

TALENT PROFILE

JACKSON COUNTY



COMPILED BY

WIN WORKFORCE
INTELLIGENCE
NETWORK

2023





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, Construction, Utilities, Healthcare, 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 2021 values unless otherwise specified.

According to 2021 Census estimates, there are a total of 1,400,285 people living in this region, projected to grow to over 1,600,000 people by 2045. Of those, 698,700 individuals, or about 50 percent, are currently participating in the labor force. The unemployment rate is 3.9 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 19-county region in Michigan. The counties in the WIN region include: Clinton, Eaton, Genesee, Hillsdale, Huron, Ingham, 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.

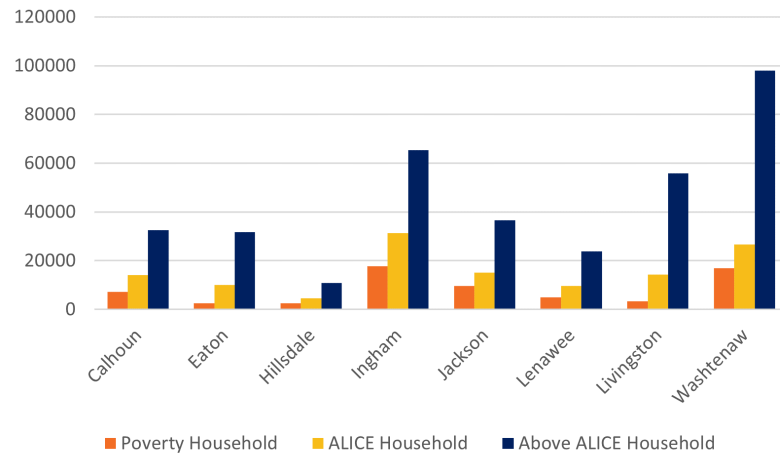


TALENT AVAILABILITY: A.L.I.C.E. HOUSEHOLDS

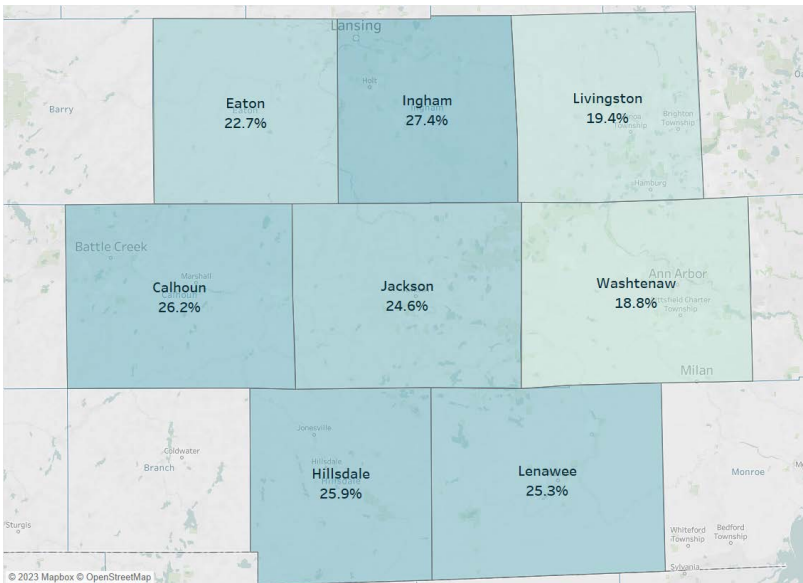
State of Michigan Overview

In many areas across the country, there is an increasingly large group of people who live above the Federal Poverty Level but who still struggle to pay for basic needs. These households are identified by characteristics of the "ALICE Essentials Index", which measures the cost of essential goods or services commonly accepted as necessary to survival. Developed by the organization United For Alice, the acronym ALICE stands for: **A**sset Limited, **I**ncome **C**onstrained, **E**mployed (United for ALICE).

Household Breakdown by ALICE Classification



Percent ALICE Households by County (2019)



ALICE Measures in Michigan

In the chart shown above, there is a breakdown of households by ALICE status within each of the eight counties that are the subject of this report. On the left is a mapped illustration of the ALICE level by county. In terms of the ALICE index relative to volume, Washtenaw County fared well with the lowest score, as well as the third best scores in poverty as well as percent of households above the ALICE index.

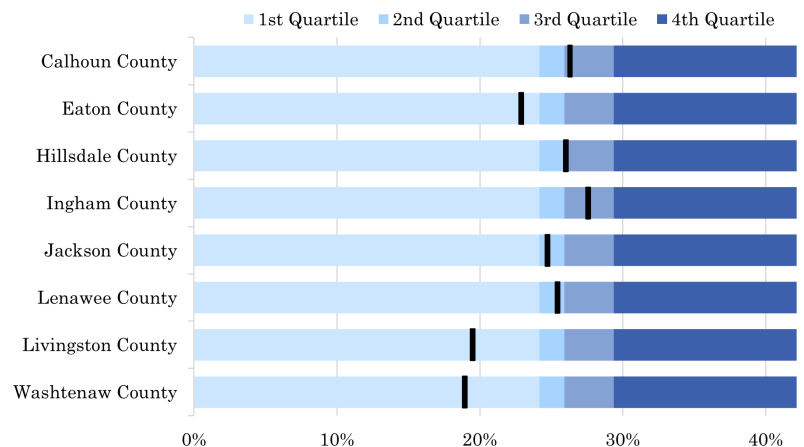
38%
Households struggling to get by including 13% living below the poverty line and 25% ALICE

Livingston County achieved the best performance in both poverty level as well as households above the ALICE index, but had notably fewer households overall than Washtenaw County.

8-County ALICE %: Relative Scores

In the chart on the right, we can see the relative performance of each county compared to the total distribution of ALICE scores for all Michigan counties. It's important to note that, like the ALICE scores outlined above, having a *lower* percentile ranking is better. Therefore, it's unsurprising that both Livingston and Washtenaw Counties scored well below the 25th percentile of ALICE households across the state. Eaton County also came in slightly under the 25th percentile, while Calhoun and Ingham Counties both had ALICE household percentages above the 50th percentile.

8-County Region Vs Michigan Percentiles



Data: United for ALICE, 2019
Analysis: Workforce Intelligence Network

In the effort to better support this under-served population, community leaders and those affected are encouraged to contact their local **Michigan Works!** agencies to find out about training and upskilling opportunities.

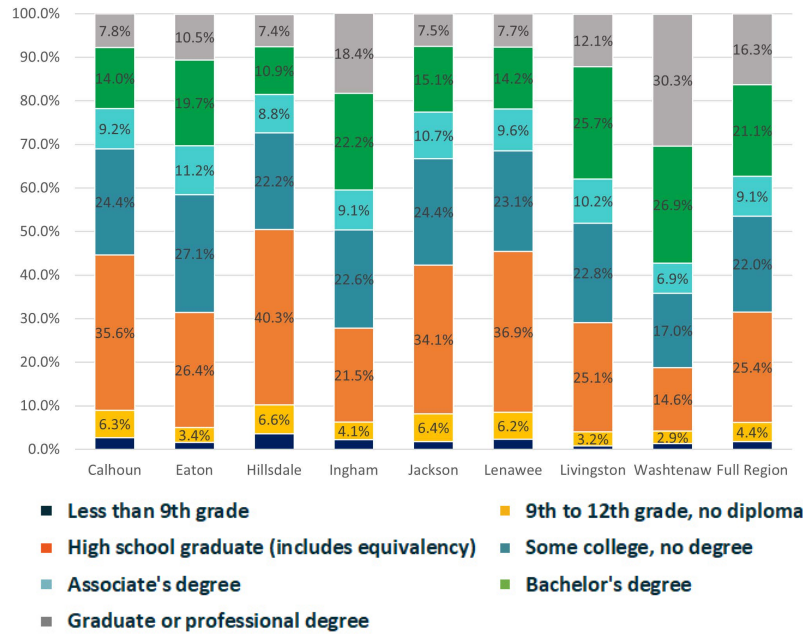


TALENT AVAILABILITY: EDUCATIONAL ATTAINMENT

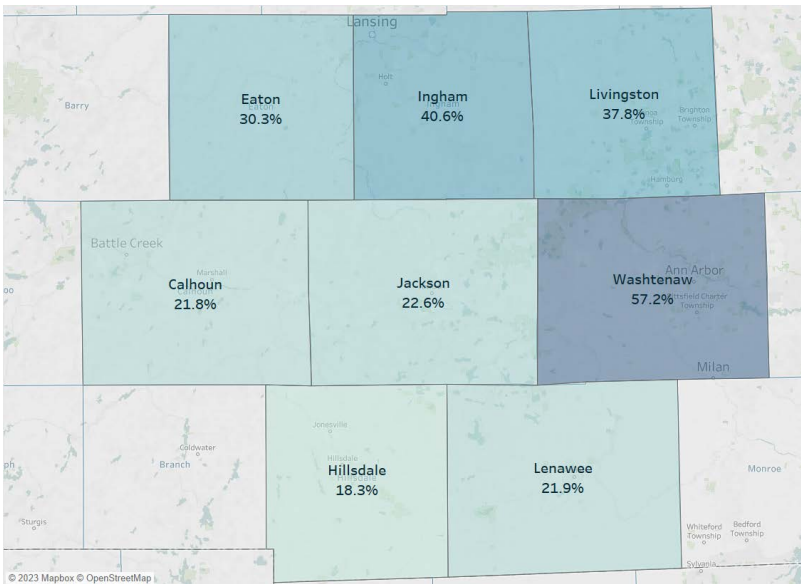
Adult Education Levels by County

A high percentage of the 25+ population in this region has at least a high school education, and many have postsecondary credentials as well. Region-wide, 93.9 percent of adults over 25 have at least a high school diploma, 31.1 percent have greater than a high school diploma but less than a bachelor's, and 37.3 percent have at least an undergraduate college degree. The most highly educated county is Washtenaw; 57.2 percent of adults over 25 have at least a bachelor's degree, and another 23.9 percent have some college or an associate degree. Eaton, Ingham and Livingston counties also each have over 30 percent each with at least a bachelors. Region-wide, 38.6 percent of individuals holding bachelor's degrees are in science and engineering, with another 10.1 percent in related fields. Additionally, 17.4 percent have a bachelor's degree in a business field.

Education Distribution by County



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 2021-2022 school year, about 16,500 students completed CTE programs across the state.

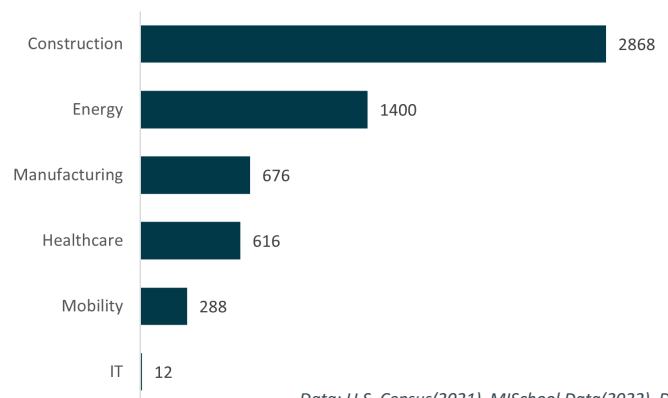
248
CTE Programs
At 54 schools across 8 counties in 2021-2022

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 by occupation group from the counties analyzed here.

Apprentices by Occupation Group



Data: U.S. Census(2021), MISchool Data(2022), DTMB (2022)
Analysis: Workforce Intelligence Network

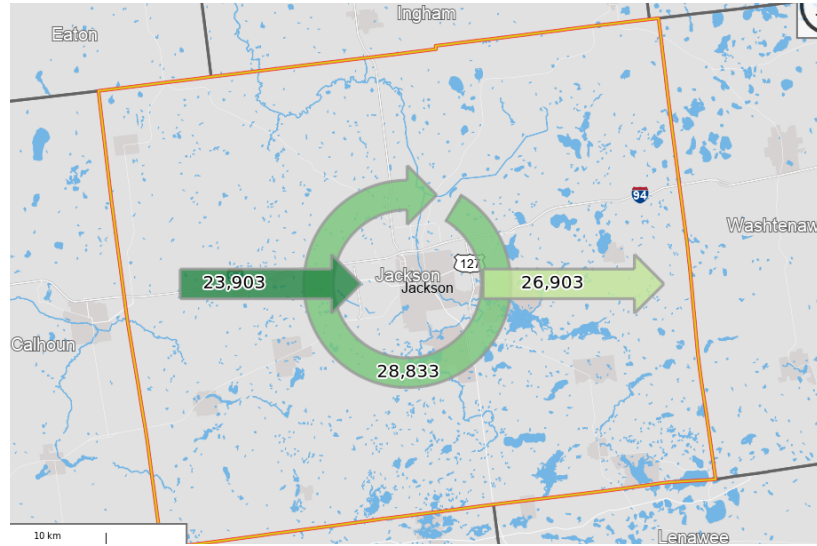


TALENT AVAILABILITY: COMMUTING PATTERNS

Inflow and Outflow of Workers

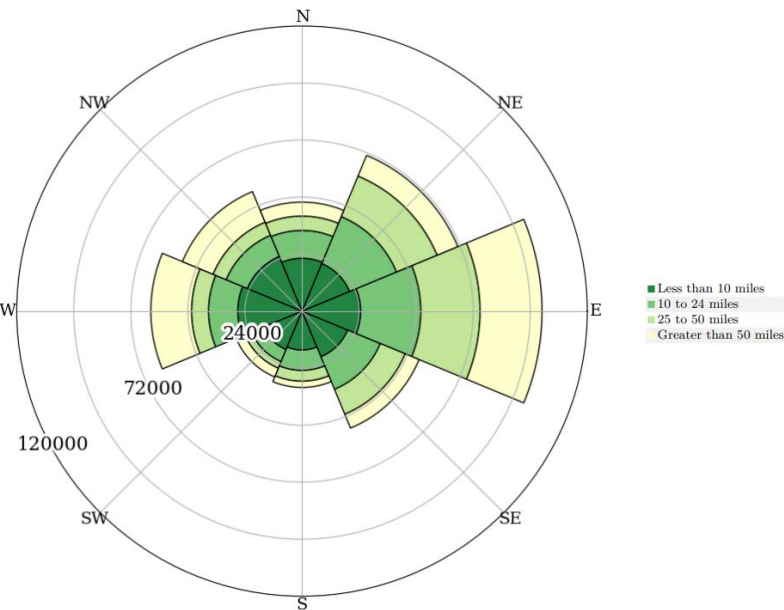
The travel pattern of individuals into and out of Jackson County is split somewhat evenly between those who commute in for work and those who leave for work. As shown on the right, there were an average of 23,903 inbound commuters versus 26,903 outbound commuters each day. Additionally, there were just over 28,830 workers who both lived and worked inside the region¹.

U.S. Census OnTheMap (2020)



*Orientation of arrows shown on the graphic does not necessarily indicate direction of travel.

Distance & Direction of Travel for Work



Commuting Length Distribution

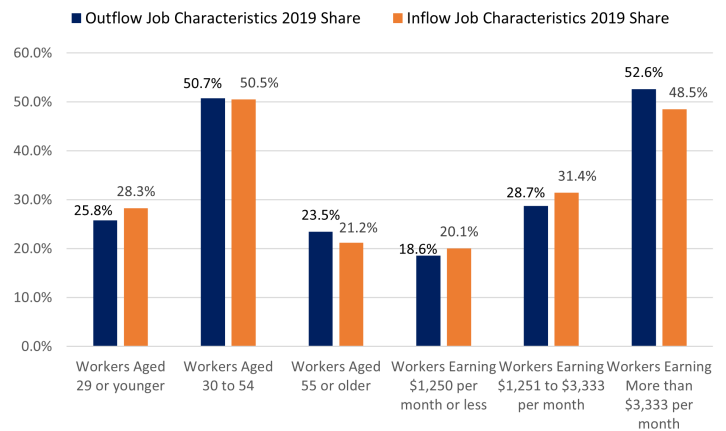
Total Private Primary Jobs	451,108	100.0%
Less than 10 miles	175,202	38.8%
10 to 24 miles	109,159	24.2%
25 to 50 miles	81,427	18.1%
Greater than 50 miles	85,320	18.9%

Using the map graphic above in conjunction with the radar graphic at left, we find that many residents commute to the Detroit area for work each day. Although major metropolitan areas such as Detroit have a multitude of jobs to offer commuters, there were just as many workers from outside the eight-county region who found work within it, despite the lack of a comparable metropolitan area.

Why Workers are Commuting

Shown in the graph at right, the characteristics between those who commute into the 8-county region for work are very similar to those who commute out for work. At first glance, it appears that more young workers travel into the area each day compared with those who leave it. A full 28.3 percent of workers who commuted in were aged 29 or younger, representing a 2.5 percent gap compared to 29 and under workers who leave. There is also a gap in average pay for high earners, with 52.6 percent of outflow workers earning more than \$3,333 per month, compared with just 48.5 percent of inflow workers.

Inflow-Outflow Characteristics

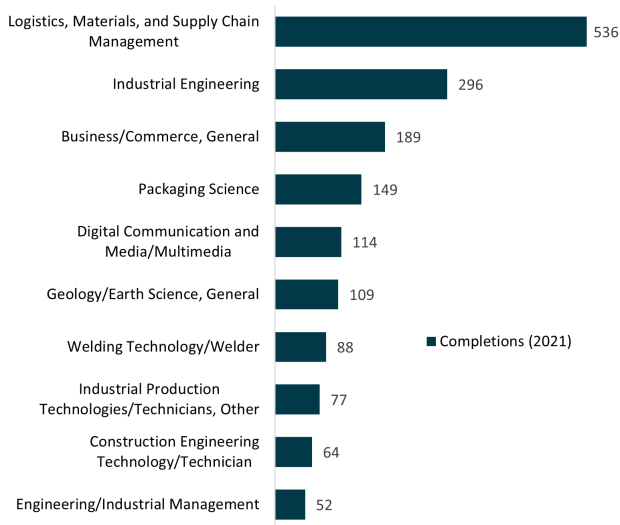


¹This fact and labor shed statistics throughout this brief are analyzed from the U.S. Census OnTheMap, Center for Economic Studies (2020).



TALENT AVAILABILITY: REGIONAL COMPLETIONS BY INDUSTRY

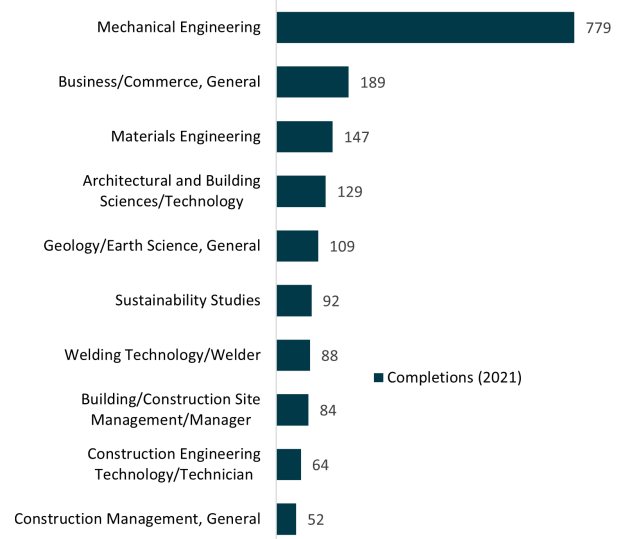
Advanced Manufacturing



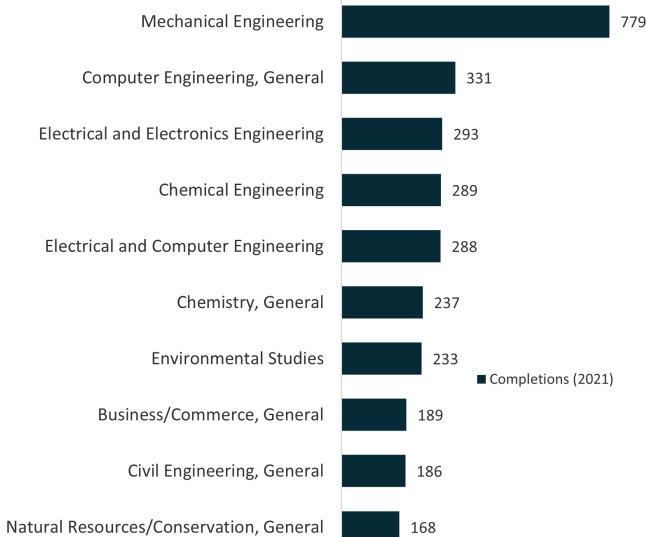
In addition to overall educational attainment, apprentices, and CTE program completions, the top postsecondary degrees and credentials awarded help indicate talent supply for a given group of occupations.

Each program listed on this page, measured by IPEDS and reflecting 2021 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.

Construction



Utilities

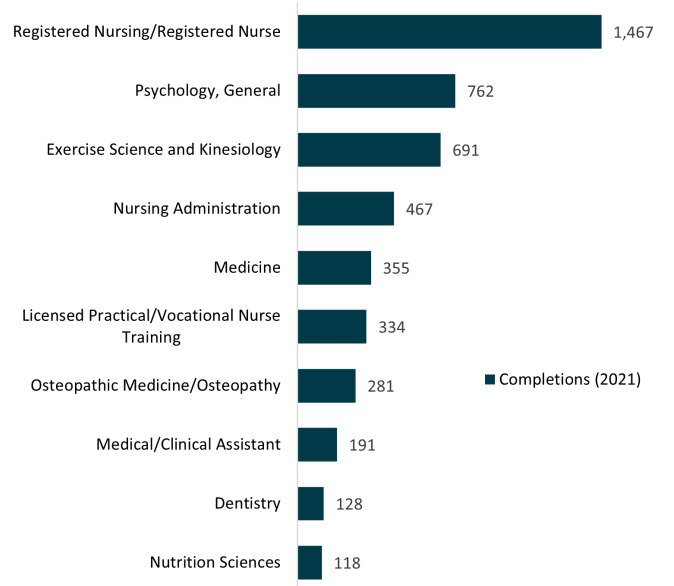


As these counties include many large universities, these graduates make up a large portion of the workforce for the entire state.

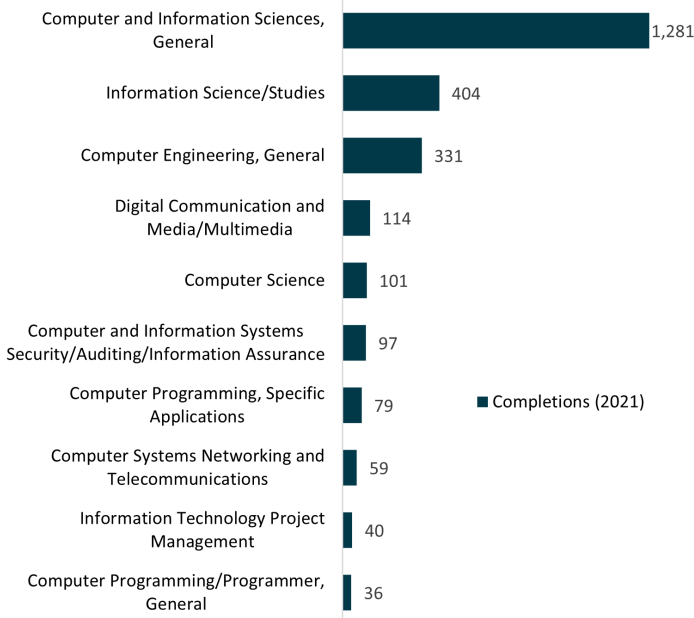


TALENT AVAILABILITY: REGIONAL COMPLETIONS BY INDUSTRY

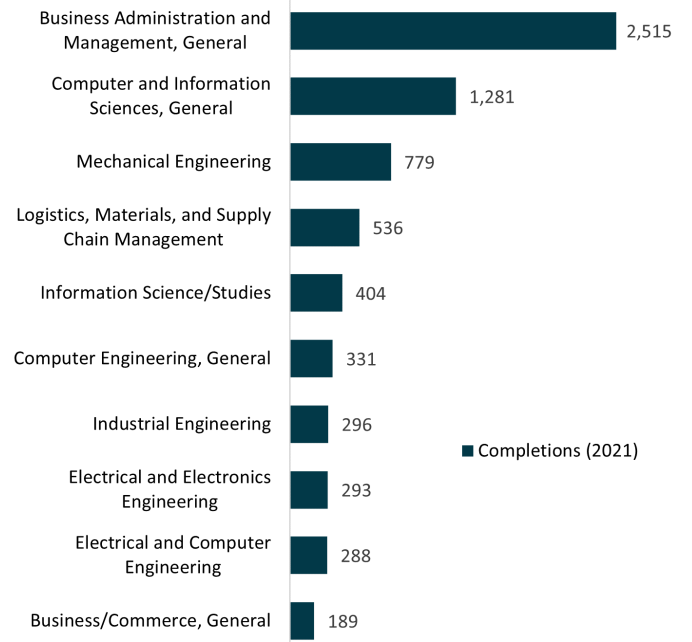
Healthcare



IT



Mobility





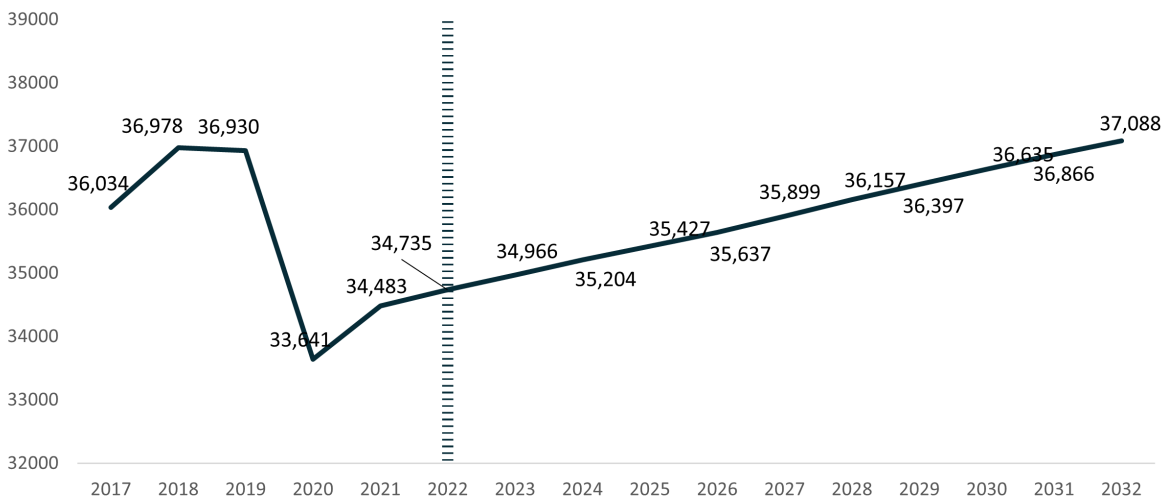
TALENT AVAILABILITY: ADVANCED MANUFACTURING

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.



34,735
Advanced
Manufacturing
Workers
3.6 Percent Decrease
Over Last 5 Years



Employment Over Time

Between 2017 and 2022, employment in Advanced Manufacturing occupations has been relatively flat. About 1,300 jobs, or 3.6 percent, have been lost in these counties. Current 10-year projections indicate stable but stagnant employment, if not a marginal increase. From 2023 through 2032, no more than 2,100 jobs (6.1 percent) are expected to be added.

Demographic Information

Charts indicating the demographic makeup of the workers in Advanced Manufacturing occupations are shown below. Additionally, in this region, 87 percent of manufacturing workers identify as male and 83 percent as white.





Openings, Postings, and Completions Compared to Job Growth

Although the local universities and community colleges supply the whole region with graduates, many also take manufacturing jobs in the Detroit metro area. The relationship between openings and completions varies widely by occupation, with a relatively low completions-to-openings ratio for many engineering technician roles and a much higher ratio for many management positions.

Logistics, Materials, and Supply Chain Management had the highest number of completions, accounting for 25.7 percent of manufacturing-related completions in 2021, followed distantly by Industrial Engineering and Business/Commerce, General. 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 high employment generally, but are still lacking in completions, include Maintenance and Repair Workers, General; First-Line Supervisors of Production and Operating Workers, and Machinists.

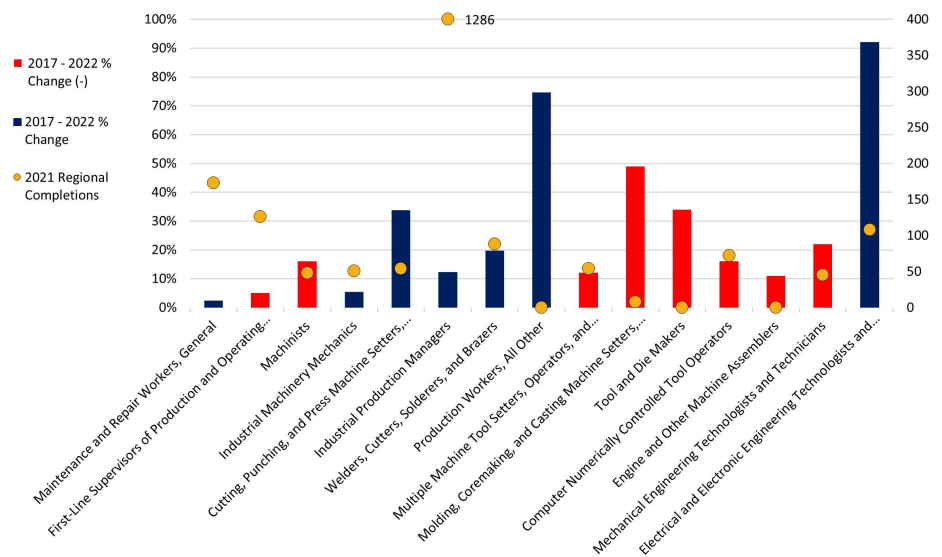
Top Posted Occupations

Maintenance and Repair Workers, General was the top-posted advanced manufacturing occupation during 2022 with 3,453 online job advertisements. Production Workers, All Other; Industrial Engineering Technologists and Technicians and First-Line Supervisors of Production and Operating Workers were also in high demand throughout the year.

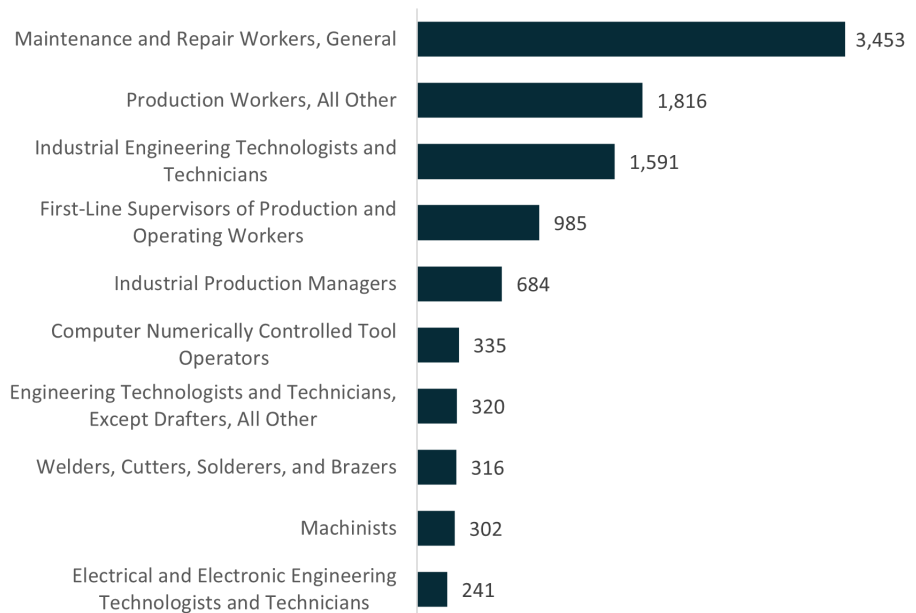
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Operations
- Troubleshooting (Problem Solving)
- Management
- Customer Service
- Valid Driver's License
- Problem Solving
- Detail Oriented
- Lifting Ability
- Leadership

In-Demand Technical Skills

- Machinery
- Plumbing
- Hand Tools
- HVAC
- Machine Operation
- Machining
- Tooling
- Painting
- Preventive Maintenance
- Carpentry

In-Demand Qualifications

- Commercial Driver's License (CDL)
- Forklift Certification
- HVAC Certification
- Pesticide Applicator License
- CDL Class A License
- Automotive Service Excellence (ASE) Certification
- CDL Class B License
- Cardiopulmonary Resuscitation (CPR) Certification
- American Society For Quality (ASQ) Certified
- EPA 608 Technician Certification

Top Posting Employers

- Orchid Orthopedic Solutions
- Aerotek
- University Of Michigan
- WestRock
- State Of Michigan
- Abbott Laboratories
- Dart Container
- Michigan State University
- Kelly Services
- Duncan Aviation

Wage Overview

Just under half of all manufacturing occupations pay over the state's median wage of \$21.73, with above average earning potential for management and supervisory roles. Non-managerial roles with especially high median wages include several types of Technologists and Technicians, including Civil Engineering, Electrical and Electronic Engineering and Electro-Mechanical and Mechatronics Technicians.

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	\$13.68	\$14.66	\$16.19	\$23.17	\$29.08
51-1011	First-Line Supervisors of Production and Operating Workers	\$18.39	\$23.29	\$29.85	\$38.16	\$47.31
51-4041	Machinists	\$14.94	\$18.27	\$22.28	\$28.64	\$29.75
49-9041	Industrial Machinery Mechanics	\$18.31	\$22.49	\$27.43	\$32.15	\$37.76
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$14.08	\$15.53	\$18.59	\$22.95	\$27.07
11-3051	Industrial Production Managers	\$32.39	\$41.51	\$49.32	\$61.38	\$75.85
51-4121	Welders, Cutters, Solderers, and Brazers	\$14.46	\$17.68	\$19.51	\$23.80	\$29.06
51-9199	Production Workers, All Other	\$10.72	\$11.65	\$13.86	\$15.28	\$19.65
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$14.54	\$15.19	\$18.38	\$20.69	\$24.99
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$12.45	\$13.96	\$15.37	\$18.71	\$23.64

Data: Lightcast (2022), BLS (2022)
Analysis: Workforce Intelligence Network



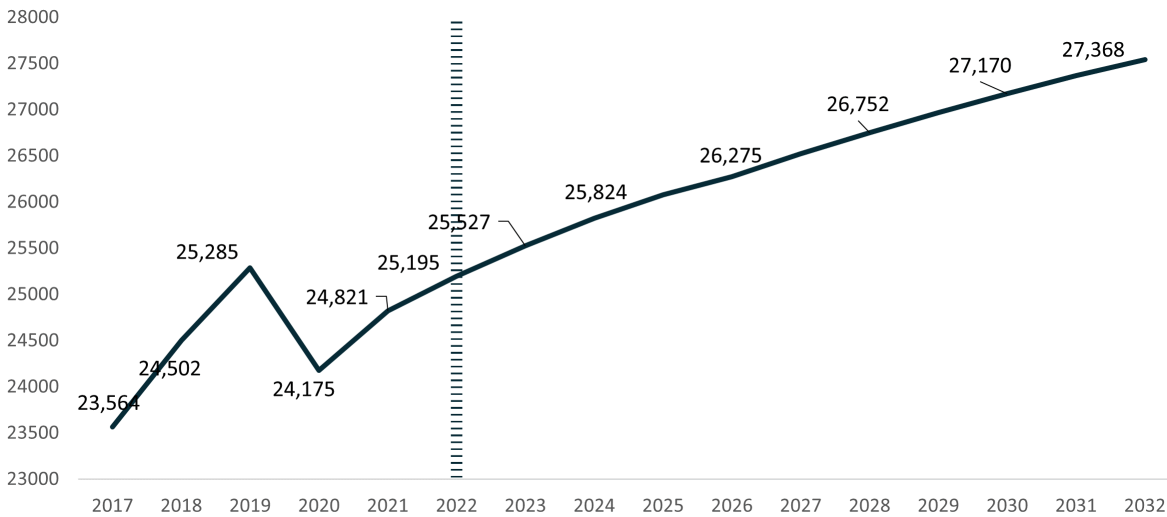
TALENT AVAILABILITY: CONSTRUCTION

Introduction

Jobs in construction are associated with skilled trades, engineering, management, and planning. The construction sector is comprised of entities focused on the construction of buildings or engineering projects, including infrastructure such as highways and utility systems. Construction work is wide-ranging, and may include new work, additions, alterations, or maintenance and repairs. The nature of construction is unique in the sense that labor is often performed on many sites, rather than a single fixed place of business, such as a storefront.



25,195
Construction
Workers
 6.9 Percent
 Increase Over Last 5
 Years

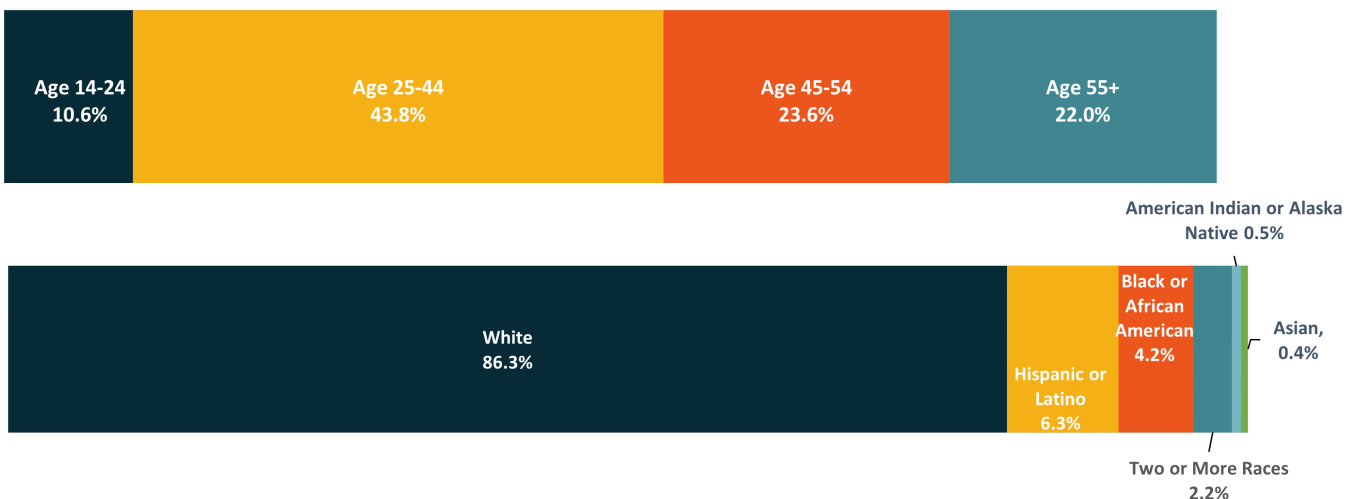


Employment Over Time

Between 2017 and 2022, employment in Construction occupations has shown steady but inconsistent growth. This inconsistency can be largely attributed to changes brought about by COVID-19, as the only decline observed was during CY2020. About 1,600 jobs, or 6.9 percent, have been added in these counties. More stable growth is to be expected in the next ten years, with roughly 2,350 jobs to be added.

Demographic Information

Charts indicating the demographic makeup of the workers in Construction occupations are shown below. In this region, 96.3 percent of these workers identify as male and 86.3 percent as white.



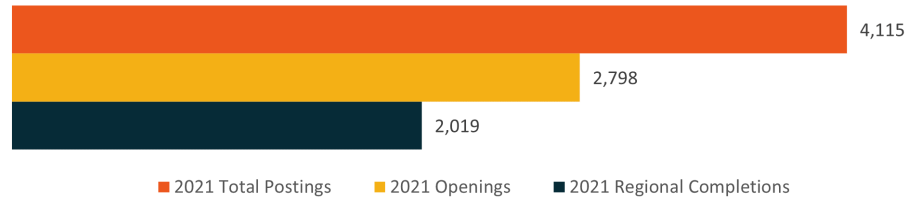


Openings, Postings, and Completions Compared to Job Growth

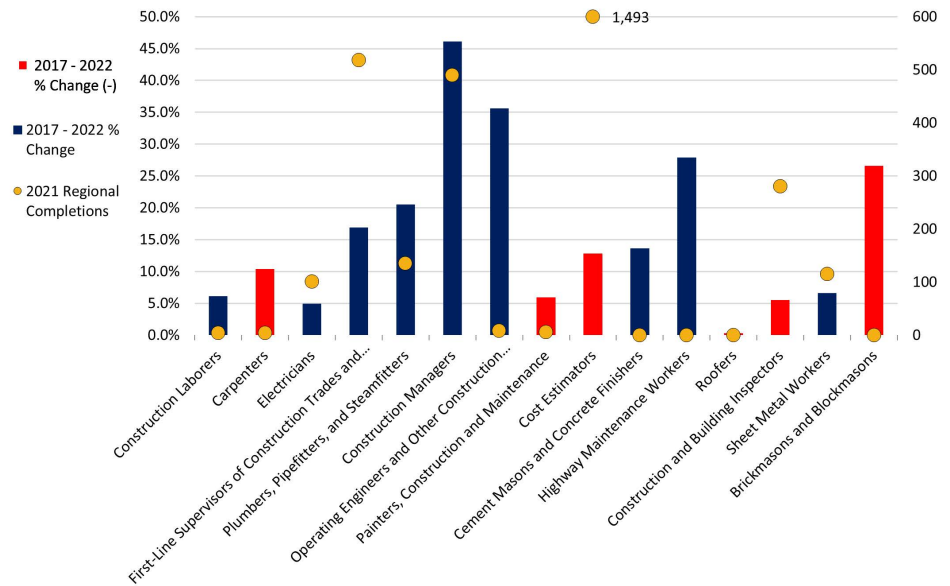
Despite the high concentration of training providers and universities in this region, there was a shortfall of completions in comparison to job postings during 2021. Further, in consideration of the projected growth, these completions may not be enough to fill all openings over the next 10 years. In 2021, there were 2,798 openings for Construction occupations, with 2,019 completions for programs related to the industry.

Mechanical Engineering had the highest number of completions, accounting for 38.6 percent of Construction-related completions in 2021. Additionally, completions in Materials Engineering make it the third most popular program. Collectively, these two programs made up nearly 50 percent of all completions; suggesting that engineering programs in general are very attractive to prospective students. Occupations that are projected to grow quickly over the next ten years and display high employment, but are still lacking in completions, include Construction Laborers, Operating Engineers and Other Construction Equipment Operators, and Carpenters.

Openings, Postings, and Completions



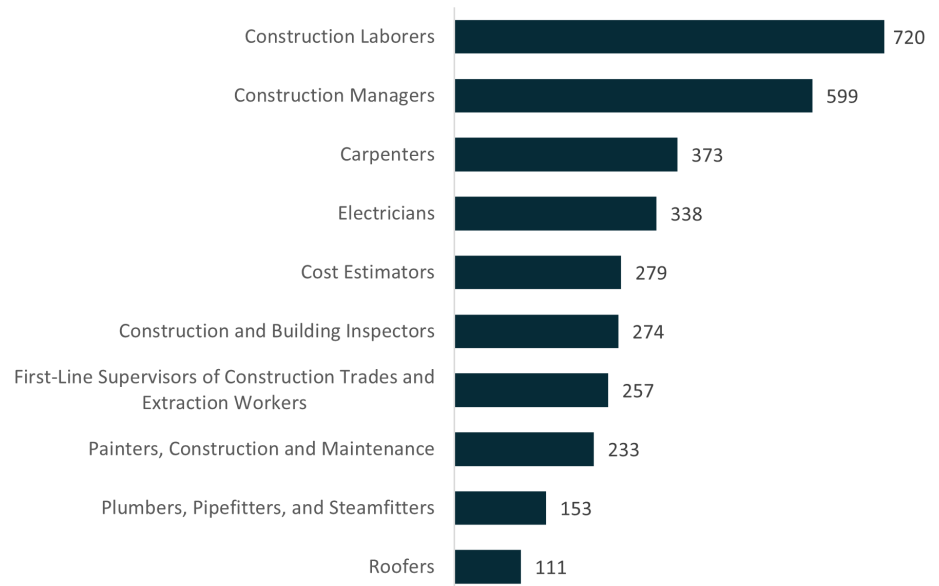
Growth vs Completions



Top Posted Occupations

Of no surprise, Construction Laborers and Construction Managers were the top posted occupations in 2021. Related trades and finish workers, such as Carpenters, Electricians and Cost Estimators were in high demand as well.

Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Valid Driver's License
- Management
- Customer Service
- Operations
- Leadership
- Planning
- Detail Oriented
- Coordinating
- Lifting Ability

In-Demand Technical Skills

- Construction
- Carpentry
- Construction Management
- Painting
- Subcontracting
- Renovation
- Hand Tools
- Drywall (Installation And Repair)
- Plumbing
- Power Tool Operation

In-Demand Qualifications

- Commercial Driver's License (CDL)
- Project Management Professional Certification
- 10-Hour OSHA General Industry Card
- First Aid Certification
- 30-Hour OSHA General Industry Card
- Journeyman Electrician
- LEED Accredited Professional (AP)
- Cardiopulmonary Resuscitation (CPR) Certification
- OSHA Certification
- CDL Class A License

Top Posting Employers

- State Of Michigan
- Tradesmen International
- Aerotek
- Black & Veatch
- GPAC
- ICF International
- CBRE
- University Of Michigan
- CDM Smith
- Kanaan Communications

Wage Overview

Wages in this Construction reflect the wide variety in job functions, from general labor support to machine operators to specialty trades. Roughly half of all positions pay above the state median wage of \$21.73 per hour. Supervisory and Management roles in each of these areas have the highest earning potential, with each paying over \$33 per hour, while many skilled trade and technician roles have median earnings around \$30 per hour.

Wage Scale for Construction Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
47-2061	Construction Laborers	\$9.15	\$14.28	\$19.13	\$23.30	\$29.30
47-2031	Carpenters	\$9.87	\$17.19	\$20.99	\$29.13	\$35.59
47-2111	Electricians	\$16.42	\$21.93	\$32.52	\$37.58	\$39.05
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$20.52	\$25.93	\$33.10	\$42.42	\$49.17
47-2152	Plumbers, Pipefitters, and Steamfitters	\$15.85	\$20.55	\$31.69	\$37.51	\$41.76
11-9021	Construction Managers	\$9.29	\$18.40	\$36.12	\$53.45	\$68.96
47-2073	Operating Engineers and Other Construction Equipment Operators	\$21.54	\$23.27	\$28.76	\$36.06	\$38.63
47-2141	Painters, Construction and Maintenance	\$6.85	\$11.91	\$18.26	\$23.11	\$30.32
13-1051	Cost Estimators	\$17.92	\$23.26	\$31.47	\$39.09	\$50.78
47-2051	Cement Masons and Concrete Finishers	\$17.28	\$18.54	\$22.81	\$28.47	\$31.05

Data: Lightcast (2022), BLS (2022)
Analysis: Workforce Intelligence Network



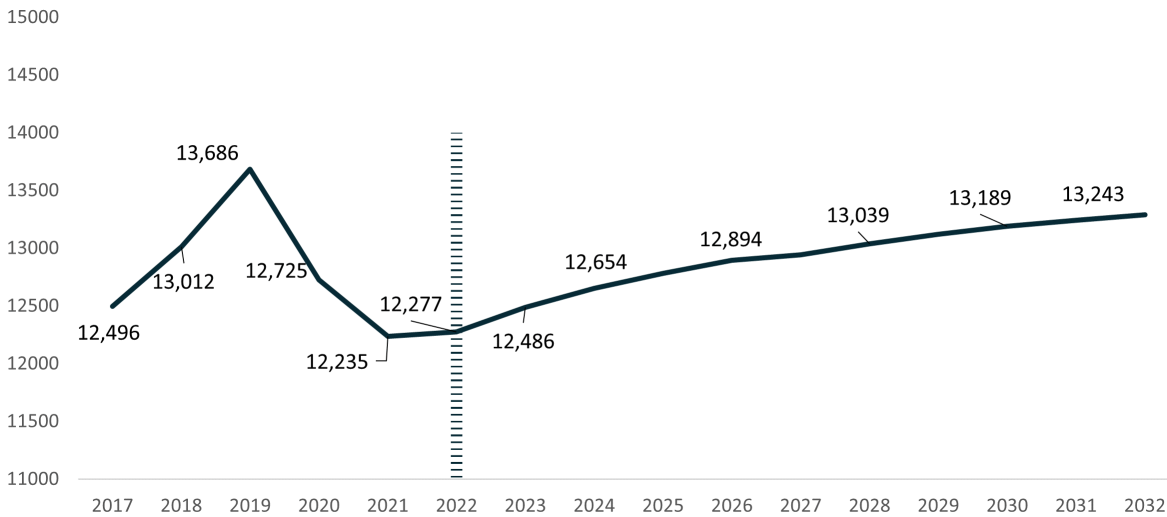
TALENT AVAILABILITY: UTILITIES

Introduction

The utilities industry is primarily concerned with production and delivery of energy, including electricity, oil, and natural gas resources. These critical occupations serve to sustain the network of power to homes, businesses and the entire energy grid that is so vital to every facet of infrastructure. Those Utilities-related occupations selected for this analysis encompass jobs in engineering, construction and science.



12,277
Utility Workers
 1.8 Percent
 Decrease Over Last
 5 Years



Employment Over Time

Between 2017 and 2022, employment has decreased marginally, although this is likely due to the COVID-19 pandemic. Losses have since stabilized and more growth is projected through 2032, but is not expected to keep pace with pre-pandemic levels. Only 100-300 new jobs per year are projected through 2032.

Demographic Information

Charts indicating the demographic makeup of the workers in Utility occupations are shown below. In this region, 89.7 percent of these workers identify as male and 86.2 percent as white. The age distribution is heavily skewed towards those between 25 and 44, with sizable groups of 45-54 and 55 and older workers as well.



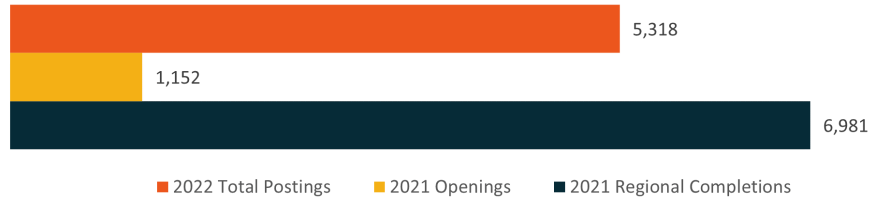


Openings, Postings, and Completions Compared to Job Growth

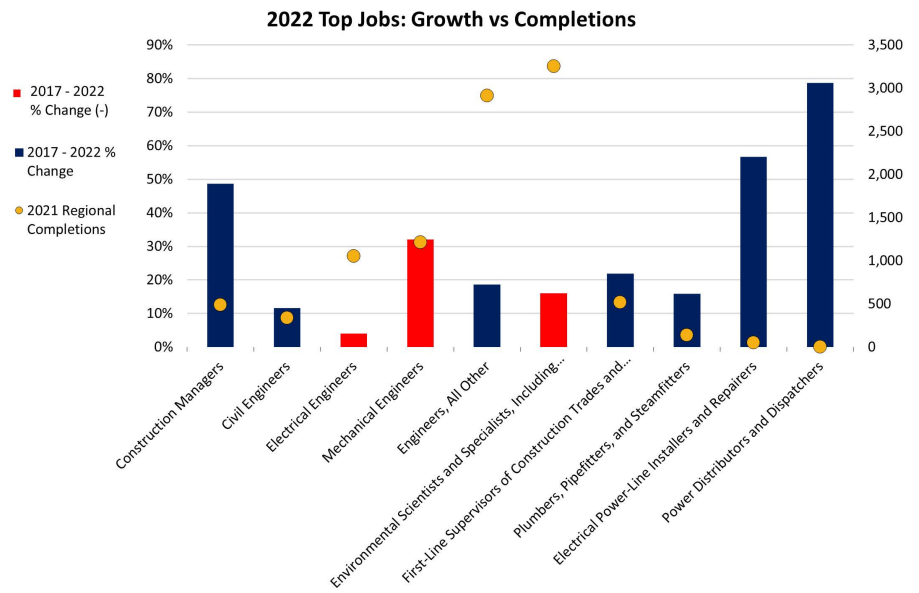
In the areas of training for Utilities occupations, relevant program completions comfortably outpaced openings in this sector. However, these universities and community colleges supply the whole region with graduates, therefore many of these individuals may also take jobs in the Detroit metro area. Economics, General had the highest number of completions, accounting for 14.6 percent of Utility-related completions in 2021.

While all employment is expected to increase by 6.4 percent in the next 10 years, there are several occupations that are projected to grow nearly as fast or faster and display high employment but are still lacking in completions. These include Power Distributors and Dispatchers, Electrical Power-Line Installers and Repairers, Construction Managers and Plumbers, Pipefitters, and Steamfitters. The graphs at right reflect growth over the last five years, regional completions in 2021 and the top occupations by employment volume.

Openings, Postings, and Completions



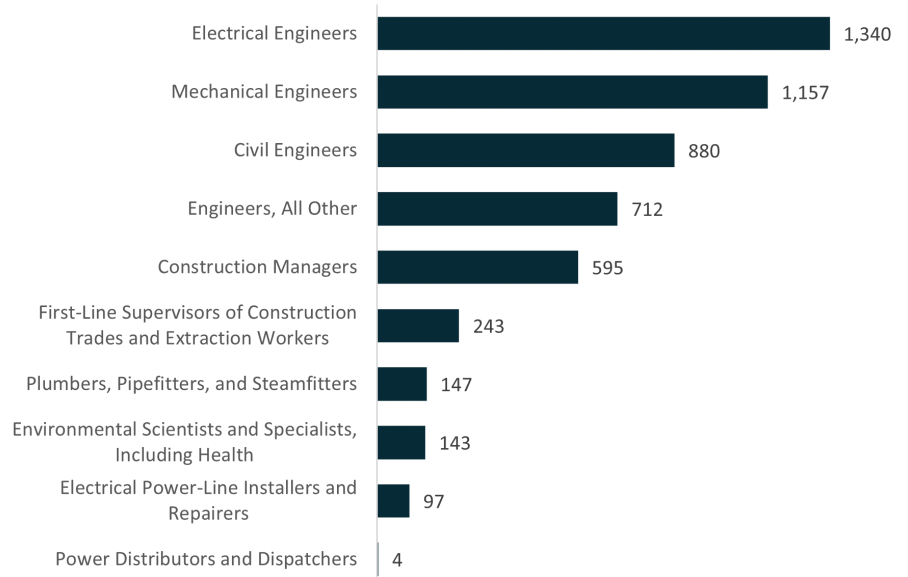
Growth vs Completions



Top Posted Occupations

Most of the top posted jobs in Utilities are all engineering-oriented. These included Electrical Engineers, Mechanical Engineers, and Civil Engineers. Engineers, All Other and Construction Managers round out the top five in 2022.

Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Management
- Leadership
- Planning
- Research
- Problem Solving
- Writing
- Coordinating
- Operations
- Troubleshooting (Problem Solving)

In-Demand Technical Skills

- Electrical Engineering
- Mechanical Engineering
- Construction
- AutoCAD
- Project Management
- Engineering Design Process
- Automation
- Construction Management
- Python (Programming Language)
- Civil Engineering

In-Demand Qualifications

- Valid Driver's License
- Professional Engineer (PE) License
- Engineer in Training
- Project Management Professional Certification
- LEED Accredited Professional (AP)
- Security Clearance
- Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)
- Commercial Driver's License (CDL)
- Six Sigma Green Belt
- Certified Energy Manager

Top Posting Employers

- Black & Veatch
- Barr Engineering Co.
- KLA
- Actalent
- CDM Smith
- University Of Michigan
- GPAC
- Intel
- State Of Michigan
- Meta

Wage Overview

Wages in the Utilities sector have a somewhat limited scope of job functions, with most focused on engineering. Regardless, all ten of the top jobs pay over the state's median wage of \$21.73. Management and engineering roles in each of these areas have the highest earning potential, often ranging over \$40 per hour, while non-engineering roles have median earnings around \$30-\$35 per hour.

Wage Scale for Utilities Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
11-9021	Construction Managers	\$29.51	\$37.22	\$47.37	\$59.78	\$75.52
17-2051	Civil Engineers	\$29.22	\$30.13	\$38.06	\$47.76	\$51.31
17-2071	Electrical Engineers	\$30.91	\$37.12	\$46.37	\$57.59	\$61.77
17-2141	Mechanical Engineers	\$28.76	\$35.80	\$43.81	\$47.94	\$60.27
17-2199	Engineers, All Other	\$27.93	\$33.03	\$42.48	\$54.92	\$60.60
19-2041	Environmental Scientists and Specialists, Including Health	\$23.43	\$26.98	\$37.01	\$39.91	\$47.29
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$23.04	\$28.25	\$34.29	\$43.13	\$49.14
47-2152	Plumbers, Pipefitters, and Steamfitters	\$17.42	\$22.11	\$33.02	\$37.78	\$41.61
49-9051	Electrical Power-Line Installers and Repairers	\$26.99	\$34.60	\$45.20	\$50.05	\$53.71
51-8012	Power Distributors and Dispatchers	\$24.25	\$33.33	\$40.81	\$44.81	\$52.40

Data: Lightcast (2022), BLS (2022)
Analysis: Workforce Intelligence Network



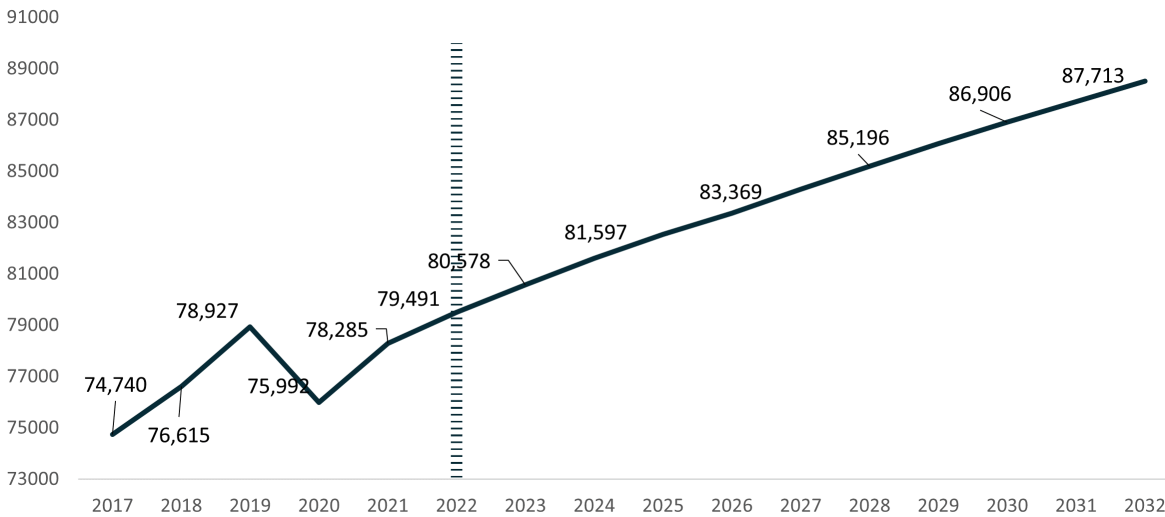
TALENT AVAILABILITY: HEALTHCARE

Introduction

The healthcare occupation group includes jobs related to health care support and practitioners. The Bureau of Labor Statistics (BLS.gov) classifies Healthcare as part of the greater education-and-health-services "supersector" for labor classification. Employment in this group has been consistently growing, with more health care workers needed to care for Michigan's aging population. Registered nurses are routinely the most in-demand job in this group.



79,491
Healthcare
Workers
 6.4 Percent
 Increase Over Last 5
 Years



Employment Over Time

Between 2017 and 2022, employment in healthcare has shown steady and at times, dramatic growth. Although Healthcare saw an initial decline in jobs during CY2020, growth has rebounded to about 1,000 jobs per year and is expected to continue through 2032. Over the next 10 years, Healthcare is expected to add around 9,000 jobs (11.3 percent) in these counties.

Demographic Information

Charts indicating the demographic makeup of the workers in Healthcare occupations are shown below. In this region, 78.2 percent of these workers identify as female and 72.3 percent as white. Employees aged 25-54 represent 69.7 percent of the workforce.



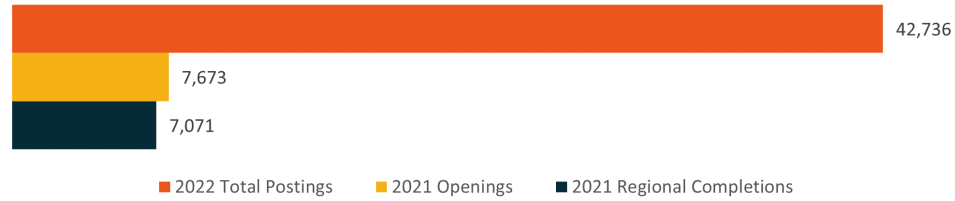


Openings, Postings, and Completions Compared to Job Growth

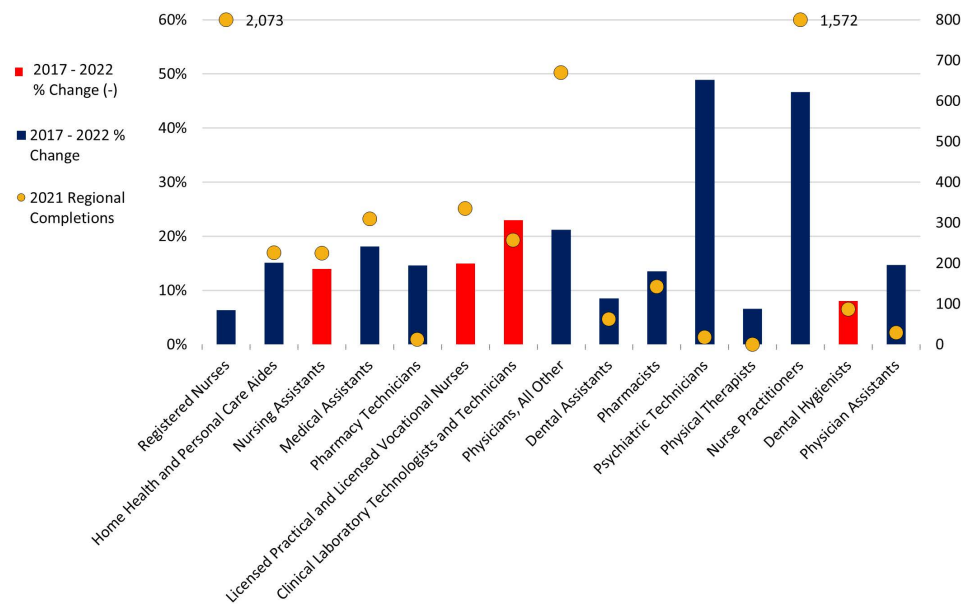
Within the 8-County region, the gap between completions and openings is very small for healthcare. However, local universities and community colleges supply the whole region with graduates, so many workers also take Healthcare jobs in the Detroit metro area. Additionally, the projected job growth in this sector suggests these completions may not be enough to fill all openings through 2032. Registered Nursing had the highest number of completions, accounting for 20.7 percent of Healthcare related completions in 2021.

Occupations that are projected to grow quickly over the next ten years and display high employment, but are still lacking in completions, include Home Health and Personal Care Aides, Nursing Assistants, and Medical Assistants. The graphs at right reflect growth over the last five years, regional completions in 2021 and the top occupations by employment.

Openings, Postings, and Completions



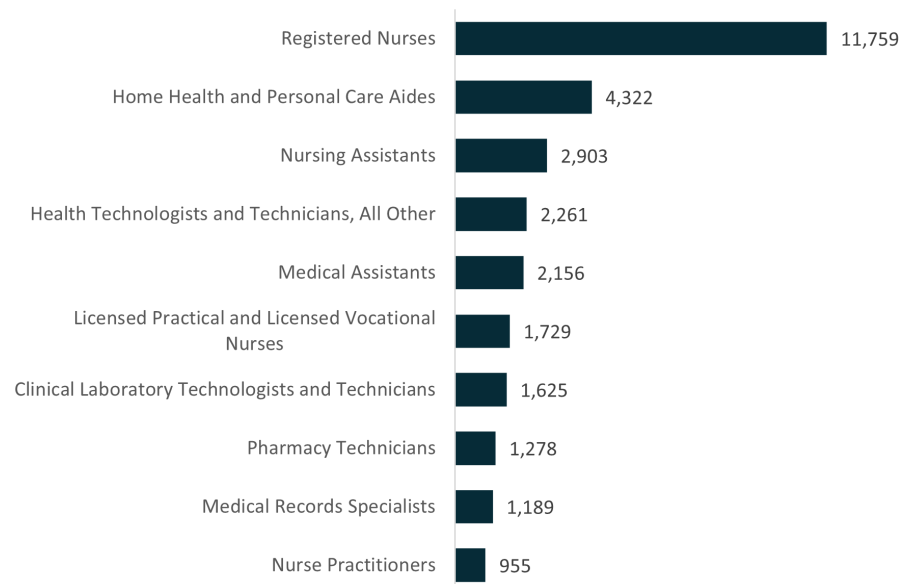
Growth vs Completions



Top Posted Occupations

Four of the top five posted jobs in Healthcare are direct-care oriented, as opposed to a technology or support function. These included Registered Nurses, Home Health and Personal Care Aides, Nursing Assistants and Medical Assistants. Health Technologists and Technicians, All Other rounded out the top five.

Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Customer Service
- Leadership
- Management
- Problem Solving
- Interpersonal Communications
- Teaching
- Valid Driver's License
- Planning
- Coordinating

In-Demand Technical Skills

- Nursing
- Medical Records
- Nursing Care
- Caregiving
- Direct Patient Care
- Vital Signs
- Home Health Care
- Nursing Process
- Medical Assistance
- Electronic Medical Record

In-Demand Qualifications

- Registered Nurse (RN)
- Basic Life Support (BLS) Certification
- Licensed Practical Nurse (LPN)
- Cardiopulmonary Resuscitation (CPR) Certification
- Advanced Cardiovascular Life Support (ACLS) Certification
- Certified Nursing Assistant
- Nurse Practitioner (APRN-CNP)
- Patient Care Technician
- Board Certified/Board Eligible
- Pediatric Advanced Life Support (PALS)

Top Posting Employers

- University Of Michigan
- Trinity Health
- ProMedica
- Henry Ford Health System
- CareInHomes
- Bronson Healthcare
- United States Department of Veterans Affairs
- Sparrow Health System
- Beaumont Health
- McLaren Health Care

Wage Overview

Wages in the healthcare sector reflect the wide variety in job function, including technology, therapy, and a variety of specialist roles. More than two-thirds of all positions pay over the state's median wage of \$21.73. Roles involved with the surgical setting have the highest earning potential, often ranging over \$100 per hour, while many specialty roles such as dental, optometry and podiatry have median earnings around \$50 per hour.

Wage Scale for Healthcare Occupations

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$28.48	\$34.54	\$37.58	\$43.15	\$50.33
31-1128	Home Health and Personal Care Aides	\$10.87	\$11.39	\$13.42	\$14.26	\$15.31
31-1131	Nursing Assistants	\$13.88	\$15.00	\$17.66	\$18.45	\$19.51
31-9092	Medical Assistants	\$14.18	\$16.14	\$18.25	\$18.64	\$20.20
29-2052	Pharmacy Technicians	\$13.30	\$14.46	\$16.34	\$21.69	\$22.64
29-2061	Licensed Practical and Licensed Vocational Nurses	\$22.55	\$23.14	\$27.47	\$28.65	\$29.30
29-2018	Clinical Laboratory Technologists and Technicians	\$14.24	\$18.00	\$27.80	\$35.83	\$37.36
29-1229	Physicians, All Other	\$26.93	\$40.25	\$92.75	\$119.78	\$167.05
31-9091	Dental Assistants	\$14.38	\$16.94	\$19.57	\$22.76	\$23.93
29-1051	Pharmacists	\$43.18	\$54.93	\$61.70	\$70.44	\$73.51



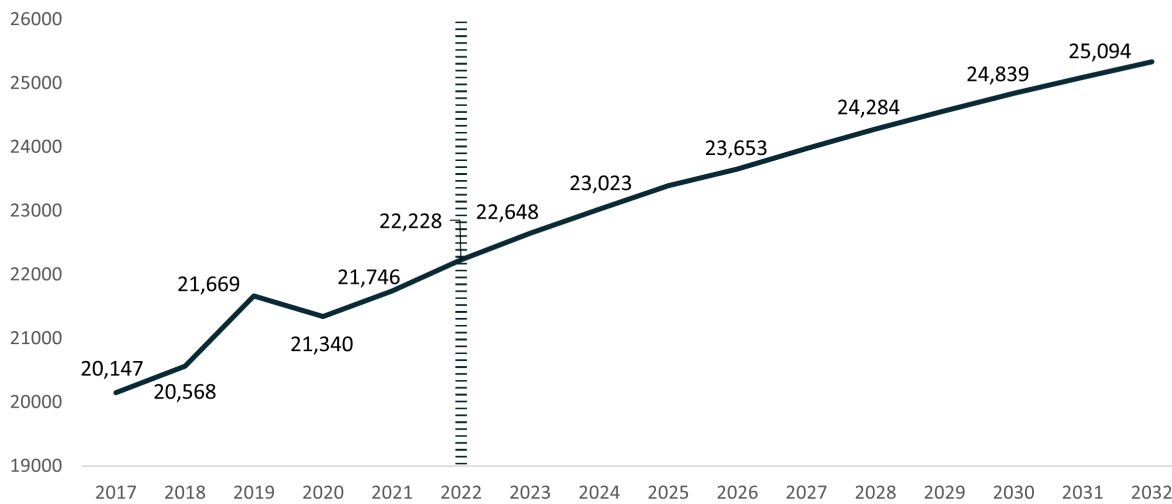
TALENT AVAILABILITY: INFORMATION TECHNOLOGY

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.



22,228
IT Workers
 10.3 Percent
 Increase Over Last
 5 Years



Employment Over Time

Between 2017 and 2022, employment in IT occupations has shown slight but steady growth. About 2,080 jobs, or 10.3 percent, have been added in these counties. This bright outlook for growth is projected to continue over the next ten years, during which another 2,700 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, 72.9 percent of technology workers identify as male and 75.7 percent as white. Compared with other occupation groups, the cohort of those aged 25-54 in IT is slightly larger.





Openings, Postings, and Completions Compared to Job Growth

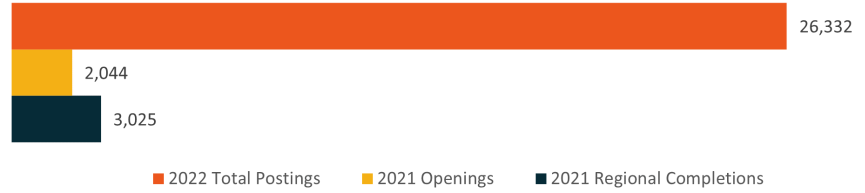
Due to high growth and demand in the IT sector, program completions narrowly outpaced job openings in 2021. However, the area universities and community colleges supply the whole region with graduates, therefore many of these graduates may also take technology jobs in the Detroit metro area. Furthermore, the projected growth in IT suggests these completions may still provide enough prospective candidates for openings through 2032.

Computer and Information Sciences, General had the highest number of completions, accounting for 42.3 percent of IT-related completions in 2021. Across all available data, there is no indication of educational shortfall between the number of degree completions and the number of projected open positions. The graphs at right reflect growth over the last five years, regional completions in 2021 and the top occupations by employment.

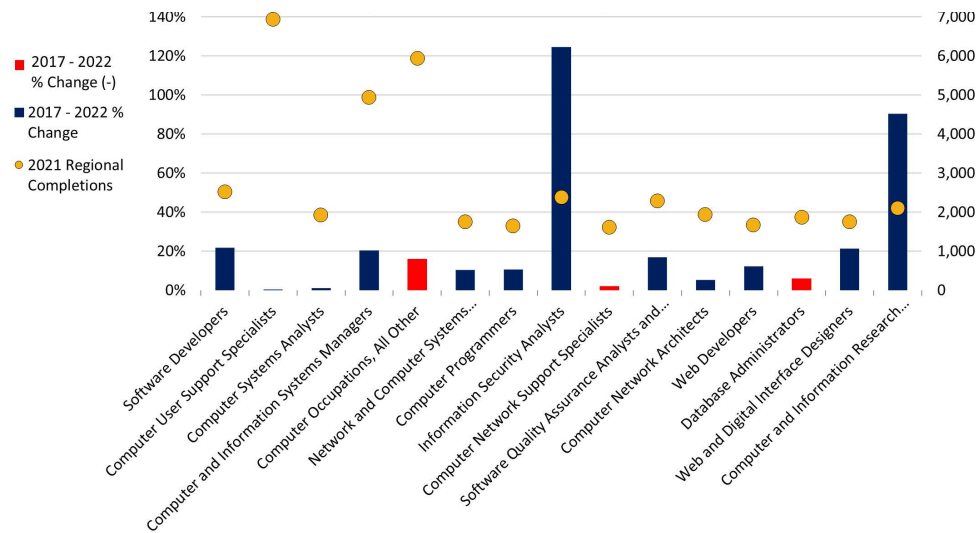
Top Posted Occupations

During 2021, the top-posted IT occupation was Software Developers with 8,401 online job ads within these counties. Computer Occupations, All Other, a catch-all including increasingly popular occupations such as Software Quality Assurance Testers, Database Architects, and Search Marketing Strategists, was the next top-posted occupation code. These positions together garnered 4,634 postings in 2021. Computer User Support Specialists, Computer Systems Analysts, and Information Security Analysts were also in high demand.

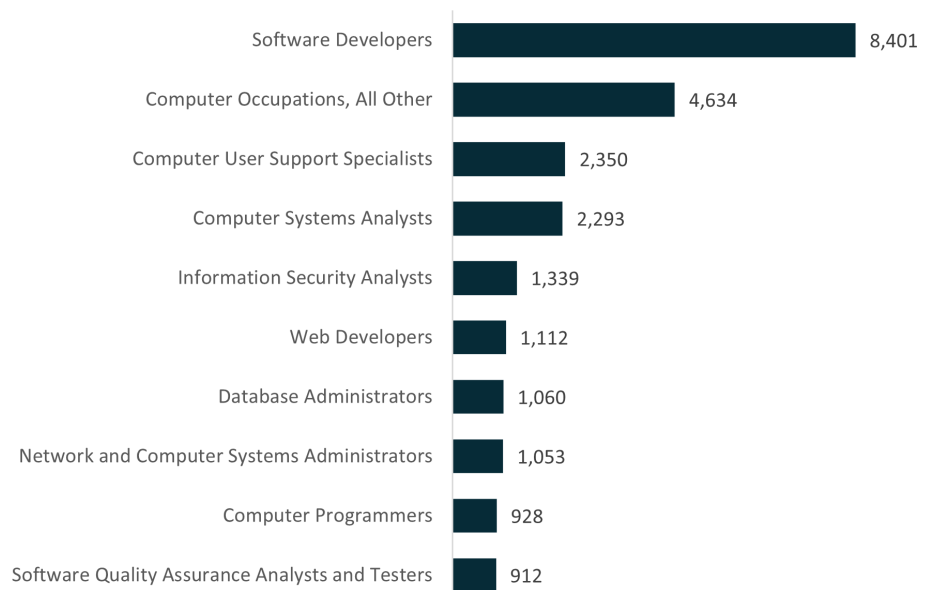
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Management
- Problem Solving
- Leadership
- Troubleshooting (Problem Solving)
- Operations
- Customer Service
- Information Technology
- Research
- Writing

In-Demand Technical Skills

- Computer Science
- Agile Methodology
- SQL (Programming Language)
- Python (Programming Language)
- Automation
- Java (Programming Language)
- JavaScript (Programming Language)
- Software Development
- Software Engineering
- Application Programming Interface (API)

In-Demand Qualifications

- Certified Information Systems Security Professional
- Project Management Professional Certification
- Security Clearance
- Secret Clearance
- CompTIA Security+
- Certified Information System Auditor (CISA)
- GIAC Certifications
- CompTIA A+
- Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)
- Cisco Certified Network Associate

Top Posting Employers

- University Of Michigan
- General Dynamics
- State Of Michigan
- Deloitte
- Meta
- TEKsystems
- KLA
- ICF International
- Travelers
- Salesforce

Wage Overview

Median wages for each occupation in the IT group are over the state's median wage of \$21.73, and most are between \$37 and \$50 hourly. Computer and Information Systems Managers have the highest earning potential, with median wages of \$56.51. Computer User Support Specialists have lesser 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
15-1252	Software Developers	\$29.51	\$32.82	\$43.12	\$54.19	\$62.03
15-1232	Computer User Support Specialists	\$14.39	\$18.14	\$23.16	\$29.58	\$36.93
15-1211	Computer Systems Analysts	\$29.21	\$36.48	\$40.50	\$50.33	\$60.93
11-3021	Computer and Information Systems Managers	\$40.82	\$48.31	\$56.51	\$72.55	\$88.55
15-1299	Computer Occupations, All Other	\$20.06	\$28.08	\$38.97	\$47.59	\$55.32
15-1244	Network and Computer Systems Administrators	\$28.95	\$30.35	\$37.51	\$46.64	\$50.42
15-1251	Computer Programmers	\$18.43	\$28.87	\$37.41	\$48.05	\$61.16
15-1212	Information Security Analysts	\$20.93	\$29.59	\$39.34	\$49.09	\$62.08
15-1231	Computer Network Support Specialists	\$16.92	\$22.13	\$27.95	\$34.45	\$37.72
15-1253	Software Quality Assurance Analysts and Testers	\$24.31	\$30.00	\$38.73	\$47.99	\$50.41

Data: Lightcast (2022), BLS (2022)
Analysis: Workforce Intelligence Network



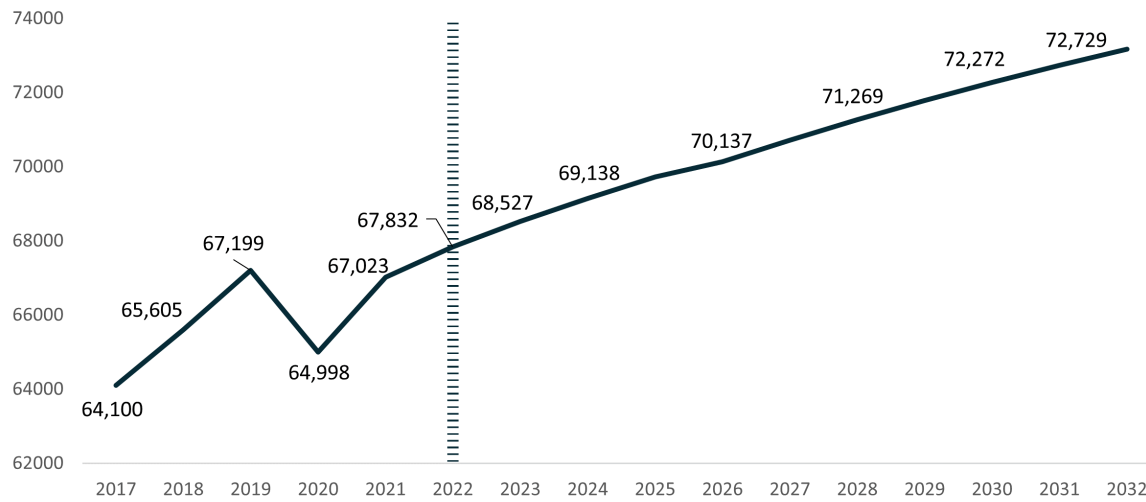
TALENT AVAILABILITY: MOBILITY

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 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.



67,832
Mobility Workers
 5.8 Percent Increase Over Last 5 Years



Employment Over Time

Between 2017 and 2022, employment in Mobility occupations has shown consistent growth, aside from those losses in CY2020 that are likely related to the pandemic. About 3,700 jobs, or 5.8 percent, have been added in these counties. Though growth is projected to slow somewhat, another 5,300 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, 68.0 percent of these workers identify as male and 76.7 percent as white. Among the age groups, those aged 25-54 represented the largest group with 71.1 percent.





Openings, Postings, and Completions Compared to Job Growth

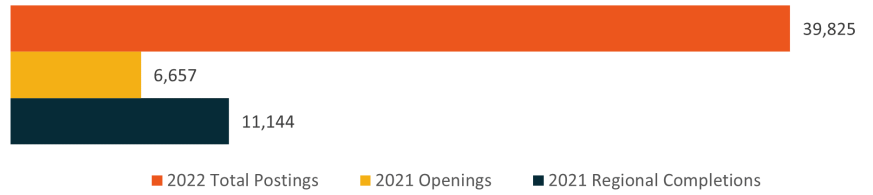
During 2021, the latest full year for which data is available, there were 11,144 program completions against 6,657 openings. Universities and community colleges in the area supply in this region with graduates, so many of these graduates also take jobs in the Detroit metro area. Further, considering growth projections over the next 10 years, these completions may not be enough to fill all openings through 2032 unless there is a major shift. Business Administration and Management, General had the highest number of completions, accounting for 22.6 percent of Mobility-related completions in 2021.

Occupations that are projected to grow quickly over the next ten years and display high employment include Software Developers, Industrial Engineers and Business Operations Specialists, All Other. The graphs at right reflect growth over the last five years, regional completions in 2021 and the top occupations by employment.

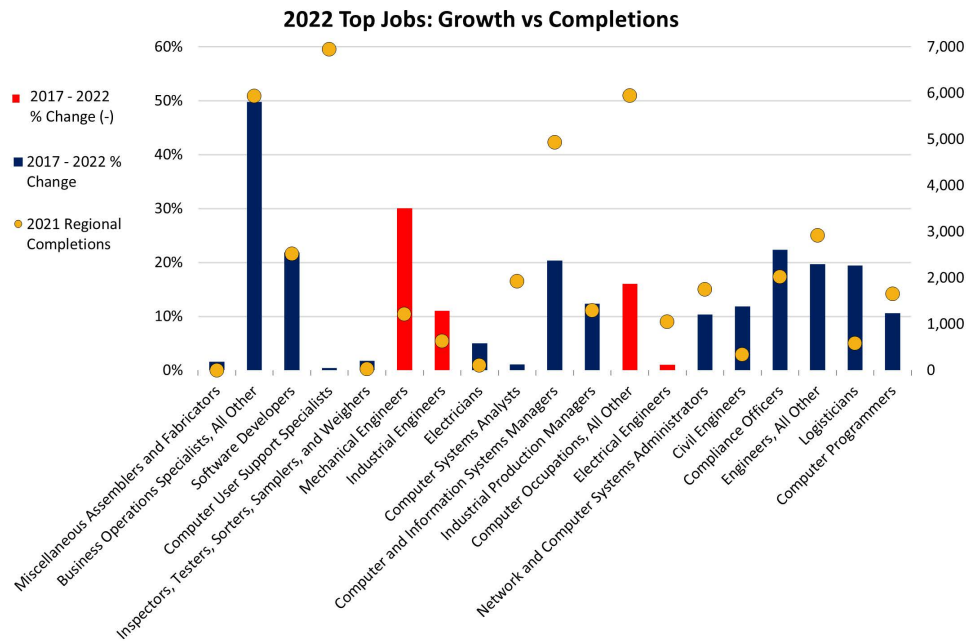
Top Posted Occupations

In addition to being in high demand among technology occupations, Software Developers and Computer Occupations, All Other were the top posted Mobility occupations in 2021. Computer User Support Specialists and Computer Systems Analysts were in high demand as well.

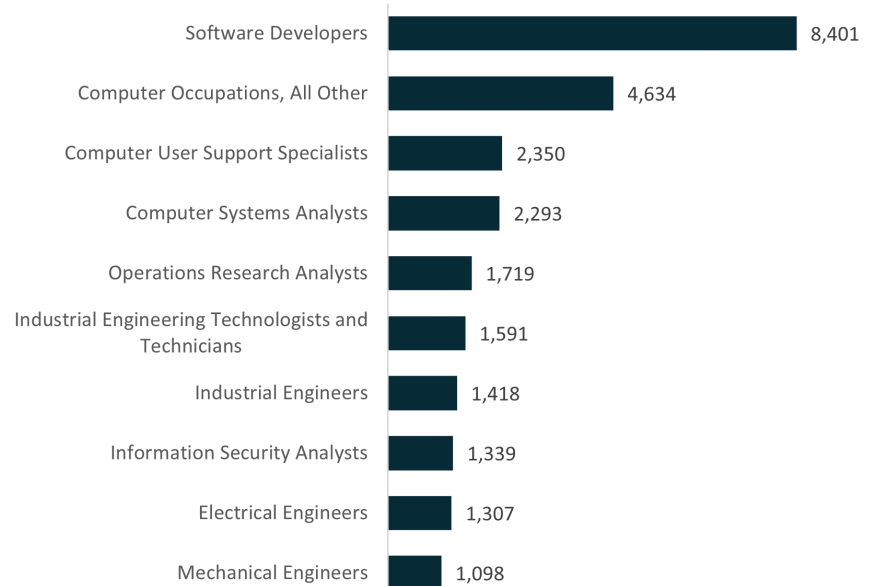
Openings, Postings, and Completions



Growth vs Completions



Top Posted Occupations 2022





Top Posted Credentials

In-Demand Foundational Skills

- Communications
- Management
- Problem Solving
- Operations
- Leadership
- Troubleshooting (Problem Solving)
- Research
- Customer Service
- Writing
- Planning

In-Demand Technical Skills

- Computer Science
- Agile Methodology
- SQL (Programming Language)
- Automation
- Python (Programming Language)
- Software Engineering
- Java (Programming Language)
- Software Development
- Project Management
- JavaScript (Programming Language)

In-Demand Qualifications

- Certified Information Systems Security Professional
- Security Clearance
- Project Management Professional Certification
- Professional Engineer
- CompTIA Security+
- Secret Clearance
- Certified Information System Auditor (CISA)
- Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)
- Master Of Business Administration (MBA)
- Licensed Professional Engineer

Top Posting Employers

- University Of Michigan
- State Of Michigan
- KLA
- General Dynamics
- Meta
- Deloitte
- TEKsystems
- Michigan State University
- Travelers
- Salesforce

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 median wage of \$21.73. Computer and software-related roles, as well as engineering positions, have the highest earning potential, often ranging between \$40 and \$50 per hour, though many similar positions offer median earnings above \$30 per hour as well.

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	Miscellaneous Assemblers and Fabricators	\$13.92	\$15.86	\$18.95	\$23.39	\$29.45
13-1199	Business Operations Specialists, All Other	\$20.70	\$26.24	\$36.12	\$39.61	\$42.54
15-1252	Software Developers	\$29.51	\$32.82	\$43.12	\$54.19	\$62.03
15-1232	Computer User Support Specialists	\$14.39	\$18.14	\$23.16	\$29.58	\$36.93
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$13.28	\$14.43	\$18.44	\$22.64	\$28.01
17-2141	Mechanical Engineers	\$28.70	\$35.76	\$43.80	\$47.96	\$60.48
17-2112	Industrial Engineers	\$29.26	\$36.46	\$39.05	\$47.60	\$57.64
47-2111	Electricians	\$16.42	\$21.93	\$32.52	\$37.58	\$39.05
15-1211	Computer Systems Analysts	\$29.21	\$36.48	\$40.50	\$50.33	\$60.93
11-3021	Computer and Information Systems Managers	\$40.82	\$48.31	\$56.51	\$72.55	\$88.55

Data: Lightcast (2022), BLS (2022)
Analysis: Workforce Intelligence Network

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