



# CITY OF DETROIT

## WIN Quarterly Report



# Introduction: WIN 16 County Partnership 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 for the City of Detroit with special sections devoted to 5 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:

- Business & finance (page 7)
- Energy (page 12)
- Health care (page 17)
- Information technology (page 22)
- Skilled trades & technicians (manufacturing focused) (page 27)

Data analyzed includes:

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



# Introduction: City of Detroit

## Key Findings

**While job postings in Health Care increased quarter by quarter in 2015 through Q1 2016, Q2 2016 has seen a slight drop in postings.**

In 2015, Q1 had 4,110 job postings within Health Care which steadily increased to 5,228 in Q1 2016, following the typical positive trend seen in this occupation group. Q2 2016 saw a slight drop of 2% (105) from the previous quarter. See page 17 in the report for more information.

**Within Skilled Trades, Production workers, all other, has the highest wage growth potential**

Production workers, all other, has an entry-level wage of \$9.79 per hour which can increase up to \$33.71 per hour at the 90th percentile. The next highest wage growth potential is held by computer-controlled machine tool operators, metal and plastic. See page 31 in the report for more Skilled Trades wage information.

**While managers remained the top occupation within Energy, it does not have the highest entry-level wage.**

The occupation of managers has an entry level wage of \$28.09 per hour and a 90th percentile wage of \$70.17 per hour, which equates to \$145,953.60 per year. Despite the high wages for experienced managers, six of the other top ten occupations in Energy have a higher entry-level wage yet only one of those six have a higher 90th percentile wage. See page 16 in the report for more Energy wage information.

**The majority of employers posting for jobs are looking for students that have recently finished their undergraduate degree.**

Based on the Q2 2016 figures, job postings asking for a Bachelor's degree completely out-shadow job postings that ask for any other type of educational attainment. Bachelor's degrees make up 61% of specified education levels for job postings in this report. See page educational attainment required for each occupation group.

**IT remains a lucrative field yet employers continue to struggle to fill open positions.**

With nearly 80% of job postings in Q2 2016 specifying salaries of over \$75,000 per year, it is evident that many employers in the City of Detroit are lacking the talent they need and are having to offer very rewarding salaries to attract and retain IT employees. See page 26 in the report for more IT wage information.



# Executive Summary

## Postings Over Time

Online job postings in Q2 of 2016 for all occupations in the City of Detroit saw a decrease of 3% (840 postings) from the previous quarter. Despite the drop Q2 2016 saw the highest amount of Q2 postings compared to all other Q2 postings since 2011. When compared to total online postings from one year ago in Q2 of 2015, this last quarter saw a 3% increase (740).

## Total Online Job Postings

January 2011 - June 2016



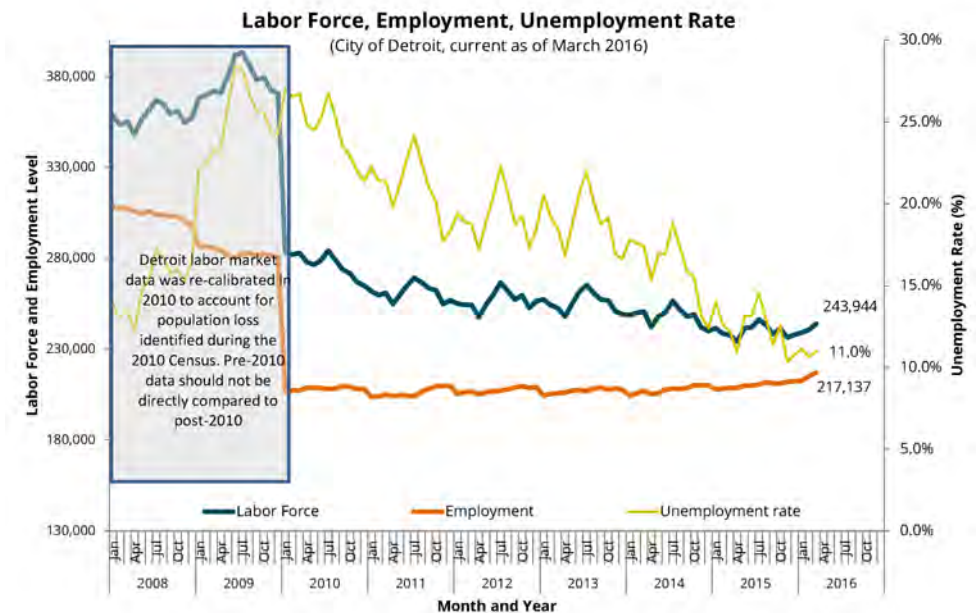
Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Labor Force, Employment, and Unemployment

The labor force in the City of Detroit increased by 732 individuals to 240,540 in Q2 2016. Meanwhile, employment increased by 1.3% to 217,796, adding 2,882 jobs between quarters. Unemployment figures were down by 3,615 individuals from 26,359 in Q1 2016 to 22,745 in Q2 2016. As of February 2016 through May 2016, labor force levels have stayed above 240,000 after seeing a drop in late 2015 to around 236,000. It is important to note that this annual change only compares the year 2015 to 2016 to-date. See the labor market data tables on page 32 of this report for more details.

## Labor Force, Employment, Unemployment Rate

January 2011 - June 2016



Data: BLS  
Analysis: Workforce Intelligence Network





Compared to Q2 2011 job postings in the City of Detroit, Q2 2016 postings were more than double, sitting at 28,456.

%

The unemployment rate to-date (January - May 2016) sits at 10.3%

### Top Jobs In Demand

Quarter 2 2016



### Analysis

Just as last quarter, the top in-demand occupation in the City of Detroit in Q2 of 2016 was registered nurses with 2,011 online job postings. Q2 2016 has seen the introduction of two new occupations to the top fifty in-demand occupations.



New to the top 50 in Q2 2016 is  
medical secretaries



New to the top 50 in Q2 2016 is  
janitors and cleaners, except maids  
and housekeeping cleaners

### Top Jobs In Demand Quarter 2 2016



### Analysis Continued

The occupations of software developers, applications jumped up to the number two spot with 1,291 postings from its third place spot last quarter.



## Introduction

### Business & Finance

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.

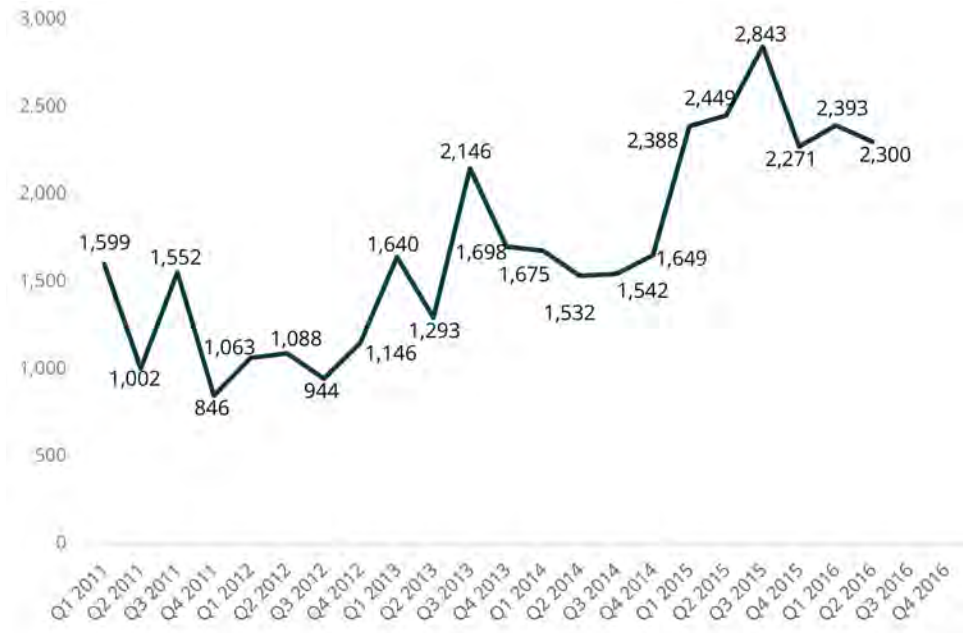
### Postings Over Time

After a jump in online job postings from Q4 2015 to Q1 2016, Q2 2016 saw a slight decline of -3.9% (93 ads), matching drops in Q2 postings seen in 2011, 2013, and 2014. Nonetheless, the 2,300 postings in Q2 2016 still sit above postings at the end of 2015 (Q4 2,271).

### Employment Over Time

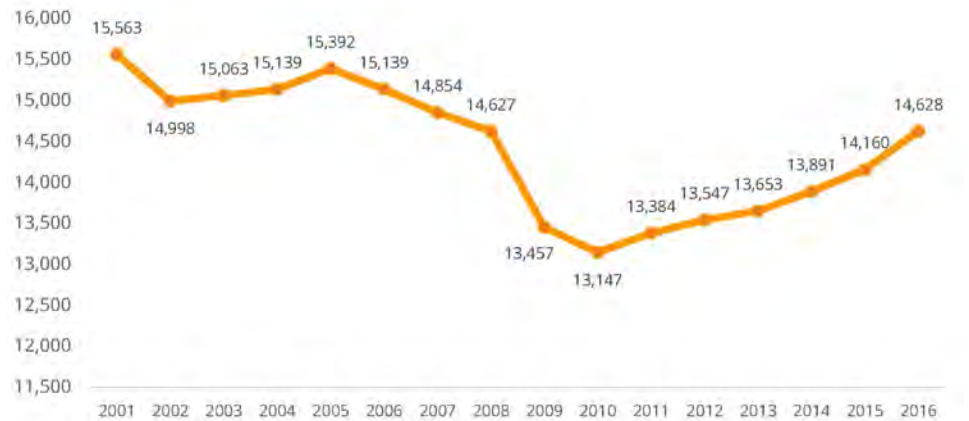
Data for employment over time changes on an annual basis and therefore is no different from Q1 2016.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

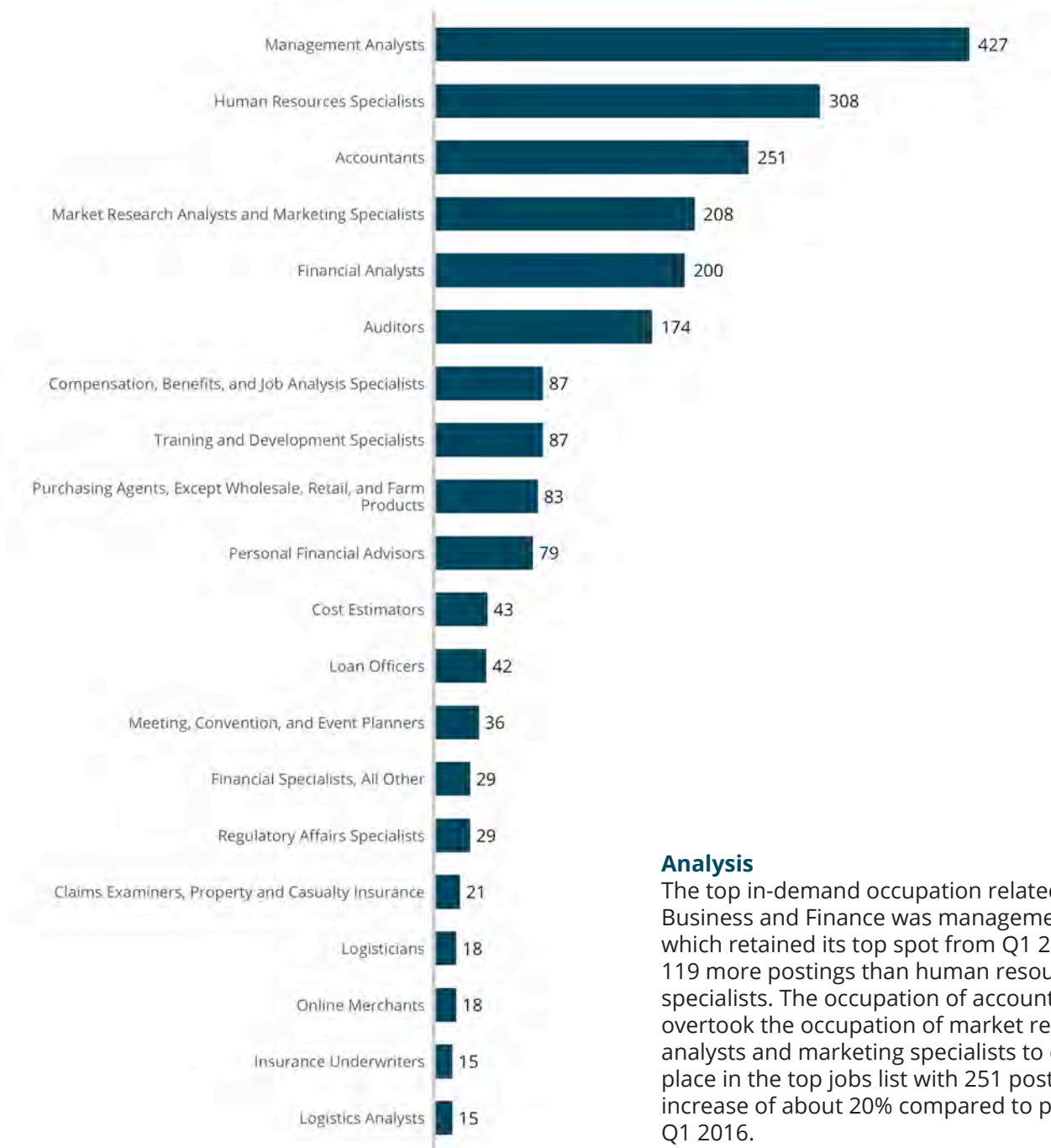


New to the top 20 in Q2 2016 is  
online merchants



Postings in Q2 2016 sit above Q4  
2015 by 29 postings

### Business & Finance Top Jobs Quarter 2 2016



#### Analysis

The top in-demand occupation related to Business and Finance was management analysts, which retained its top spot from Q1 2016 with 119 more postings than human resources specialists. The occupation of accountants overtook the occupation of market research analysts and marketing specialists to claim third place in the top jobs list with 251 postings, an increase of about 20% compared to postings in Q1 2016.



New to the top 20 in Q2 2016 is logistics analysts



Management analysts retain number one spot in top jobs

## Business & Finance Educational Attainment & Experience Required

Of the 1,540 Business and Finance group job postings that specified a desired educational level during Q2 2016, 86% (1,327) required a Bachelor's degree.

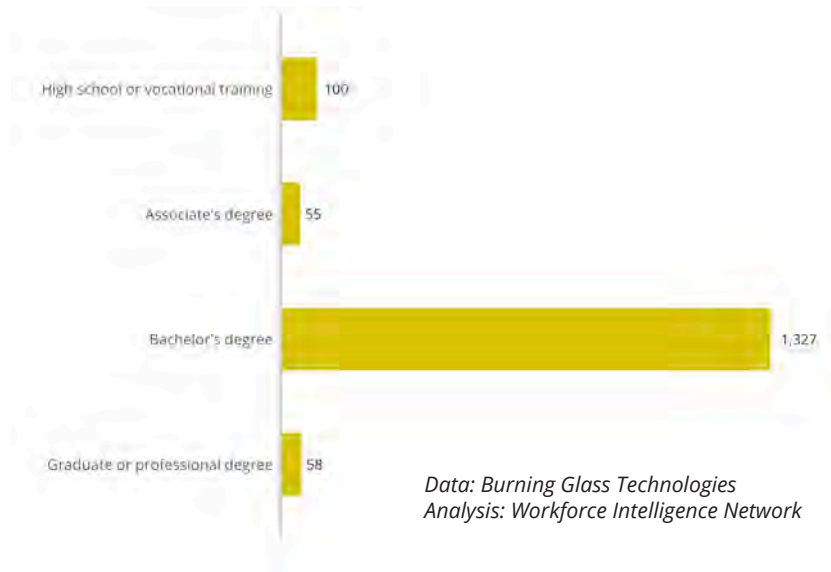
The next most requested educational attainment level was high school or vocational training wanted for 100 of the specified postings. An Associate's degree and a graduate or professional degree were fairly balanced, being requested 55 and 58 times in specified postings, respectively.

The majority of job postings call for three to five years of experience (776 in Q2 2016) and are most likely for management or human resources roles in Business and Finance that require advanced educational attainment.

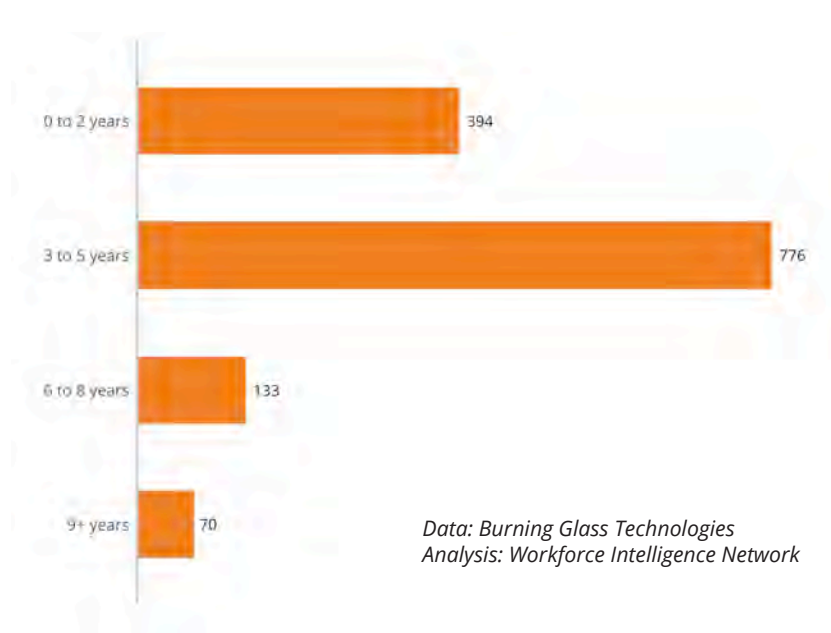
## Areas of Study in-Demand Q2 2016

- Accounting
- Business Administration and Management, General
- Finance, General
- Computer Science
- Engineering, General

## Minimum Educational Attainment Required Q2 2016



## Experience Required Q2 2016





Economics is the sixth most popular area of study

%

86% of Business and Finance postings want a Bachelor's

## Business & Finance in-Demand Skills Q2 2016

The occupations in the Business and Finance group require various high-level technical skills. Many of the traditional skills like accounting, budgeting, project management, and business development, among others, are still present in the job postings. While technical skills are important as ever, they must be paired with more foundational skills that are of utmost importance to succeeding in a workplace. Many foundational skills include the ability to communicate, problem solve, plan, and have creative/analytical ability. These types of skills are essential for Business and Finance workers so that they can work effectively with peers in and outside of their respective organizations.

### Technical in-Demand Skills

- Accounting/Budgeting/Financial Analysis/ Customer Billing/Financial Statements/Business Development
- Project Management/Contract Management/ Staff Management/Supervisory Skills/
- Purchasing/Procurement/Spreadsheets/Sales/ Cost Control
- Business Process/Process Improvement
- Customer Service/Customer Contact/Technical Support

### Foundational In-Demand Skills

- Communication Skills/Organizational Skills/Team Work-Collaboration/Building Effective Relationships
- Problem Solving/Troubleshooting
- Project Management/Decision Making/ Leadership/Supervisory Skills
- Multi-Tasking
- Microsoft Office

### Job Type

- Temporary: 2.5%
- Full-time: 46%
- Part-time: 2.8%

### Certifications In-Demand

- Certified public accountant (cpa)
- Certified information systems auditor (cisa)
- Project management certification (e.g. pmp)
- Registered Health Information Technician
- Certified information systems security professional (cissp)



%

Almost 50% of posted salaries are over \$75k per year



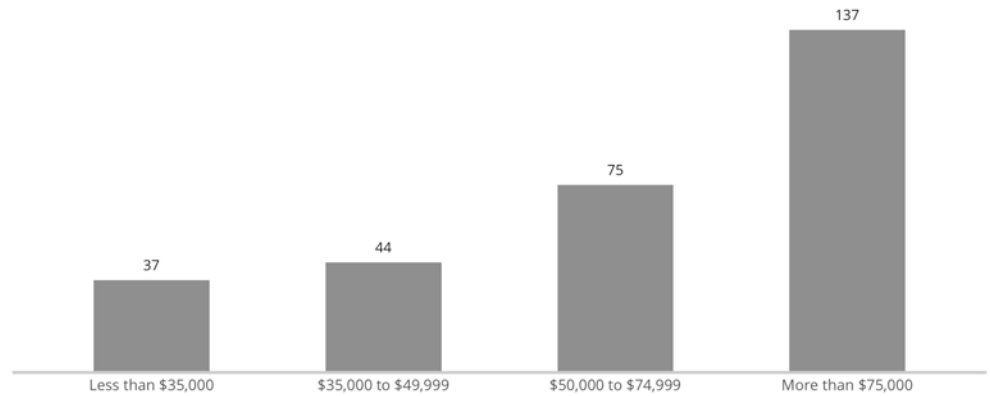
Financial analysts make over \$50k per year at entry level

## Business & Finance

## Advertised Salaries

### Wages

About 87% of postings in the Business and Finance group do not have specified salaries. Within advertised salaries in Q2 2016, the majority were above \$35,000 per year, with only 37 of the 293 postings that specified salaries earning less than \$35,000 per year. Almost 47% of postings that had specified salaries were over \$75,000 per year. Higher wages are common in this group as post-secondary training increases, evident by the lowest median-level wage being over \$50,000 per year.



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	\$21.43	\$29.24	\$37.26	\$47.50	\$57.79
13-1071	Human Resources Specialists	\$16.03	\$20.96	\$27.29	\$35.15	\$46.52
13-2011	Accountants	\$20.14	\$25.04	\$32.57	\$42.30	\$54.03
13-1161	Market Research Analysts and	\$20.63	\$27.03	\$37.55	\$50.75	\$60.50
13-2051	Financial Analysts	\$24.37	\$29.53	\$38.36	\$48.53	\$58.48
13-2011	Auditors	\$20.14	\$25.04	\$32.57	\$42.30	\$54.03
13-1141	Compensation, Benefits, and Job Analysis Specialists	\$20.73	\$24.28	\$30.14	\$38.24	\$49.62
13-1151	Training and Development Specialists	\$16.02	\$19.87	\$25.67	\$34.58	\$44.46
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$19.66	\$23.66	\$32.72	\$46.82	\$56.63
13-2052	Personal Financial Advisors	\$14.73	\$20.33	\$29.25	\$61.06	\$75.86

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

## Introduction

### Energy

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.

### Postings Over Time

Every year since 2011, online job ads for occupations related to Energy have dropped from Q1 to Q2, though 2016 has changed that pattern. After a slight decrease of 10 postings from Q4 2015 to Q1 2016, Q2 2016 has seen an increase of 21 postings. This is an over 81% increase of postings compared to Q2 2015, one year ago.

### Employment Over Time

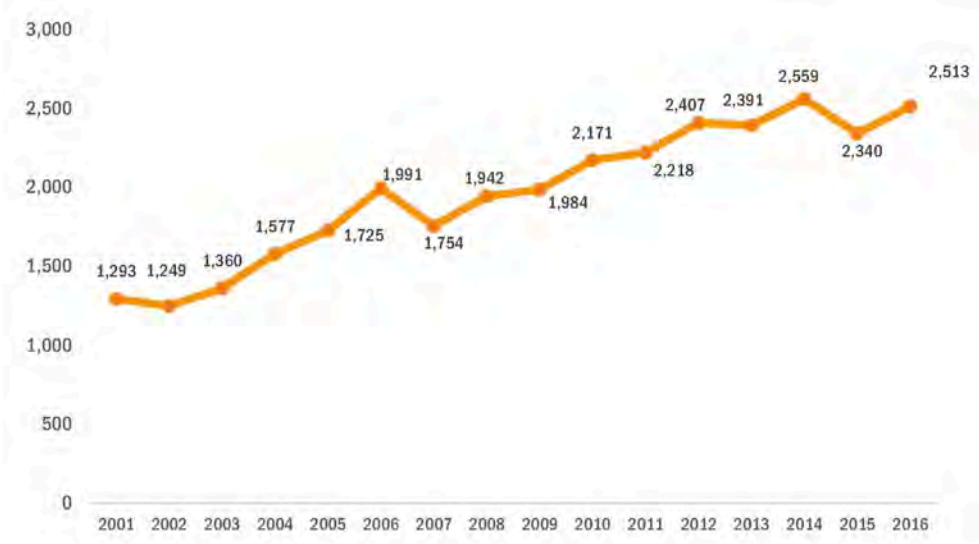
Data for employment over time changes on an annual basis and therefore is no different from Q1 2016.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network





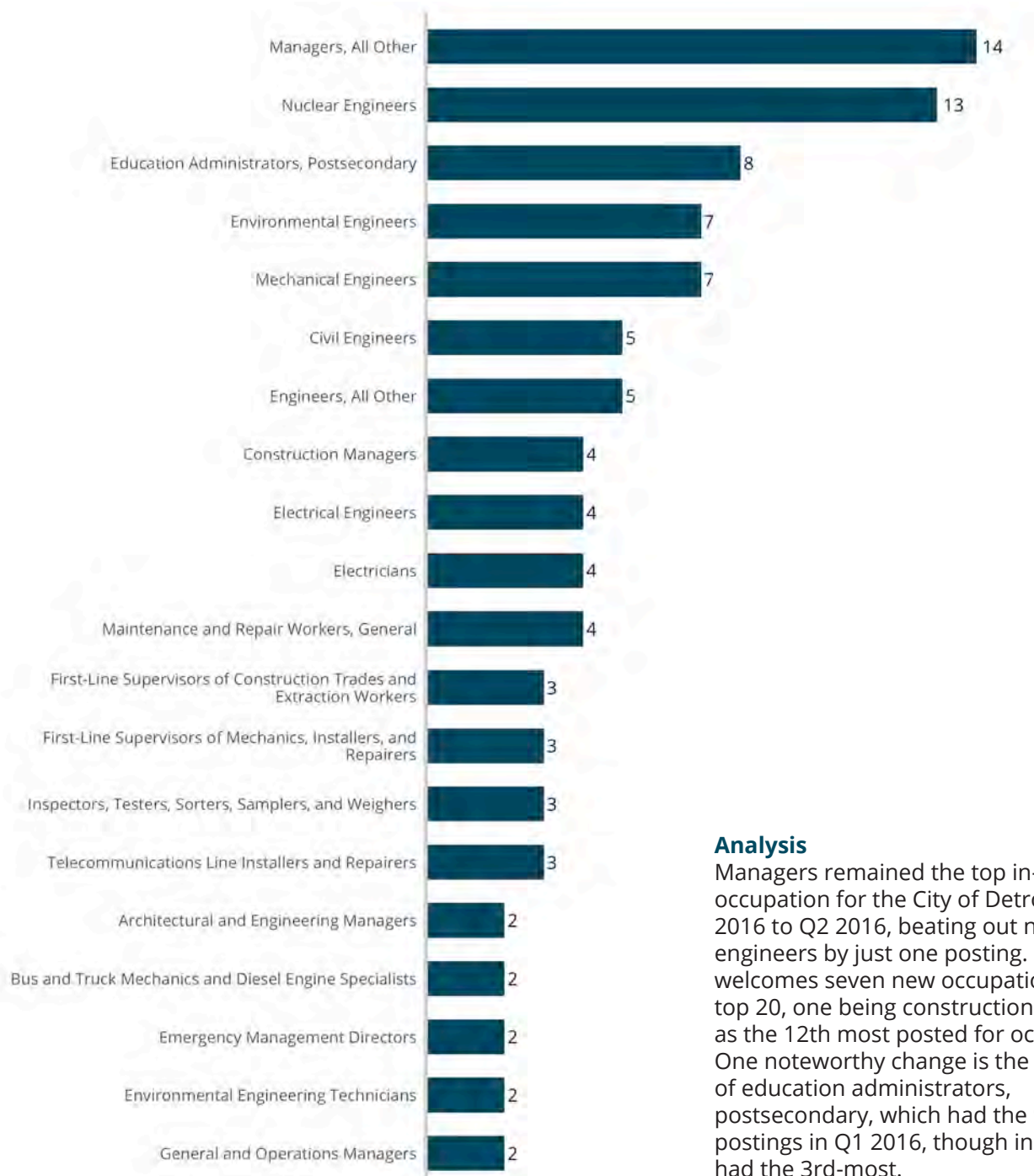
Job postings up 81% compared  
to Q2 2015



Architectural and engineering managers  
is a new top 20 in demand occupation

### Energy Top Jobs

Quarter 2 2016



### Analysis

Managers remained the top in-demand occupation for the City of Detroit from Q1 2016 to Q2 2016, beating out nuclear engineers by just one posting. Q2 2016 welcomes seven new occupations to the top 20, one being construction managers as the 12th most posted for occupation. One noteworthy change is the occupation of education administrators, postsecondary, which had the 9th-most postings in Q1 2016, though in Q2 2016 it had the 3rd-most.



Environmental Engineering Technicians is a new top 20 in demand occupation

%

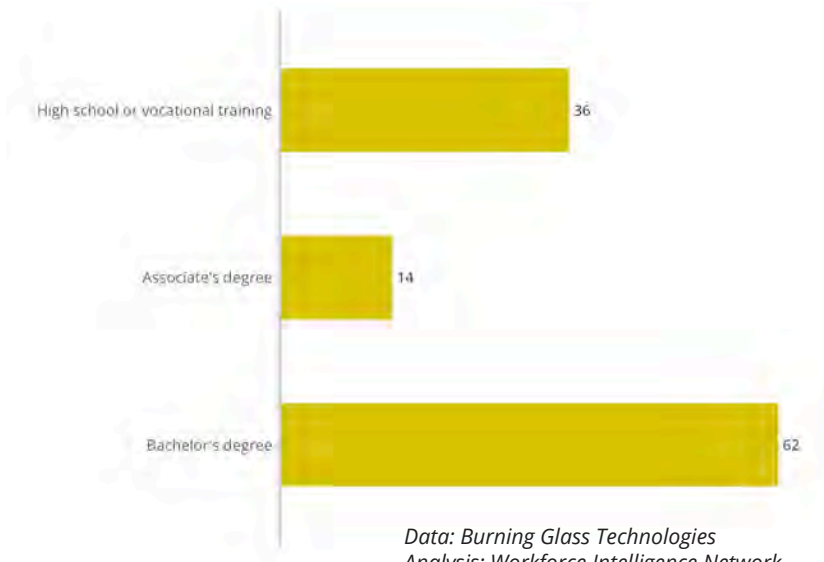
Only 12.5% of postings ask for an associate's

### Energy Educational Attainment & Experience Required

Of the 71 Energy group job postings that specified a desired experience level during Q2 2016, about 96% were available to workers with 3-5 years of experience or less.

With almost half of the top 20 in-demand job postings being engineering occupations, and others having to do with management, it is easy to see why just over 55% of postings specify attainment of a Bachelor's degree, with the next highest specification being for high school or vocational training at 32% of the specified postings.

### Minimum Educational Attainment Required Q2 2016



### Areas of Study in-Demand Q2 2016

- Engineering
- Engineering technology
- Mechanical engineering
- Business administration and management
- Electrical and electronic engineering technologies/technicians

### Experience Required Q2 2016





Managers retains top spot over engineering positions



Chemistry is the sixth most popular area of study

## Energy in-Demand Skills Q2 2016

While the occupations in the Energy group require several high-level technical skills, many traditional skills like project management, repair, technical support and inspection are still present in job postings. The increased demand for the various types of engineers in Energy occupations, including more environmentally trained engineers, is demonstrated in the posting for skillsets like environmental compliance, emissions testing, among others. While workers in the Energy group now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring workers in the Energy group often post employability skills like problem solving, communication, and project management in their advertisements. These types of skills are crucial for the Energy group workers so that they can collaborate effectively and especially in high-demand supervisor rolls.

### Technical in-Demand Skills

- Budgeting/Cost Estimation/Cost/Control/Calculation/Spreadsheets/Procurement
- Scheduling/Supervisory Skills/Project Management/Performance Management/Construction Management
- Technical Support/Inspection/Repair/Schematic Diagrams/
- Environmental Regulations/Environmental Compliance/Emissions Testing
- Machinery/Piping Systems/Electrical Systems/Mechanical Engineering

### Foundational In-Demand Skills

- Planning/Project Management/Decision Making/Management/Meeting Deadlines/Project Planning and Development Skills
- Communication Skills/Organizational Skills/Presentation Skills/Building Effective Relationships
- Cost Estimation/Cost Control
- Problem Solving/Troubleshooting
- Microsoft Office

### Job Type

- Temporary: 1%
- Full-time: 29%
- Part-time: data not available

### Certifications In-Demand

- Project Management Certification (E.G. Pmp)
- Professional Engineer
- Reactor Operator License
- Air Brake Certified
- APICS (American Production and Inventory Control Society) Certification



Out of eight advertised salaries,  
seven offer over \$75k per year



Auditor is the sixth most popular  
certification

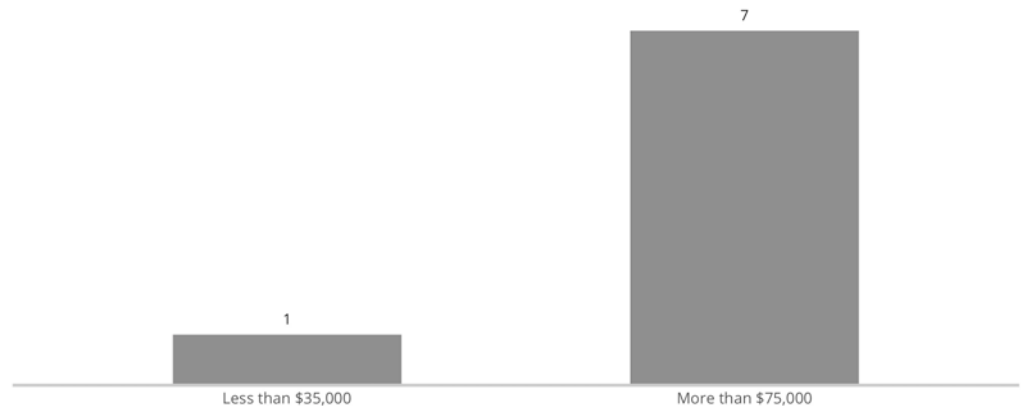
## Energy

### Wages

Though the majority of advertised salaries in the Energy group in Q1 2016 are not specified (121 out of 129), those that have specified salaries show earnings of more than \$75,000. There is only one specified salary out the eight that shows less than \$35,000 per year.

## Advertised Salaries

Quarter 2 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
11-9199	Managers, All Other	\$28.09	\$34.81	\$44.94	\$56.00	\$70.17
17-2161	Nuclear Engineers	\$38.37	\$47.01	\$55.04	\$60.67	\$67.92
11-9033	Education Administrators,	\$21.56	\$28.33	\$39.77	\$58.33	\$82.75
17-2081	Environmental Engineers	\$29.02	\$38.20	\$45.72	\$54.09	\$60.28
17-2141	Mechanical Engineers	\$30.78	\$37.88	\$45.75	\$54.15	\$60.64
17-2051	Civil Engineers	\$23.54	\$27.30	\$32.96	\$39.40	\$47.82
17-2199	Engineers, All Other	\$31.18	\$38.27	\$45.35	\$54.67	\$64.07
11-9021	Construction Managers	\$31.83	\$35.76	\$43.01	\$52.13	\$69.96
17-2071	Electrical Engineers	\$30.75	\$36.50	\$43.99	\$51.85	\$58.50
47-2111	Electricians	\$20.03	\$26.54	\$32.00	\$36.27	\$47.85

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

## Introduction

### Health Care

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

### Postings Over Time

Online job ads for occupations related to Health Care were down 2% to 5,123 during Q2 2016, compared to 5,228 during Q1 2016. This decrease in postings from Q1 to Q2 has been seen three other times since 2011. Despite the slight drop, compared to postings one year ago, in Q2 2015, there has been a 15% increase in Q2 2016.

### Employment Over Time

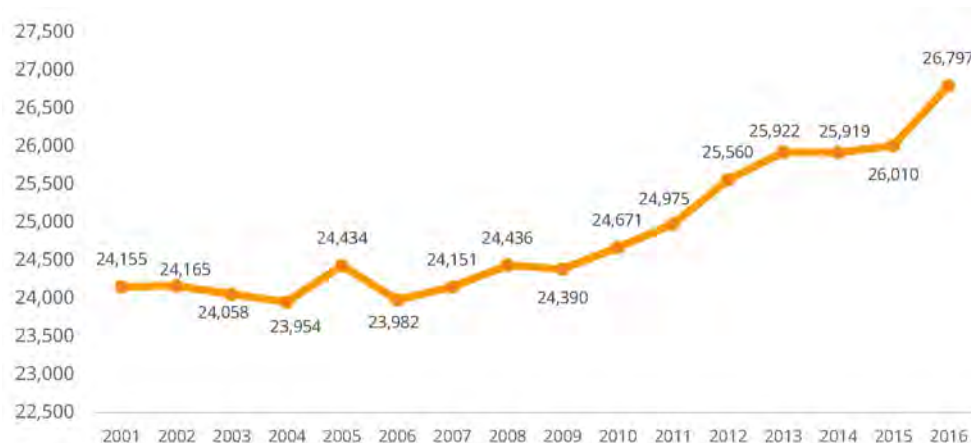
Data for employment over time changes on an annual basis and therefore is no different from Q1 2016.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



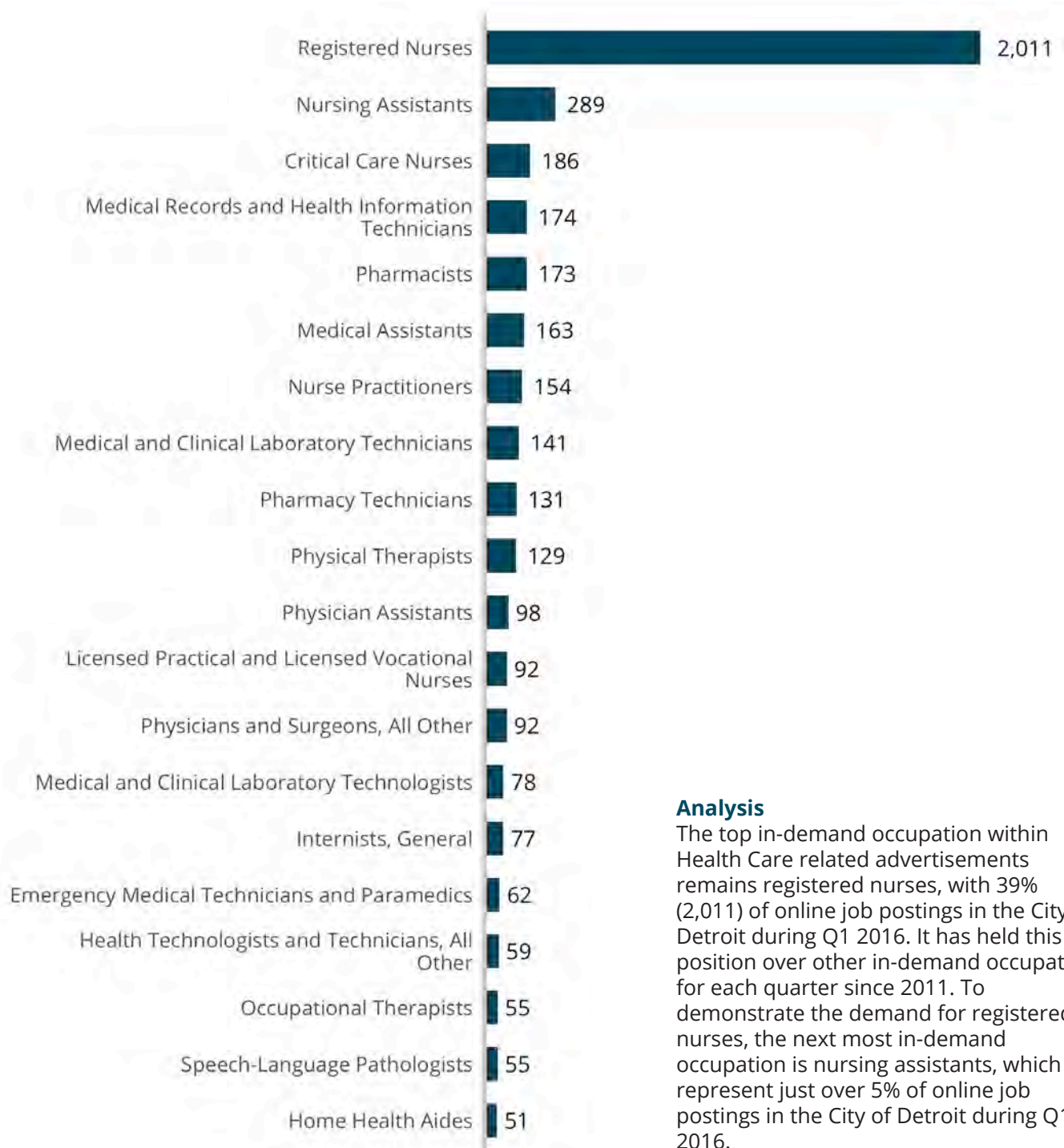


New to the top 20 in demand occupations is health technologists and technicians

%

15% increase in postings from Q2 2015 to Q2 2016

### Health Care Top Jobs Quarter 2 2016



#### Analysis

The top in-demand occupation within Health Care related advertisements remains registered nurses, with 39% (2,011) of online job postings in the City of Detroit during Q1 2016. It has held this position over other in-demand occupation for each quarter since 2011. To demonstrate the demand for registered nurses, the next most in-demand occupation is nursing assistants, which represent just over 5% of online job postings in the City of Detroit during Q1 2016.



New to the top 20 in demand occupations is home health aides



Registered nurses continues its top job dominance

### Health Care Educational Attainment & Experience Required

Of the 2,468 Health Care group job postings that specified a desired experience level during Q2 2016, just over 77% were available to workers with less than two years of experience. Positions that specified at least 3-5 of experience were next, representing just under 22% of the postings.

Levels of educational attainment are more balanced within the Health Care group compared to other groups in this report. There are 946 positions that require a Bachelor's degree, 1,193 that require an Associate's degree, and 762 that require high school or vocational training.

### Minimum Educational Attainment Required Q2 2016

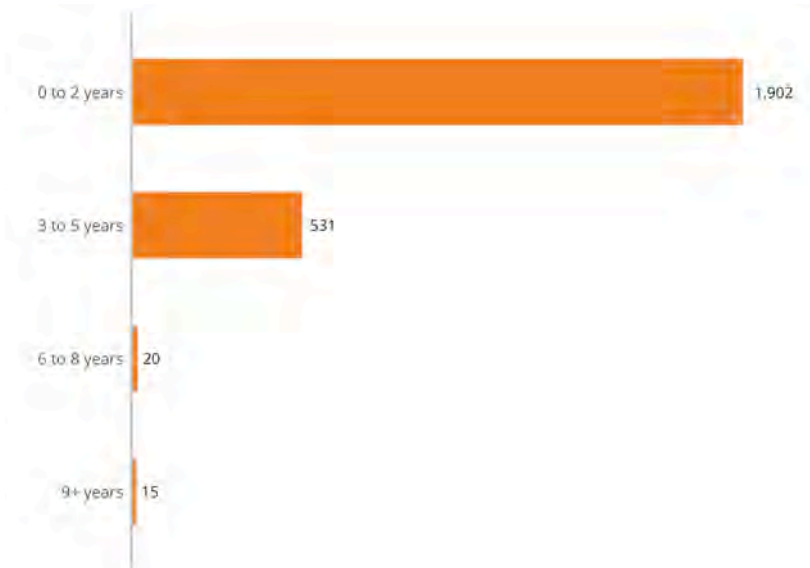


### Areas of Study in-Demand Q2 2016

- Nursing Science
- Physical therapy/therapist
- Business administration and management, general
- Occupational therapy/therapist
- Social Work

Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Experience Required Q2 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



Over 3x the postings ask for 0-2 years of experience compared to 3-5



First Aid CPR AED is the sixth most popular certification

## Health Care in-Demand Skills Q2 2016

The occupations in the Health Care group require a wide array of high-level technical skills. Traditional skills like patient care, CPR, and surgery are still present in Health Care job postings. The continuous demand for registered nurses in Health Care occupations in the City of Detroit is demonstrated in the posting for skill sets like patient evaluation, and supervisory skills. While Health Care workers now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring Health Care workers often post employability skills like team work and collaboration, multi-tasking, and decision making their advertisements. These types of skills are crucial for Health Care occupations so that they can collaborate effectively and especially in high-demand supervisor rolls.

### Technical in-Demand Skills

- Patient Care/Patient-Family Education and Instruction/Patient Evaluation, Preparation, and Progress Monitoring
- Supervisory Skills/Scheduling/Case Management/Staff Management
- Cardiopulmonary Resuscitation (CPR)/Advanced Cardiac Life Support (ACLS)/Electrocardiogram (EKG / ECG)
- Surgery
- Rehabilitation

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/Building Effective Relationships/Organizational Skills
- Supervisory Skills/Planning/Leadership/Decision Making/Project Management/Time Management
- Quality Assurance and Control/Problem Solving/Troubleshooting
- Microsoft Office
- Multi-Tasking

### Job Type

- Temporary: 7%
- Full-time: 53%
- Part-time: 6%

### Certifications In-Demand

- Registered nurse
- American Heart Association Certificate
- Basic cardiac life support certification
- Critical Care Registered Nurse (CCRN)
- Nurse Practitioner





Medicine is the sixth most popular area of study

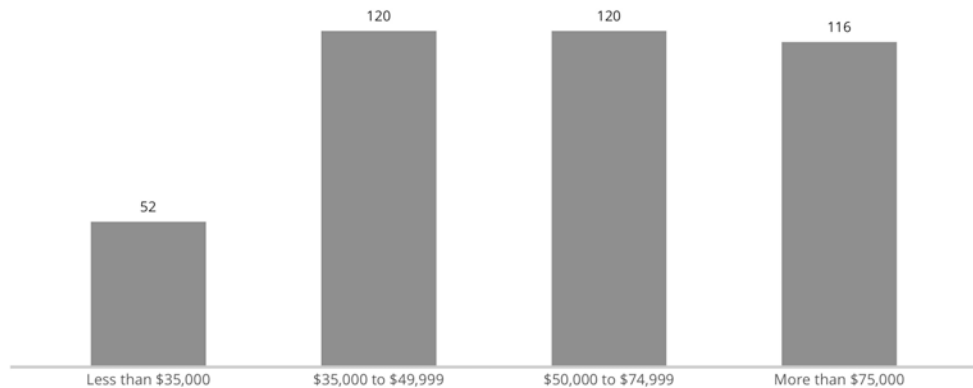


Nurse practitioners can make over \$60k per year at entry level

## Health Care Wages

The majority of advertised salaries in the Health Care group in Q2 2016 were above \$35,000 per year, with only about 13% of postings listing a salary of less than \$35,000 per year. Of the 5,123 postings, 4,715 did not specify a salary. With the majority of salaries being above \$35,000, the probability that most of the available postings are for positions requiring a higher level of educational attainment is higher. Over 100 of the postings that specify an advertised salary show earnings of more than \$75,000 per year.

## Advertised Salaries



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	\$25.32	\$28.40	\$32.70	\$36.57	\$42.94
31-1014	Nursing Assistants	\$10.61	\$12.14	\$13.47	\$14.83	\$17.26
29-1141	Critical Care Nurses	\$25.32	\$28.40	\$32.70	\$36.57	\$42.94
29-2071	Medical Records and Health	\$11.47	\$13.25	\$16.13	\$20.06	\$25.00
29-1051	Pharmacists	\$33.34	\$47.69	\$53.95	\$59.56	\$69.99
31-9092	Medical Assistants	\$10.08	\$11.59	\$13.30	\$15.21	\$17.93
29-1171	Nurse Practitioners	\$29.82	\$38.83	\$44.71	\$52.87	\$59.63
29-2012	Medical and Clinical Laboratory	\$12.75	\$14.21	\$16.97	\$21.67	\$28.33
29-2052	Pharmacy Technicians	\$9.06	\$12.25	\$15.18	\$17.65	\$20.12
29-1123	Physical Therapists	\$27.63	\$33.97	\$40.41	\$46.57	\$60.86

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

# Information Technology (IT)

## Introduction

### Information Technology (IT)

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.

### Postings Over Time

Online job ads for occupations related to IT were up 2% to 4,285 during Q2 2016, compared to 4,207 during Q1 2016. Though this level of postings is 6% lower than the 4,554 online postings for IT-related occupations in the City of Detroit in Q2 2015, one year ago.

### Employment Over Time

Data for employment over time changes on an annual basis and therefore is no different from Q1 2016.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



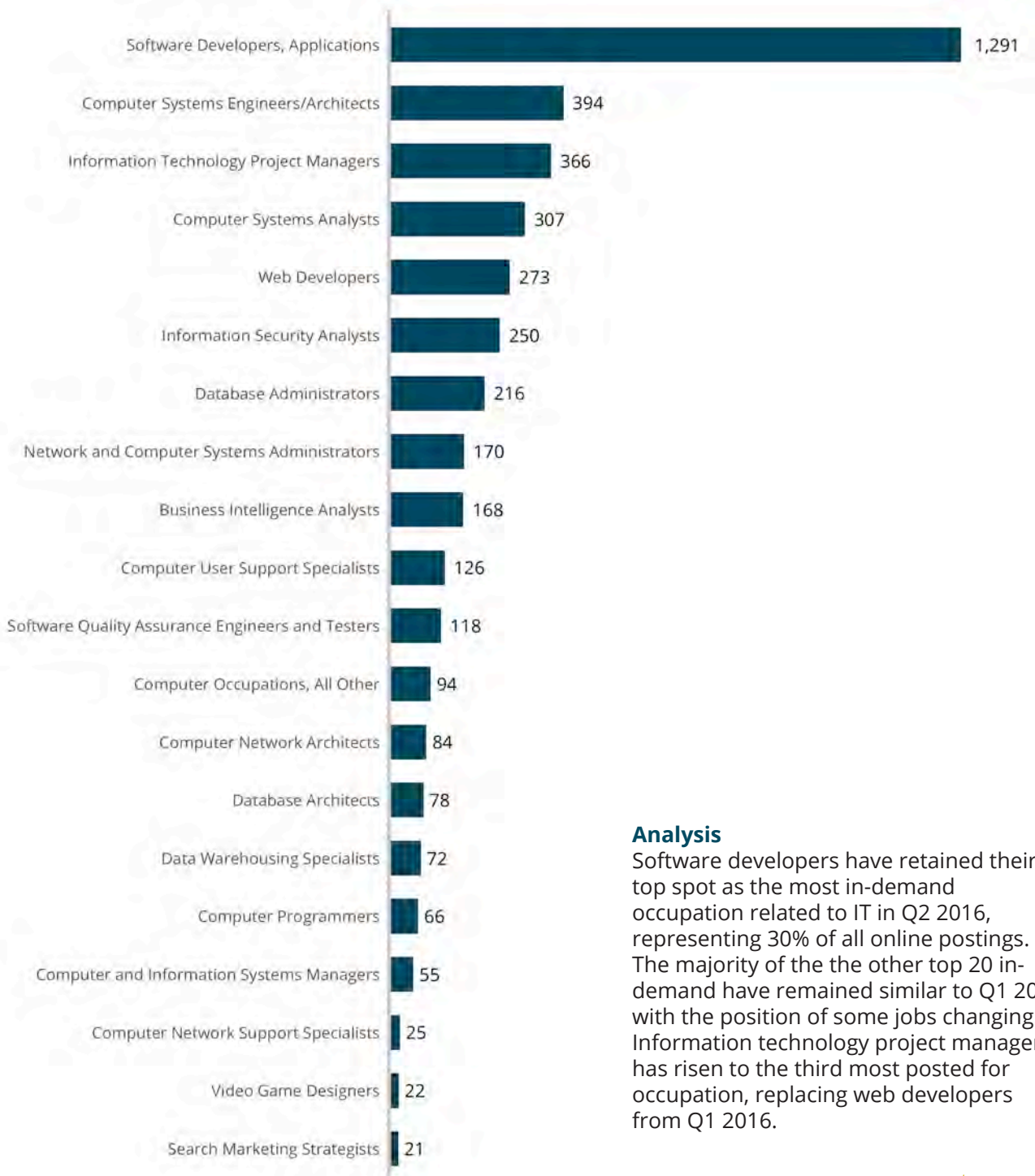
New to the top 20 in demand occupations is video game designers



Software developers retains its top spot

### Information Technology (IT) Top Jobs

Quarter 2 2016



#### Analysis

Software developers have retained their top spot as the most in-demand occupation related to IT in Q2 2016, representing 30% of all online postings. The majority of the the other top 20 in-demand have remained similar to Q1 2016 with the position of some jobs changing. Information technology project managers has risen to the third most posted for occupation, replacing web developers from Q1 2016.



New to the top 20 in demand occupations is computer network support specialists

%

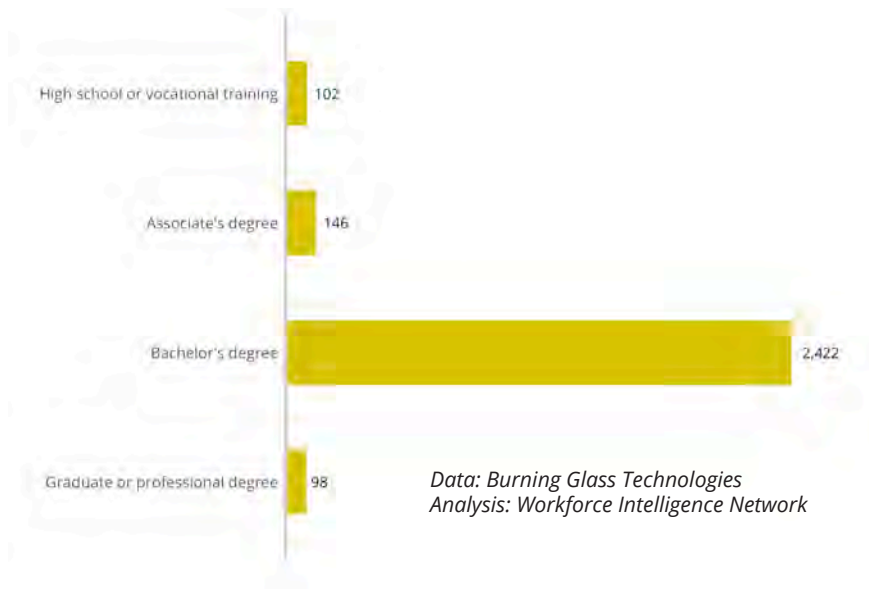
IT job postings up 2% from Q1 2016

### Information Technology (IT) Educational Attainment & Experience Required

Of the 2,827 IT group job postings that specified a desired experience level during Q2 2016, 53% were available to workers with 3 to 5 years of experience. Out of the 4,285 total postings, 1,458 did not specify a required level of experience.

Job postings that require more than 5 years of experience (863 in Q2 2016) are most likely for supervisor or management roles in IT and will require advanced educational attainment, possibly a Bachelor's degree, as specified in 2,422 job postings.

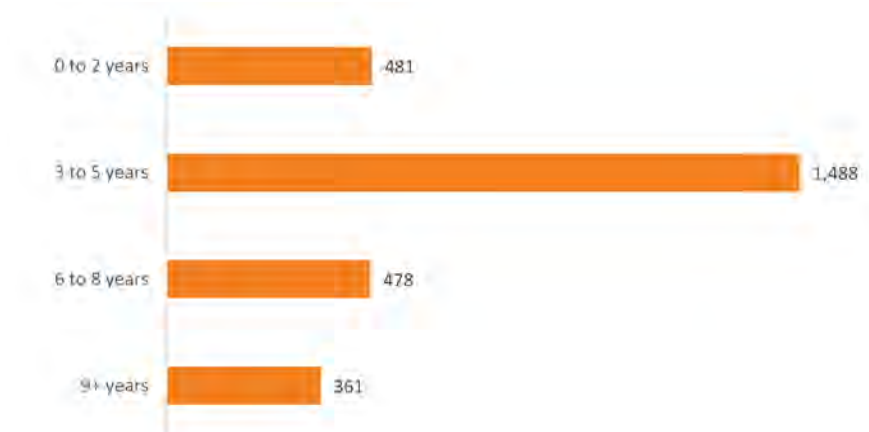
### Minimum Educational Attainment Required Q2 2016



### Areas of Study in-Demand Q2 2016

- Computer science
- Engineering, general
- Business administration and management, general
- Information technology
- Management information systems, general

### Experience Required Q2 2016





Over half of positions were available for less than 3-5 years of experience



Finance did not make the top ten most popular areas of study

## Information Technology (IT) in-Demand Skills Q2 2016

The occupations in the IT group require a wide array of high-level technical skills. Advanced technical skills like LINUX and extensible markup language, among others, appear on Q2 2016's skills list. While IT workers continue to need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring IT workers stress the importance of employability skills like analytical ability, communication, problem solving, and multi-tasking in their advertisements. These types of skills are crucial for IT workers so that they can collaborate effectively and especially in high-demand supervisory rolls.

### Technical in-Demand Skills

- SQL/JAVA/Oracle/JavaScript/LINUX/SQL Server/UNIX/Extensible Markup Language/HTML5
- Project Management/Scheduling/Process Improvement/Business Development
- Software Development/Information Security/Software Engineering
- Customer Service/Technical Support
- Budgeting

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/ Building Effective Relationships/Organizational Skills
- Problem Solving/Troubleshooting/Analytical Skills/ Quality Assurance and Control
- Project Management/Planning/Leadership/ Mentoring/Supervisory Skills/Decision Making
- Multi-Tasking
- Microsoft Office

### Job Type

- Temporary: 3.3%
- Full-time: 47%
- Part-time: 2.6%

### Certifications In-Demand

- Certified information systems security professional (CISSP)
- Project management certification (e.g. PMP)
- Sans/Giac certification
- Certified information systems auditor (CISA)
- It infrastructure library





The lowest paid top ten job still makes over \$78k per year at the 90th percentile

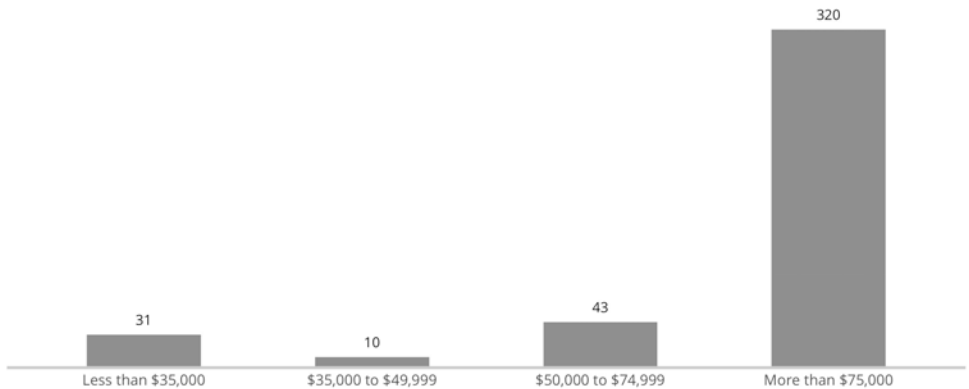


The sixth most popular certification is Cisco Certified Network Professional (Ccnp)

## Information Technology (IT) Wages

79% of advertised salaries for IT occupations were above \$75,000 per year, and only 8% of advertised salaries were below \$35,000 per year. The high salaries available coupled with the majority of advertised experience levels being between 3 to 5 years, makes IT a rewarding field to go into in the City of Detroit. According to 2015 BLS data, an entry-level computer systems engineer or architect can make just over \$49,000 per year. Individuals employed in this same occupation can make over \$127,000 in the 90th percentile.

## Advertised Salaries



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	\$28.67	\$37.52	\$46.28	\$55.91	\$65.26
15-1199	Computer Systems Engineers/Architects	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1199	Information Technology Project	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1121	Computer Systems Analysts	\$29.75	\$35.61	\$42.91	\$51.78	\$60.85
15-1134	Web Developers	\$17.61	\$22.03	\$30.41	\$38.49	\$44.23
15-1122	Information Security Analysts	\$22.95	\$28.61	\$38.48	\$48.88	\$58.26
15-1141	Database Administrators	\$25.96	\$35.46	\$44.91	\$52.95	\$58.47
15-1142	Network and Computer Systems	\$21.84	\$27.95	\$37.57	\$45.58	\$53.28
15-1199	Business Intelligence Analysts	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1151	Computer User Support Specialists	\$12.26	\$15.56	\$21.85	\$29.42	\$37.60

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



# Skilled Trades & Technicians (Manufacturing Focused)

## Introduction

### Skilled Trades & Technicians

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.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Postings Over Time

Online job postings for Skilled Trades saw an increase of seven postings from 439 during Q1 2016 to 446 Q2 2016. But when compared to Q2 2015, one year ago, Q2 2016 showed a 6% (27) increase in postings. This past quarter continued to show a positive trend since the low point of 179 postings in Q4 2011.

### Employment Over Time

Data for employment over time changes on an annual basis and therefore is no different from Q1 2016.

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



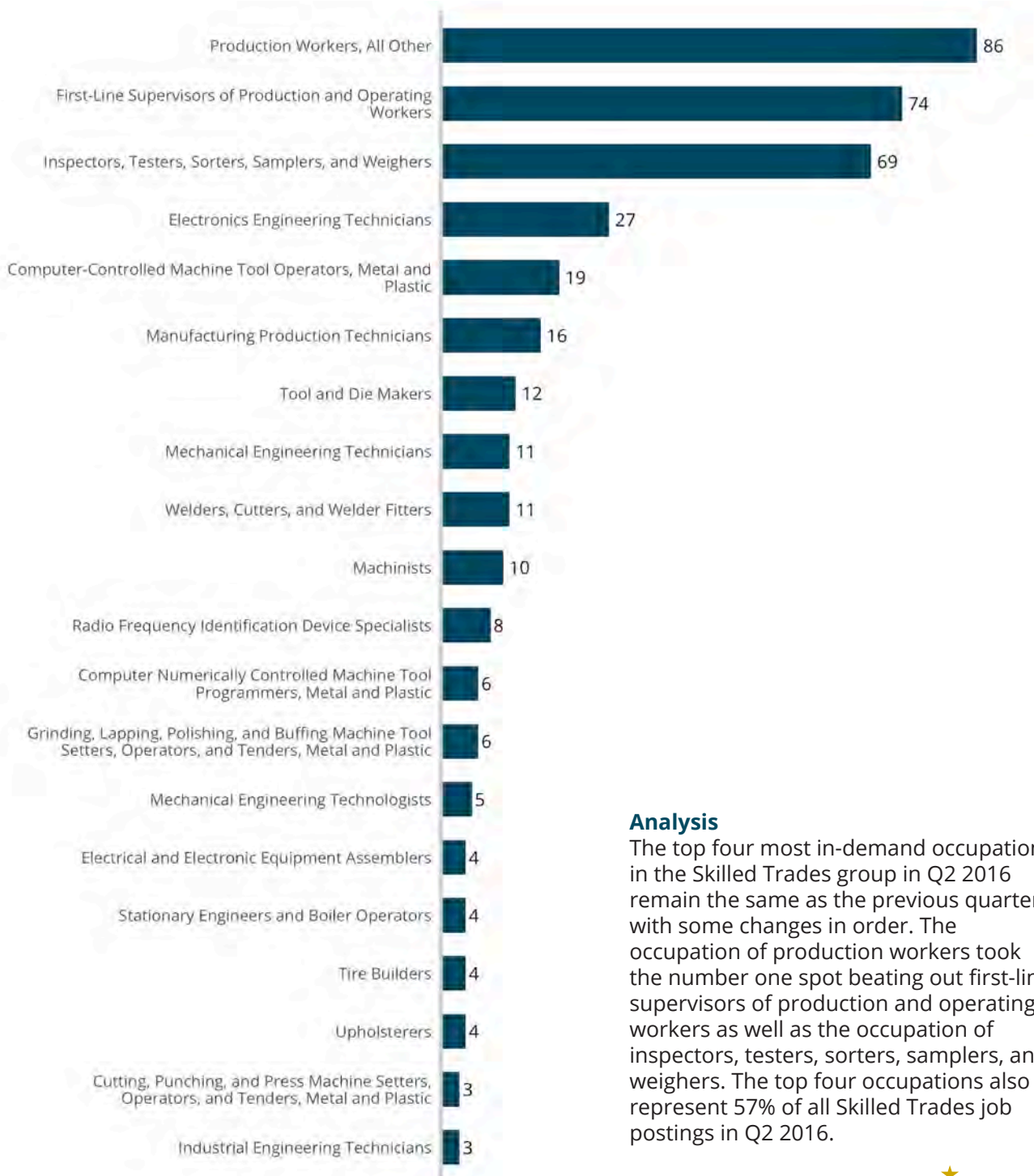
There are six new occupations within the top 20 in-demand occupations in Q2 2016



New to the top 20 in demand occupations is radio frequency identification device specialists

### Skilled Trades & Technicians Top Jobs

Quarter 2 2016



#### Analysis

The top four most in-demand occupations in the Skilled Trades group in Q2 2016 remain the same as the previous quarter with some changes in order. The occupation of production workers took the number one spot beating out first-line supervisors of production and operating workers as well as the occupation of inspectors, testers, sorters, samplers, and weighers. The top four occupations also represent 57% of all Skilled Trades job postings in Q2 2016.





New to the top 20 in demand occupations is mechanical engineering technologists

%

85% of postings were available for workers with less than 5 years of experience

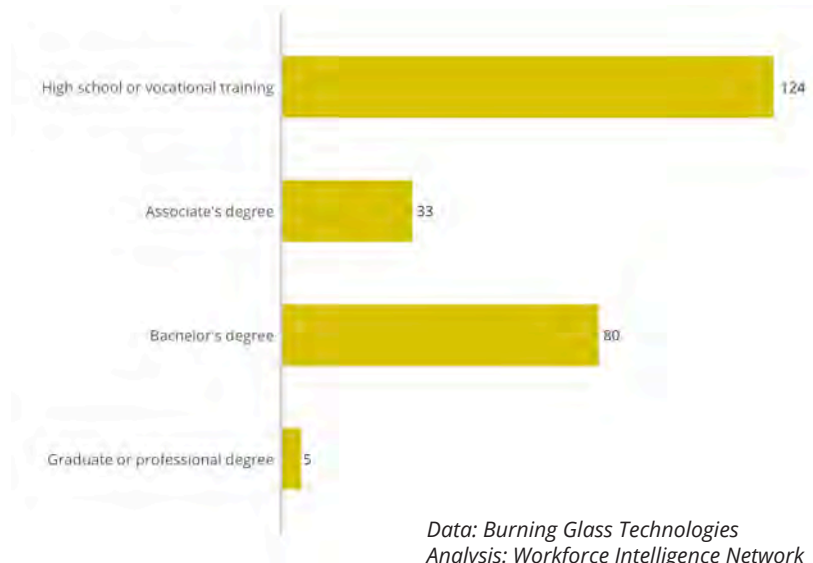
### Skilled Trades & Technicians Educational Attainment & Experience Required

Job postings that require more than 5 years of Of the 206 Skilled Trades group job postings that specified a desired experience level during Q2 2016, 85% were available to workers with less than 5 years of experience.

Entry-level Skilled Trades positions are available to Michigan workers that are willing to undertake short-term, post-secondary training in applicable skills, like mathematics, welding, or programming, which will qualify them for one of the 72 jobs requiring less than two-years of training in Q2 2016.

Job postings that require more than 5 years of experience (31 in Q2 2016) are most likely for supervisor or management roles in the Skilled Trades and will require advanced educational attainment, possibly a bachelor's degree, as specified in 85 job postings.

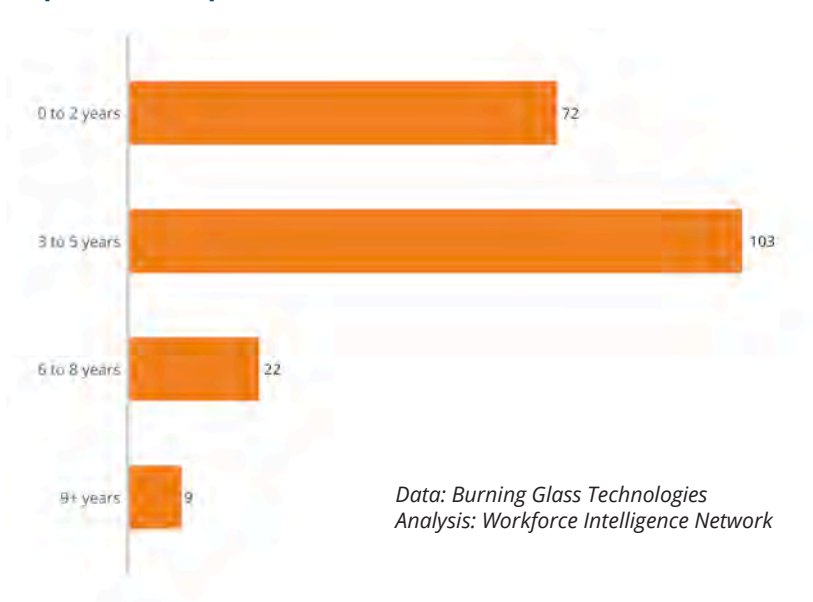
### Minimum Educational Attainment Required Q2 2016



### Areas of Study in-Demand Q2 2016

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

### Experience Required Q2 2016





Production workers take over  
number one top job spot



The sixth most popular area of  
study was Automotive Engineering  
Technology/Technician

## Skilled Trades & Technicians in-Demand Skills Q2 2016

The occupations in the Skilled Trades group require a wide array of high-level technical skills. Traditional skills like machining, welding, and wiring are still present in Skilled Trades job postings. Advanced technical skills like mathematics and data collection also appear on Q2 2016's skills list, further illustrating a shift in Skilled Trades employment to more advanced education and technology requirements. While Skilled Trades workers now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring Skilled Trades workers often post for employability skills like communication, troubleshooting, multi-tasking, and creativity/analytical ability in their advertisements. These types of skills are crucial for Skilled Trades so that they can collaborate effectively and especially in high-demand supervisor rolls.

### Technical in-Demand Skills

- Scheduling/Supervisory Skills/Project Management/Process Improvement/Operations Management
- Computer Numerical Control (CNC)/Machining/Welding/Lathes/Grinders/Wiring
- Mathematics/Schematic Diagrams/Data Collection/Data Entry
- Inspection/Repair/Test Equipment
- Sorting/Labeling

### Foundational In-Demand Skills

- Communication Skills/Organizational Skills/Team Work-Collaboration/Planning/Presentation Skills
- Troubleshooting/Problem Solving/Quality Assurance and Control/Preventative Maintenance/
- Supervisory Skills/Leadership/Positive Disposition/Project Management/Decision Making
- Multi-Tasking
- Microsoft Office

### Job Type

- Temporary: 7.4%
- Full-time: 44.2%
- Part-time: 4.3%

### Certifications In-Demand

- Automotive service excellence (ASE) Certification
- Commercial driver's license
- Security clearance
- Certified ambulatory perianesthesia Nurse
- Certified customs specialist

%

Just over 50% advertise salaries of  
\$35k per year or less



The sixth most popular certification  
was Reactor Operator License

## Skilled Trades & Technicians Wages

Of the 446 online job postings in the Skilled Trades group, 344 did not specify a salary. With this in mind, just under 52% of postings show advertised salaries of \$35,000 per year or less. These salaries that fall under \$35,000 are most likely due to the majority of online job postings being for entry-level positions. Although, with continued education and post-secondary experience earnings can increase, as seen in the majority of the top-10 occupations related to Skilled Trades having median-level earnings above the living wage of \$15 per hour.

## Advertised Salaries

Quarter 2 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	\$9.79	\$11.10	\$16.05	\$23.21	\$33.71
51-1011	First-Line Supervisors of Production and Operating	\$17.67	\$22.66	\$30.33	\$40.50	\$47.94
51-9061	Inspectors, Testers, Sorters,	\$9.16	\$11.99	\$16.71	\$23.77	\$29.77
17-3023	Electronics Engineering Technicians	\$16.25	\$24.25	\$30.59	\$34.52	\$37.74
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$10.03	\$11.47	\$15.71	\$22.15	\$31.33
17-3029	Manufacturing Production Technicians	\$16.36	\$21.28	\$28.69	\$36.16	\$44.06
51-4111	Tool and Die Makers	\$19.90	\$24.42	\$30.59	\$34.00	\$36.04
17-3027	Mechanical Engineering	\$17.67	\$20.87	\$25.77	\$32.85	\$38.53
51-4121	Welders, Cutters, and Welder Fitters	\$13.15	\$15.96	\$19.41	\$26.90	\$33.74
51-4041	Machinists	\$12.48	\$15.47	\$19.38	\$25.54	\$33.72

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

### Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 Annual	2016 to- date (through May 2016)	Change from 2015	Percent Change from 2015
Labor Force	276,884	261,343	256,748	255,742	248,098	240,000	<b>240,979</b>	980	0.4%
Employment	208,289	206,226	207,399	207,076	207,681	210,242	<b>216,066</b>	5,825	2.8%
Unemployment	68,596	55,117	49,348	48,666	40,418	29,758	<b>24,913</b>	-4,845	-16.3%
Unemployment Rate	24.8%	21.1%	19.2%	19.0%	16.3%	12.4%	<b>10.3%</b>	-2.1%	na

*\*Note: Monthly data averaged by year*

Data: Bureau of Labor Statistics

### Quarterly Labor Market Data

	2nd Quarter 2015	3rd Quarter 2015	4th Quarter 2015	1st Quarter 2016	2nd Quarter 2016 (through May 2016)	Change from 1st Quarter 2016	Percent Change from 1st Quarter 2016
Labor Force	239,338	242,683	238,659	241,272	<b>240,540</b>	-732	-0.3%
Employment	209,588	211,191	211,838	214,913	<b>217,796</b>	2,882	1.3%
Unemployment	29,750	31,492	26,821	26,359	<b>22,745</b>	-3,615	-13.7%
Unemployment Rate	12.4%	13.0%	11.2%	10.9%	<b>9.5%</b>	-1.5%	na

*\*Note: Monthly data averaged by quarter*

Data: Bureau of Labor Statistics












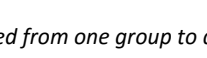
### Monthly Labor Market Data

	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015	September 2015	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016	April 2016	May 2016
Labor Force	237,689	234,316	241,629	242,068	246,259	243,422	238,367	241,386	236,550	238,041	239,195	240,809	243,813	243,813	243,813
Employment	208,730	208,699	209,900	210,165	210,470	211,876	211,226	211,036	212,108	212,369	212,572	215,141	217,027	217,027	217,027
Unemployment	28,959	25,617	31,729	31,903	35,789	31,546	27,141	30,350	24,442	25,672	26,623	25,668	26,786	26,786	26,786
Unemployment Rate	12.2%	10.9%	13.1%	13.2%	14.5%	13.0%	11.4%	12.6%	10.3%	10.8%	11.1%	10.7%	11.0%	11.0%	11.0%

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


















Data: Bureau of Labor Statistics

## City of Detroit Job Posting Data by Occupation Group\* Over Time

	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Change Over Time	Annual Change Q2 2015-Q2 2016	Quarter Growth Q1 2016-Q2 2016
Total Postings	27,742	30,426	27,966	29,296	28,456		2.6%	-2.9%
Agriculture	353	375	316	353	384		8.8%	8.8%
Business & finance	2,449	2,843	2,271	2,393	2,300		-6.1%	-3.9%
Construction	204	236	220	197	215		5.4%	9.1%
Customer service	4,485	4,919	4,857	5,283	5,240		16.8%	-0.8%
Education	698	482	404	389	413		-40.8%	6.2%
Energy	71	157	118	108	129		81.7%	19.4%
Engineers & designers	1,214	1,378	1,298	1,130	1,057		-12.9%	-6.5%
Health care	4,467	4,531	4,908	5,228	5,123		14.7%	-2.0%
Information technology	4,554	5,770	4,459	4,207	4,285		-5.9%	1.9%
Skilled trades & technicians	419	503	443	439	446		6.4%	1.6%
Transportation, distribution, and logistics	1,571	1,622	1,492	1,780	1,652		5.2%	-7.2%

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

## Total Job Postings: WIN Partnership

	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Share of Q2 2016 Total	Change Over Time	Annual Change Q2 2015-Q2 2016	Quarter Growth Q1 2016-Q2 2016
WIN-Region Total	129,794	140,225	126,959	143,199	139,765	100.0%		7.7%	-2.4%
Detroit	27,742	30,426	27,966	29,296	28,456	20.5%		2.6%	-2.9%
Genesee & Shiawassee	5,071	5,465	4,721	5,711	5,631	4.0%		11.0%	-1.4%
Hillsdale & Lenawee	1,495	1,467	1,580	1,678	1,606	1.2%		7.4%	-4.3%
Jackson	2,415	2,373	2,099	2,557	2,181	1.8%		-9.7%	-14.7%
Livingston	2,151	2,274	2,048	2,472	2,162	1.7%		0.5%	-12.5%
Macomb	13,586	14,136	12,658	14,754	14,257	10.3%		4.9%	-3.4%
Monroe	1,871	1,778	1,662	1,841	1,694	1.3%		-9.5%	-8.0%
Oakland	40,219	44,474	39,030	45,418	43,058	31.7%		7.1%	-5.2%
St. Clair	1,807	1,697	1,461	1,730	1,788	1.2%		-1.1%	3.4%
Thumb Area	1,208	1,199	1,561	1,673	1,598	1.2%		32.3%	-4.5%
Washtenaw	11,192	11,812	10,540	11,951	11,020	8.3%		-1.5%	-7.8%
Wayne	50,930	55,824	51,993	55,886	54,770	39.0%		7.5%	-2.0%
Outer Wayne	23,188	25,398	24,027	26,590	26,314	18.6%		13.5%	-1.0%
Prosperity Region 6	8,086	8,361	7,743	9,114	9,017	6.4%		11.5%	-1.1%
Prosperity Region 9	19,124	19,704	17,929	20,499	18,663	14.3%		-2.4%	-9.0%
Prosperity Region 10	104,735	114,434	103,681	116,058	112,085	81.0%		7.0%	-3.4%

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