

TALENT PROFILE

JACKSON COUNTY



The Enterprise Group
of Jackson, Inc.

COMPILED BY

WIN

WORKFORCE
INTELLIGENCE
NETWORK



INTRODUCTION

REPORT AND WORKFORCE OVERVIEW

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About This Report

This report provides an overview of the available talent in and around Jackson County, both generally and for the target occupation groups of Advanced Manufacturing, Aerospace, Agriculture, Information Technology, and Mobility. Educational attainment of the adult population, including degree attainment, apprenticeships, and technical education completions, is shown for the entire region. Top degree programs leading to key industry career paths are included as well. Finally, an overview is provided for the labor market unique to each of the five target industries.

About the Region

The talent profile information covered in this report covers Jackson County and each neighboring county, including Ingham, Calhoun, Eaton, Lenawee, Livingston, Hillsdale, and Washtenaw counties. Data reflects 2018 values unless otherwise specified.

According to 2018 Census estimates, there are a total of 1,402,073 people living in this region, projected to grow to over 1,600,000 people by 2045. Of those, 709,706 individuals, or about 51 percent, are currently participating in the labor force. The unemployment rate is 3.5 percent.

About WIN

The Workforce Intelligence Network for Southeast Michigan (WIN) 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 region 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. WIN strives to cultivate a cohesive talent pipeline in the region by using the three pillars of data, employer engagement, and workforce solutions.

For more information related to the workforce in southeast Michigan, visit WINintelligence.org.



TALENT AVAILABILITY: EDUCATIONAL ATTAINMENT

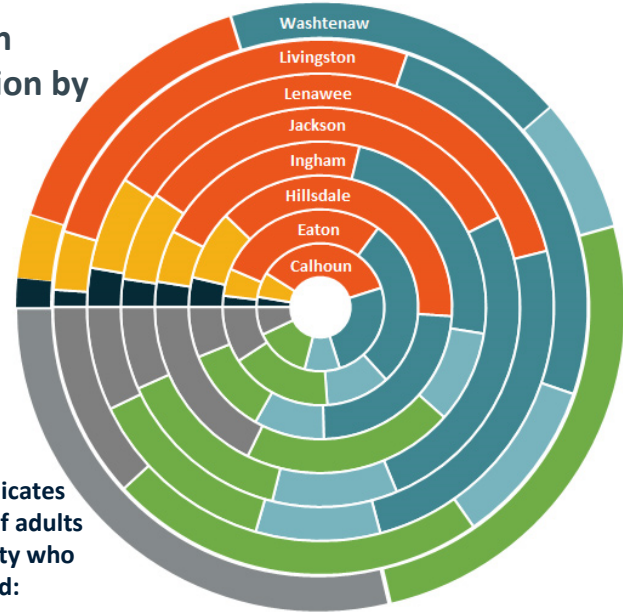
Adult Education Levels by County

A high percentage of the 25+ population in this region has at least a high school education, and many have postsecondary credentials as well. Regionwide, 93.0 percent of adults over 25 have at least a high school diploma, 32.4 percent have greater than a high school diploma but less than a bachelor's, and 34.9 percent have at least an undergraduate college degree. The most highly educated county is Washtenaw; 54.3 percent of adults over 25 have at least a bachelor's degree, and another 25.4 percent have some college or an associate degree. Livingston and Ingham counties also each have over 30 percent each with at least a bachelors. Regionwide, 38.6 percent of individuals holding bachelor's degrees are in science and engineering, with another 9.9 percent in related fields. 16.9 percent have a bachelor's degree in a business field.

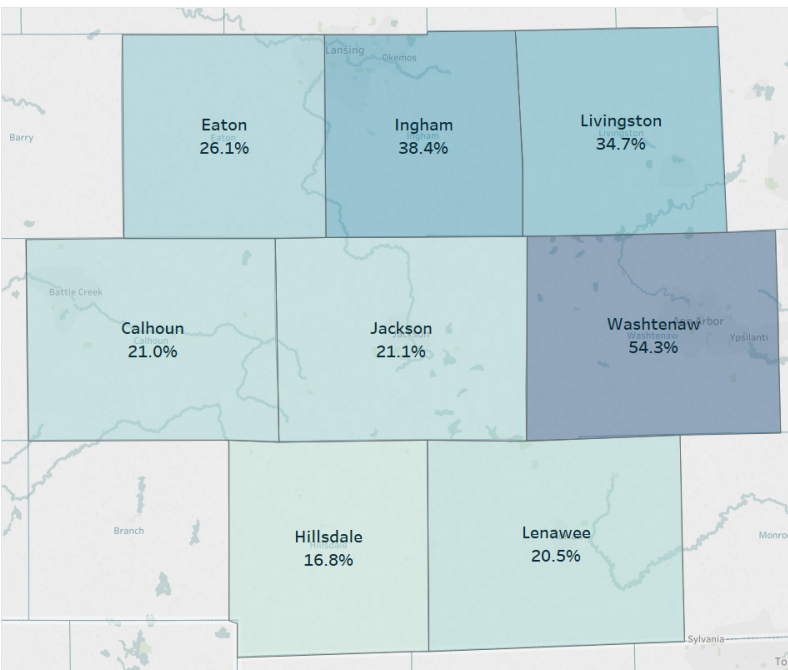
Education Distribution by County

Each ring indicates proportion of adults in each county who have attained:

- Less than 9th grade
- 9th to 12th grade, no diploma
- High school graduate (includes equivalency)
- Some college, no degree
- Associate's degree
- Bachelor's degree
- Graduate or professional degree



Adults 25+ With Bachelor's Degree or More



Career and Technical Education (CTE) Programs

CTE programs are offered as high school programs designed to prepare students for specific careers, especially high-demand and high-wage paths. They also provide career readiness skills and opportunities for work-based learning. Based on the most recent available data, in the 2010-2011 school year, about 16,500 students completed CTE programs across the state.

243

CTE Programs

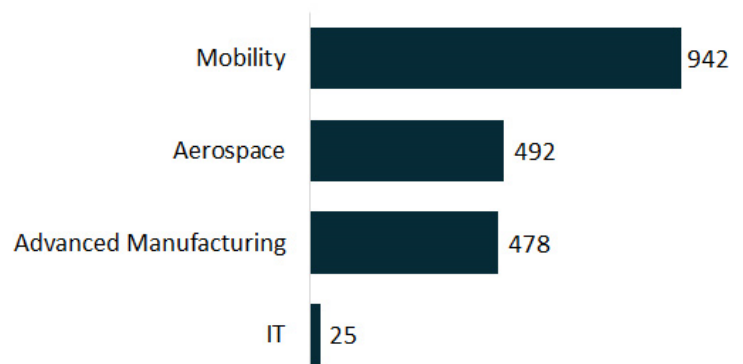
At 56 schools across 8 counties in 2010-2011

In the counties analyzed here, these programs range from automotive or machine repair and engineering to computer programming and business and marketing fields, among many others.

Apprenticeships

Apprenticeships allow workers to gain marketable skills and a transferable credential while earning wages in their chosen occupation under the guidance of a mentor. Though skilled trades positions such as electricians are most often associated with apprenticeships, and still have the greatest number of registered apprentices, technology and business occupation apprenticeships are growing in popularity. To the right is a graph of registered apprentices in each occupation group in the counties analyzed here. Agriculture occupations currently do not have any active apprentices in the area.

Apprentices by Occupation Group

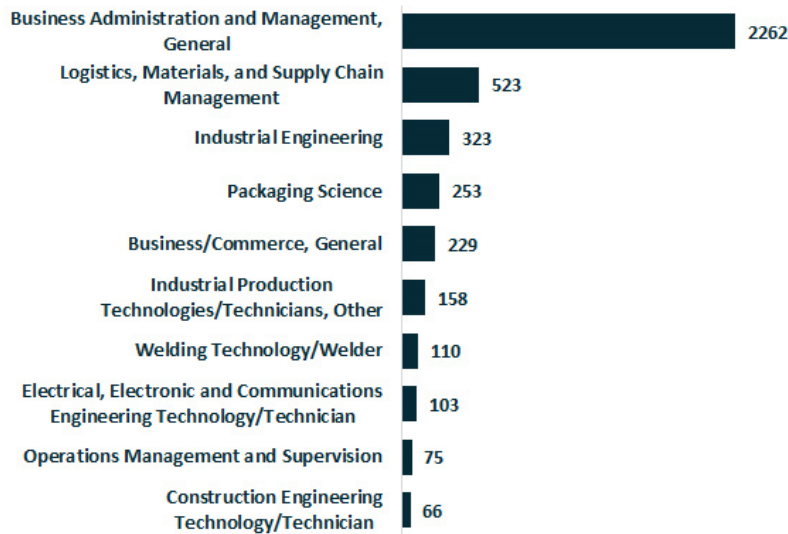


Data: Emsi | Analysis: Workforce Intelligence Network

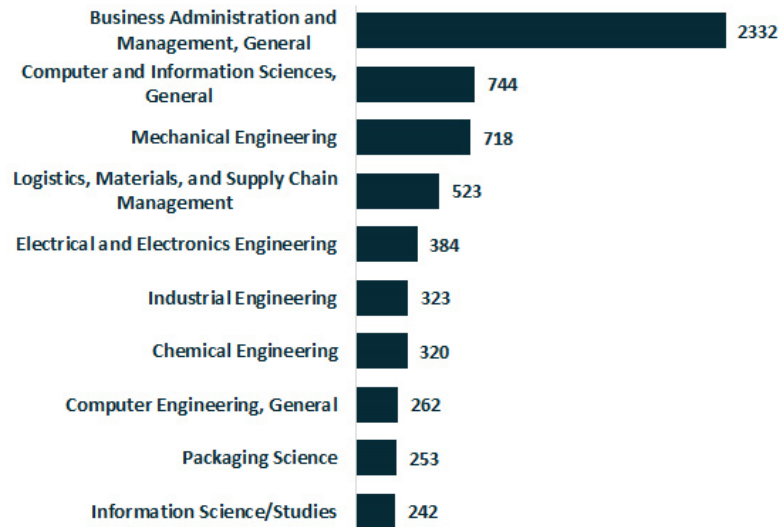


TALENT AVAILABILITY: REGIONAL COMPLETIONS BY INDUSTRY

Advanced Manufacturing

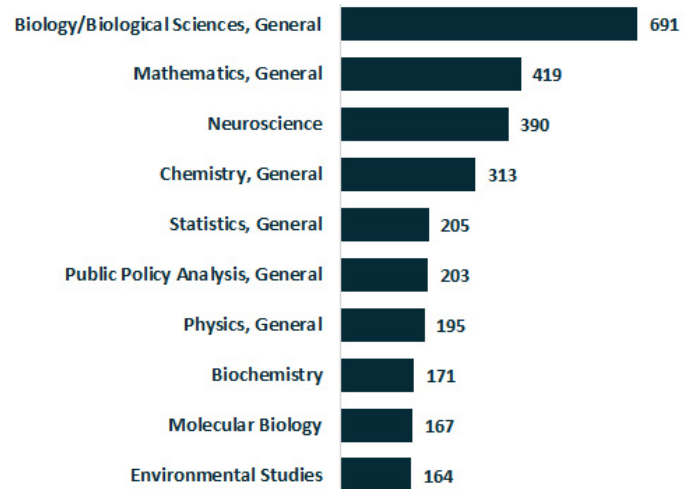


Aerospace

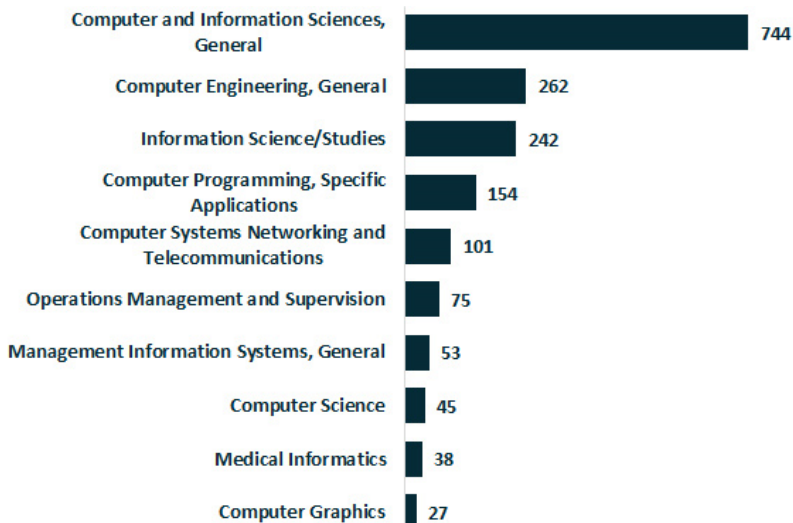


In addition to overall educational attainment, apprentices, and CTE program completions, the top postsecondary degrees and credentials awarded help indicate talent supply for a given group of occupations. Each program listed on this page, measured by IPEDS and reflecting 2017 data, leads to one or more occupations within the groups analyzed. The relationships between job openings and online postings and program completions are examined in greater detail on the labor market information pages. As these counties include many large universities, these graduates make up a large portion of the workforce for the entire state.

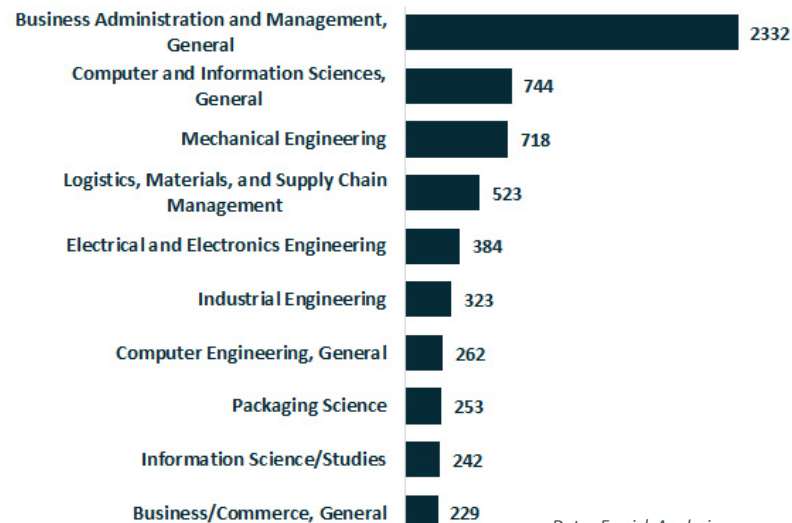
Agriculture



IT



Mobility





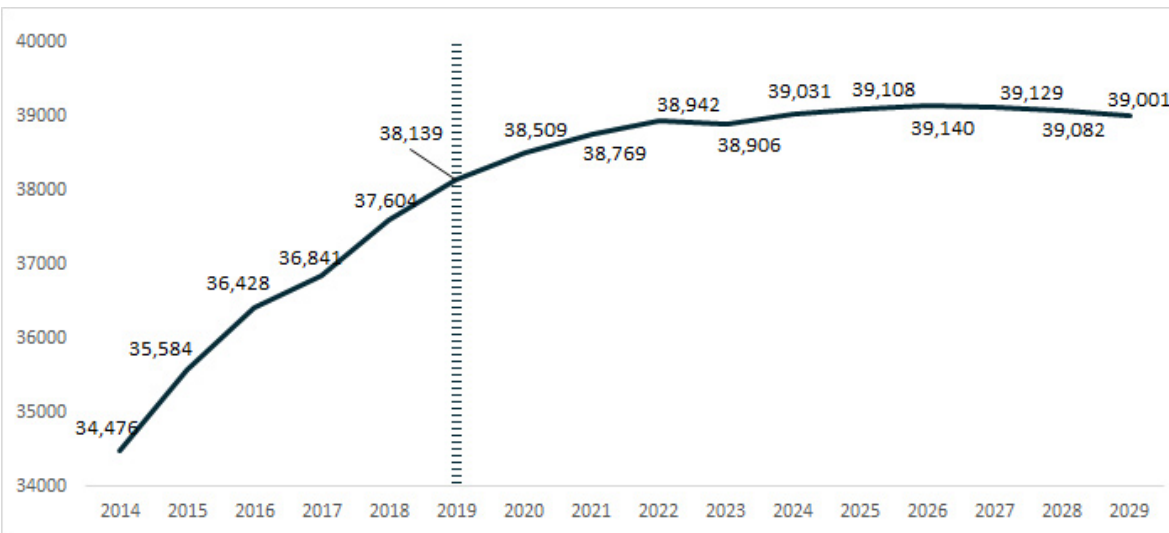
TALENT AVAILABILITY: ADVANCED MANUFACTURING

Introduction

Jobs in advanced manufacturing can range from assembly and production, to skilled trades and technicians, designers and engineers, and, increasingly, computer-related occupations such as software developers. Demand for engineers in the region has been consistent and growing in recent years, and southeast Michigan has more demand for skilled trades labor, such as CNC machinists and welders, than almost anywhere else in the country.



38,139
Advanced
Manufacturing
Workers
11 Percent Increase Over
Last 5 Years

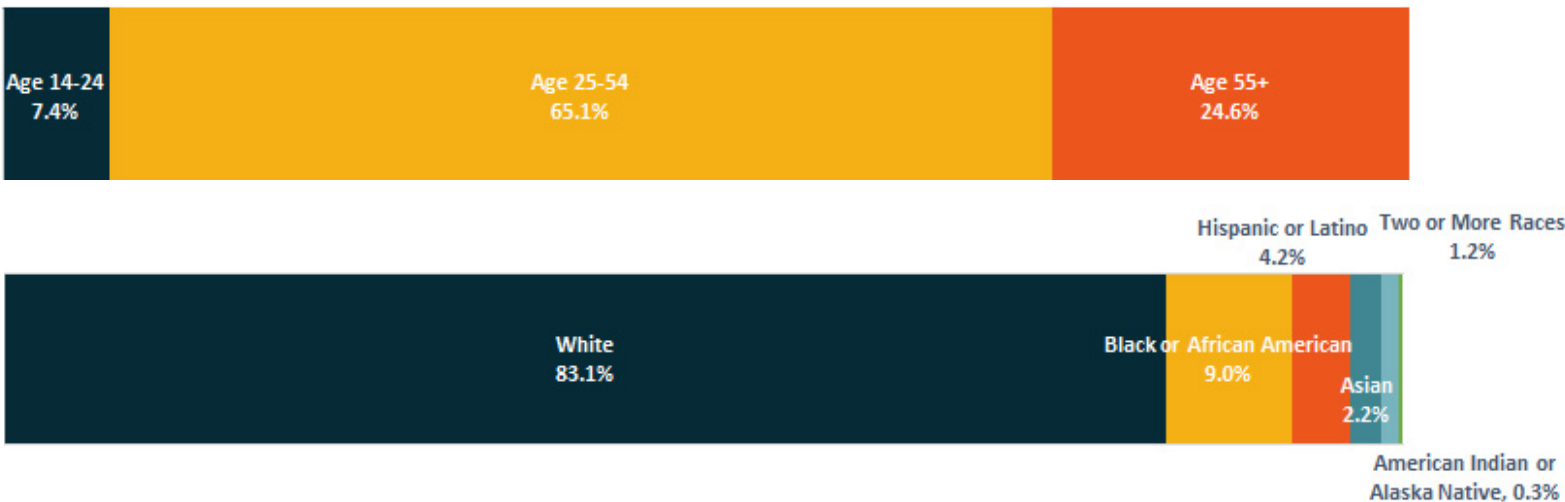


Employment Over Time

Between 2014 and 2019, employment in Advanced Manufacturing occupations has shown steady growth. About 3,700 jobs, or 11 percent, have been added in these counties. This growth is expected to taper off, leading to stable employment, over the next ten years. In total, 862 jobs are expected to be added through 2029, representing a modest two percent increase.

Demographic Information

Charts indicating the demographic makeup of the workers in Advanced Manufacturing occupations are shown below. Additionally, in this region, 86 percent of manufacturing workers identify as male and 83 percent as white.





Openings, Postings, and Completions Compared to Job Growth

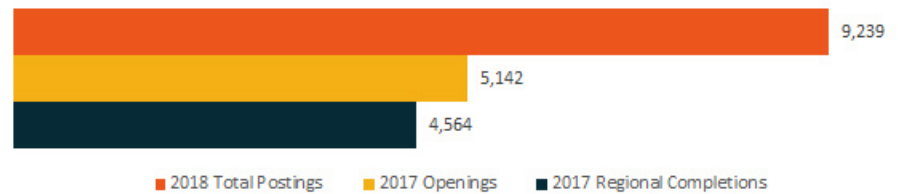
Due to the high concentration of training providers and universities in this region, openings and completions are fairly close overall. However, these universities and community colleges supply the whole region with graduates, so many of these graduates also take manufacturing jobs in the Detroit metro area. The relationship between openings and completions varies widely by occupation, with relatively few completions compared to openings for many engineering technician roles and a much higher number of completions for many management positions.

Business Administration and Management, General had the highest number of completions, accounting for half of manufacturing-related completions in 2017, followed distantly by Logistics, Materials, and Supply Chain Management and Industrial Engineering. Many occupations in this group require on-the-job training or an apprenticeship rather than a degree and may be only loosely reflected by program completions. Occupations that have seen high growth over the last five years and high employment generally, but are still lacking in completions, include many kinds of engineering technicians and CNC machine operators and programmers.

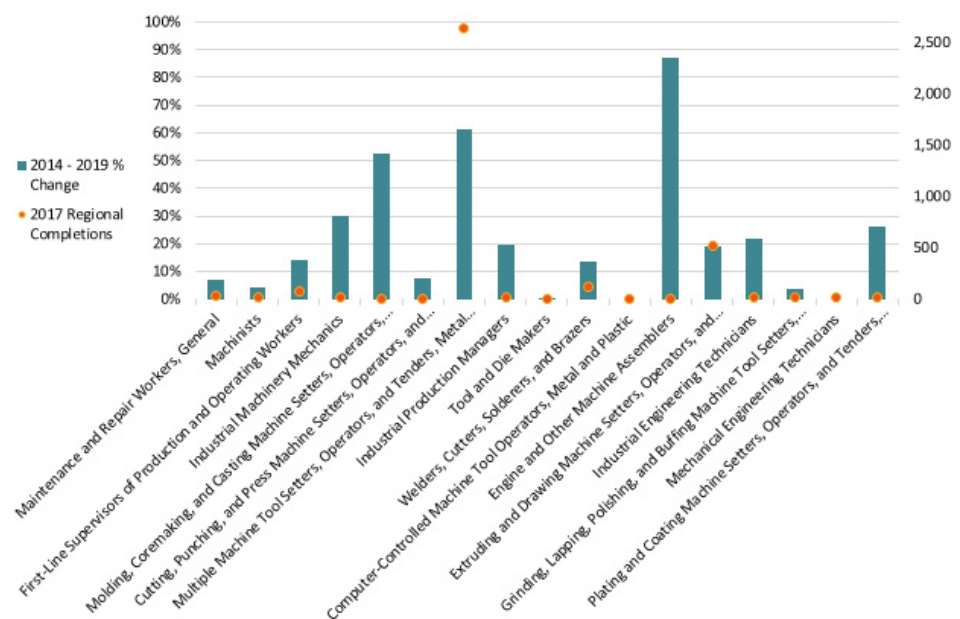
Top Posted Occupations

Maintenance and Repair Workers, General was the top-posted advanced manufacturing occupation during 2018 with 2,595 online job advertisements. First-Line Supervisors of Production and Operating Workers, Production Workers, All Other, and Machinists were also in high demand throughout the year.

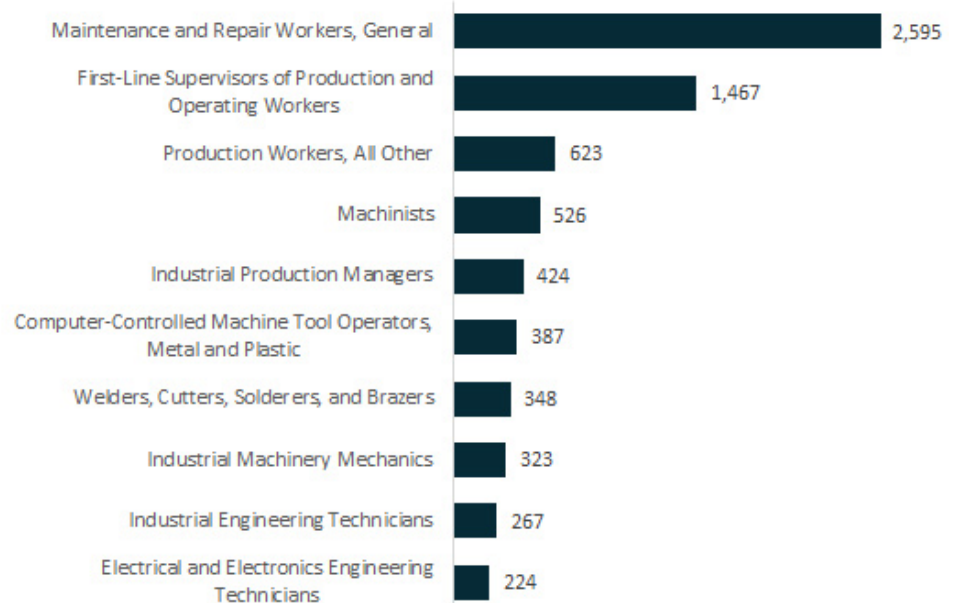
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2018





Top Posted Credentials

In-Demand Foundational Skills

- Management
- Operations
- Troubleshooting (Problem Solving)
- Communications
- Valid Driver's License
- Leadership
- Problem Solving
- Interpersonal Skills
- Cleanliness
- Innovation

In-Demand Technical Skills

- HVAC
- Continuous Improvement Process
- Machining
- Plumbing
- Tooling
- Lathes
- Blueprinting
- Mills
- Welding
- Preventive Maintenance

In-Demand Qualifications

- Commercial Driver's License (CDL)
- Certified Quality Engineer
- (American Society For Quality) ASQ Certified
- Certified First Responder
- Operator Certification
- Master Of Business Administration (MBA)
- ASNT Non-Destructive Tester
- Certified Quality Auditor
- Certified Welder
- Transportation Worker Identification Credential (TWIC) Card

Top Posting Employers

- McDonald's Corporation
- Aerotek, Inc.
- Trillium Staffing
- Resource Mfg
- Express Services Inc
- Kelly Services, Inc.
- Diverse Staffing, Inc.
- Jabil Circuit, Inc.
- State of Michigan
- ManpowerGroup Global

Wage Overview

Three quarters of the top posted manufacturing occupations pay over the state's 2018 median wage of \$17.62, with especially high earning potential for management and skilled trades roles. Machinists, Industrial Machinery Mechanics, and Tool and Die Makers, for example, all make over \$20 per hour.

Wage Scale for Advanced Manufacturing Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
49-9071	Maintenance and Repair Workers, General	\$9.81	\$12.39	\$17.09	\$22.86	\$28.34
51-4041	Machinists	\$13.24	\$15.84	\$20.04	\$25.40	\$29.12
51-1011	First-Line Supervisors of Production and Operating Workers	\$19.00	\$23.54	\$30.26	\$37.89	\$46.32
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$10.54	\$12.16	\$14.97	\$18.50	\$22.23
49-9041	Industrial Machinery Mechanics	\$13.88	\$18.22	\$23.68	\$29.36	\$34.26
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$11.13	\$13.14	\$16.34	\$20.01	\$26.71
11-3051	Industrial Production Managers	\$33.37	\$42.65	\$56.72	\$73.31	\$88.42
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$9.38	\$10.64	\$13.53	\$18.42	\$23.75
51-4111	Tool and Die Makers	\$14.27	\$18.01	\$23.83	\$28.89	\$33.14
51-4121	Welders, Cutters, Solderers, and Brazers	\$12.90	\$15.03	\$17.75	\$21.52	\$27.61

Data: Emsi, BLS
Analysis: Workforce
Intelligence Network



TALENT AVAILABILITY: AEROSPACE

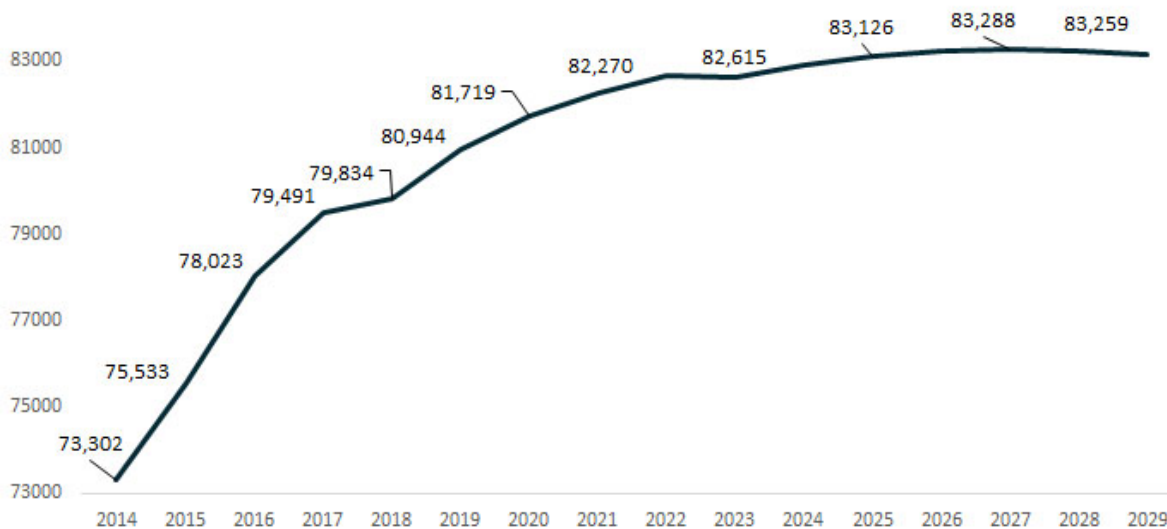
Introduction

The Aerospace industry is highly specialized, differing from other advanced manufacturing operations in the region because working with aircraft materials requires specialized knowledge in advanced manufacturing and increased importance of software proficiency. The location quotient for the occupations analyzed shows that the economy in southeast Michigan is increasingly concentrated with aerospace jobs compared to the national average.



80,944
Aerospace
Workers

9.4 Percent Increase
Over Last 5 Years

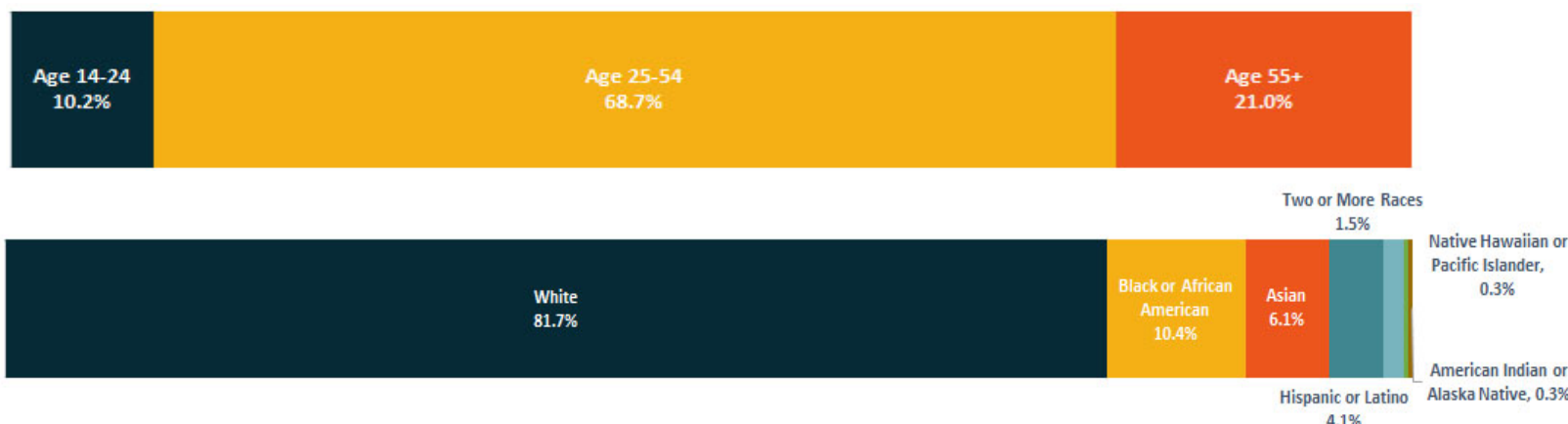


Employment Over Time

Aerospace employment gradually increased each year between 2014 and 2018, adding a total of 6,532 workers. Over the next four years (2019-2022), employment is projected to continue to grow by 1,709 additional workers. Between 2020 and 2029, employment is expected to remain stable, fluctuating between 82,615 and 83,288 workers.

Demographic Information

Charts indicating the demographic makeup of workers in aerospace occupations are shown below. In addition to the age and race breakdowns, the occupations are heavily skewed toward men in this industry. Employees between the ages of 25-54 make up 68.7 percent of the industry. There are 60,610 male workers compared to the 19,224 female workers.





Openings, Postings, and Completions Compared to Job Growth

In 2017, there were 8,880 openings for aerospace occupations, with 9,597 completions for programs related to the industry. The openings and completions indicate the demand for jobs in the industry in 2017 was high. The current postings also indicate a strong demand for workers in all occupations in the industry, with over 25,000 unique postings in total during 2017. The aerospace industry may see future talent gaps in occupations such as Assemblers and Fabricators, All Other, Including Team Assemblers and Machinists, among others, due to the need for heavily specialized personnel and relatively low number of training completions.

Top occupational programs in the industry are Business Administration and Management, General, Computer and Information Sciences, General Mechanical Engineering, Logistics, Materials, and Supply Chain Management, and Electrical and Electronics Engineering. These programs correspond to top-posted technical skills that include different programming languages (SQL, Java, JavaScript, etc.) and agile software development.

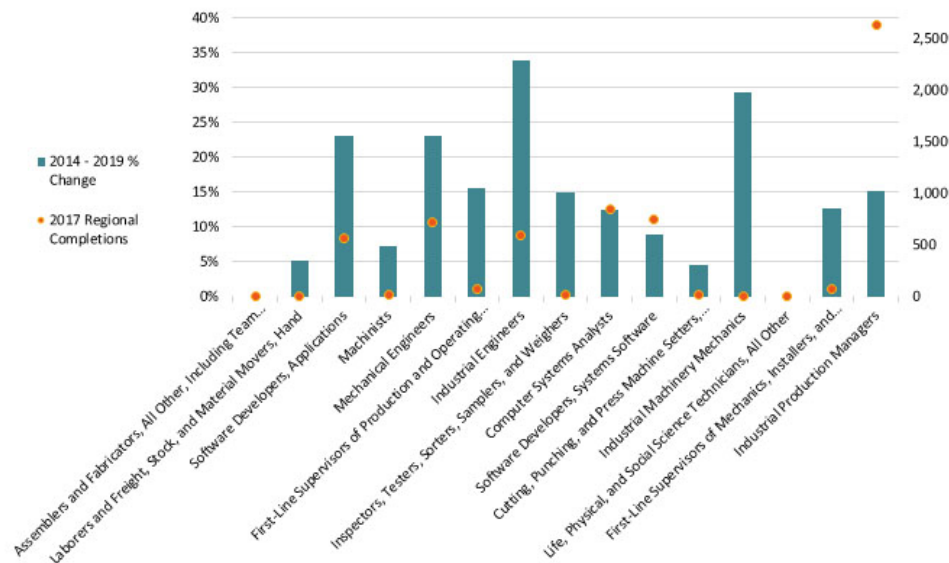
Top Posted Occupations

In 2018, there were 25,897 unique postings for occupations in the Aerospace industry. The top five posted occupations are Software Developers, Applications, Computer Occupations, All Other, Industrial Engineers, Computer Systems Analysts, and First-Line Supervisors of Production and Operating Workers.

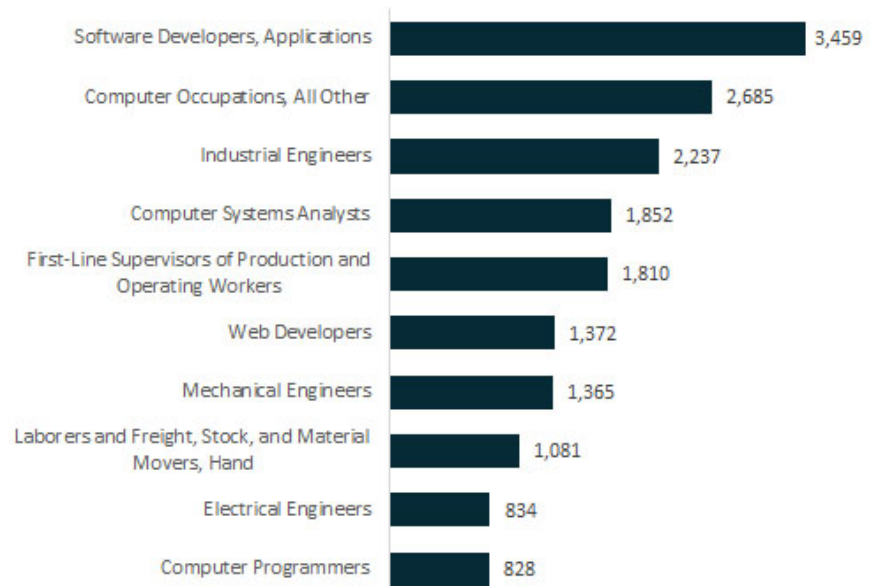
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2018





Top Posted Credentials

In-Demand Foundational Skills

- Management
- Operations
- Communications
- Research
- Leadership
- Problem Solving
- Innovation
- Written Communication
- Information Technology
- Integration

In-Demand Technical Skills

- SQL (Programming Language)
- Agile Software Development
- Java (Programming Language)
- JavaScript (Programming Language)
- Continuous Improvement Process
- Software Engineering
- Automation
- Software Development
- Project Management
- Product Quality Assurance

In-Demand Qualifications

- (American Society For Quality) ASQ Certified
- Advanced Practice Registered Nurse
- Agile Certified Practitioner
- Certified Compensation Professional
- Certified Ethical Hacker
- Certified First Responder
- Certified Information Security Manager
- Certified Information System Auditor (CISA)
- Certified Information Systems Security Professional
- Certified Internal Auditor

Top Posting Employers

- Hire It People, LLC
- University of Michigan
- General Electric Company
- Aerotek, Inc.
- State of Michigan
- U.S. Bancorp
- Anthem, Inc.
- Cybercoders, Inc.
- Resource Mfg
- Kelly Services, Inc.

Wage Overview

Several top aerospace occupations pay over double the amount of the state's 2018 median wage of \$17.62, although additional education and experience may be required to obtain these positions. However, there are also many entry-level positions that offer wages above the state minimum that require only a high school diploma. Many positions, independent of the educational requirements, require no work experience coupled with short to moderate on-the-job training for employees.

Wage Scale for Aerospace Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
51-2098	Assemblers and Fabricators, All Other, Including Team Assemblers	\$10.60	\$12.63	\$15.95	\$20.51	\$28.05
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$9.39	\$10.60	\$13.30	\$17.10	\$21.02
15-1132	Software Developers, Applications	\$24.95	\$30.97	\$38.74	\$48.56	\$59.58
51-4041	Machinists	\$12.96	\$15.51	\$19.33	\$24.78	\$28.79
17-2141	Mechanical Engineers	\$26.05	\$32.12	\$40.26	\$50.21	\$60.09
51-1011	First-Line Supervisors of Production and Operating Workers	\$18.92	\$23.84	\$30.47	\$38.07	\$46.44
17-2112	Industrial Engineers	\$30.06	\$34.55	\$42.22	\$52.08	\$61.09
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$10.47	\$12.77	\$16.78	\$22.15	\$27.38
15-1121	Computer Systems Analysts	\$24.79	\$31.09	\$39.28	\$47.01	\$53.89
15-1133	Software Developers, Systems Software	\$27.22	\$34.54	\$43.96	\$55.71	\$64.32

Data: Emsi, BLS
Analysis: Workforce
Intelligence Network



TALENT AVAILABILITY: AGRICULTURE

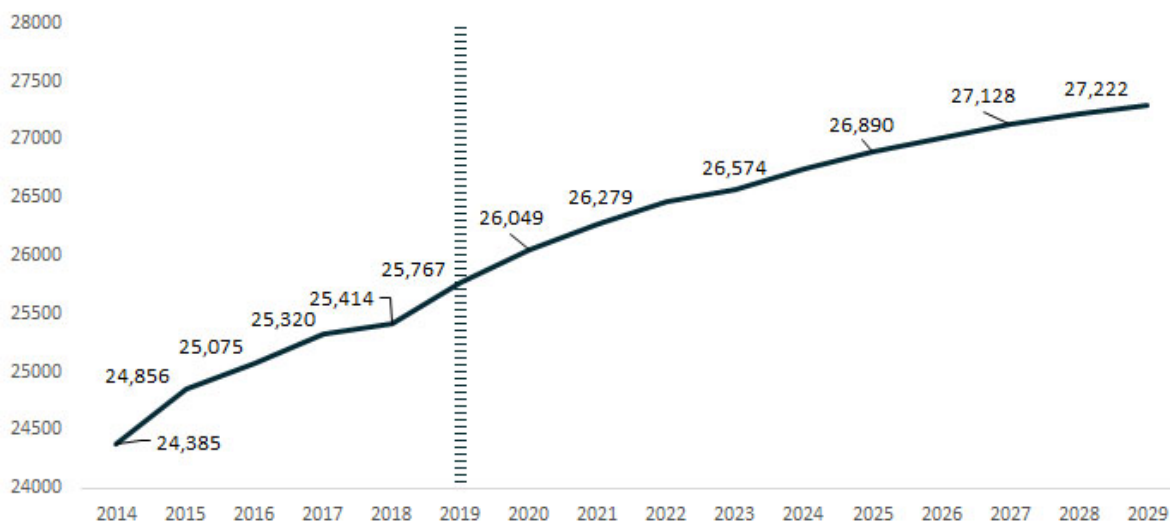
Introduction

The Agriculture industry has many unique career pathways open to active job seekers 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. Key agriculture industry information will be summarized below.



25,767
Agriculture
Workers

0.5 Percent Increase
Over Last 5 Years

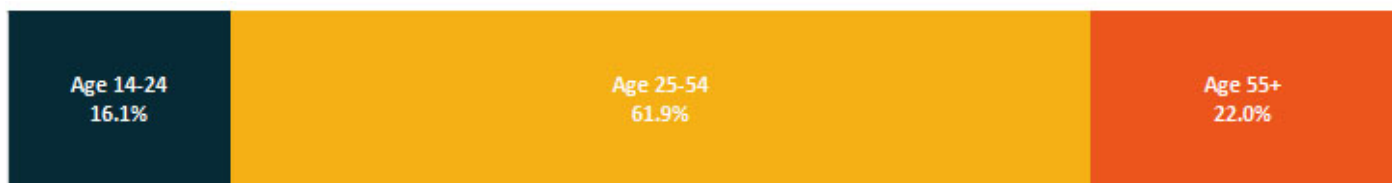


Employment Over Time

Employment in Agriculture increased every year between 2014 and 2018, creating a total of 1,029 jobs. Over the next ten years (2019-2029), employment is projected to grow by 5.6 percent, totaling 1,535 additional jobs. The continued steady projected growth in Agriculture occupations make the group fairly unique.

Demographic Information

Charts indicating the demographic makeup of workers in agriculture occupations are shown below. In addition to the age and race breakdowns, the occupations are heavily skewed toward men, with 16,487 male workers compared to the 8,928 female workers. Employee ages fall between 25-54, making up 61.9 percent of the workforce.





Openings, Postings, and Completions Compared to Job Growth

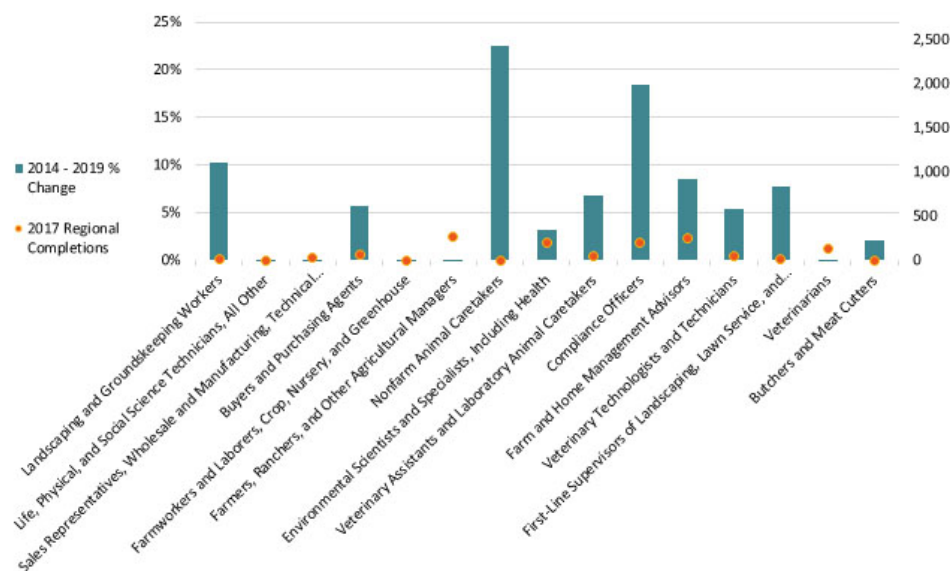
In 2017, there were 3,225 openings for Agriculture occupations, while there were 5,597 completions for educational programs related to the industry. The higher number of completions than openings indicates the demand for jobs in the industry in 2017 was higher than the supply. This gap is due to the educational requirements for the top posted recruiting jobs requiring no formal education to a high school diploma.

Current postings indicate a strong demand for workers in all occupations in the industry, and employment is expected to increase over the next ten years. Top occupational programs in the industry are Biology/Biological Sciences, General, Mathematics, General, Neuroscience, Chemistry, General and Statistics, General. These programs reflect top technical skills required, including biology and veterinary medicine.

Openings, Postings, and Completions



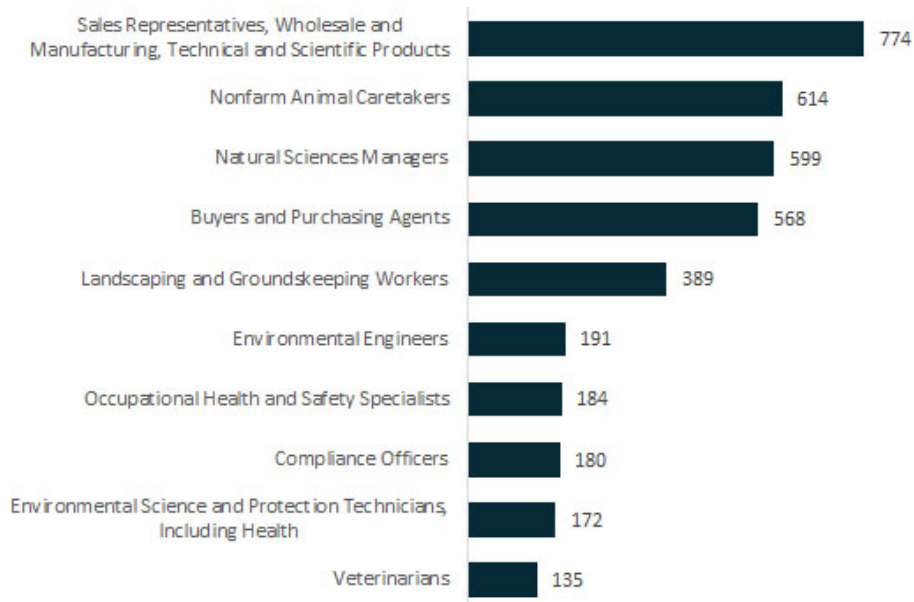
Growth vs Completions



Top Posted Occupations

In 2018, there were 4,945 unique postings for Agriculture occupations. The top five posted occupations were Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products, Nonfarm Animal Caretakers, Natural Sciences Managers, Buyers and Purchasing Agents, and Landscaping and Groundskeeping Workers.

Top Posted Occupations 2018





Top Posted Credentials

In-Demand Foundational Skills

- Management
- Communications
- Research
- Sales
- Leadership
- Operations
- Valid Driver's License
- Customer Service
- Written Communication
- Presentations

In-Demand Technical Skills

- Purchasing
- Selling Techniques
- Clinical Research
- Biology
- Procurement
- Landscaping
- Veterinary Medicine
- Chemistry
- Irb
- Home Care

In-Demand Qualifications

- Advanced Practice Registered Nurse
- American Registry of Radiologic Technologists (ARRT) Certified
- Associate of Science in Nursing
- Associate Safety Professional
- Bachelor of Science in Nursing (BSN)
- Career Readiness Certificate
- Certified Cardiographic Technician
- Certified Compensation Professional
- Certified Financial Services Auditor
- Certified First Responder

Top Posting Employers

- University of Michigan
- Rover Inc
- Michigan State University
- State of Michigan
- Banfield Pet Hospital
- Petco Inc
- General Electric Company
- The Pet Sitter
- Endevis, L.L.C
- Petsmart, Inc.

Wage Overview

Three of the top analyzed agriculture occupations pay over the state's 2018 median wage of \$17.62. Natural Science Managers, Buyers and Purchasing, and Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products all have median wages above \$25.00. While these wages are well above the state average, additional education and experience may be required. Landscaping and Groundskeeping Workers, Nonfarm Animal Caretakers, and Veterinary Assistants and Laboratory Animal Caretakers all earn over \$10.00 per hour as a median wage, with the ability to grow with extra experience.

Wage Scale for Agriculture Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
37-3011	Landscaping and Groundskeeping Workers	\$9.33	\$10.26	\$11.84	\$13.93	\$17.48
19-4099	Life, Physical, and Social Science Technicians, All Other	\$11.80	\$14.72	\$20.13	\$26.38	\$30.28
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$17.49	\$23.43	\$33.70	\$48.08	\$64.25
13-1028	Buyers and Purchasing Agents	\$19.19	\$23.36	\$28.62	\$35.86	\$43.46
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$9.08	\$9.74	\$11.99	\$15.12	\$17.91
11-9013	Farmers, Ranchers, and Other Agricultural Managers	\$8.90	\$10.11	\$11.49	\$23.67	\$36.34
39-2021	Nonfarm Animal Caretakers	\$9.12	\$9.58	\$10.81	\$13.48	\$17.20
19-2041	Environmental Scientists and Specialists, Including Health	\$19.76	\$25.41	\$33.94	\$36.86	\$49.84
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	\$9.70	\$10.43	\$11.74	\$13.83	\$16.36
13-1041	Compliance Officers	\$19.36	\$24.66	\$30.99	\$37.24	\$44.52

Data: Emsi, BLS
Analysis: Workforce
Intelligence Network



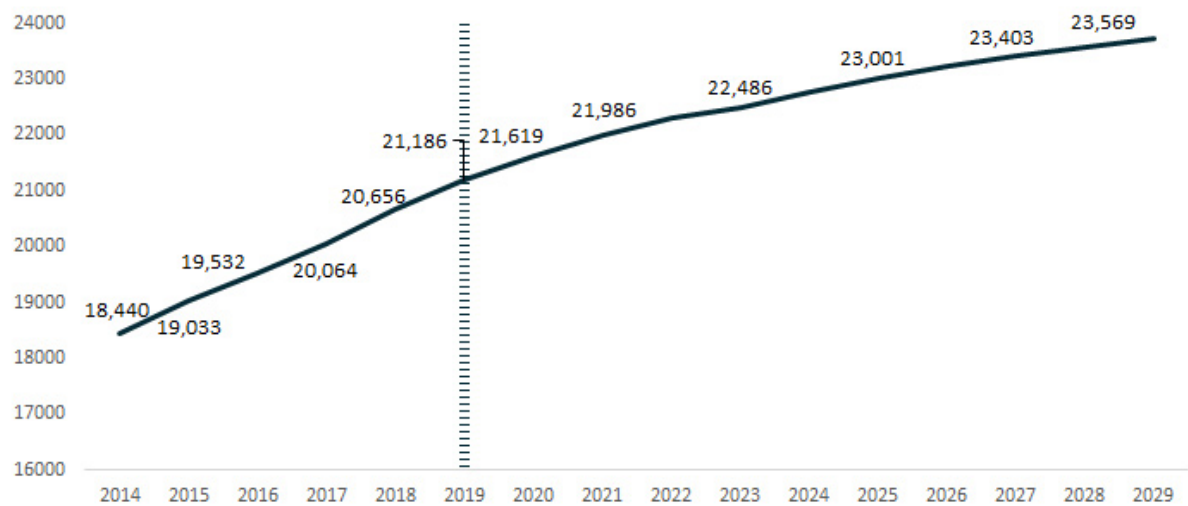
TALENT AVAILABILITY: INFORMATION TECHNOLOGY

Introduction

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



21,186
IT Workers
15 Percent Increase
Over Last 5 Years

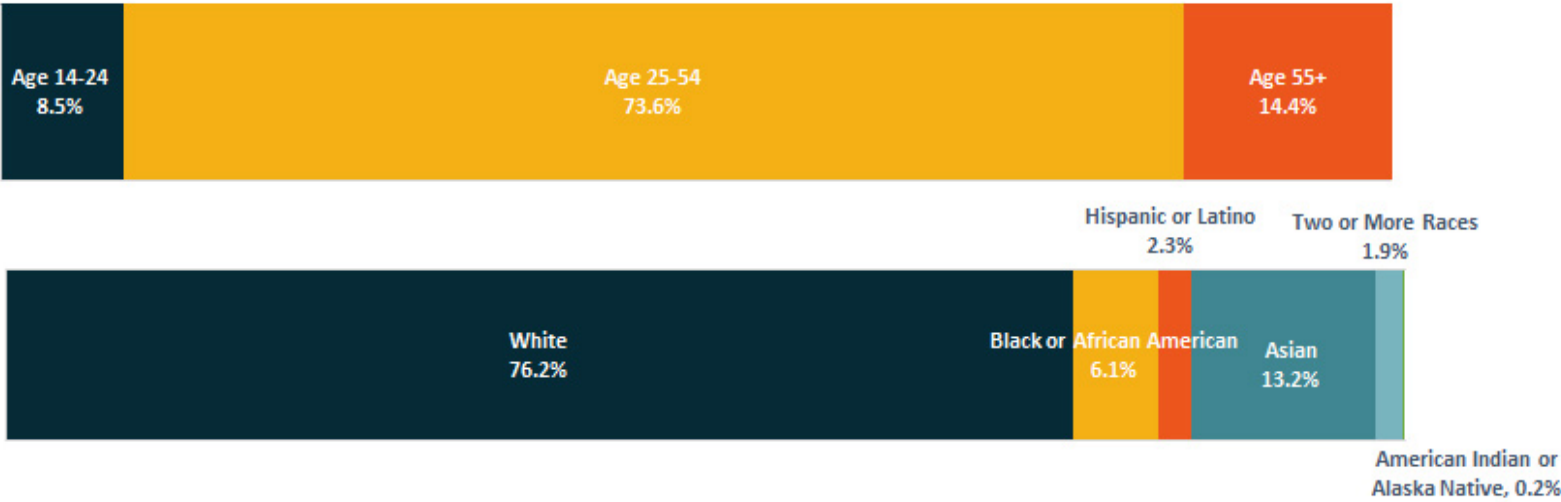


Employment Over Time

Between 2014 and 2019, employment in IT occupations has shown steady growth. About 2,700 jobs, or 15 percent, have been added in these counties. This bright outlook for growth is projected to continue over the next ten years; another 2,500 jobs are anticipated in technology occupations.

Demographic Information

Charts indicating the demographic makeup of the workers in IT occupations are shown below. Additionally, in this region, 73 percent of technology workers identify as male and 76 percent as white.





Openings, Postings, and Completions Compared to Job Growth

Due to the high concentration of training providers and universities in this region, openings and completions are fairly close. However, these universities and community colleges supply the whole region with graduates, so many of these graduates also take technology jobs in the Detroit metro area. Further, in consideration with high projected growth, these completions may not be enough to fill all openings through 2029 unless there is a major increase in completers.

Computer and Information Sciences, General had the highest number of completions, accounting for 39 percent of IT-related completions in 2017. This indicates that many workers enter the labor market, then choose a specialty and complete any necessary certifications. Occupations that have seen high growth over the last five years and high employment generally, but are still lacking in completions, include Computer Systems Analysts, Software Developers, and Network and Computer Systems Administrators.

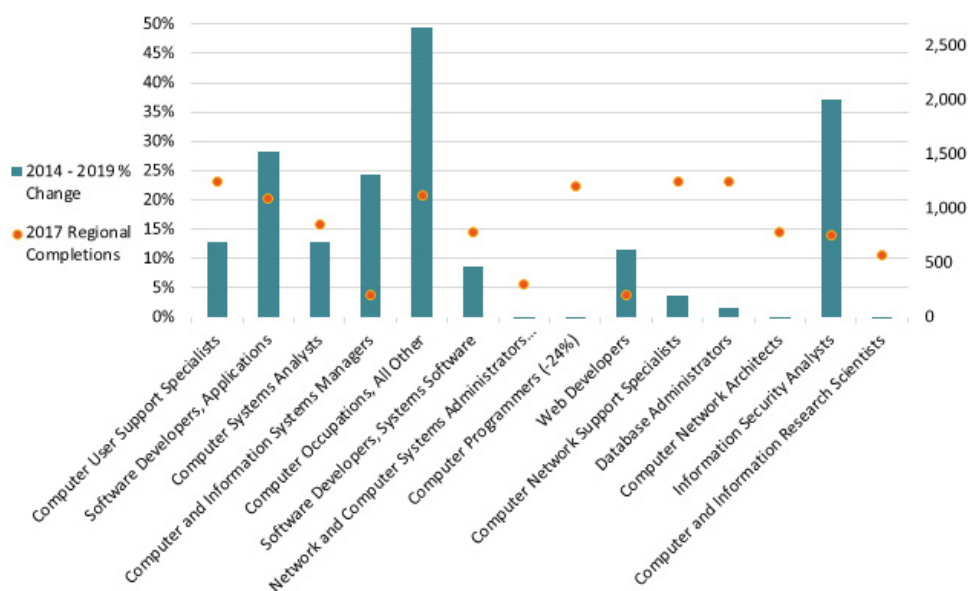
Top Posted Occupations

During 2018, the top-posted IT occupation was Software Developers, Applications, with 3,391 online job ads within these counties. Computer Occupations, All Other, a catch-all including increasingly popular occupations such Software Quality Assurance Testers, Database Architects, and Search Marketing Strategists, was the next top-posted occupation code. These positions together garnered 2,585 postings in 2018. Computer User Support Specialists, Computer Systems Analysts, and Network and Computer Systems Administrators were also in high demand.

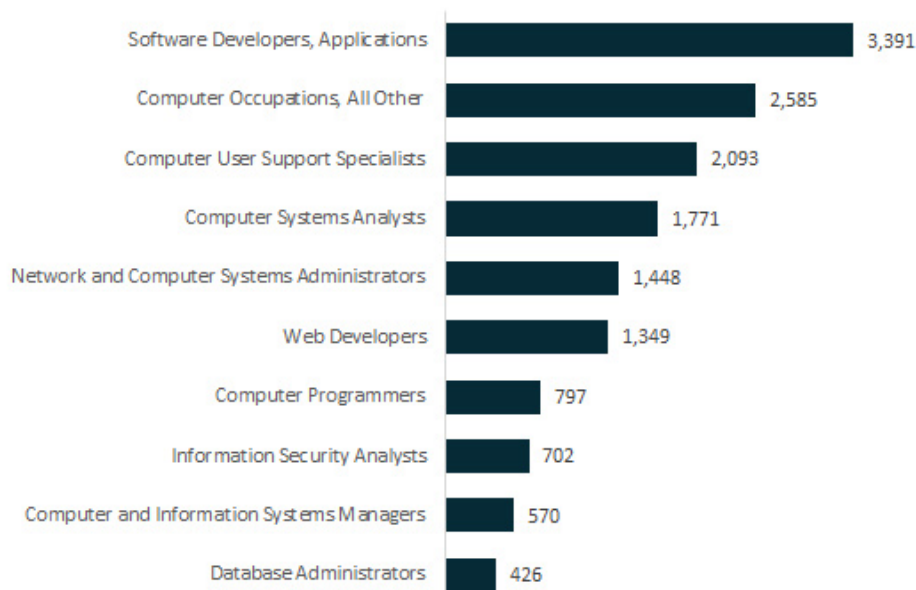
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2018





Top Posted Credentials

In-Demand Foundational Skills

- Management
- Communications
- Operations
- Information Technology
- Research
- Leadership
- Infrastructure
- Problem Solving
- Integration
- Computer Sciences

In-Demand Technical Skills

- SQL (Programming Language)
- Agile Software Development
- Java (Programming Language)
- JavaScript (Programming Language)
- Operating Systems
- Information Systems
- Software Development
- Software Engineering
- Linux
- Project Management

In-Demand Qualifications

- Certified Information Systems Security Professional
- Project Management Professional Certification
- Cisco Certified Network Associate
- ITIL Certifications
- PMI Certified
- Certified Information System Auditor (CISA)
- Microsoft Certified Systems Engineer
- Certified Information Security Manager
- Microsoft Certified Professional
- GIAC Certifications

Top Posting Employers

- Hire It People, LLC
- University of Michigan
- Teksystems, Inc.
- Anthem, Inc.
- U.S. Bancorp
- State of Michigan
- General Electric Company
- Cybercoders, Inc.
- Sirius Computer Solutions, Inc.
- International Business Machines Corporation

Wage Overview

Median wages for each occupation in the IT group are over the state's 2018 median wage of \$17.62, and most are between \$25 and \$40 hourly. Computer and Information Systems Managers have the highest earning potential, with median wages of \$53.53. Computer User Support Specialists have shorter educational requirements than most of the occupations here and earn \$23.16 at the median.

Wage Scale for IT Occupations


Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1151	Computer User Support Specialists	\$13.56	\$17.33	\$23.16	\$29.81	\$37.75
15-1132	Software Developers, Applications	\$24.98	\$30.96	\$38.64	\$48.23	\$58.84
15-1121	Computer Systems Analysts	\$24.74	\$31.36	\$39.37	\$46.78	\$53.04
15-1133	Software Developers, Systems Software	\$27.30	\$34.66	\$44.17	\$55.87	\$64.39
11-3021	Computer and Information Systems Managers	\$36.25	\$43.49	\$53.53	\$68.99	\$84.78
15-1199	Computer Occupations, All Other	\$19.81	\$25.53	\$34.86	\$45.27	\$58.70
15-1142	Network and Computer Systems Administrators	\$21.91	\$27.15	\$33.92	\$40.87	\$49.13
15-1152	Computer Network Support Specialists	\$16.45	\$20.37	\$26.26	\$36.46	\$46.44
15-1134	Web Developers	\$14.63	\$17.09	\$25.14	\$35.78	\$45.88
15-1131	Computer Programmers	\$17.05	\$21.82	\$32.20	\$42.55	\$51.39

Data: Emsi, BLS
Analysis: Workforce
Intelligence Network

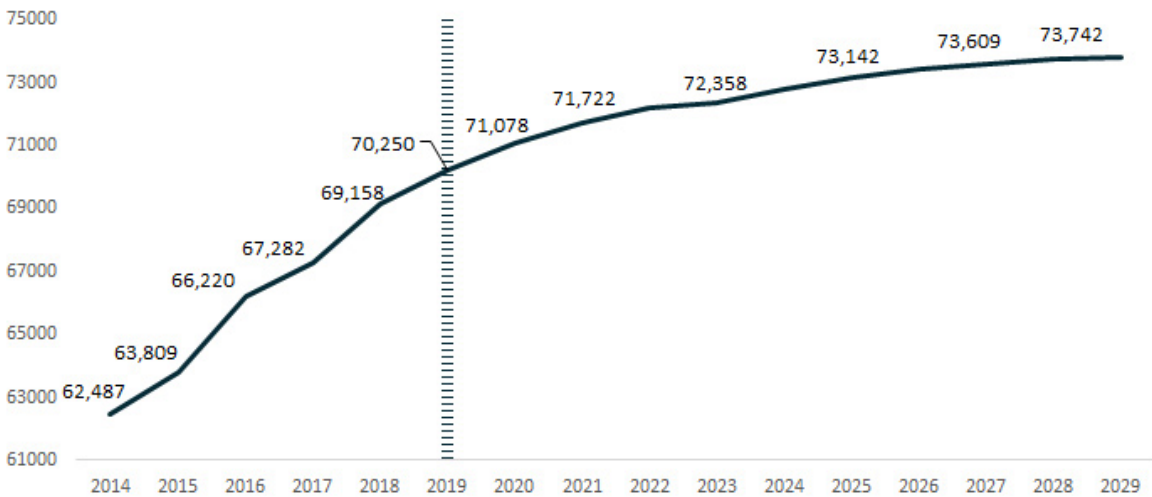
TALENT AVAILABILITY: MOBILITY

Introduction

Mobility encompasses the broad system that allows people to move freely across the region, including traditional auto manufacturing and transit as well as emerging technologies such as connected and automated vehicles, ridesharing, and more. The manufacturing shift to advanced mobility strategies presents an opportunity to both create new jobs, often in technology roles, and upskill the existing workforce. Necessary occupations for include software developers and other computer scientists developing the code for vehicles to communicate with each other and with surrounding infrastructure, engineers and skilled trade workers designing and building the vehicles, cybersecurity workers, quality control specialists, and civil engineers and planners.



70,250
Mobility Workers
12 Percent Increase
Over Last 5 Years

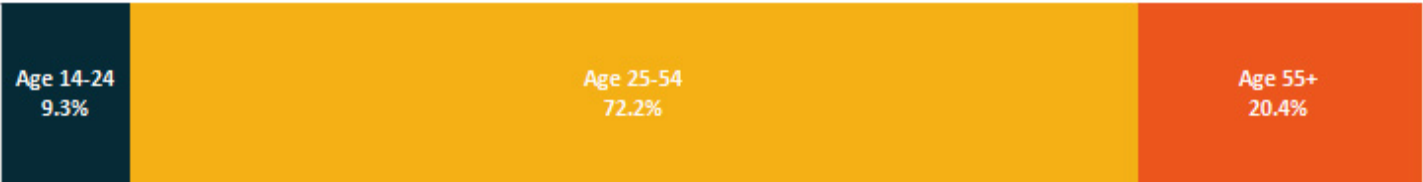


Employment Over Time

Between 2014 and 2019, employment in Mobility occupations has shown steady, and at times dramatic, growth. About 7,700 jobs, or 12 percent, have been added in these counties. Though growth is projected to slow somewhat, another 3,567 jobs are projected to be added over the next ten years.

Demographic Information

Charts indicating the demographic makeup of the workers in Mobility occupations are shown below. In this region, 68 percent of these workers identify as male and 78 percent as white.



Data: Emsi
Analysis: Workforce Intelligence Network



Openings, Postings, and Completions Compared to Job Growth

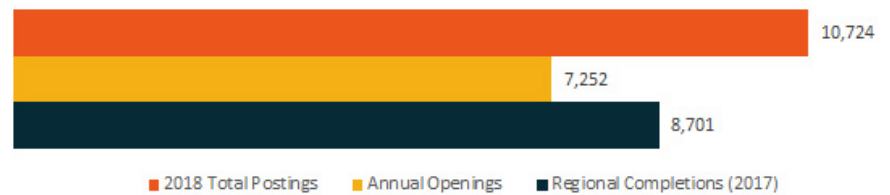
Due to the high concentration of training providers and universities in this region, completions somewhat outstrip openings in many occupations. However, these universities and community colleges supply the whole region with graduates, so many of these graduates also take jobs in the Detroit metro area. Further, in consideration with high projected growth, these completions may not be enough to fill all openings through 2029 unless there is a major increase in completers.

Business Administration and Management, General had the highest number of completions, accounting for 26 percent of Mobility-related completions in 2017. This suggests that many workers enter the labor market, then choose a specialty and complete any necessary certifications in both business and tech roles. Occupations that are projected to grow quickly over the next ten years and display high employment, but are still lacking in completions, include Operations Research Analysts, Software Developers, Applications, and Computer Network Support Specialists.

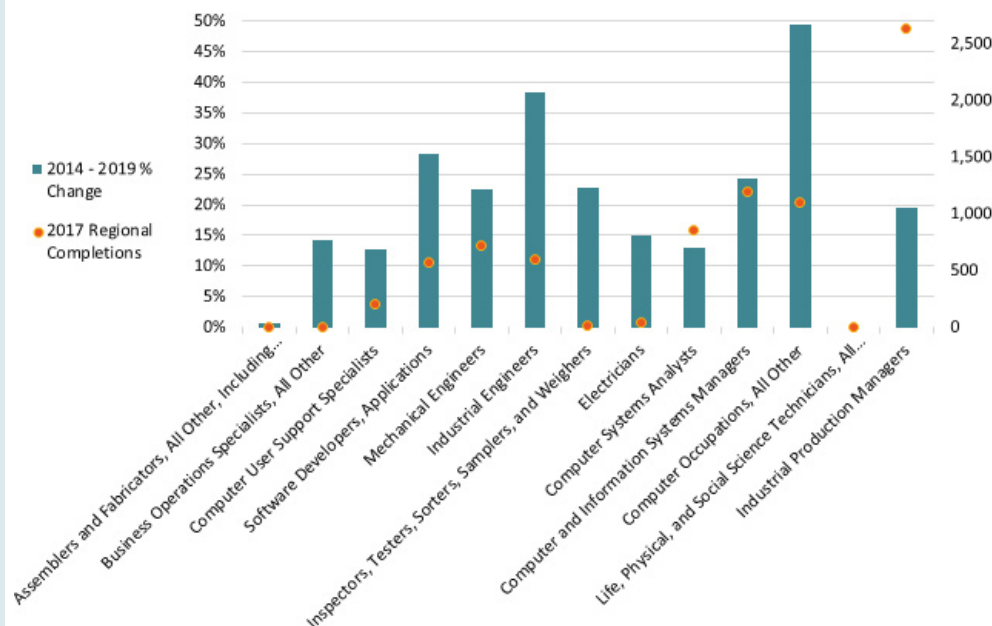
Top Posted Occupations

In addition to being in high demand among technology occupations, Software Developers, Applications and Computer Occupations, All Other were the top posted Mobility occupations in 2018. Engineering occupations, such as Industrial Engineers and Mechanical Engineers, were in high demand as well.

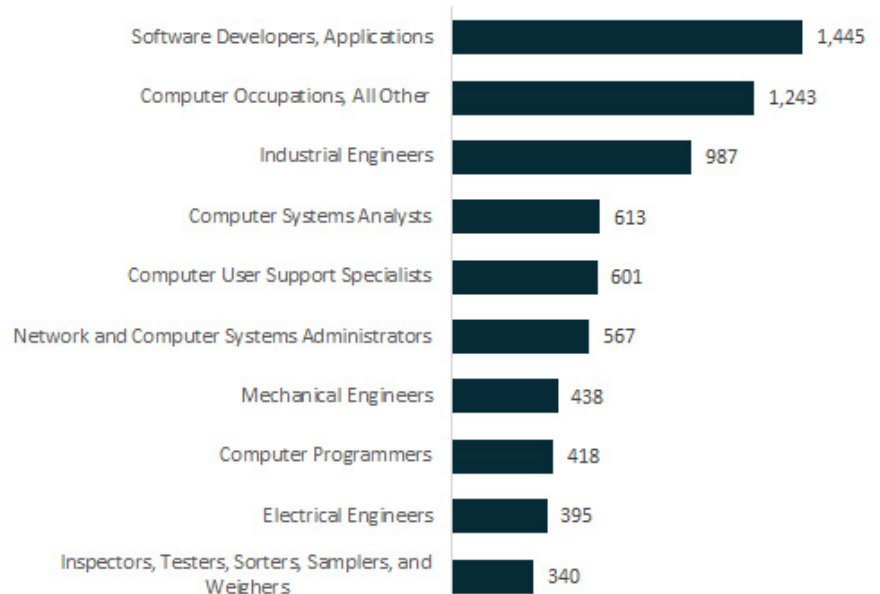
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2018





Top Posted Credentials

In-Demand Foundational Skills

- Management
- Operations
- Communications
- Research
- Leadership
- Problem Solving
- Information Technology
- Infrastructure
- Written Communication
- Innovation

In-Demand Technical Skills

- SQL (Programming Language)
- Agile Software Development
- Java (Programming Language)
- Operating Systems
- Information Systems
- Project Management
- Software Engineering
- Continuous Improvement Process
- Software Development
- JavaScript (Programming Language)

In-Demand Qualifications

- Project Management Professional Certification
- Certified Information Systems Security Professional
- Professional Engineer
- Product Certification
- PMI Certified
- Cisco Certified Network Associate
- ITIL Certifications
- Certified Information System Auditor (CISA)
- Microsoft Certified Systems Engineer
- Certified Information Security Manager

Top Posting Employers

- University of Michigan
- Hire It People, LLC
- General Electric Company
- State of Michigan
- Anthem, Inc.
- Teksystems, Inc.
- U.S. Bancorp
- Aerotek, Inc.
- Cybercoders, Inc.
- Michigan State University

Wage Overview

Wages in this diverse occupation group reflect the wide variety in job function, including technology, engineering, and production roles. Regardless, most pay over the state's 2018 median wage of \$17.62. Management roles in each of these areas have the highest earning potential, often ranging over \$50 per hour, while many skilled trade and technician roles have median earnings around \$30 per hour.

Wage Scale for Mobility Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
51-2098	Assemblers and Fabricators, All Other, Including Team Assemblers	\$10.22	\$12.17	\$15.55	\$20.78	\$27.89
13-1199	Business Operations Specialists, All Other	\$18.83	\$23.63	\$30.97	\$36.26	\$44.84
15-1151	Computer User Support Specialists	\$13.56	\$17.33	\$23.16	\$29.81	\$37.75
15-1132	Software Developers, Applications	\$24.98	\$30.96	\$38.64	\$48.23	\$58.84
17-2141	Mechanical Engineers	\$25.91	\$31.91	\$39.91	\$49.66	\$59.32
17-2112	Industrial Engineers	\$30.37	\$34.78	\$42.39	\$52.14	\$60.89
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$10.42	\$12.77	\$16.94	\$22.32	\$27.54
47-2111	Electricians	\$15.39	\$20.22	\$29.52	\$35.67	\$39.84
15-1121	Computer Systems Analysts	\$24.74	\$31.36	\$39.37	\$46.78	\$53.04
15-1133	Software Developers, Systems Software	\$27.30	\$34.66	\$44.17	\$55.87	\$64.39

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