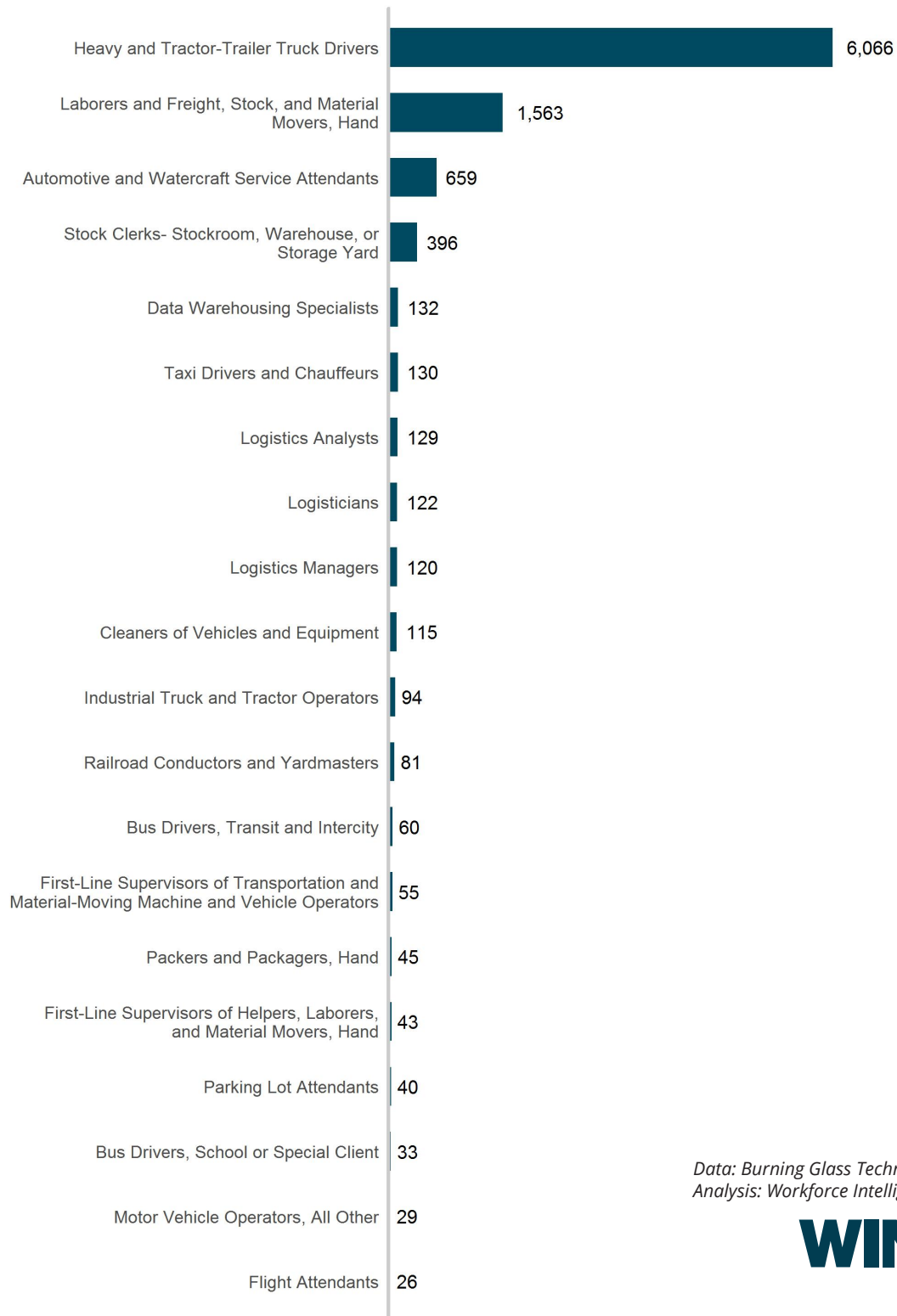


110,144 TDL job postings



Over 6,000 truck driver positions

Transportation, Distribution, and Logistics (TDL)
Top Jobs Posted
Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network





1,300 positions paying over \$75,000

%

1,563 material handling positions

Transportation, Distribution, and Logistics (TDL) Educational Attainment Required

Many TDL jobs require specialized training and certifications for employment. Jobs in management and logistics analytics often require a Bachelor's degree.

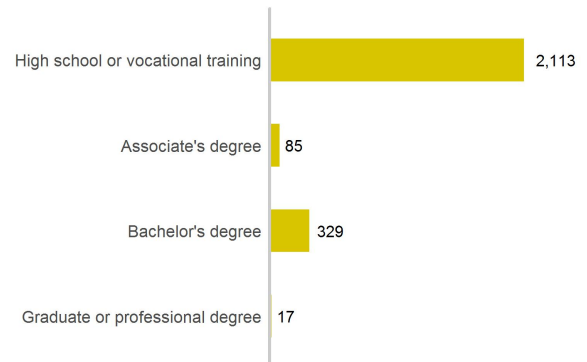
TDL employers have many open positions at the entry-level.

The most common degrees cited are business, logistics, engineering, and programming. This likely indicates postings for jobs in management and logistics positions involved in coordinating and managing the work of front-line workers such as drivers and material handlers.

In-Demand Areas of Study

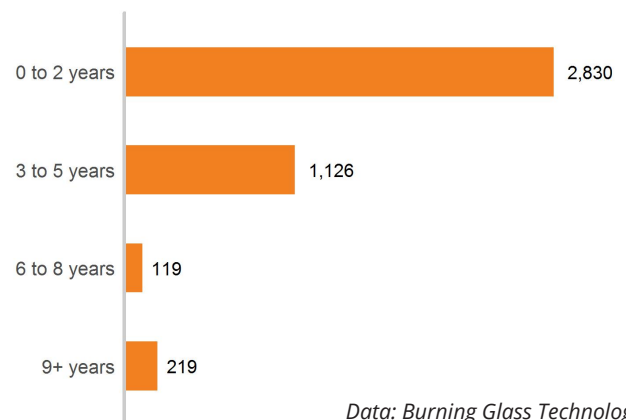
- Business administration and management, general
- Logistics, materials, and supply chain management
- Engineering, general
- Computer science
- Mechanical engineering

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



3,672 positions requiring CDL
Class A

%

346 TDL job postings requiring
bachelor's or graduate degree

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

While TDL workers require a range of skills for employment, over 74% of job postings did not note specific required skills. Truck drivers must be able to perform repair and maintenance of their vehicles. Driving also requires a degree of physical demand, and communications skills are also valued. Jobs in logistics require strong mathematics and computer skills.

Technical in-Demand Skills

- Repair/ Inspection
- Customer Service
- Forklift Operation
- Logistics
- Auto Repair

Foundational In-Demand Skills

- Communication Skills
- Ability to perform physical tasks
- Organizational Skills
- Detail-Oriented
- Writing

Job Type

- Full Time- 32%
- Part Time- 4.3%
- Temp-7.3%

Certifications Required

- CDL class A
- Commercial driver's license
- Automotive service excellence (ASE) certification
- Forklift operator certification
- CDL class B



Average Advertised Salary:
\$66,005



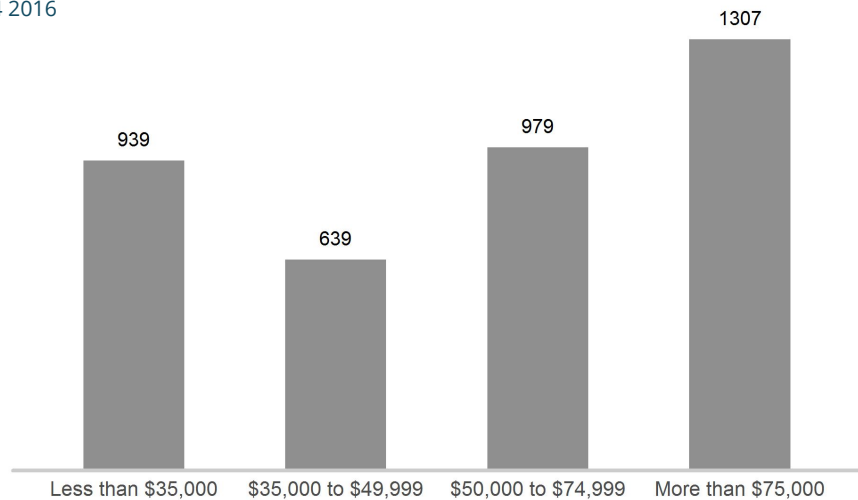
Entry level opportunities
available

Transportation, Distribution, and Logistics (TDL) Wages

Wages for TDL workers vary depending on the jobs. Most jobs offer wages above \$50,000 or below \$35,000 with little in between. Higher paying positions are often those in logistics or truck driving which are in high demand and require training and/or higher education. Lower wage jobs include those in materials movement. The average wage in postings during Q4 2016 was \$66,005, indicating a mix of high-skill and low-skill jobs. Over 1,300 positions posted offer wages over \$75,000.

Advertised Wages in Job Postings

Q4 2016



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$12.53	\$15.59	\$19.06	\$23.92	\$29.23
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$8.94	\$10.39	\$12.90	\$16.29	\$20.39
53-6031	Automotive and Watercraft Service Attendants	\$8.19	\$8.80	\$9.84	\$11.68	\$13.74
43-5081	Stock Clerks- Stockroom, Warehouse, or Storage Yard	\$8.29	\$9.11	\$11.00	\$14.40	\$18.58
15-1199	Data Warehousing Specialists	\$23.30	\$30.60	\$38.96	\$49.35	\$57.64
53-3041	Taxi Drivers and Chauffeurs	\$8.27	\$8.97	\$10.13	\$11.96	\$14.07
13-1081	Logistics Analysts	\$24.70	\$31.09	\$39.75	\$47.19	\$54.63
13-1081	Logisticians	\$24.70	\$31.09	\$39.75	\$47.19	\$54.63
11-3071	Logistics Managers	\$28.19	\$35.42	\$46.16	\$58.87	\$72.37
53-7061	Cleaners of Vehicles and Equipment	\$8.17	\$8.69	\$9.58	\$11.55	\$15.25

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 Annual	2016 Annual	Change from 2015	Percent Change from 2015
Labor Force	2,748,569	2,674,603	2,670,319	2,699,858	2,698,088	2,684,188	2,753,681	69,494	2.6%
Employment	2,380,682	2,382,010	2,413,125	2,446,491	2,486,445	2,526,698	2,612,944	86,247	3.4%
Unemployment	367,888	292,593	257,194	253,368	211,643	157,490	140,737	-16,753	-10.6%
Unemployment Rate	13.4%	10.9%	9.6%	9.4%	7.8%	5.9%	5.1%	-0.8%	na

**Note: Monthly data averaged by year*

Data: Bureau of Labor Statistics

Quarterly Labor Market Data

	4th Quarter 2015	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016	Change from 3rd Quarter 2016	Percent Change from 3rd Quarter 2016	One-Year Change from 4th Quarter 2015	One-Year Percent Change from 4th Quarter 2015
Labor Force	2,688,123	2,724,484	2,746,001	2,775,643	2,768,598	-7,045	-0.3%	80,475	3.0%
Employment	2,552,065	2,580,366	2,613,162	2,623,297	2,634,953	11,655	0.4%	82,888	3.2%
Unemployment	136,058	144,118	132,839	152,346	133,645	-18,700	-12.3%	-2,413	-1.8%
Unemployment Rate	5.1%	5.3%	4.8%	5.5%	4.8%	-0.7%	na	-0.2%	na

**Note: Monthly data averaged by quarter*

Data: Bureau of Labor Statistics













Monthly Labor Market Data

	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016
Labor Force	2,694,917	2,680,443	2,689,010	2,700,085	2,724,556	2,748,811	2,722,576	2,753,158	2,762,268	2,775,654	2,774,234	2,777,041	2,775,304	2,771,558	2,758,932
Employment	2,546,077	2,554,340	2,555,778	2,554,618	2,583,676	2,602,804	2,603,323	2,623,810	2,612,352	2,613,412	2,618,291	2,638,189	2,633,589	2,638,753	2,632,516
Unemployment	148,840	126,103	133,232	145,467	140,880	146,007	119,253	129,348	149,916	162,242	155,943	138,852	141,715	132,805	126,416
Unemployment Rate	5.5%	4.7%	5.0%	5.4%	5.2%	5.3%	4.4%	4.7%	5.4%	5.8%	5.6%	5.0%	5.1%	4.8%	4.6%

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


















Data: Bureau of Labor Statistics

Job Posting Data by Occupation Group* Over Time


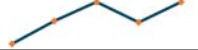







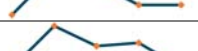





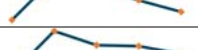

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
Total Postings	126,959	143,199	139,765	149,379	141,413		11.4%	-1.2%
Agriculture	1,426	1,980	1,835	1,776	1,660		16.4%	-16.2%
Business & finance	8,884	9,628	9,011	9,044	9,335		5.1%	-3.0%
Construction	917	1,238	1,281	1,492	1,219		32.9%	-1.5%
Customer service	27,235	37,788	30,303	34,218	33,345		22.4%	-11.8%
Education	2,219	2,110	2,114	3,034	3,150		42.0%	49.3%
Energy	211	268	272	259	240		13.7%	-10.4%
Engineers & designers	9,675	9,534	9,454	8,977	7,941		-17.9%	-16.7%
Health care	17,666	19,449	17,880	20,099	19,607		11.0%	0.8%
Information technology	16,403	16,695	17,335	16,966	14,646		-10.7%	-12.3%
Skilled trades & technicians	3,675	5,090	4,503	4,755	4,797		30.5%	-5.8%
Transportation, distribution, and logistics	7,909	9,810	11,380	13,548	10,144		28.3%	3.4%

**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.*




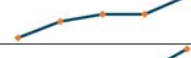








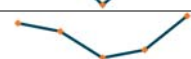




Total Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	126,959	143,199	139,765	149,379	141,413	100.0%		11.4%	-1.2%
Detroit	27,966	29,296	28,456	29,905	27,288	20.0%		-2.4%	-6.9%
Genesee & Shiawassee	4,721	5,711	5,631	6,667	6,261	4.5%		32.6%	9.6%
Hillsdale & Lenawee	1,580	1,678	1,606	2,329	1,848	1.6%		17.0%	10.1%
Jackson	2,099	2,557	2,181	2,618	2,634	1.8%		25.5%	3.0%
Livingston	2,048	2,472	2,162	2,727	2,545	1.8%		24.3%	3.0%
Macomb	12,658	14,754	14,257	15,085	14,694	10.1%		16.1%	-0.4%
Monroe	1,662	1,841	1,694	3,196	2,940	2.1%		76.9%	59.7%
Oakland	39,030	45,418	43,058	42,873	40,027	28.7%		2.6%	-11.9%
St. Clair	1,461	1,730	1,788	2,259	2,163	1.5%		48.0%	25.0%
Thumb Area	1,561	1,673	1,598	1,783	1,608	1.2%		3.0%	-3.9%
Washtenaw	10,540	11,951	11,020	11,232	11,328	7.5%		7.5%	-5.2%
Wayne	51,993	55,886	54,770	58,610	55,365	39.2%		6.5%	-0.9%
Outer Wayne	24,027	26,590	26,314	28,705	28,077	19.2%		16.9%	5.6%
Prosperity Region 6	7,743	9,114	9,017	10,709	10,032	7.2%		29.6%	10.1%
Prosperity Region 9	17,929	20,499	18,663	22,102	21,295	14.8%		18.8%	3.9%
Prosperity Region 10	103,681	116,058	112,085	116,568	110,086	78.0%		6.2%	-5.1%


















Agriculture Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	1,426	1,980	1,835	1,776	1,660	100.0%		16.4%	-16.2%
Detroit	316	353	384	351	384	19.8%		21.5%	8.8%
Genesee & Shiawassee	50	75	94	86	82	4.8%		64.0%	9.3%
Hillsdale & Lenawee	7	28	18	26	10	1.5%		42.9%	-64.3%
Jackson	35	47	33	19	27	1.1%		-22.9%	-42.6%
Livingston	32	28	61	51	36	2.9%		12.5%	28.6%
Macomb	119	188	187	149	183	8.4%		53.8%	-2.7%
Monroe	20	25	24	30	29	1.7%		45.0%	16.0%
Oakland	415	622	520	534	435	30.1%		4.8%	-30.1%
St. Clair	14	40	33	20	20	1.1%		42.9%	-50.0%
Thumb Area	15	40	28	30	15	1.7%		0.0%	-62.5%
Washtenaw	163	223	197	175	173	9.9%		6.1%	-22.4%
Wayne	556	664	640	656	650	36.9%		16.9%	-2.1%
Outer Wayne	240	311	256	305	266	17.2%		10.8%	-14.5%
Prosperity Region 6	79	155	155	136	117	7.7%		48.1%	-24.5%
Prosperity Region 9	257	351	333	301	275	16.9%		7.0%	-21.7%
Prosperity Region 10	1,090	1,474	1,347	1,339	1,268	75.4%		16.3%	-14.0%












Business and Finance Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	8,884	9,628	9,011	9,044	9,335	100.0%		5.1%	-3.0%
Detroit	2,271	2,393	2,300	2,411	2,310	26.7%		1.7%	-3.5%
Genesee & Shiawassee	217	242	185	171	255	1.9%		17.5%	5.4%
Hillsdale & Lenawee	42	51	55	55	65	0.6%		54.8%	27.5%
Jackson	123	139	133	155	196	1.7%		59.3%	41.0%
Livingston	87	111	95	108	105	1.2%		20.7%	-5.4%
Macomb	616	734	587	645	701	7.1%		13.8%	-4.5%
Monroe	133	141	112	169	172	1.9%		29.3%	22.0%
Oakland	3,165	3,379	3,273	3,017	3,053	33.4%		-3.5%	-9.6%
St. Clair	45	68	72	89	115	1.0%		155.6%	69.1%
Thumb Area	36	57	39	40	51	0.4%		41.7%	-10.5%
Washtenaw	592	775	684	689	737	7.6%		24.5%	-4.9%
Wayne	3,828	3,931	3,776	3,906	3,884	43.2%		1.5%	-1.2%
Outer Wayne	1,557	1,538	1,476	1,495	1,574	16.5%		1.1%	2.3%
Prosperity Region 6	298	367	296	300	421	3.3%		41.3%	14.7%
Prosperity Region 9	977	1,217	1,079	1,176	1,275	13.0%		30.5%	4.8%
Prosperity Region 10	7,609	8,044	7,636	7,568	7,638	83.7%		0.4%	-5.0%


















Construction Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	917	1,238	1,281	1,492	1,219	100.0%		32.9%	-1.5%
Detroit	220	197	215	261	253	17.5%		15.0%	28.4%
Genesee & Shiawassee	46	64	87	89	45	6.0%		-2.2%	-29.7%
Hillsdale & Lenawee	20	26	13	32	13	2.1%		-35.0%	-50.0%
Jackson	23	50	29	43	23	2.9%		0.0%	-54.0%
Livingston	36	62	48	40	45	2.7%		25.0%	-27.4%
Macomb	102	151	176	184	162	12.3%		58.8%	7.3%
Monroe	14	30	31	28	19	1.9%		35.7%	-36.7%
Oakland	228	298	329	414	311	27.7%		36.4%	4.4%
St. Clair	4	8	16	24	11	1.6%		175.0%	37.5%
Thumb Area	72	104	33	36	31	2.4%		-56.9%	-70.2%
Washtenaw	80	146	132	100	80	6.7%		0.0%	-45.2%
Wayne	342	371	387	502	479	33.6%		40.1%	29.1%
Outer Wayne	122	174	172	241	226	16.2%		85.2%	29.9%
Prosperity Region 6	122	176	136	149	87	10.0%		-28.7%	-50.6%
Prosperity Region 9	173	314	253	243	180	16.3%		4.0%	-42.7%
Prosperity Region 10	672	820	892	1,100	952	73.7%		41.7%	16.1%


















Customer Service Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	27,235	37,788	30,303	34,218	33,345	100.0%		22.4%	-11.8%
Detroit	4,857	5,283	5,240	5,415	4,888	15.8%		0.6%	-7.5%
Genesee & Shiawassee	1,170	1,458	1,417	1,698	1,575	5.0%		34.6%	8.0%
Hillsdale & Lenawee	332	363	339	464	485	1.4%		46.1%	33.6%
Jackson	451	492	465	560	572	1.6%		26.8%	16.3%
Livingston	660	669	665	857	913	2.5%		38.3%	36.5%
Macomb	2,826	3,406	3,260	3,792	3,749	11.1%		32.7%	10.1%
Monroe	355	403	414	567	675	1.7%		90.1%	67.5%
Oakland	8,642	10,030	9,403	10,413	9,614	30.4%		11.2%	-4.1%
St. Clair	386	429	405	474	575	1.4%		49.0%	34.0%
Thumb Area	239	278	323	366	355	1.1%		48.5%	27.7%
Washtenaw	2,057	2,577	2,255	2,584	2,529	7.6%		22.9%	-1.9%
Wayne	10,117	11,648	11,357	12,443	12,303	36.4%		21.6%	5.6%
Outer Wayne	5,260	6,365	6,117	7,028	7,415	20.5%		41.0%	16.5%
Prosperity Region 6	1,795	2,165	2,145	2,538	2,505	7.4%		39.6%	15.7%
Prosperity Region 9	3,855	4,504	4,138	5,032	5,174	14.7%		34.2%	14.9%
Prosperity Region 10	21,585	25,084	24,020	26,648	25,666	77.9%		18.9%	2.3%

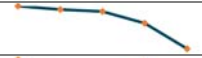
















Education Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	2,219	2,110	2,114	3,034	3,150	100.0%		42.0%	49.3%
Detroit	404	389	413	391	538	12.9%		33.2%	38.3%
Genesee & Shiawassee	201	205	207	257	212	8.5%		5.5%	3.4%
Hillsdale & Lenawee	14	27	29	68	61	2.2%		335.7%	125.9%
Jackson	36	40	45	80	60	2.6%		66.7%	50.0%
Livingston	12	17	16	43	21	1.4%		75.0%	23.5%
Macomb	217	182	161	306	337	10.1%		55.3%	85.2%
Monroe	24	16	48	58	52	1.9%		116.7%	225.0%
Oakland	566	601	543	796	765	26.2%		35.2%	27.3%
St. Clair	15	22	13	49	8	1.6%		-46.7%	-63.6%
Thumb Area	15	41	13	79	38	2.6%		153.3%	-7.3%
Washtenaw	259	194	259	347	416	11.4%		60.6%	114.4%
Wayne	860	765	780	951	1,180	31.3%		37.2%	54.2%
Outer Wayne	456	376	367	560	642	18.5%		40.8%	70.7%
Prosperity Region 6	231	268	233	385	258	12.7%		11.7%	-3.7%
Prosperity Region 9	345	294	397	596	610	19.6%		76.8%	107.5%
Prosperity Region 10	1,643	1,548	1,484	2,053	2,282	67.7%		38.9%	47.4%


















Energy Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	211	268	272	259	240	100.0%		13.7%	-10.4%
Detroit	118	108	129	87	79	33.6%		-33.1%	-26.9%
Genesee & Shiawassee	0	44	49	0	1	0.0%		#DIV/0!	-97.7%
Hillsdale & Lenawee	0	1	0	0	0	0.0%		#DIV/0!	-100.0%
Jackson	8	11	12	21	31	8.1%		287.5%	181.8%
Livingston	2	5	4	0	0	0.0%		-100.0%	-100.0%
Macomb	10	5	17	4	6	1.5%		-40.0%	20.0%
Monroe	25	45	26	93	55	35.9%		120.0%	22.2%
Oakland	7	8	7	3	9	1.2%		28.6%	12.5%
St. Clair	8	12	5	7	12	2.7%		50.0%	0.0%
Thumb Area	7	2	2	5	5	1.9%		-28.6%	150.0%
Washtenaw	5	4	4	5	7	1.9%		40.0%	75.0%
Wayne	139	131	145	121	114	46.7%		-18.0%	-13.0%
Outer Wayne	21	23	16	34	35	13.1%		66.7%	52.2%
Prosperity Region 6	15	58	56	12	18	4.6%		20.0%	-69.0%
Prosperity Region 9	40	66	46	119	93	45.9%		132.5%	40.9%
Prosperity Region 10	156	144	169	128	129	49.4%		-17.3%	-10.4%

Engineers & Designers Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	9,675	9,534	9,454	8,977	7,941	100.0%		-17.9%	-16.7%
Detroit	1,298	1,130	1,057	1,273	977	14.2%		-24.7%	-13.5%
Genesee & Shiawassee	97	149	123	99	109	1.1%		12.4%	-26.8%
Hillsdale & Lenawee	30	43	49	70	57	0.8%		90.0%	32.6%
Jackson	92	130	135	142	162	1.6%		76.1%	24.6%
Livingston	76	90	44	85	62	0.9%		-18.4%	-31.1%
Macomb	1,294	1,311	1,181	1,108	1,102	12.3%		-14.8%	-15.9%
Monroe	75	107	76	187	123	2.1%		64.0%	15.0%
Oakland	3,941	3,973	4,039	3,493	3,115	38.9%		-21.0%	-21.6%
St. Clair	50	56	59	70	86	0.8%		72.0%	53.6%
Thumb Area	75	34	36	25	26	0.3%		-65.3%	-23.5%
Washtenaw	469	512	480	374	372	4.2%		-20.7%	-27.3%
Wayne	3,526	3,129	3,232	3,324	2,727	37.0%		-22.7%	-12.8%
Outer Wayne	2,228	1,999	2,175	2,051	1,750	22.8%		-21.5%	-12.5%
Prosperity Region 6	222	239	218	194	221	2.2%		-0.5%	-7.5%
Prosperity Region 9	742	882	784	858	776	9.6%		4.6%	-12.0%
Prosperity Region 10	8,761	8,413	8,452	7,925	6,944	88.3%		-20.7%	-17.5%


















Health Care Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	17,666	19,449	17,880	20,099	19,607	100.0%		11.0%	0.8%
Detroit	4,908	5,228	5,123	5,403	5,131	26.9%		4.5%	-1.9%
Genesee & Shiawassee	868	925	976	1,197	1,203	6.0%		38.6%	30.1%
Hillsdale & Lenawee	351	279	199	234	213	1.2%		-39.3%	-23.7%
Jackson	328	405	242	305	269	1.5%		-18.0%	-33.6%
Livingston	246	238	210	261	269	1.3%		9.3%	13.0%
Macomb	1,936	1,996	1,839	2,055	1,999	10.2%		3.3%	0.2%
Monroe	178	176	110	647	550	3.2%		209.0%	212.5%
Oakland	3,937	4,777	4,205	4,291	4,295	21.3%		9.1%	-10.1%
St. Clair	312	387	365	466	480	2.3%		53.8%	24.0%
Thumb Area	332	413	271	306	292	1.5%		-12.0%	-29.3%
Washtenaw	1,692	1,696	1,614	1,778	1,926	8.8%		13.8%	13.6%
Wayne	7,486	8,272	7,849	8,559	8,111	42.6%		8.3%	-1.9%
Outer Wayne	2,578	3,044	2,726	3,156	2,980	15.7%		15.6%	-2.1%
Prosperity Region 6	1,512	1,725	1,612	1,969	1,975	9.8%		30.6%	14.5%
Prosperity Region 9	2,795	2,794	2,375	3,225	3,227	16.0%		15.5%	15.5%
Prosperity Region 10	13,359	15,045	13,893	14,905	14,405	74.2%		7.8%	-4.3%


















Information Technology Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	16,403	16,695	17,335	16,966	14,646	100.0%		-10.7%	-12.3%
Detroit	4,459	4,207	4,285	4,375	3,795	25.8%		-14.9%	-9.8%
Genesee & Shiawassee	130	168	208	223	174	1.3%		33.8%	3.6%
Hillsdale & Lenawee	52	40	32	67	40	0.4%		-23.1%	0.0%
Jackson	143	145	124	154	178	0.9%		24.5%	22.8%
Livingston	72	84	70	95	72	0.6%		0.0%	-14.3%
Macomb	1,039	992	1,336	1,300	1,104	7.7%		6.3%	11.3%
Monroe	82	47	70	95	101	0.6%		23.2%	114.9%
Oakland	5,824	6,471	6,100	5,712	5,039	33.7%		-13.5%	-22.1%
St. Clair	21	29	41	41	32	0.2%		52.4%	10.3%
Thumb Area	20	14	20	33	23	0.2%		15.0%	64.3%
Washtenaw	1,446	1,606	1,499	1,207	1,255	7.1%		-13.2%	-21.9%
Wayne	7,588	6,931	7,835	8,018	6,628	47.3%		-12.7%	-4.4%
Outer Wayne	3,129	2,724	3,550	3,643	2,833	21.5%		-9.5%	4.0%
Prosperity Region 6	171	211	269	297	229	1.8%		33.9%	8.5%
Prosperity Region 9	1,795	1,922	1,795	1,618	1,646	9.5%		-8.3%	-14.4%
Prosperity Region 10	14,451	14,394	15,271	15,030	12,771	88.6%		-11.6%	-11.3%

Skilled Trade & Technician Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	3,675	5,090	4,503	4,755	4,797	100.0%		30.5%	-5.8%
Detroit	443	439	446	494	460	10.4%		3.8%	4.8%
Genesee & Shiawassee	155	247	167	201	265	4.2%		71.0%	7.3%
Hillsdale & Lenawee	75	114	174	110	114	2.3%		52.0%	0.0%
Jackson	56	109	112	103	129	2.2%		130.4%	18.3%
Livingston	137	224	143	224	161	4.7%		17.5%	-28.1%
Macomb	615	869	820	771	784	16.2%		27.5%	-9.8%
Monroe	85	101	95	115	102	2.4%		20.0%	1.0%
Oakland	1,006	1,429	1,354	1,263	1,225	26.6%		21.8%	-14.3%
St. Clair	50	66	85	126	109	2.6%		118.0%	65.2%
Thumb Area	66	129	92	135	156	2.8%		136.4%	20.9%
Washtenaw	298	387	286	290	296	6.1%		-0.7%	-23.5%
Wayne	1,132	1,415	1,295	1,419	1,456	29.8%		28.6%	2.9%
Outer Wayne	689	976	849	925	996	19.5%		44.6%	2.0%
Prosperity Region 6	271	442	344	462	530	9.7%		95.6%	19.9%
Prosperity Region 9	651	935	810	842	802	17.7%		23.2%	-14.2%
Prosperity Region 10	2,753	3,713	3,469	3,453	3,465	72.6%		25.9%	-6.7%

Transportation, Distribution, and Logistics Job Postings: WIN Partnership

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Share of Q4 2016 Total	Change Over Time	Annual Change Q4 2015-Q4 2016	Quarter Growth Q1 2016-Q4 2016
WIN-Region Total	7,909	9,810	11,380	13,548	10,144	100.0%		28.3%	3.4%
Detroit	1,492	1,780	1,652	1,704	1,541	12.6%		3.3%	-13.4%
Genesee & Shiawassee	537	607	732	930	503	6.9%		-6.3%	-17.1%
Hillsdale & Lenawee	270	290	418	804	282	5.9%		4.4%	-2.8%
Jackson	275	325	340	456	227	3.4%		-17.5%	-30.2%
Livingston	161	210	307	388	195	2.9%		21.1%	-7.1%
Macomb	811	1,195	1,365	1,533	1,202	11.3%		48.2%	0.6%
Monroe	251	249	353	644	340	4.8%		35.5%	36.5%
Oakland	1,487	1,856	2,269	2,390	2,030	17.6%		36.5%	9.4%
St. Clair	158	212	305	463	234	3.4%		48.1%	10.4%
Thumb Area	199	273	385	412	200	3.0%		0.5%	-26.7%
Washtenaw	477	491	646	687	434	5.1%		-9.0%	-11.6%
Wayne	4,315	4,102	4,260	4,841	4,398	35.7%		1.9%	7.2%
Outer Wayne	2,823	2,322	2,608	3,137	2,857	23.2%		1.2%	23.0%
Prosperity Region 6	894	1,092	1,422	1,805	937	13.3%		4.8%	-14.2%
Prosperity Region 9	1,434	1,565	2,064	2,979	1,478	22.0%		3.1%	-5.6%
Prosperity Region 10	6,613	7,153	7,894	8,764	7,630	64.7%		15.4%	6.7%

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