

# CAREER & TECHNICAL EDUCATION BEYOND 2020

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## Workforce Trends & Economic Impacts

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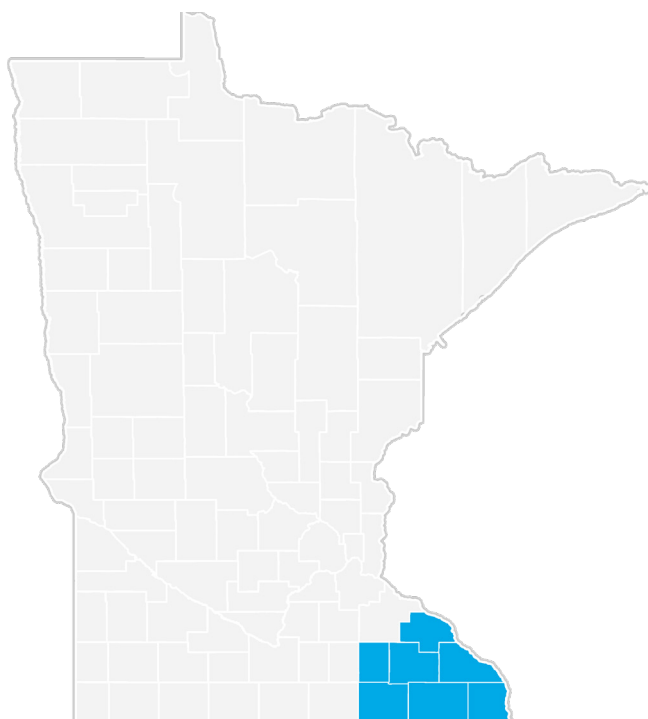
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# Southeast Minnesota



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# Workforce Trends & Economic Impacts

## Introduction

In the first five and a half months of the economic impact of COVID-19, 928,038 Minnesota residents applied for unemployment insurance—about 29% of the state’s employed workforce in the first quarter of 2020.<sup>1</sup> At the county level, anywhere from 9.2% (Wilkin County) to 63.7% (Roseau County) of the local workforce applied for unemployment insurance. Although the employment impacts of the pandemic have been forecast to be sharp and short by most economists, recovery is unlikely to be felt equally across the state.

This report aims to support Consortia in navigating changes in their local labor market due to COVID-19 and exploring how these changes may impact enrollment, industry, career advancement, and the needed programs of study by region. Each of the five regional reports include:

- Regional economic and demographic overview
- Economic Vulnerability Analysis due to COVID-19: Industries and occupations greatest and least impacted
- Review of remote work opportunities, impacts, and mid-term regional projections
- Mapping of significant labor market needs, including forecasted regional talent shortages and workforce skill mismatches over the next 3-5 years
- Identification of key priorities and barriers for youth and adult career pathways in 6 career clusters for the Perkins Comprehensive Local Needs Assessment:
  - Health Science Technology
  - Engineering, Manufacturing, and Technology
  - Arts, Communications, and Information Systems
  - Agriculture, Food, and Natural Resources
  - Business, Management, and Administration
  - Human Services

## *About This Report*

This report was developed by RealTime Talent for the Career and Technical Education Consortia of Minnesota with funding provided by Minnesota State. If you have questions about the data found in this report, or are interested in learning more, please contact Research Strategist Erin Olson at [erin@realtimetalentmn.org](mailto:erin@realtimetalentmn.org)

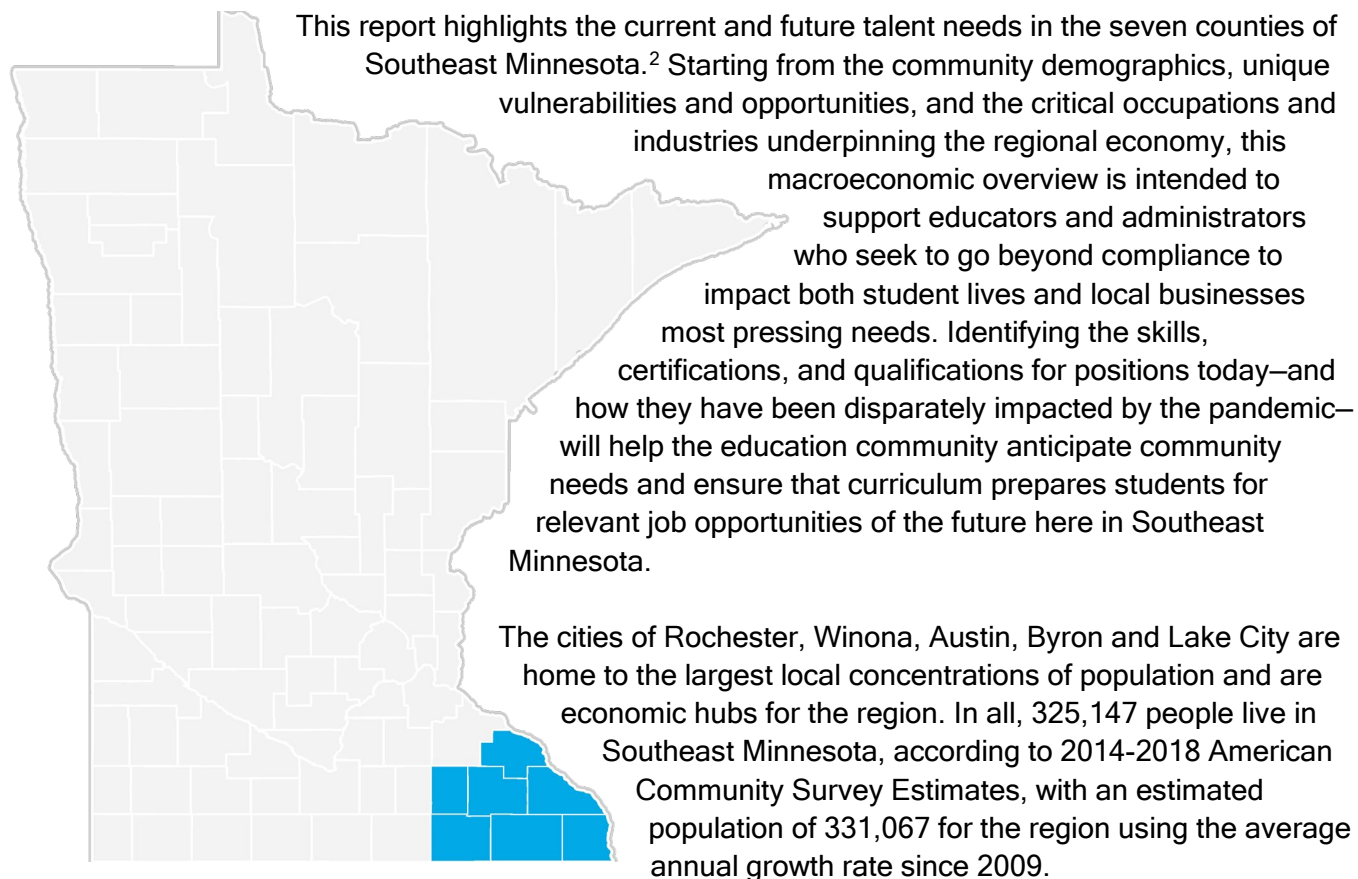
<sup>1</sup> Unemployment Statistics, MN Department of Employment and Economic Development. March 16, 2020 - August 27, 2020. Accessed 9/4/2020 at <https://mn.gov/deed/data/data-tools/unemployment-insurance-statistics/>

## Table of Contents

Workforce Trends & Economic Impacts.....	2
Introduction.....	2
About This Report .....	2
Southeast Minnesota.....	4
Introduction.....	4
Community Profile .....	6
Demographics.....	6
Employment.....	7
Education.....	9
Businesses.....	12
Workforce Impacts of COVID-19.....	14
Community Vulnerability .....	14
Industry Vulnerability.....	18
Occupational Vulnerability.....	20
General Workforce Impact Trend .....	22
Immediate-Term Occupational Impacts.....	24
Mid-Term Occupational Impacts.....	28
Shifting Opportunities .....	29
Remote Work.....	29
Future Growth by Field and Cluster.....	33
Emerging Career Paths.....	41
Skill and Certification Gaps .....	43
Accessible Career Pathways .....	44
Conclusion .....	48

# Southeast Minnesota

## Introduction

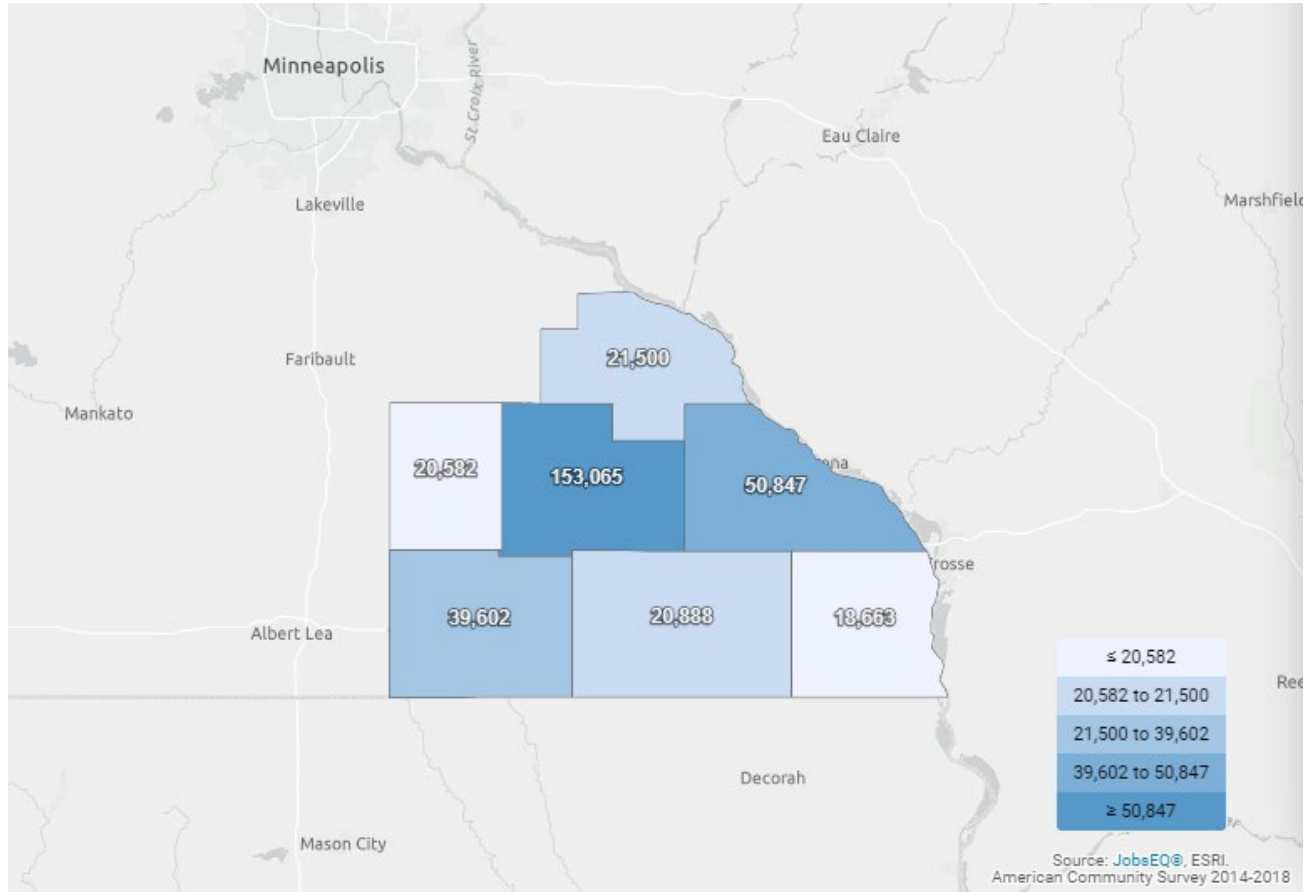


This report highlights the current and future talent needs in the seven counties of Southeast Minnesota.<sup>2</sup> Starting from the community demographics, unique vulnerabilities and opportunities, and the critical occupations and industries underpinning the regional economy, this macroeconomic overview is intended to support educators and administrators who seek to go beyond compliance to impact both student lives and local businesses most pressing needs. Identifying the skills, certifications, and qualifications for positions today—and how they have been disparately impacted by the pandemic—will help the education community anticipate community needs and ensure that curriculum prepares students for relevant job opportunities of the future here in Southeast Minnesota.

The cities of Rochester, Winona, Austin, Byron and Lake City are home to the largest local concentrations of population and are economic hubs for the region. In all, 325,147 people live in Southeast Minnesota, according to 2014-2018 American Community Survey Estimates, with an estimated population of 331,067 for the region using the average annual growth rate since 2009.

<sup>2</sup> Dodge, Fillmore, Houston, Mower, Olmsted, Wabasha, and Winona Counties.

## Resident Population Southeast Minnesota

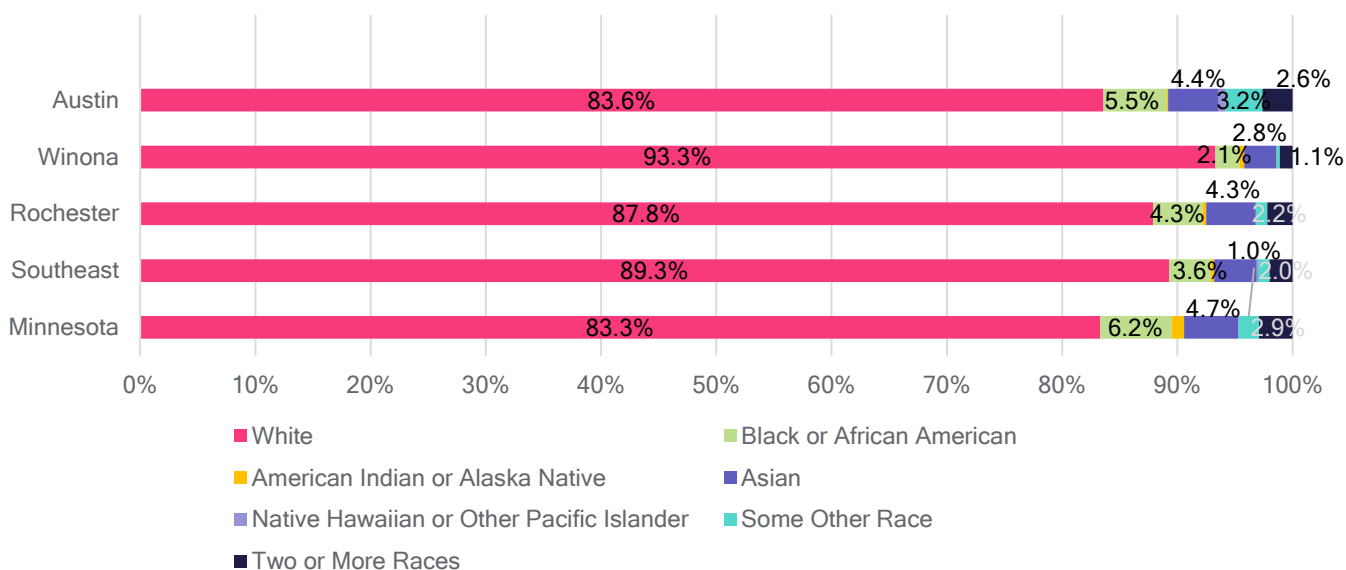


# Community Profile

## Demographics

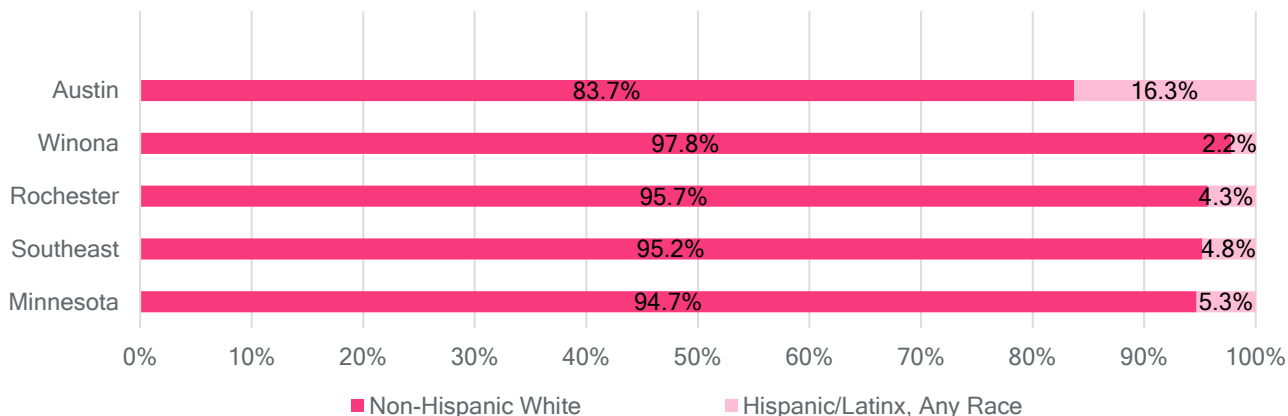
Communities across Southeast Minnesota are diverse in unique ways. Across the region overall, only about 10.7% of the population identify as Black, Asian, American Indian, Native Hawaiian, or some other race. The demographic makeup of communities across Southeast Minnesota are fairly similar to that of Winona. In contrast, Rochester has a greater share of Black and African American and Asian residents and Austin has a greater share of Black and African American, Asian, and Hispanic residents than the other cities in the region. Approximately 4.8% of Southeast Minnesota's residents are Hispanic or Latinx; 16.5% of Austin residents are Hispanic or Latinx. For reference, Southeast Minnesota's share of Hispanic or Latinx residents is about 1.5 percentage points higher than in the Northwest and 3.2 percentage point higher than in the Northeast.

Population Race, All Ages



American Community Survey 2014-2018.

Population Ethnicity, All Ages



American Community Survey 2014-2018.

## Community Demographics

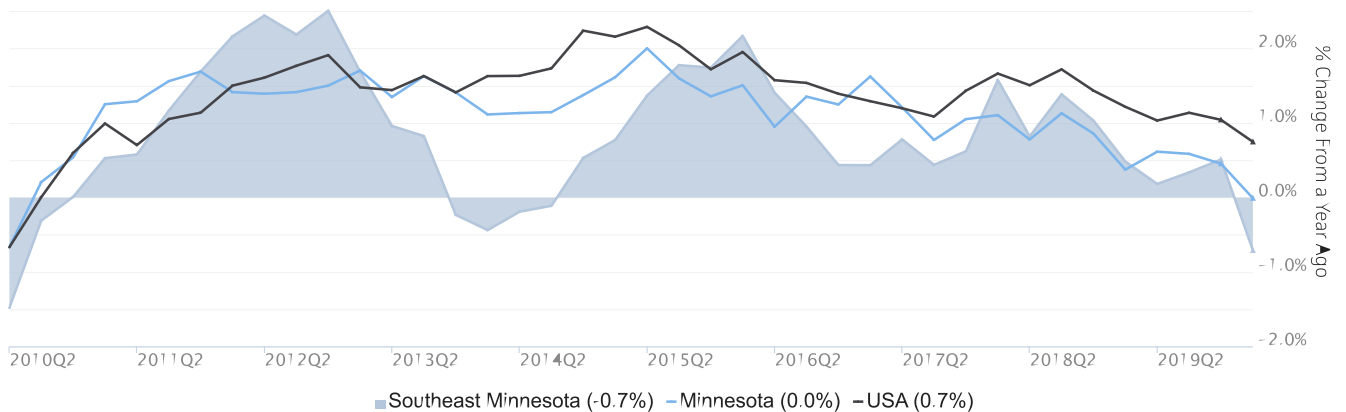
Demographics	Percent			Value		
	Southeast Minnesota	Minnesota	USA	Southeast Minnesota	Minnesota	USA
Population (ACS)	—	—	—	325,147	5,527,358	322,903,030
Male	49.5%	49.8%	49.2%	161,025	2,751,748	158,984,190
Female	50.5%	50.2%	50.8%	164,122	2,775,610	163,918,840
Median Age	—	—	—	38.4	37.9	37.9
Under 18 Years	23.5%	23.4%	22.8%	76,272	1,291,607	73,553,240
18 to 24 Years	9.6%	9.1%	9.6%	31,146	503,989	30,903,719
25 to 34 Years	12.8%	13.6%	13.8%	41,501	752,944	44,567,976
35 to 44 Years	11.9%	12.4%	12.6%	38,792	685,568	40,763,210
45 to 54 Years	12.5%	13.1%	13.2%	40,491	725,714	42,589,573
55 to 64 Years	13.5%	13.3%	12.8%	43,800	737,424	41,286,731
65 to 74 Years	8.8%	8.5%	8.8%	28,553	470,691	28,535,419
75 Years, and Over	7.6%	6.5%	6.4%	24,592	359,421	20,703,162
Race: White	89.3%	83.3%	72.7%	290,386	4,606,044	234,904,818
Race: Black or African American	3.6%	6.2%	12.7%	11,630	342,186	40,916,113
Race: American Indian and Alaska Native	0.3%	1.1%	0.8%	913	58,982	2,699,073
Race: Asian	3.7%	4.7%	5.4%	11,990	262,359	17,574,550
Race: Native Hawaiian and Other Pacific Islander	0.1%	0.0%	0.2%	242	2,187	582,718
Race: Some Other Race	1.0%	1.8%	4.9%	3,336	97,833	15,789,961
Race: Two or More Races	2.0%	2.9%	3.2%	6,650	157,767	10,435,797
Hispanic or Latino (of any race)	4.8%	5.3%	17.8%	15,500	292,764	57,517,935

American Community Survey 2014-2018 unless noted otherwise.

## Employment

As of 2020Q1, total employment for the Southeast Minnesota was 176,712 (based on a four-quarter moving average). Over the year ending 2020Q1, employment declined 0.7% in the region.

### Employment for Southeast Minnesota

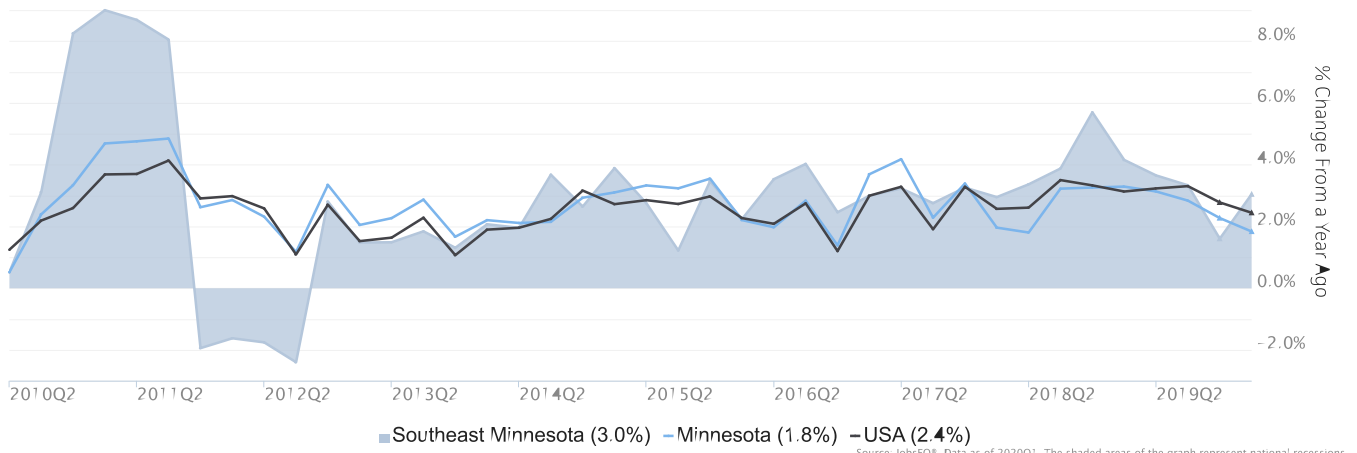


Employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2019Q3 with preliminary estimates updated to 2020Q1.



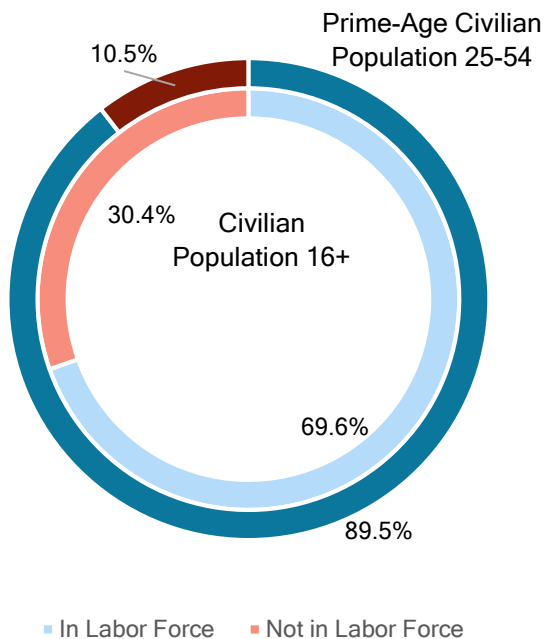
The average worker in the Southeast Minnesota earned annual wages of \$55,344 as of 2020Q1. Average annual wages per worker increased 3.0% in the region over the preceding four quarters. For comparison purposes, annual average wages were \$57,624 in the nation as of 2020Q1.

### Average Annual Wages for Southeast Minnesota



Annual average wages per worker data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2019Q3 with preliminary estimates updated to 2020Q1.

### Labor Force Participation Rate



The region has a civilian labor force of 178,890 with a participation rate of 69.6%, which is on par with Minnesota's labor force participation rate for the population over 16 (69.7%). The median age in Southeast Minnesota (38.4 years) is higher than other parts of the state (37.9 years statewide). Furthermore, the participation rate of the prime working age population (between the ages of 25 and 64) is higher than the statewide rate—88.2%.

The Southeast region has an equivalent share of veterans in the region, at 4.2% of the regional population compared to 4.1% broadly across the state. However, the veteran labor force participation rate is higher in the Southeast (82.5%), compared to 79.5% statewide. Similarly, the Southeast has a slightly smaller share of the population with a disability, 8.3% compared to 8.7% statewide, however, the region has a higher labor force participation rate for the prime working age

population with a disability (56.8%) compared to the state (52.5%).

## Economic and Social Characteristics of Southeast Minnesota

Economic and Social Characteristics	Percent			Values		
	Southeast Minnesota	Minnesota	USA	Southeast Minnesota	Minnesota	USA
Labor Force Participation Rate and Size (civilian population 16 years and over)	69.6%	69.7%	63.2%	178,890	3,050,676	162,248,196
Prime-Age Labor Force Participation Rate and Size (civilian population 25-54)	89.5%	88.2%	81.8%	108,034	1,906,910	104,136,254
Armed Forces Labor Force	0.0%	0.1%	0.4%	122	2,329	1,028,133
Veterans, Age 18-64	4.2%	4.1%	4.7%	8,195	138,077	9,398,789
Veterans Labor Force Participation Rate and Size, Age 18-64	82.5%	79.5%	76.3%	6,759	109,835	7,168,168
Median Household Income*	—	—	—	\$66,499	\$68,411	\$60,293
Per Capita Income	—	—	—	\$34,705	\$36,245	\$32,621
Poverty Level (of all people)	9.9%	10.1%	14.1%	31,338	547,442	44,257,979
Households Receiving Food Stamps/SNAP	7.4%	8.2%	12.2%	9,598	178,604	14,635,287
Enrolled in Grade 12 (% of total population)	1.4%	1.4%	1.4%	4,668	79,941	4,442,295
Disconnected Youth**	2.6%	1.8%	2.6%	447	5,025	438,452
Children in Single Parent Families (% of all children)	25.6%	28.0%	34.3%	18,860	348,224	23,973,249
Uninsured	4.9%	4.7%	9.4%	15,710	254,764	29,752,767
With a Disability, Age 18-64	8.3%	8.7%	10.3%	16,077	292,907	20,240,504
With a Disability, Age 18-64, Labor Force Participation Rate and Size	56.8%	52.5%	41.6%	9,139	153,894	8,421,018
Foreign Born	7.3%	8.4%	13.5%	23,793	461,758	43,539,499

American Community Survey 2014-2018 unless noted otherwise.

\*Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties. \*\*Disconnected Youth are 16-19 year olds who are (1) not in school, (2) not high school graduates, and (3) either unemployed or not in the labor force.

## Education



**94%** of prime working age adult residents have at least a high school diploma or GED.

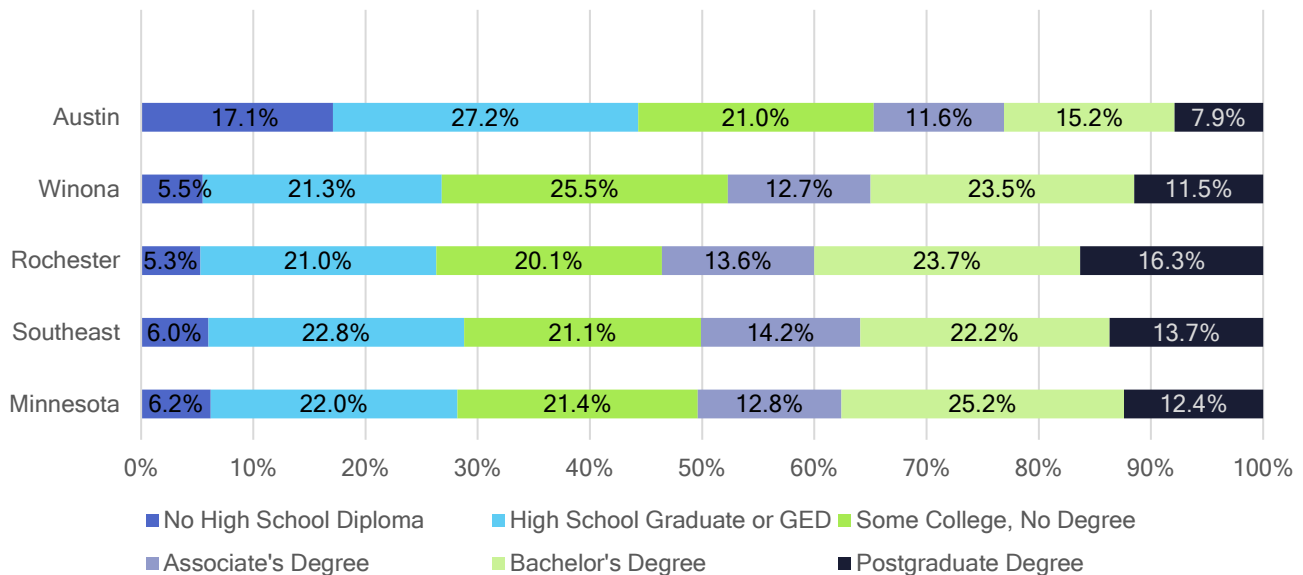
Just 6% of Southeast Minnesota adults between the ages of 25 and 64 do not have a high school diploma or equivalent, and about 22.8% have a high school diploma as their highest level of education (compared with 22% statewide and 25.8% nationwide). In contrast, some communities of the Minneapolis-Saint Paul Metro have as high as 20% of prime working age adults in a neighborhood with no high school diploma or GED credential. The prime working age population of Rochester and Winona have smaller shares of residents with a high school diploma or less, 26.3% and 26.8%, respectively, while Austin has a larger share of residents with lower educational attainment (44.3%).

## Educational Characteristics of Southeast Minnesota

Educational Characteristics	Percent			Values		
	Southeast Minnesota	Minnesota	USA	Southeast Minnesota	Minnesota	USA
No High School Diploma	6.0%	6.2%	11.2%	9,929	178,547	18,885,967
High School Graduate	22.8%	22.0%	25.8%	37,521	639,601	43,699,272
Some College, No Degree	21.1%	21.4%	21.0%	34,783	620,252	35,525,113
Associate's Degree	14.2%	12.8%	9.1%	23,399	372,692	15,389,737
Bachelor's Degree	22.2%	25.2%	20.8%	36,481	731,462	35,261,652
Postgraduate Degree	13.7%	12.4%	12.1%	22,471	359,096	20,445,749

American Community Survey 2014-2018 unless noted otherwise.

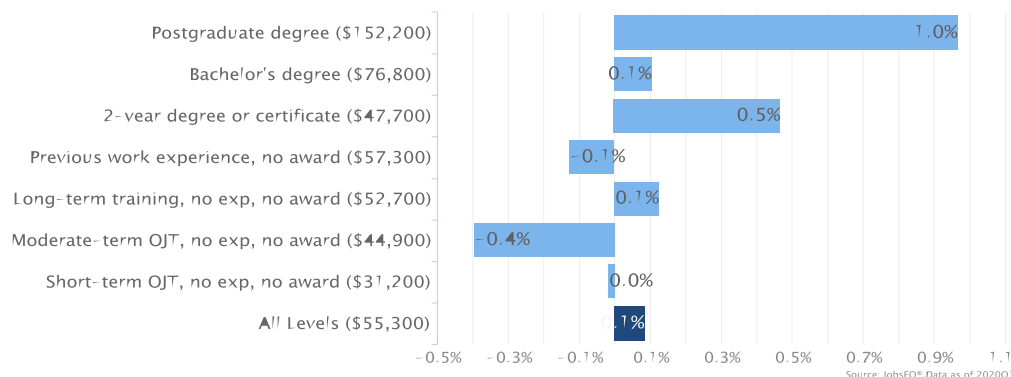
## Educational Attainment, Age 25-64



American Community Survey 2014-2018.

Expected growth rates for occupations vary by the education and training required. While all employment in the Southeast Minnesota is projected to grow 0.1% over the next ten years, occupations typically requiring a postgraduate degree are expected to grow 1.0% per year, those requiring a bachelor's degree are forecast to grow 0.1% per year, and occupations typically needing a 2-year degree or certificate are expected to grow 0.5% per year.

## Annual Average Projected Job Growth by Training Required for Southeast Minnesota



Employment by occupation data are estimates as of 2020Q1. Education levels of occupations are based on BLS assignments. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.

### Regional Colleges and Universities

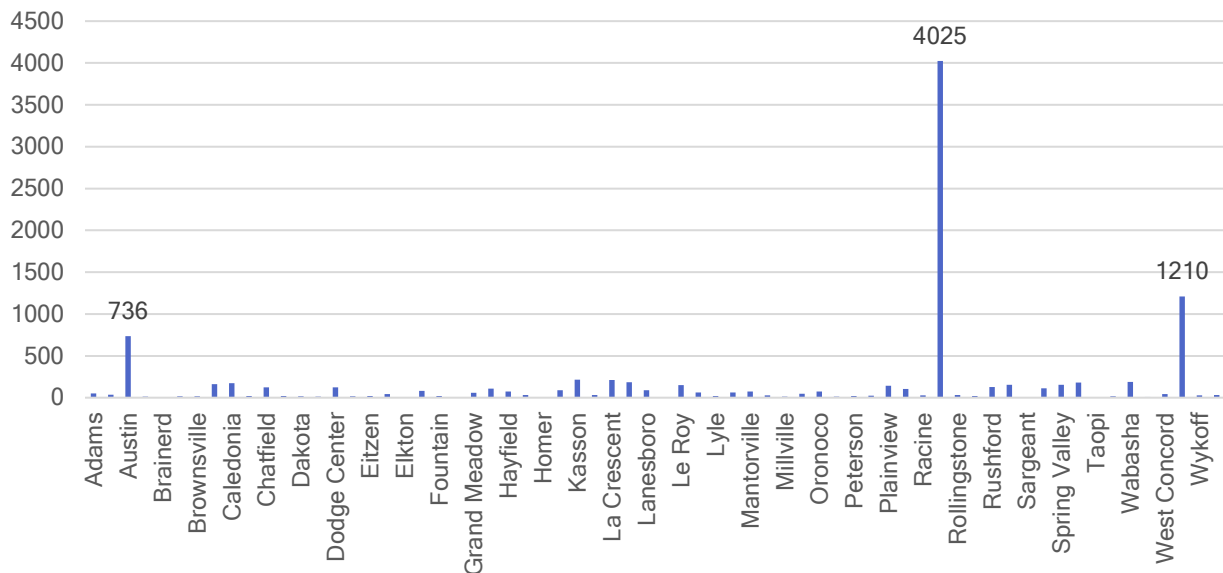
Southeast Minnesota has eight institutions of higher education that offer non-degree awards, two-year degrees, and four-year degrees. The table below shows these postsecondary institutions sorted by enrollment size in during the 2017-18 school year.

School	Certificates and 2yr Awards	4yr Awards	Total School Enrollment	Avg Net Price
Winona State University	44	1,876	7,792	\$16,401
Saint Mary's University of Minnesota	0	419	5,560	\$21,370
Rochester Community and Technical College	984	0	5,129	\$13,645
Riverland Community College	608	0	3,263	\$9,472
Minnesota State College Southeast	451	0	1,850	\$12,854
Mayo Clinic College of Medicine and Science	169	25	1,123	n/a
University of Minnesota-Rochester	0	84	533	\$15,469
Nova Academy of Cosmetology	99	0	111	\$14,458
<b>Total</b>	<b>2,355</b>	<b>2,404</b>	<b>25,361</b>	<b>n/a</b>

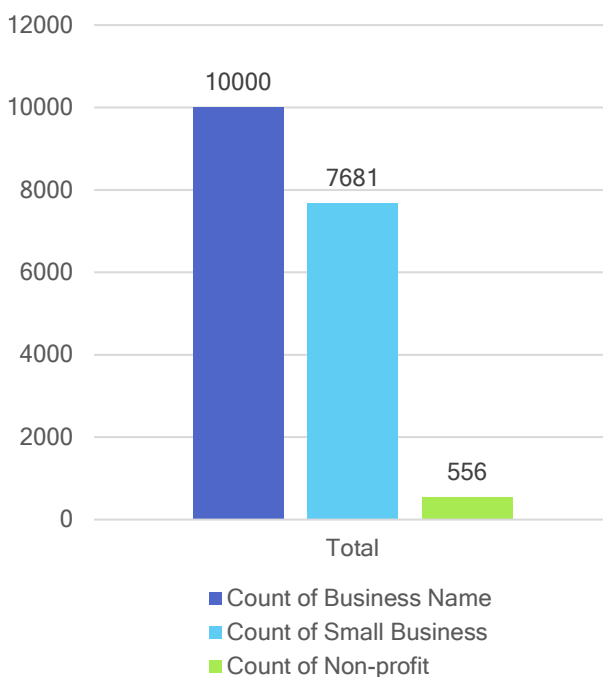
## Businesses

According to DatabaseUSA's sample of 10,000 businesses located in Southeast Minnesota, nearly 40% (4,025 businesses) are located Rochester; Winona has the second highest concentration of businesses with 1,210 (12%). Of the sample Southeast Minnesota businesses, 569 are confirmed to be female-owned, and 66 are confirmed to be "minority-owned."

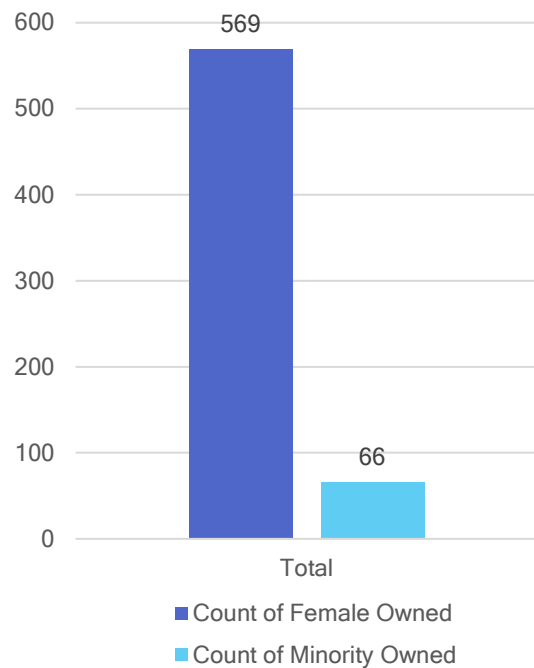
**Businesses by City in Southeast MN**



**Small Businesses and Non-Profits in Southeast MN**

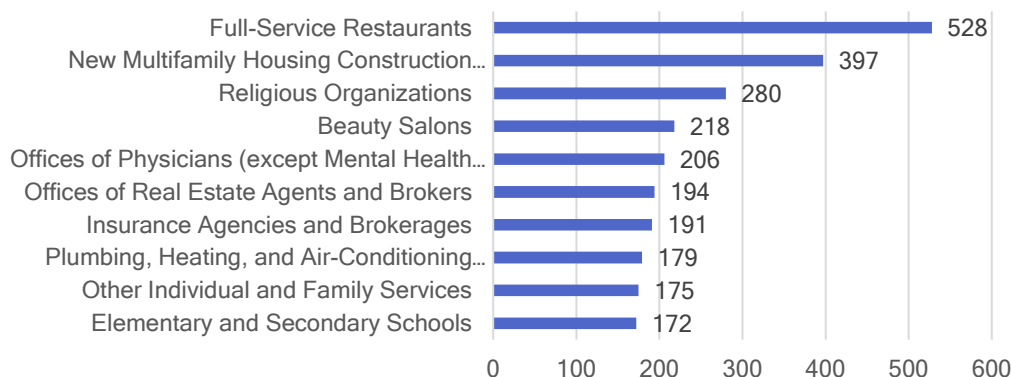


**Female & Minority-Owned Businesses in Southeast MN**



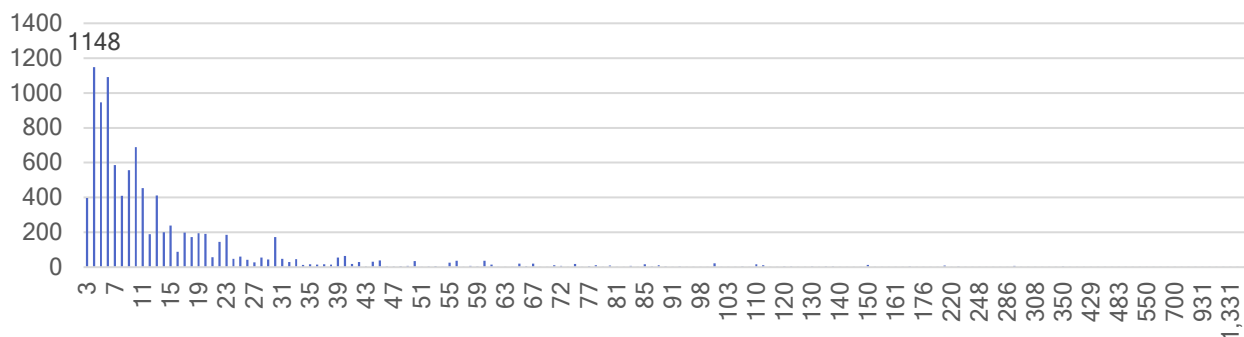
Among the 10,000 local businesses in the sample, the industries with the largest number of establishments are Full-Service Restaurants, New Multifamily Housing Construction, and Religious Organizations.

**Businesses by Industry (Top 10 by Number) in Southeast Minnesota**

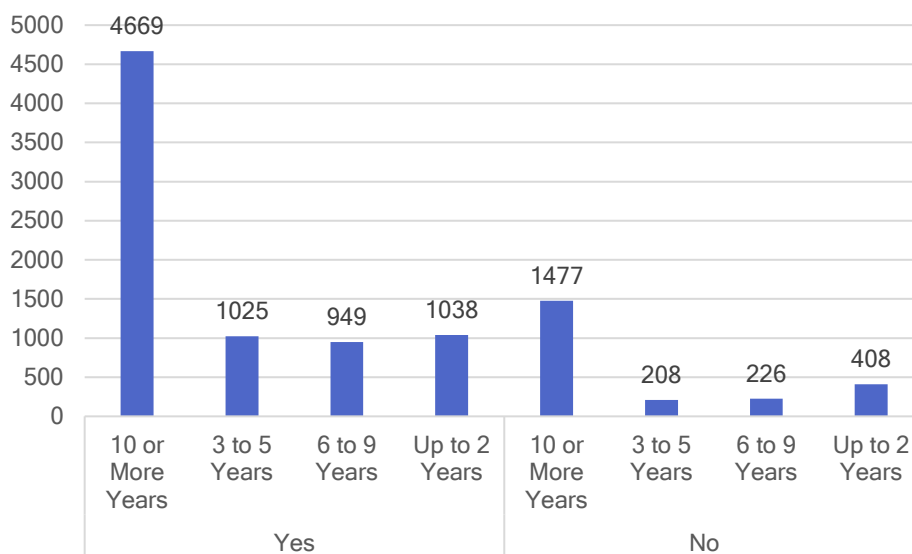


About 11% (1,148) of sample of businesses in Southeast Minnesota have just four employees. With a high volume of small businesses in the region, it is notable that about 64% of all regional businesses have been in business for ten or more years.

**Businesses by Size in Southeast Minnesota**



**Businesses by Small Business Status and Number of Years in Business in Southeast Minnesota**



# Workforce Impacts of COVID-19

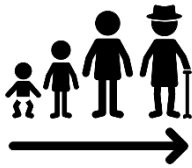
## *Community Vulnerability*

Because COVID-19 is a new disease, more work is needed to better understand the risk factors for severe illness or complications. Potential risk factors that have been identified by the Center for Disease Control (CDC) to date include:

- Age
- Race/ethnicity
- Gender
- Some medical conditions
- Use of certain medications
- Poverty and crowding
- Certain occupations
- Pregnancy

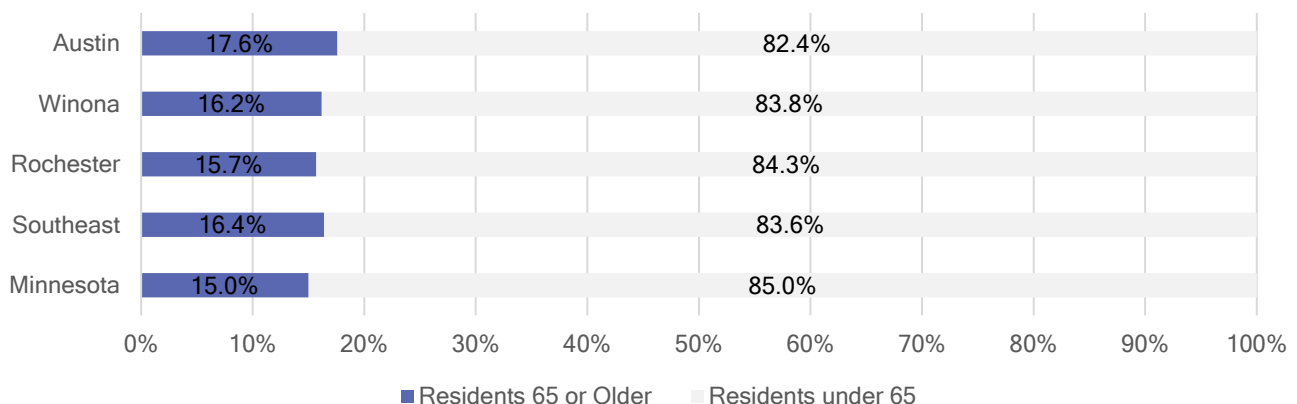
Older adults and people with medical conditions are at increased risk for severe illness. People who may need extra precautions, as prevalence of the virus is higher for these groups, include racial and ethnic minority groups, people living in rural communities, and people experiencing homelessness. Additional groups advised by the CDC to take additional precautions are those who may have more complex treatment needs if they were to fall seriously ill, such as people who are pregnant or breastfeeding, people with disabilities, and people with developmental or behavioral disorders.

## AGE



Southeast MN has a **HIGHER** share of residents 65 or older (16.4% of residents).

### Residents 65+



American Community Survey 2014-2018.

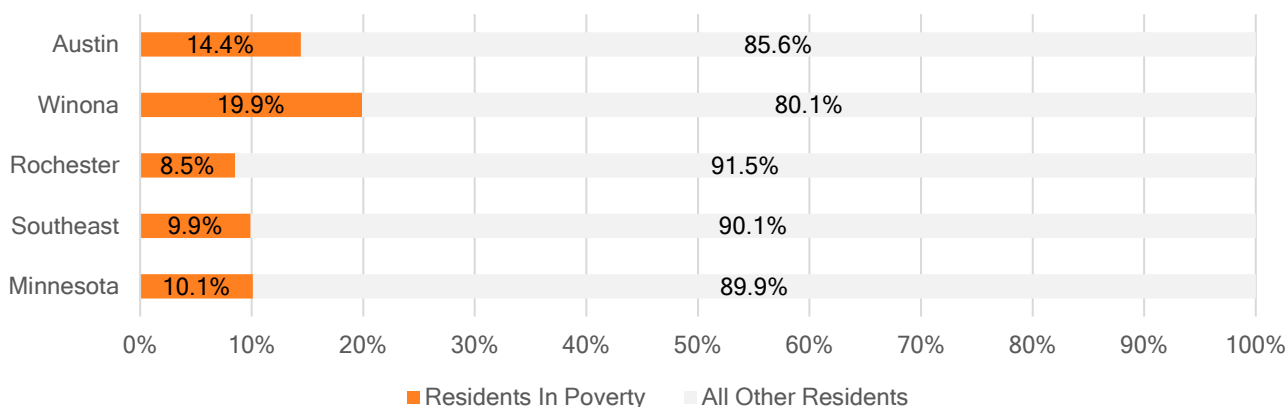
## POVERTY



Southeast MN has a **LOWER** share of residents living in poverty (9.9%).

The per-capita income of residents of Southeast Minnesota is \$34,705, which is about \$1,540 lower than the per-capita income of Minnesota residents overall (\$36,245). The per capita income of residents in Winona is \$25,838, which is over \$10,000 less than the statewide per-capita income. About one in ten (9.9%) Southeast Minnesota residents live in poverty and about one in five of Winona residents live in poverty (19.9%). About 7.4% of households in Southeast Minnesota receive food stamps, compared to 8.2% and 12.2% in Minnesota and nationwide, respectively.

Residents in Poverty



American Community Survey 2014-2018.

## DISCONNECTED YOUTH

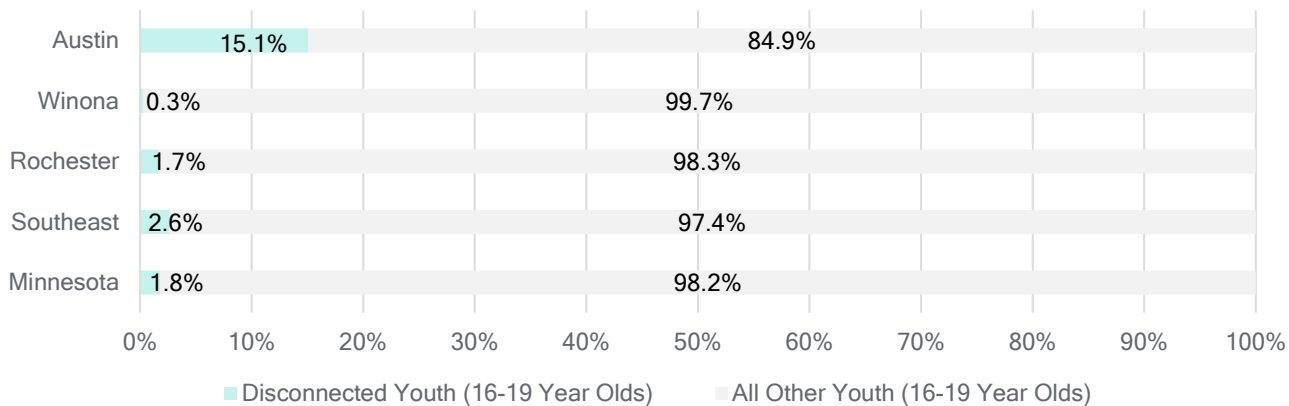


Southeast MN has a **HIGHER** share of disconnected youth (2.6%).

There are an estimated 447 disconnected youth living in Southeast Minnesota, which is about 2.6% of the total population of people between the ages of 16 and 19. These youth are not in school, not high school graduates, and are either unemployed or not in the labor force. The Southeast Minnesota's disconnected youth represent about 9% of all disconnected youth in the state (5,025 total statewide). Austin has a greater share of disconnected youth with 15.1% than Rochester (1.7%) or Winona (0.3%).



## Disconnected Youth



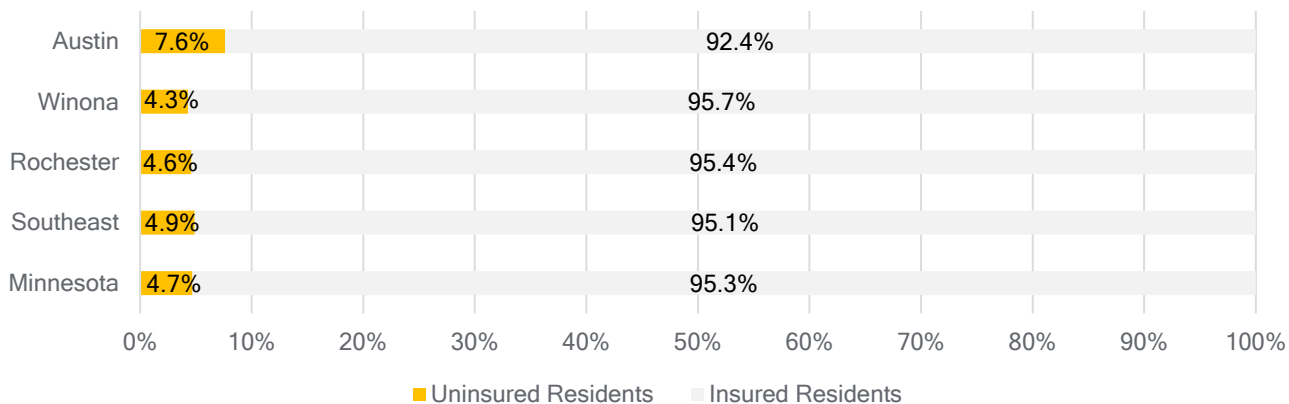
American Community Survey 2014-2018.

## UNINSURED



Southeast MN has a **HIGHER** share of residents without health insurance (4.9%).

## Uninsured Residents



American Community Survey 2014-2018.

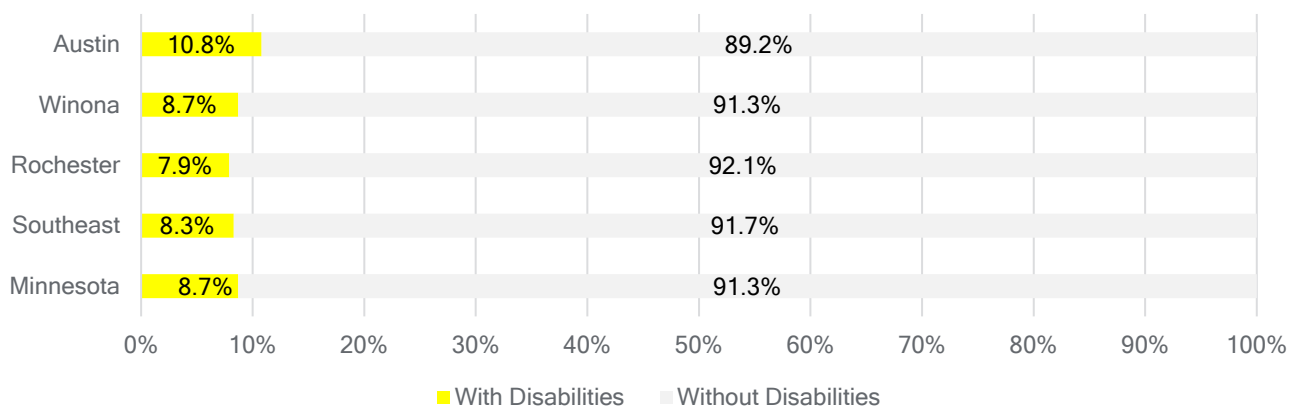
## DISABILITY



Southeast MN has a **LOWER** share of residents with disabilities (8.3%).

Southeast Minnesota has a lower share of residents ages 18 to 64 with a disability compared to Minnesota as a whole (8.7%) and the nation overall (10.3%). In all, about 16,077 adults (8.3%) between the ages 18 to 64 living in Southeast Minnesota have some form of disability. Of these, 56.8% participate in the labor force (9,139 total working or seeking work), compared to 52.5% statewide.

### Residents with Disabilities, Ages 18-64



American Community Survey 2014-2018.

## Industry Vulnerability

The Economic Vulnerability Index is a measurement developed by Chmura Economics to estimate the negative impact that the coronavirus crisis can have on employment based upon a community's mix of industries.<sup>3</sup> For example, accommodation and food services are projected to lose more jobs as a result of the coronavirus (over half of jobs lost, on average across the broad industry category) compared to utilities and education services (with mild or no job contractions in most cases). Overall, this index measures the possible impact in a community dependent upon the local industry mix—it does not take into account variation due to a region's rate of viral infection, health services, policies, or other considerations.

According to Chmura Economics, “the average Vulnerability Index score is 100, representing the average job loss expected in the United States. Higher scores indicate the degree to which job losses may be greater—an index of 200, for example, means the rate of job loss can be twice as large as the national average. Conversely, an index of 50 would mean a possible job loss of half the national average.” In Southeast Minnesota, Olmsted County may have about the average rate of job loss expected in the United States (ranking #916 from the top nationwide in possible negative economic impact), while Houston County may have almost 30% less job losses than the national average.

**Economic Vulnerability of Southeast Counties by Industry Mix, July 2020**

<b>Southeast Minnesota</b>	<b>Vulnerability Index</b>	<b>National Rank</b>
Olmsted County, Minnesota	97.42	916
Wabasha County, Minnesota	90.09	1327
Winona County, Minnesota	87.28	1483
Fillmore County, Minnesota	81.25	1817
Dodge County, Minnesota	75.54	2114
Mower County, Minnesota	73.92	2203
Houston County, Minnesota	70.05	2393

Economic Vulnerability Index model from Chmura Economics & Analytics

Industries like Accommodation and Food Services and Arts, Entertainment, and Recreation have been hardest-hit by the impacts of COVID-19. In fact, losses as high as 60% are anticipated short-term impacts in both of these industries. An estimated 13% of local occupations by industry in the Southeast region are vulnerable to the immediate-term impacts of COVID-19.

<sup>3</sup> Chmura Economics, April 2020. <http://www.chmuraecon.com/interactive/covid-19-economic-vulnerability-index/>

### Short-Term Industry Vulnerability to the COVID-19 Pandemic, Southeast Minnesota

Industry	Anticipated Short-Term Job Loss from COVID-19	Total Local Employment	Total Vulnerable Jobs
Accommodation and Food Services	60%	13,790	8,274
Arts, Entertainment, and Recreation	60%	2,475	1,485
Other Services (except Public Administration)	25%	6,630	1,658
Transportation and Warehousing	20%	5,406	1,081
Retail Trade	20%	17,076	3,415
Wholesale Trade	20%	4,016	803
Information	15%	2,420	363
Manufacturing	7%	21,216	1,485
Construction	7%	8,420	589
Mining, Quarrying, and Oil and Gas Extraction	5%	102	5
Real Estate and Rental and Leasing	5%	1,269	63
Health Care and Social Assistance	5%	55,943	2,797
Finance and Insurance	5%	2,918	146
Educational Services	5%	12,638	632
Administrative and Support and Waste Management and Remediation Services	2%	4,948	99
Agriculture, Forestry, Fishing and Hunting	2%	4,414	88
Public Administration	1%	6,873	69
Professional, Scientific, and Technical Services	1%	3,337	33
Management of Companies and Enterprises	1%	2,385	24
Utilities	1%	437	4
<b>Total Jobs</b>	<b>13%</b>	<b>176,712</b>	<b>23,115</b>

Economic Vulnerability Index model from Chmura Economics & Analytics

## *Occupational Vulnerability*

Research by Dingel and Neiman<sup>4</sup> and by Leibovici, Santacreu, and Famiglietti<sup>5</sup> highlight occupations that cannot be done from home and are consistently high contact-intensity. Following their models, a combination of occupational employment estimates as of the fourth quarter of 2020, coupled with an index of occupational contact-intensity from O\*NET, gives us a picture of local occupations in high vulnerability due to their level of close proximity to patients or the general public. O\*NET classifies positions based on a rating system of job requirements in close physical proximity to other people. The possible answers and corresponding scores are:

- I don't work near other people (beyond 100 ft.): 0
- I work with others but not closely (e.g. private office): 25
- Slightly close (e.g. shared office): 50
- Moderately close (at arm's length): 75
- Very close (near touching): 100

All occupations are then classified into low-medium and high contact-intensity categories based on scores of 0-50 (low), 50-75 (medium), and 75+ (high). Fifteen out of 107 occupations at the four-digit Standard Occupation Level (SOC) are considered high contact-intensity. The occupation cluster of highest contact intensity are Barbers, Hairstylists, and Cosmetologists, with a physical proximity index of 92.17. Other occupations that are contact-intensive include teachers, health care workers, and a multitude of roles in the service industry. Minnesota has around 21% of workers in high contact-intensity roles, on the lower end of states ranging from 20% to 25% overall.

The Southeast region has higher share of high contact-intensity positions than Minnesota overall, at about 33% of individuals employed in the first quarter of 2020 being employed in high contact-intensity positions. The majority of these were in direct health care support roles, health diagnosing and treating roles, food and beverage service roles, educators, and motor vehicle operators. Of these, the Healthcare Diagnosing or Treating Practitioners are expecting the greatest volume in annual growth. In all, about 32% of new positions opening due to job exits, job changes, or job growth under normal economic conditions would be for high contact-intensity positions in the region. Across Minnesota, these high contact-intensity roles pay an average \$51,000 per year compared to just \$65,400 for jobs located in Southeast Minnesota.

<sup>4</sup> Dingel, C. L., and B. Neiman (2020): "How Many Jobs Can be Done at Home?" *NBER Working Paper No. 26948*.

<sup>5</sup> Leibovici, F., A. M. Santacreu, and M. Famiglietti (2020): "Social Distancing and Contact-Intensive Occupations," FRB St. Louis Technical Report, URL: <https://www.stlouisfed.org/on-the-economy/2020/march/social-distancing-contact-intensive-occupations#:~:text=Food%20and%20beverage%20serving%20workers%20are%20at%20the%20bottom%20of,K%20to%2012th%20grade%20teachers.>

## Summary Statistics of High Contact-Intensity Positions in Southeast Minnesota, 2020Q1

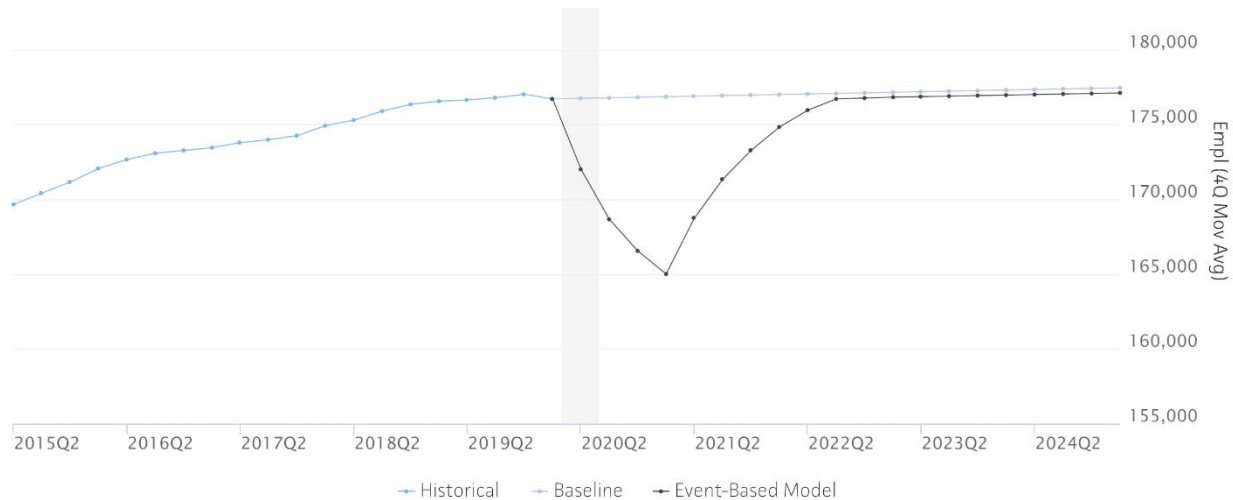
SOC	Occupation	Proximity Index	Annual Supply Gap	Current Empl. 2020Q1	Annual Growth Demand	Annual Sep Demand	Total Annual Demand	Projected Empl 2030	Accum. Supply 2025	Accum. Demand 2025	Avg Wages
31-2000	Occupational Therapy and Physical Therapist Assistants and Aides	90.5	(1)	235	3	40	43	264	100	103	\$49,100
31-1100	Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides	90.3	1	7,072	110	1,419	1,529	8,173	3,227	3,220	\$30,300
35-1000	Supervisors of Food Preparation and Serving Workers	88.0	5	1,119	5	220	225	1,168	544	518	\$39,600
29-1000	Healthcare Diagnosing or Treating Practitioners	86.2	(177)	16,300	149	1,161	1,310	17,790	2,554	3,441	\$131,700
39-1000	Supervisors of Personal Care and Service Workers	84.5	(2)	326	2	46	48	344	107	116	\$46,300
29-2000	Health Technologists and Technicians	82.7	(46)	7,050	32	698	730	7,368	1,658	1,889	\$53,700
31-9000	Other Healthcare Support Occupations	80.2	(23)	4,700	67	766	833	5,374	1,827	1,944	\$43,800
25-2000	Preschool, Elementary, Middle, Secondary, and Special Education Teachers	79.5	(3)	4,741	-5	515	509	4,687	1,308	1,323	\$57,200
25-3000	Other Teachers and Instructors	79.0	1	1,109	2	192	193	1,126	429	426	\$42,300
53-3000	Motor Vehicle Operators	75.6	0	4,616	-2	769	767	4,595	1,748	1,750	\$40,200
39-9000	Other Personal Care and Service Workers	75.5	25	2,591	6	581	586	2,651	1,398	1,273	\$29,500
35-3000	Food and Beverage Serving Workers	75.2	145	8,552	47	2,245	2,292	9,022	5,449	4,722	\$26,200
<b>All High Contact-Intensity Occupations</b>				<b>58,411</b>	<b>416</b>	<b>8,652</b>	<b>9,065</b>	<b>62,562</b>	<b>20,349</b>	<b>20,725</b>	<b>\$65,400</b>
<b>Total - All Occupations</b>				<b>176,713</b>	<b>152</b>	<b>27,125</b>	<b>27,270</b>	<b>178,196</b>	<b>65,932</b>	<b>64,675</b>	<b>\$55,300</b>
<b>Share High Contact-Intensity</b>				<b>33%</b>	<b>HIGH</b>	<b>32%</b>	<b>33%</b>	<b>35%</b>	<b>31%</b>	<b>32%</b>	

The ongoing pandemic affects each of these occupations, though in different ways: for instance, with hospitality and food service roles being largely eliminated during the first three months of the pandemic, while essential occupations remained in high demand and experienced dramatic shortages of workers. Health Diagnosing and Treating Practitioners is one occupation area that has had extremely varied experiences, as some medical procedures not deemed essential were placed on hold for a period of time and sending many into furlough. Long-term, Health Diagnosing and Treating Practitioners are expected to be in shortage in the Southeast region and experiencing higher than average growth demand. Average wages for these roles are \$131,700 in this region and positions typically require a college degree. See more on detailed occupation impacts in the immediate-term through local unemployment application trends and the mid-term based on occupation supply-demand analysis.

## General Workforce Impact Trend

Overall, impacts of COVID-19 have been expected to be sharp and short, with an eventual return to the forecasted trends anticipated prior to the impact of the virus. Future growth in jobs in the region is forecasted to decline by about 0.1% annually through 2025, under official forecasts by the Bureau of Labor Statistics and the MN Department of Employment and Economic Development.

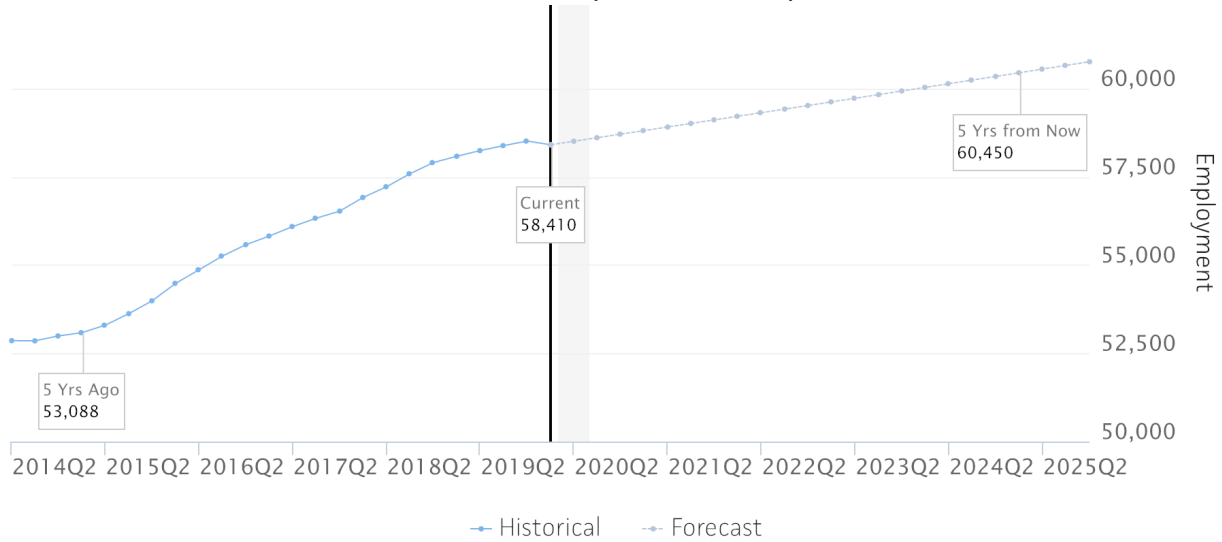
5-Year Forecast Comparison in Southeast Minnesota



Source: JobsEQ®, Data as of 2020Q1

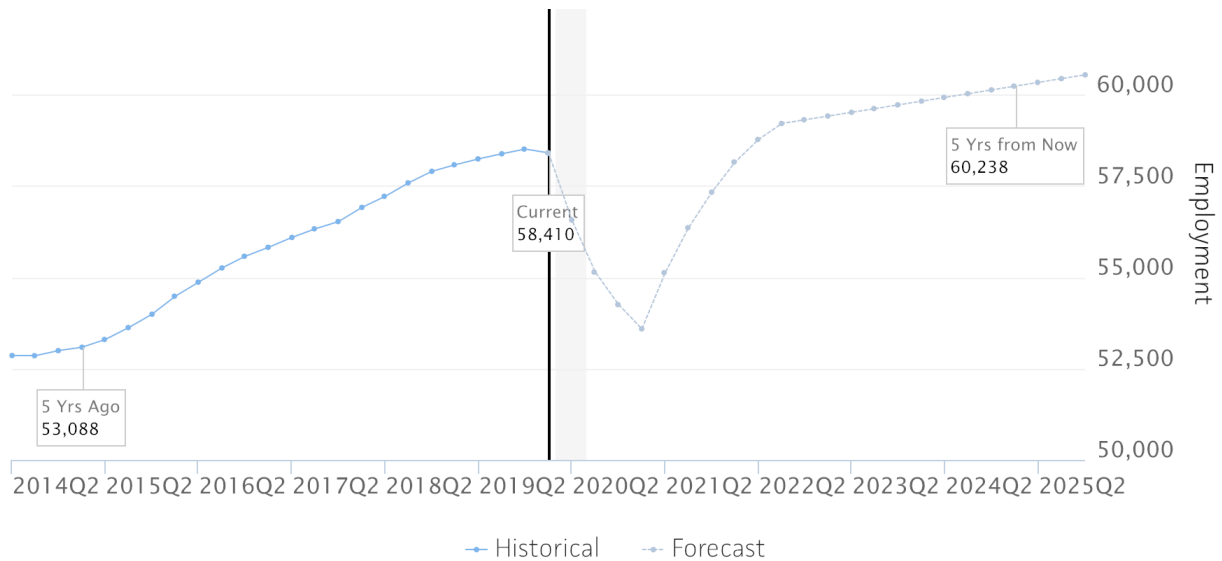
For roles that require close contact with the public, moderate growth was forecast in Southeast Minnesota. Across this region, it is anticipated that from the 58,410 people employed locally in high contact-intensity roles during the first quarter of 2020 will see a dramatic drop of 4,818 (-8.2%) by the first quarter of 2021, and then gradually rise through the third and fourth quarters of 2022 to return to a similar annual growth rate for these positions that was anticipated prior to the pandemic. An estimated drop from 0.70% annual growth formerly forecast for Southeast Minnesota's high contact-intensity roles down to about 0.63% average annual growth over five years in these positions is a reasonable estimated impact.

### Baseline High Contact-Intensity Occupation Employment 5-Year Forecast in Southeast Minnesota (Pre-COVID-19)



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

### COVID-19-Impacted High Contact-Intensity Occupation Employment 5-Year Forecast in Southeast Minnesota



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

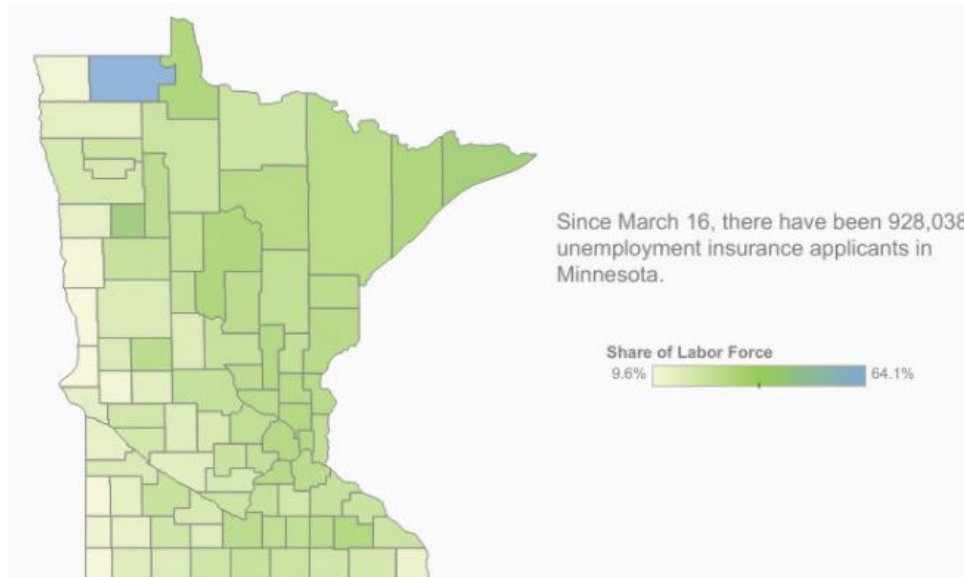


## *Immediate-Term Occupational Impacts*

Non-essential occupations that require a high-degree of close physical interaction have been hit hardest in the early weeks of the pandemic, as consumers reduced demand in pursuit of social distancing and regulation at state and local levels shut down business functions in high-contact roles. According to Leibovici and collaborating authors, “these occupations are likely to be more vulnerable to the shock, leading either to layoffs of nonessential workers or to an increase in the risk of contagion among those workers that have to stay in the workplace to perform essential activities. Carrying out some of these occupations remotely, when plausible, is likely to allow them to better absorb the negative shock.”<sup>6</sup>

Across Minnesota, there have been 928,038 applicants for unemployment insurance since March 16, 2020 according to the MN Department of Employment and Economic Development. Among the Southeast Minnesota counties, Olmsted County has had the greatest share of its overall labor force apply for unemployment insurance since March 16, 2020. Over the past five and a half months, Olmsted County saw 33.3% of its existing workforce apply for unemployment insurance.

### Unemployment Insurance Applicants as a Share of Total Labor Force by County



MN DEED, Unemployment Insurance Statistics. Accessed 9/3/2020 at <https://mn.gov/deed/data/data-tools/unemployment-insurance-statistics/>

Food and Beverage Serving Workers and Construction Trades Workers had the most applicants for unemployment in Southeast Minnesota since the beginning of the COVID-19 Pandemic, representing 14.1% of all applications, or a total of 6,475 workers. These two occupation groups account for about 8% of total employment in the Southeast region.

<sup>6</sup> Unemployment Insurance Applications, MN Department of Employment and Economic Development.

### Unemployment Insurance Applicants and Employment in Top 20 Occupations Requesting Insurance in Southeast Minnesota from March 16, 2020 - August 27, 2020

Occupations, March 16 - August 27, 2020	Total UI Applicants in Southeast MN	% of Total Applicants in Southeast MN*	2020Q1 Empl in Southeast MN	% of Total Empl in Southeast MN	% of Total Workforce Applying for UI Relief**
Food and Beverage Serving Workers	3318	7.2%	8,552	4.9%	38.8%
Construction Trades Workers	3157	6.9%	5,242	3.0%	36.9%
Health Diagnosing and Treating Practitioners	2764	6.0%	16,300	9.3%	32.3%
Computer Occupations	2589	5.6%	3,546	2.0%	30.3%
Other Healthcare Support Occupations	2427	5.3%	4,700	2.7%	28.4%
Retail Sales Workers	2349	5.1%	9,193	5.3%	27.5%
Health Technologists and Technicians	1866	4.1%	7,050	4.0%	21.8%
Other Production Occupations	1843	4.0%	3,206	1.8%	21.6%
Cooks and Food Preparation Workers	1554	3.4%	3,163	1.8%	18.2%
Information and Record Clerks	1225	2.7%	7,091	4.1%	14.3%
Motor Vehicle Operators	1171	2.5%	4,616	2.6%	13.7%
Secretaries and Administrative Assistants	1124	2.4%	5,023	2.9%	13.1%
Other Food Preparation and Serving Related Workers	1081	2.3%	1,236	0.7%	12.6%
Personal Appearance Workers	1070	2.3%	900	0.5%	12.5%
Other Office and Administrative Support Workers	1054	2.3%	3,672	2.1%	12.3%
Nursing, Psychiatric, and Home Health Aides	882	1.9%	7,072	4.0%	10.3%
Other Management Occupations	871	1.9%	6,559	3.7%	10.2%
Building Cleaning and Pest Control Workers	792	1.7%	3,675	2.1%	9.3%
Metal Workers and Plastic Workers	784	1.7%	2,178	1.2%	9.2%
Other Personal Care and Service Workers	774	1.7%	2,591	1.5%	9.1%
<b>Grand Total - All Occupations</b>	<b>46,062</b>	<b>100.0%</b>	<b>174,969</b>	<b>100.0%</b>	<b>26.3%</b>

\*Fields marked in orange have a higher than anticipated concentration of UI applicants relative to the size of the existing workforce in that occupation, or higher than the overall ratio of unemployment insurance applicants to total workforce (\*\*)

By demographic, employed Southeast residents between the ages of 20 and 44 years had their careers disproportionately negatively impacted by COVID-19, applying for unemployment insurance at higher rates than would be expected based on the overall share of all workers they represent. In the Southeast region, there is a greater share of people under the age of 45 in high contact-intensity roles than when compared to overall employment across all occupations. Individuals in these groups may be more likely to be exposed to the virus in their place of work, or experience layoffs associated with being in proximity to the public.

Occupations requiring no education, a high school diploma, or only some college education were disproportionately impacted by COVID-19 across Southeast Minnesota. This region has a relatively highly educated workforce, with a higher percent of the local workforce with 2-year and Advanced degrees or higher than the rates seen statewide—primarily due to a smaller share of residents with less than high school education, or 4-year degrees. People with higher levels of educational attainment saw greater job stability, based on what can be inferred by unemployment insurance application rates by worker educational background.

By gender, females have applied for unemployment insurance at higher rates in the Southeast region than males. In addition, females were employed in high contact intensity positions at higher rates than male workers; although females comprise a smaller share of Southeast Minnesota's workforce, they represent 64.1% of local workers in high contact-intensity occupation groups. Black, Indigenous, and People of Color have applied for unemployment insurance at higher rates than would be expected by their local employment rate in this region. Although Black workers comprise only 3.1% of local employment as of the fourth quarter of 2020, they represent 6.7% of all regional unemployment insurance applications since the pandemic began. In the Southeast region, there is a relatively higher share of Black/African American and Asian talent working in high contact-intensity occupations in comparison to their share of overall employment.

**Unemployment Insurance Applicant Demographics from March 16 - August 27, 2020 in Southeast Minnesota, with Employment in High Contact-Intensity Occupations**

	Minnesota		Southeast MN				
	Workers Filing for Unemployment between March 16 and August 27, 2020	Percent of Total Filing for Unemployment	Workers Filing for Unemployment between March 16 and August 27, 2020	Percent of Total Filing for Unemployment	Share of Total 2020Q1 Empl	Difference (> 0 Indicates Higher Than Expected UI App by Group)	Share of Empl in High Contact-Intensity Occupations**
<b>Age Group</b>							
16-19	27,240	3.0%	1,490	2.9%	4.7%	-1.8%	5.4%
20-24	114,325	12.7%	5,993	11.6%	10.3%	1.3%	10.4%
25-34	224,175	25.0%	11,924	23.1%	20.8%	2.2%	22.7%
35-44	187,084	20.8%	10,973	21.2%	19.7%	1.5%	20.3%
45-54	149,831	16.7%	9,185	17.8%	20.4%	-2.7%	19.3%
55-64	143,557	16.0%	9,234	17.9%	18.7%	-0.8%	17.1%
65+	51,385	5.7%	2,874	5.6%	5.4%	0.2%	4.8%
<b>Education Level</b>							
Less than HS	56,001	6.2%	2,958	5.7%	5.3%	0.4%	3.5%
HS	276,623	30.8%	15,304	29.6%	23.4%	6.2%	18.0%
Some college	253,846	28.3%	13,541	26.2%	18.4%	7.8%	16.5%
2-year degree	89,039	9.9%	5,287	10.2%	15.4%	-5.2%	18.1%
4-year degree	169,303	18.9%	10,393	20.1%	24.0%	-3.9%	23.2%
Advanced	52,766	5.9%	4,190	8.1%	13.5%	-5.4%	20.7%
<b>Gender</b>							
Female	469,818	52.3%	27,121	52.5%	49.0%	3.5%	64.1%
Male	427,792	47.7%	24,549	47.5%	51.0%	-3.5%	35.9%
<b>Race and Ethnicity</b>							
American Indian Alaska Native	10,359	1.2%	133	0.3%	0.2%	0.0%	0.2%
Asian	51,032	5.7%	2,253	4.4%	3.9%	0.5%	4.8%
Black	94,085	10.5%	3,444	6.7%	3.1%	3.6%	3.9%
Hispanic	46,315	5.2%	2,215	4.3%	4.2%	0.1%	3.2%
Non-Hispanic White	634,637	70.7%	40,926	79.2%	91.4%	-12.2%	89.5%
<b>Total UI Applications with Demographics</b>	<b>897,631</b>		<b>51,673</b>				

Note: Totals may not sum due to rounding and incomplete demographic reporting. Total shown on this table indicates the total UI applicants reporting demographics. The actual total number of applicants during this period according to MN DEED was 928,038.

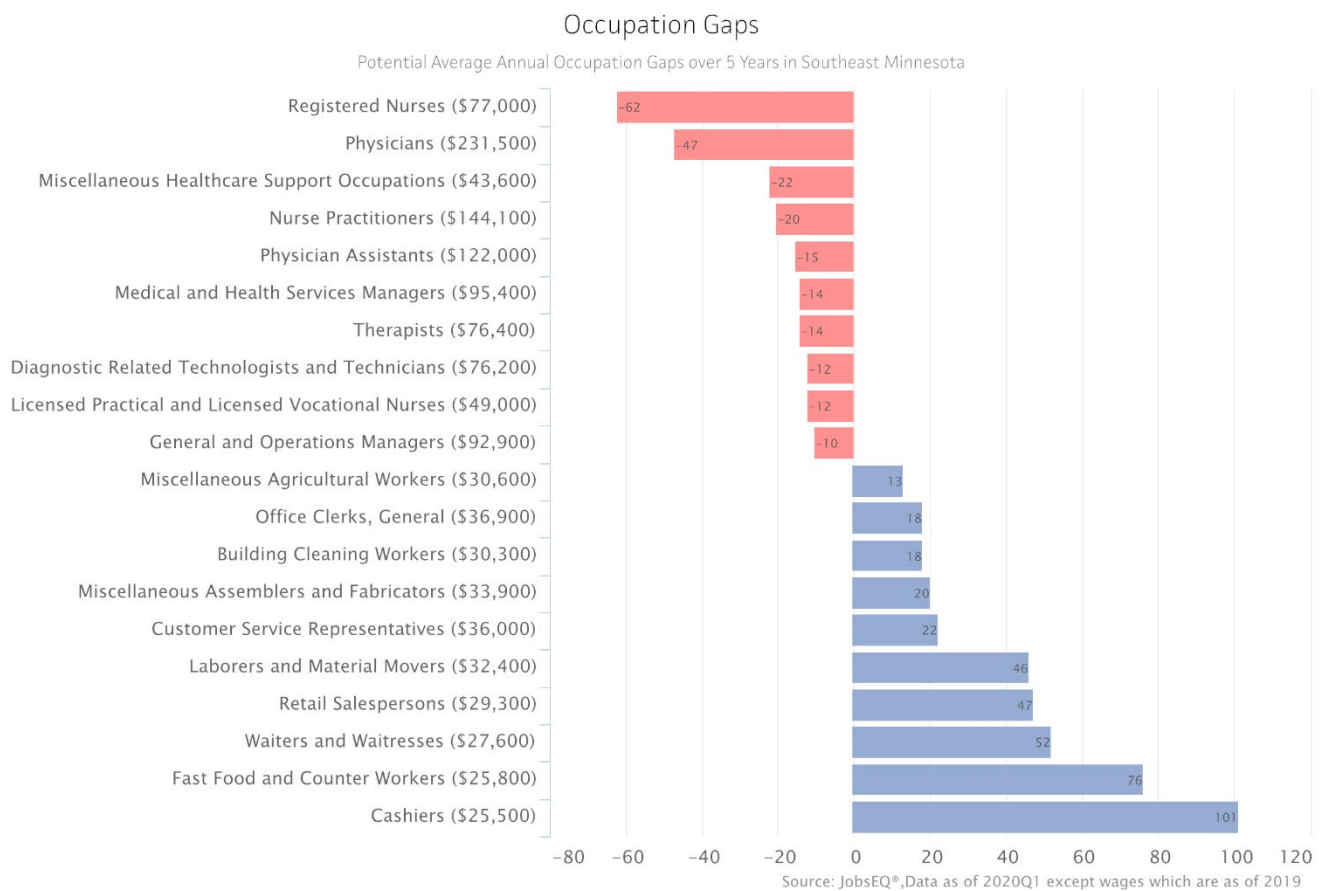
\*Race percent are of those who indicated a race/ethnicity. Some race data was not available online at the county level through the UI Applicant Data Tool.

\*\*Fields marked in orange are found in greater concentration in High-Contact Intensity occupations than in all occupations broadly.

## Mid-Term Occupational Impacts

Estimation of mid-term and long-term recovery of critical local occupations is based on our most reasonable hypothesis given current conditions. In Southeast Minnesota, an analysis of local labor market occupational gaps as of the first quarter of 2020 showed that there was a shortage of local Nurses, Physicians, Healthcare Support Occupations, Physician Assistants, Medical and Health Services Managers, Therapists, Diagnostic Related Technologists and Technicians and General Managers. Based on forecasted growing demand for health, education, human services, and remote work-friendly management positions, these occupations of shortage are likely to rebound and grow in demand as the pandemic subsides, possibly beyond initial forecasts. Eight of the top ten positions of highest forecasted talent shortage over the next five years pay wages of \$76,000 per year. Most occupations of shortage require an Associate's degree or higher, though several—such as some of the Miscellaneous Healthcare Support Occupations—have industry credential pathways that do not require an advanced degree.

Conversely, the seven out of the ten positions forecast to have the highest surplus of talent as of the first quarter of 2020 require less than a high school diploma on average, and generally pay under \$36,000 per year. Nine out of ten of these positions typically cannot be done remotely, and two out of ten of these positions are considered high contact-intensity. Given the impacts of the COVID-19 pandemic on local industry, these occupations of anticipated high talent excess will likely decline in overall local demand and shift dramatically in how work is done on a daily basis.



## Shifting Opportunities

An analysis of current opportunities in Southeast Minnesota reveals that approximately 65.8% of all jobs offered in the community are non-remote, and just 8.2% of positions in the Southeast region are able to be made fully remote. The remaining positions (26%) may be able to function as partially-remote but will still require in-person activities.

Winona and Rochester (MSA) have a mix of remote, partially-remote, and non-remote job opportunities similar to the mix region-wide, while Austin has a larger share of jobs that can be done remotely or at least partially remotely.

**Remote, Partial, and Non-Remote Jobs by Place of Employment, Southeast Minnesota, 2020Q1**

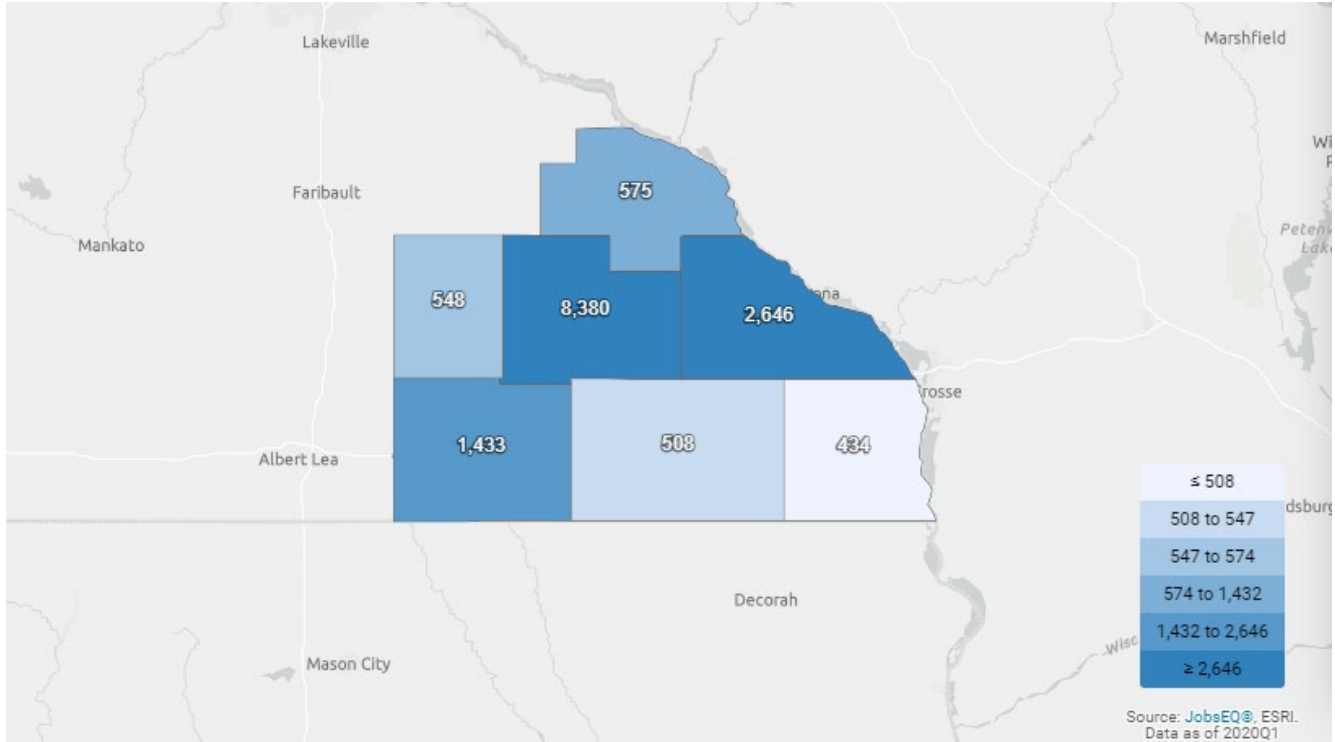
	Austin	Winona	Rochester MSA	Southeast
Remote	1,149	1,952	10,011	14,524
Partially-Remote	2,888	4,813	33,525	45,978
Non-Remote	9,249	11,793	83,532	116,210
<b>All Occupations</b>	<b>13,286</b>	<b>18,558</b>	<b>127,068</b>	<b>176,712</b>

	Austin	Winona	Rochester MSA	Southeast
Remote	8.7%	10.5%	7.9%	8.2%
Partially-Remote	21.7%	25.9%	26.4%	26.0%
Non-Remote	69.6%	63.5%	65.7%	65.8%
<b>All Occupations</b>	<b>13,286</b>	<b>18,558</b>	<b>127,068</b>	<b>176,712</b>

## Remote Work

Across the 176,712 positions employing people in Southeast Minnesota, about 8.2% are either remote full-time or able to be made fully remote without dramatic changes to the occupational role. Across the seven counties comprising Southeast Minnesota, Olmsted County has the greatest number of remote work positions and non-remote positions. Overall, Wabasha County (69.1%) and Mower County (68.3%) have the greatest shares of non-remote work positions out of the total number of positions employing workers in their counties. In addition, Winona County (10.1%) and Mower County (8.2%) have the greatest shares of remote work positions out of the total number of positions employing workers in their counties.

Remote Work Employment by County in Southeast Minnesota, 2020Q1



County	Remote Work Empl 2020Q1	Partially-Remote Work Empl 2020Q1	Non-Remote Work Empl 2020Q1	Total Empl 2020Q1	% Remote
<b>Southeast Minnesota</b>	14,524	45,978	116,210	176,712	8.2%
Dodge County, Minnesota	548	1,633	4,676	6,856	8.0%
Fillmore County, Minnesota	508	2,054	4,862	7,424	6.8%
Houston County, Minnesota	434	1,664	4,035	6,133	7.1%
Mower County, Minnesota	1,433	4,089	11,908	17,430	8.2%
Olmsted County, Minnesota	8,380	28,023	68,638	105,042	8.0%
Wabasha County, Minnesota	575	1,815	5,356	7,746	7.4%
Winona County, Minnesota	2,646	6,699	16,736	26,081	10.1%

Analysis of employment by race, ethnicity, and gender reveal that a disproportionately large share of Asian and non-Hispanic talent is employed in remote work roles, whereas all other race and ethnic groups have a smaller share of local workers in these roles. Among the top twenty remote work positions by volume of residents employed, all had a higher than baseline concentration of non-Hispanic employees by ethnicity. Project Management Specialists and Business Operations Specialists have a higher concentration of American Indian talent than seen on average in Southeast Minnesota.

Among the top 20 remote work positions by volume in this region, 19 require some college or higher. Additionally, 18 out of the 20 positions require a Bachelor's degree or higher, but little to no prior experience or on-the-job training. Remote work positions in Southeast Minnesota pay an average annual salary of \$81,100 compared to \$55,300 across all local employment. Overall, remote work positions in Southeast Minnesota are forecast to decline over the next five years.



## Top 20 Remote Work Occupation Talent by Place of Residence in Southeast Minnesota, 2020Q1

SOC	Occupation	Total Empl 2020Q1	White	Black	American Indian	Asian	Two or More Races	Non- Hispanic/Latino	Hispanic or Latino (of any race)	Male	Female
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,595	95.0%	1.4%	0.1%	2.8%	0.7%	97.4%	2.6%	15.0%	85.0%
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	1,314	68.5%	1.5%	0.1%	28.7%	1.2%	98.9%	1.1%	86.0%	14.0%
13-2011	Accountants and Auditors	1,020	89.8%	1.8%	0.1%	7.2%	1.0%	98.2%	1.8%	45.6%	54.4%
13-1198	Project Management Specialists and Business Operations Specialists, All Other	1,019	88.9%	2.3%	0.5%	7.0%	1.3%	97.8%	2.2%	49.8%	50.2%
11-9198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	833	93.2%	1.6%	0.2%	4.1%	0.9%	97.9%	2.1%	69.9%	30.1%
15-1211	Computer Systems Analysts	617	81.9%	2.3%	0.1%	13.9%	1.7%	98.2%	1.8%	67.1%	32.9%
13-1161	Market Research Analysts and Marketing Specialists	577	91.0%	1.3%	0.0%	7.2%	0.5%	98.5%	1.5%	51.4%	48.6%
11-3031	Financial Managers	556	91.0%	1.8%	0.1%	5.6%	1.4%	97.6%	2.4%	53.4%	46.6%
13-1111	Management Analysts	500	87.9%	1.8%	0.1%	9.3%	1.0%	98.1%	1.9%	65.4%	34.6%
23-1011	Lawyers	420	94.0%	1.3%	0.1%	3.7%	0.8%	98.7%	1.3%	69.9%	30.1%
11-2022	Sales Managers	381	94.2%	1.3%	0.1%	3.3%	1.1%	98.1%	1.9%	58.1%	41.9%
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	336	88.8%	2.4%	0.1%	7.7%	1.1%	97.9%	2.1%	70.5%	29.5%
11-3021	Computer and Information Systems Managers	333	85.3%	2.3%	0.1%	10.8%	1.5%	99.0%	1.0%	76.9%	23.1%
11-1011	Chief Executives	330	95.1%	0.9%	0.0%	3.4%	0.5%	98.7%	1.3%	77.7%	22.3%
11-3013	Facilities Managers	294	93.7%	2.2%	0.2%	1.9%	2.0%	97.9%	2.1%	65.1%	34.9%
15-1244	Network and Computer Systems Administrators	286	88.9%	2.0%	0.2%	7.0%	1.9%	98.3%	1.7%	79.2%	20.8%
11-2021	Marketing Managers	271	94.0%	1.3%	0.1%	3.4%	1.2%	98.1%	1.9%	58.5%	41.5%
13-2072	Loan Officers	243	94.0%	2.4%	0.2%	2.4%	1.0%	97.7%	2.3%	52.4%	47.6%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	238	94.8%	1.3%	0.1%	3.0%	0.9%	97.2%	2.8%	76.8%	23.2%
27-1024	Graphic Designers	218	93.1%	1.0%	0.1%	4.6%	1.1%	97.9%	2.1%	51.5%	48.5%
	<b>Remote Jobs</b>	<b>14,682</b>	<b>88.9%</b>	<b>1.8%</b>	<b>0.1%</b>	<b>8.1%</b>	<b>1.1%</b>	<b>98.1%</b>	<b>1.9%</b>	<b>57.7%</b>	<b>42.3%</b>
	<b>Total - All Occupations</b>	<b>176,291</b>	<b>91.4%</b>	<b>3.1%</b>	<b>0.2%</b>	<b>3.9%</b>	<b>1.4%</b>	<b>95.8%</b>	<b>4.2%</b>	<b>51.0%</b>	<b>49.0%</b>

Note: Employment estimates as of 2020Q1 by place of residence, derived from the Chmura Industry/Occupation Matrix and industry employment data from the Quarterly Census of Employment and Wages (QCEW) provided by the Bureau of Labor Statistics. They will not directly match with employment estimates in other parts of this report which refer to place of work.



### Wages, Forecast, and Experience Requirements of Remote Work Talent by Occupation and Place of Residence in Southeast Minnesota, 2020Q1

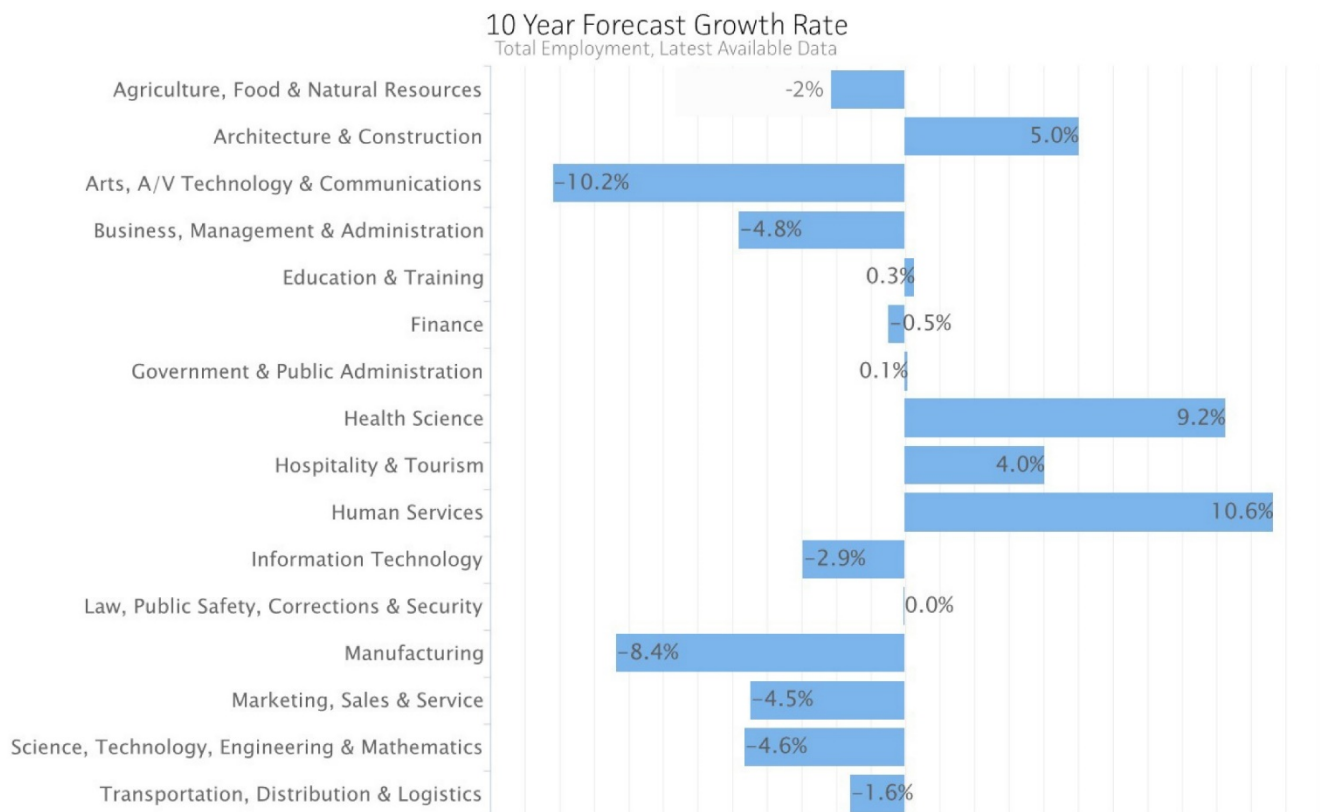
SOC	Occupation	Total Empl 2020Q1	Avg Ann Wages	Forecast Ann Growth	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,595	\$41,400	-0.9%	Some college, no degree	None	Moderate-term on-the-job training
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	1,314	\$109,200	-0.6%	Bachelor's degree	None	None
13-2011	Accountants and Auditors	1,020	\$64,600	0.0%	Bachelor's degree	None	None
13-1198	Project Management Specialists and Business Operations Specialists, All Other	1,019	\$62,000	0.0%	Bachelor's degree	None	None
11-9198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	833	\$91,600	0.1%	Bachelor's degree	Less than 5 years	None
15-1211	Computer Systems Analysts	617	\$83,800	-0.1%	Bachelor's degree	None	None
13-1161	Market Research Analysts and Marketing Specialists	577	\$54,000	0.7%	Bachelor's degree	None	None
11-3031	Financial Managers	556	\$111,500	0.9%	Bachelor's degree	5 years or more	None
13-1111	Management Analysts	500	\$77,700	0.2%	Bachelor's degree	Less than 5 years	None
23-1011	Lawyers	420	\$110,900	0.2%	Doctoral or professional degree	None	None
11-2022	Sales Managers	381	\$118,200	-0.3%	Bachelor's degree	Less than 5 years	None
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	336	\$79,300	-0.2%	Bachelor's degree	None	None
11-3021	Computer and Information Systems Managers	333	\$126,100	-0.1%	Bachelor's degree	5 years or more	None
11-1011	Chief Executives	330	\$167,200	-1.2%	Bachelor's degree	Less than 5 years	None
11-3013	Facilities Managers	294	\$93,000	0.4%	Bachelor's degree	Less than 5 years	None
15-1244	Network and Computer Systems Administrators	286	\$72,300	-0.2%	Bachelor's degree	None	None
11-2021	Marketing Managers	271	\$116,800	-0.4%	Bachelor's degree	5 years or more	None
13-2072	Loan Officers	243	\$79,000	-0.1%	Bachelor's degree	None	Moderate-term on-the-job training
41-1012	First-Line Supervisors of Non-Retail Sales Workers	238	\$77,300	-0.9%	High school diploma or equivalent	Less than 5 years	None
27-1024	Graphic Designers	218	\$45,500	-0.7%	Bachelor's degree	None	None
<b>95-0300</b>	<b>Remote Jobs</b>	<b>14,682</b>	<b>\$81,100</b>	<b>-0.2%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
<b>00-0000</b>	<b>Total - All Occupations</b>	<b>176,291</b>	<b>\$55,300</b>	<b>0.1%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>

Note: Average Annual Wages as of 2019 by the Bureau of Labor Statistics and imputed by Chmura as necessary. Forecast employment growth uses projections from the Bureau of Labor Statistics for 2016-2026, adapted for regional growth patterns by Chmura.

## *Future Growth by Field and Cluster*

With hundreds of occupations, it can be difficult for educators to pinpoint the most promising high-demand and high-wage occupations in their region that provide rewarding careers for their students. Analysis of the sixteen CTE Clusters provides an entryway into career pathways.

Of the sixteen career clusters, six are expected to grow and nine are expected to decline in the Southeast Minnesota over the next ten years. The clusters expecting the greatest growth are Human Services (10.6%), Health Science (9.2%), and Architecture and Construction (5.0%)—the same three clusters anticipating the most growth in Northwest, Northeast, and Central Minnesota as well. In contrast, Arts, Audio/Video Technology and Communications (-10.2%) and Manufacturing (-8.4%) are anticipating the greatest declines in overall employment.



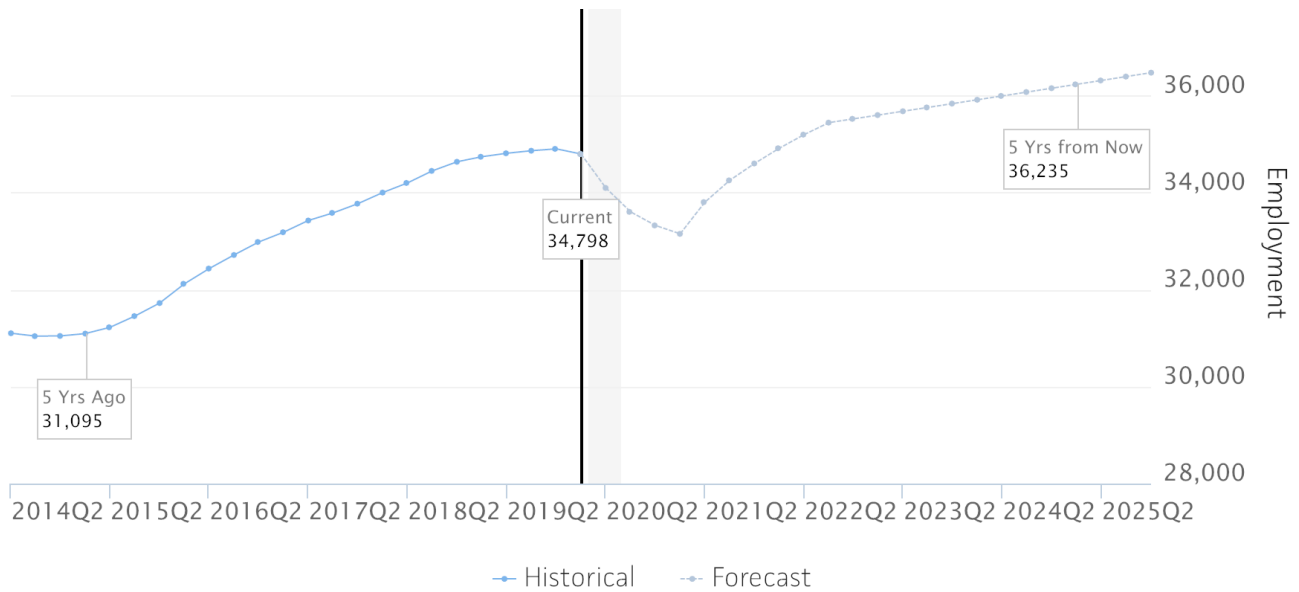
Cluster forecasts estimated using Chmura, JobsEQ, based on 2020Q1 employment data. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters.

An accurate assessment of future occupation demand requires that both future growth and the number of people retiring be taken into account. In the Southeast Minnesota, Hospitality & Tourism, Health Science, and Business, Management & Administration clusters are expected to have the highest annual job demand by volume of opportunities—due to retirements and job changes. Health Science has the highest wages of the Career Clusters followed by the Information Technology and Science, Technology, Engineering & Mathematics clusters.

Career Cluster	Employment	Avg Ann Wages	Job Ads	Ann Empl Growth	Ann Total Demand
Health Science	34,798	\$87,600	1,379	307	2,905
Information Technology	3,537	\$87,100	270	-11	246
Science, Technology, Engineering & Mathematics	1,995	\$86,700	79	-10	134
Finance	3,806	\$70,300	347	-2	350
Agriculture, Food & Natural Resources	10,542	\$56,000	303	-25	1,192
Government & Public Administration	1,131	\$60,100	29	0	99
Architecture & Construction	9,270	\$55,500	251	45	1,057
Law, Public Safety, Corrections & Security	4,200	\$55,200	93	0	370
Education & Training	10,415	\$53,500	391	2	946
Business, Management & Administration	26,924	\$51,100	768	-134	2,809
Arts, A/V Technology & Communications	2,118	\$49,300	51	-23	199
Manufacturing	15,327	\$42,600	440	-134	1,529
Transportation, Distribution & Logistics	10,666	\$41,900	577	-17	1,249
Marketing, Sales & Service	16,384	\$41,700	1,408	-75	2,168
Human Services	11,088	\$39,100	602	112	1,553
Hospitality & Tourism	20,007	\$28,800	1,234	78	3,400
<b>Total - All Occupations</b>	<b>176,712</b>	<b>\$55,300</b>	<b>8,034</b>	<b>133</b>	<b>19,600</b>

Cluster forecasts estimated using Chmura, JobsEQ, based on 2020Q1 employment data. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters.

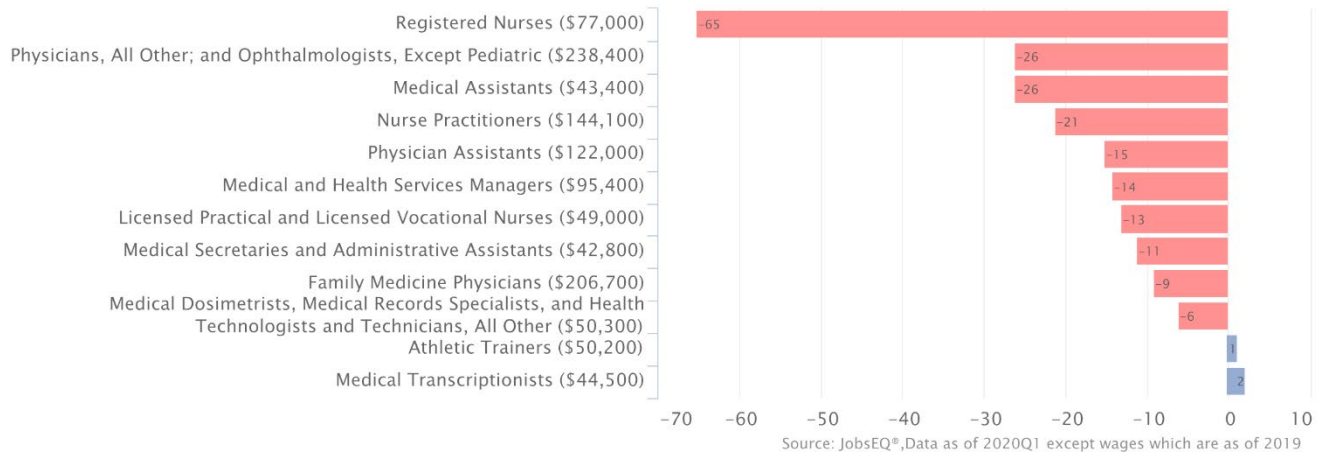
## HEALTH SCIENCE TECHNOLOGY



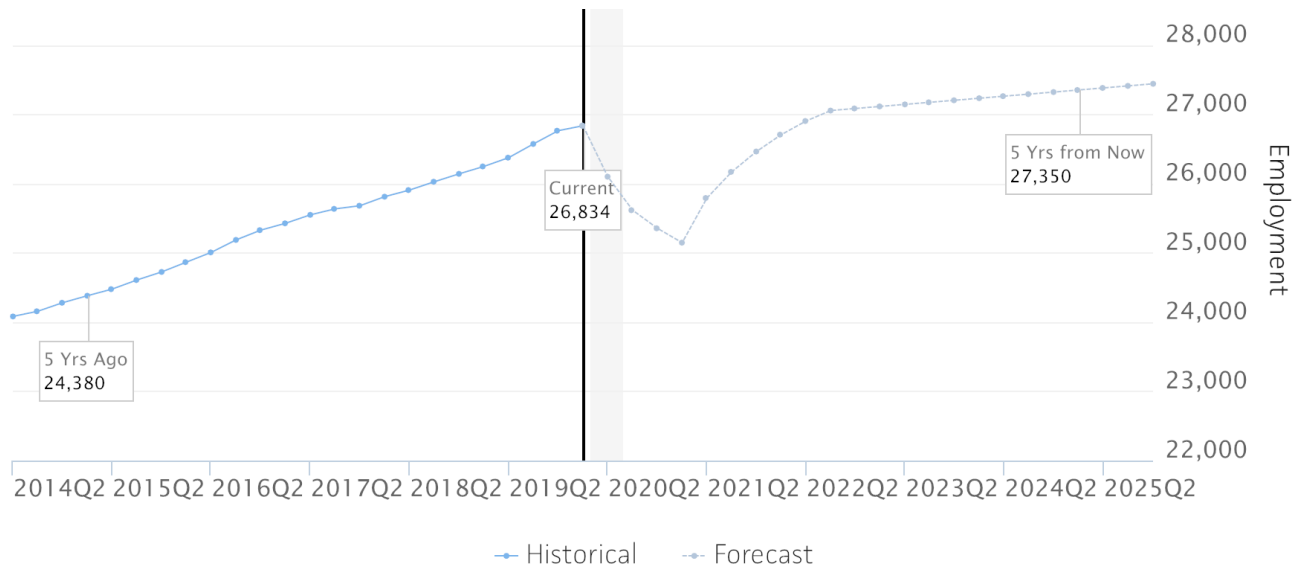
Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

### Occupation Gaps

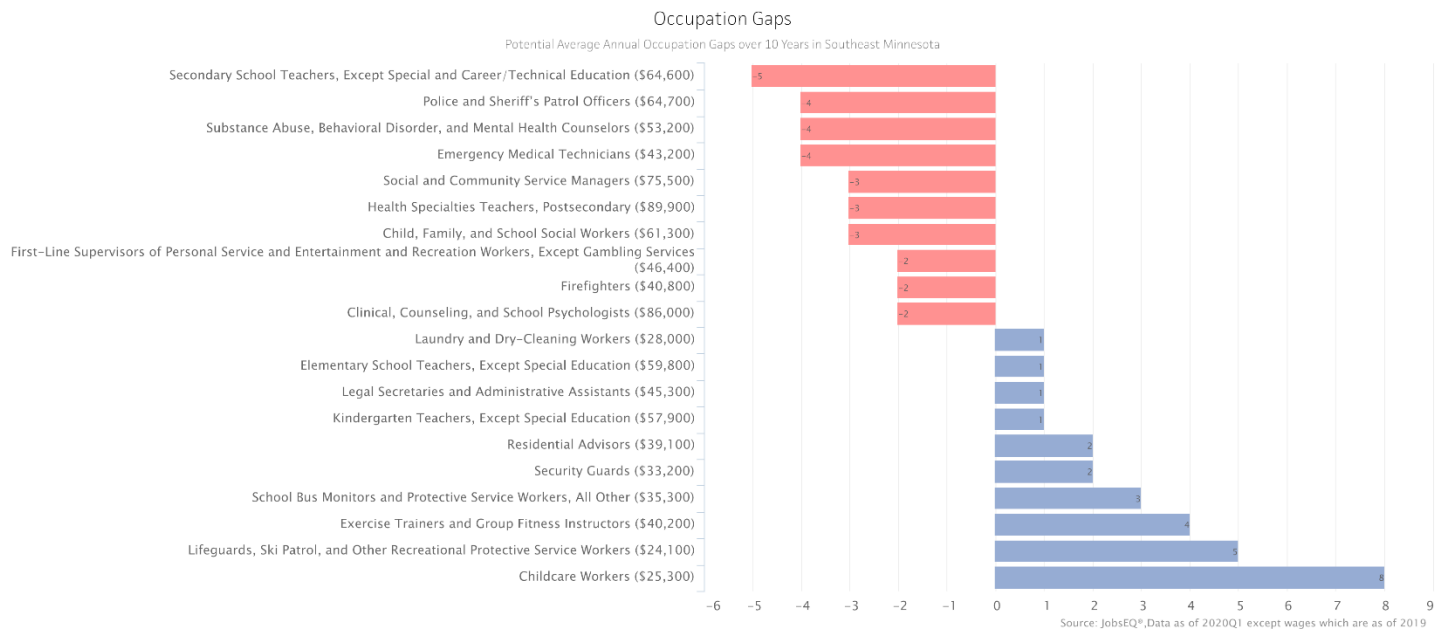
Potential Average Annual Occupation Gaps over 10 Years in Southeast Minnesota



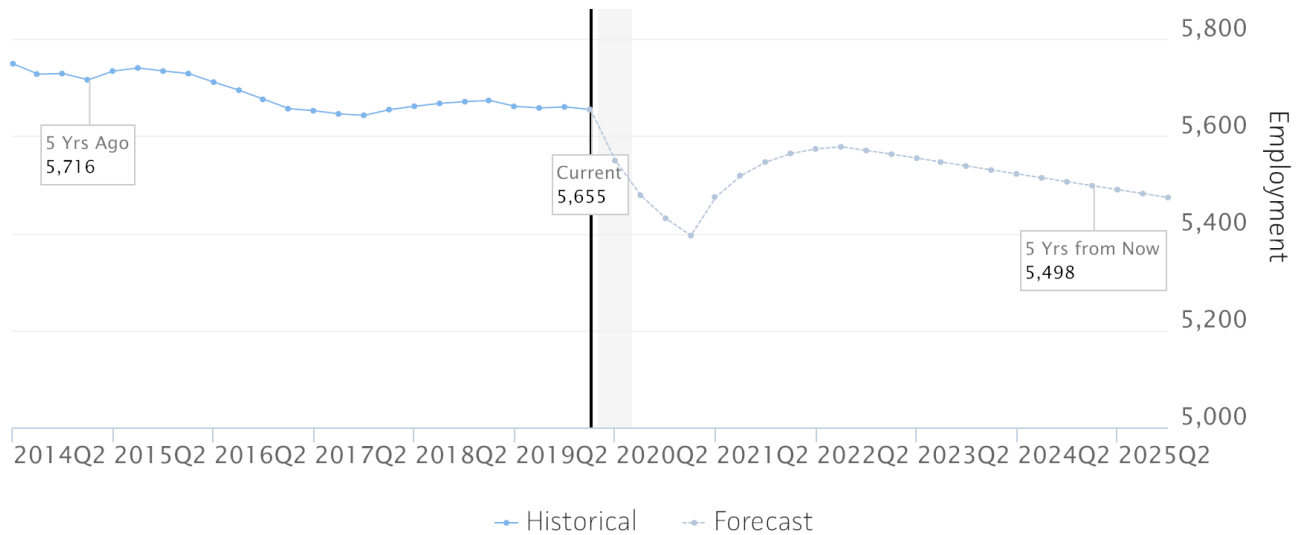
## HUMAN SERVICES



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.



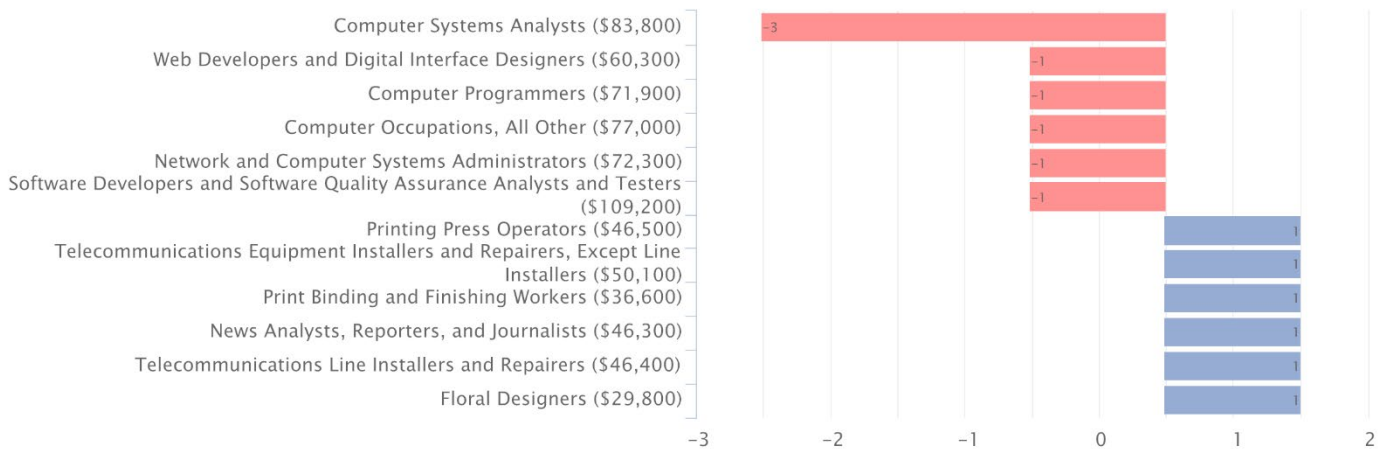
## ARTS, COMMUNICATIONS, AND INFORMATION SYSTEMS



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

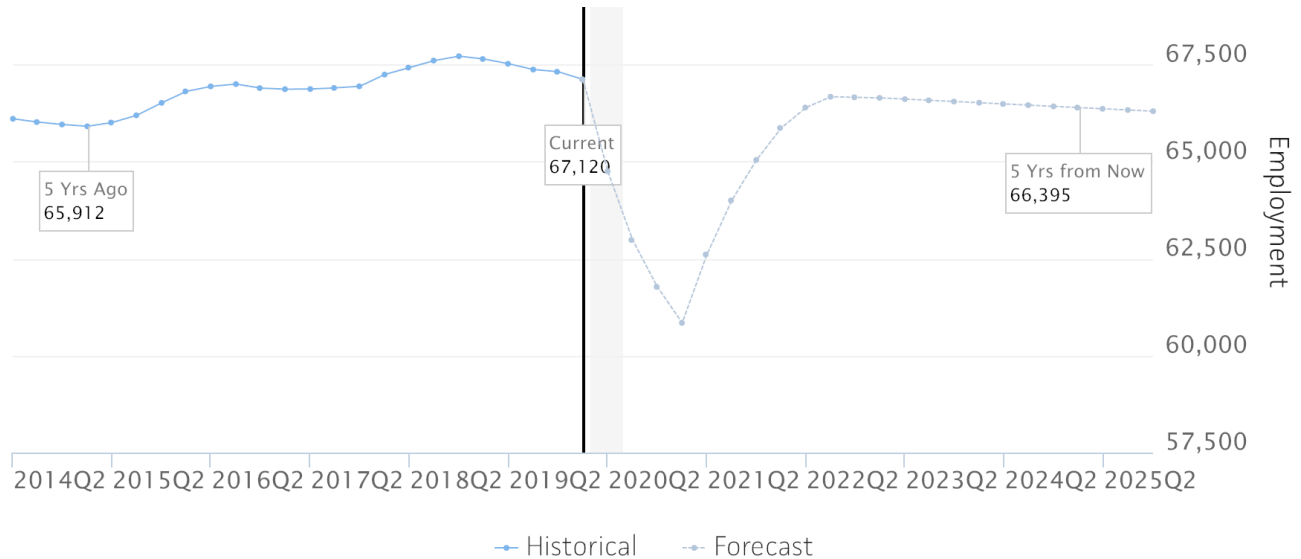
### Occupation Gaps

Potential Average Annual Occupation Gaps over 10 Years in Southeast Minnesota



Source: JobsEQ®, Data as of 2020Q1 except wages which are as of 2019

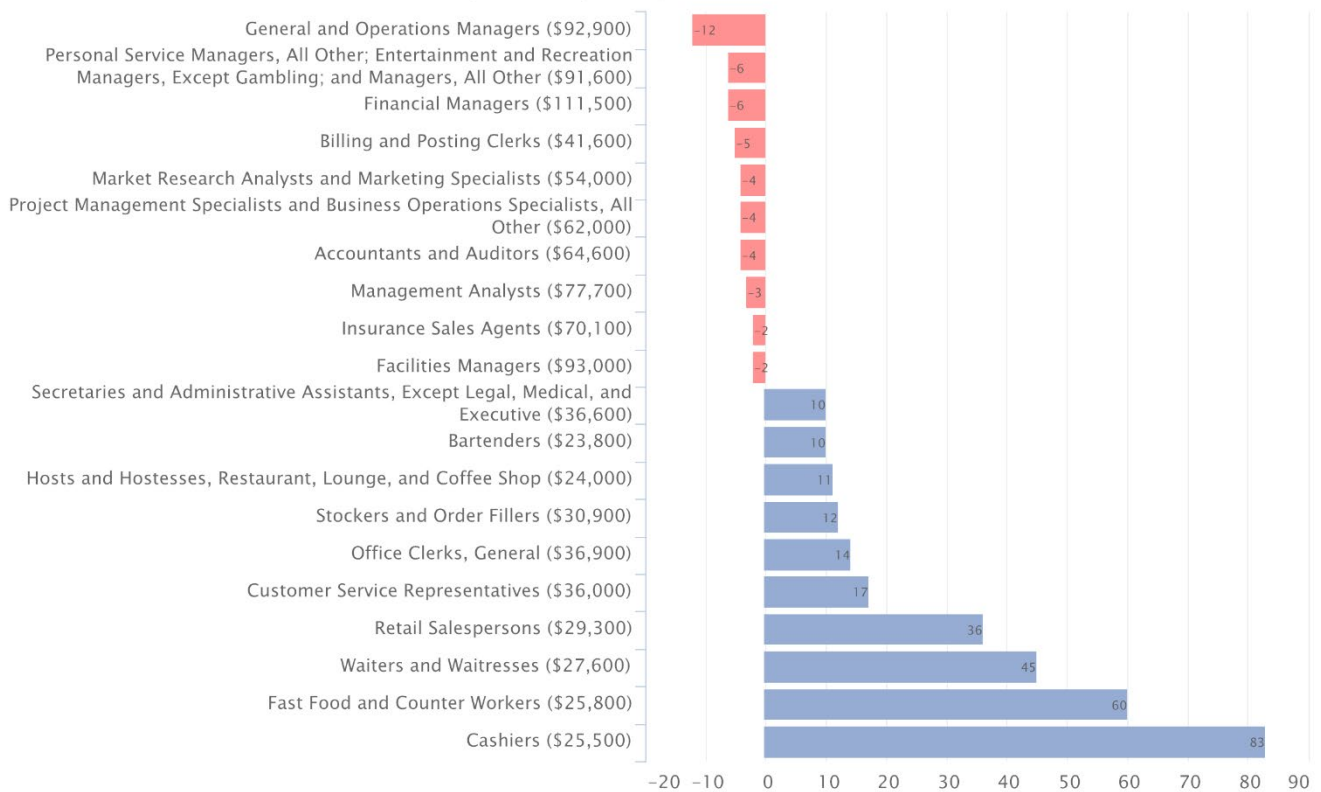
## BUSINESS, MANAGEMENT, AND ADMINISTRATION



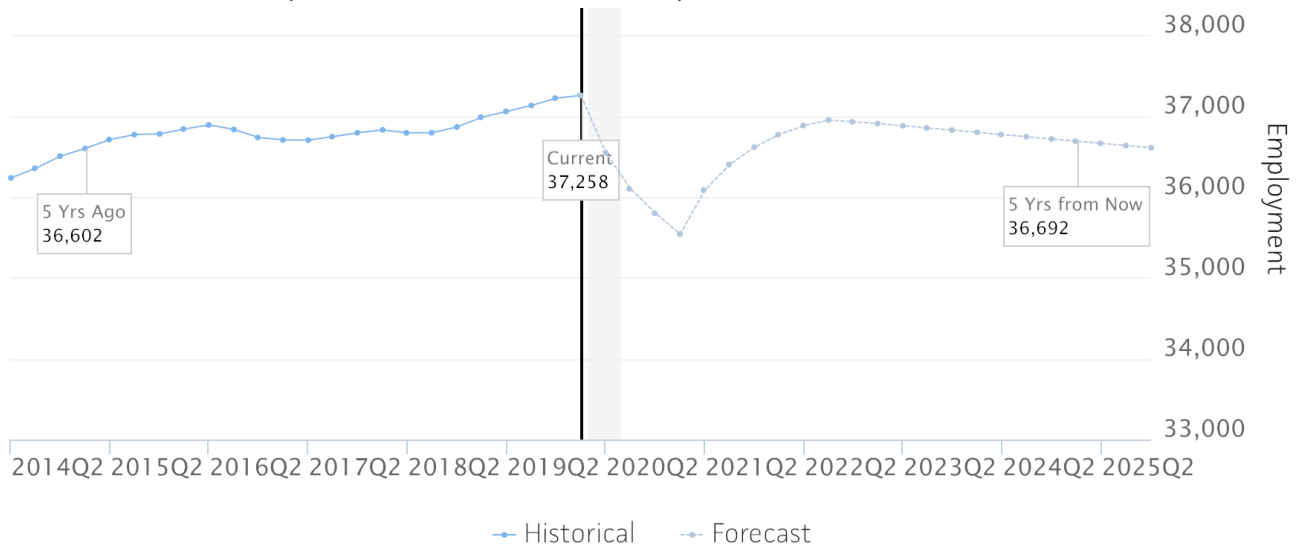
Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

### Occupation Gaps

Potential Average Annual Occupation Gaps over 10 Years in Southeast Minnesota



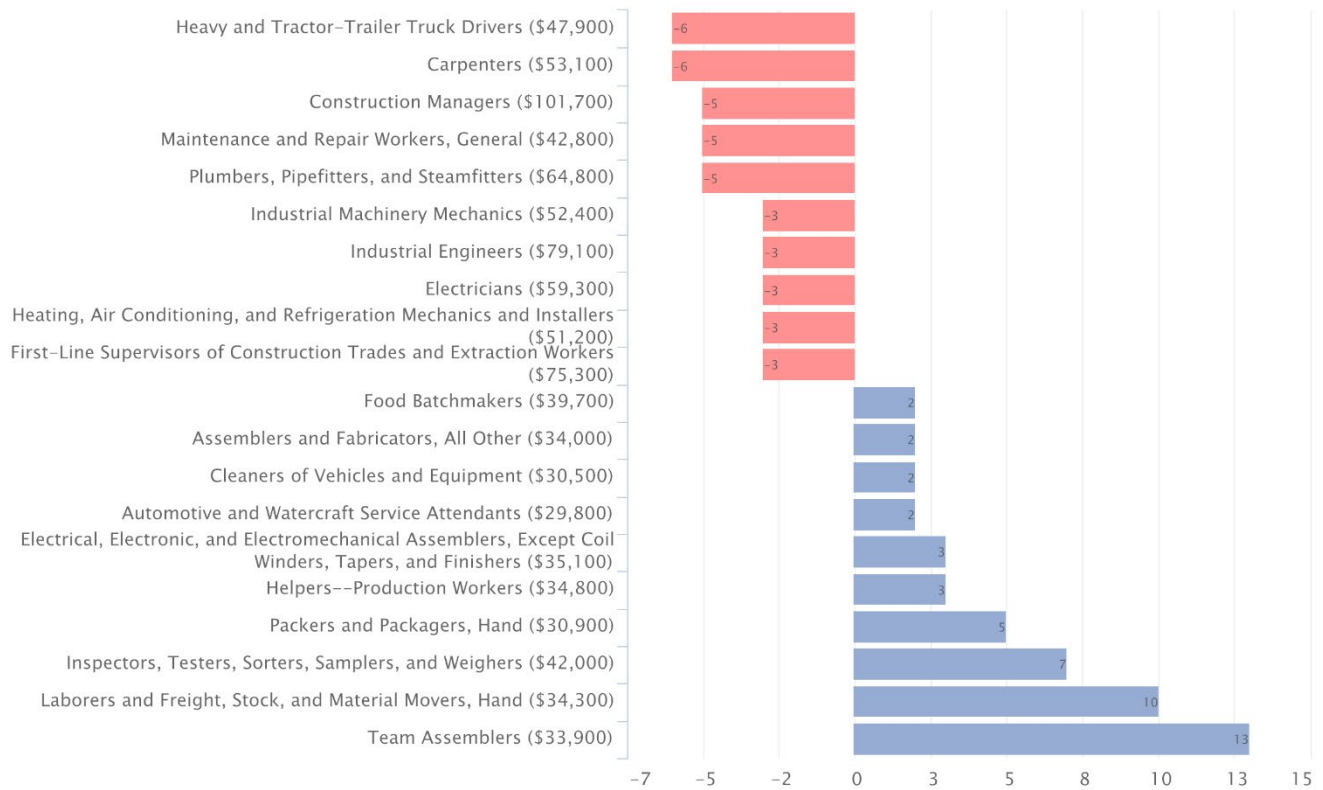
## ENGINEERING, MANUFACTURING, AND TECHNOLOGY



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

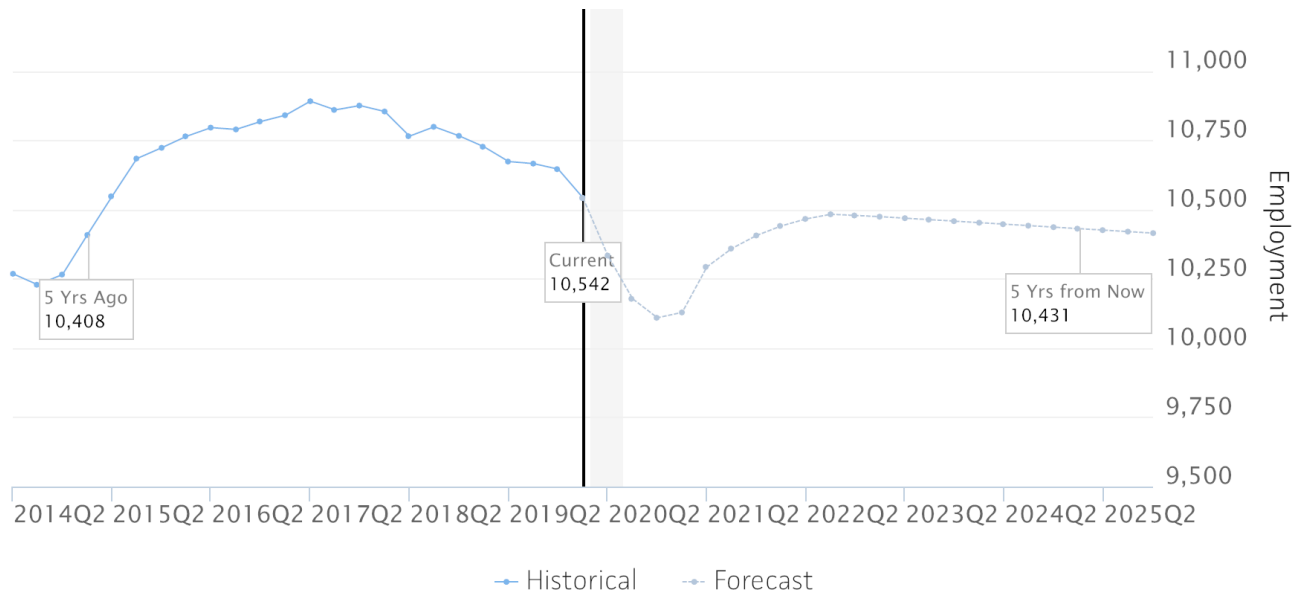
### Occupation Gaps

Potential Average Annual Occupation Gaps over 10 Years in Southeast Minnesota





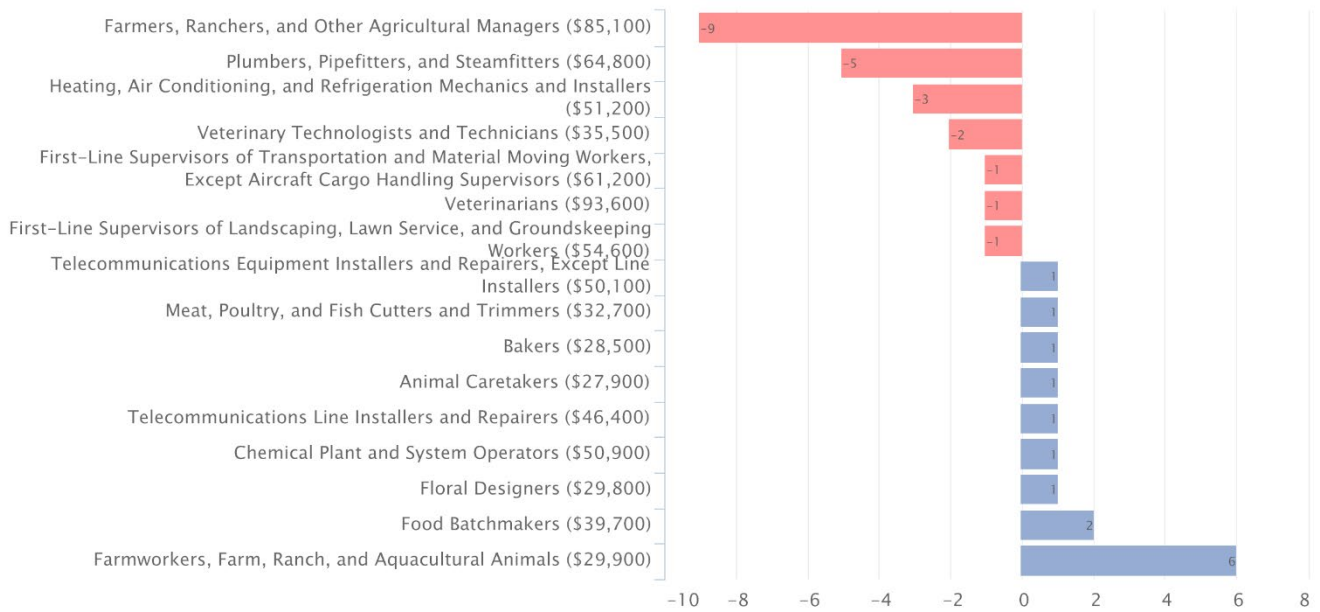
## AGRICULTURE, FOOD, AND NATURAL RESOURCES



Source: JobsEQ®, Data as of 2020Q1, The shaded areas of the graph represent national recessions.

### Occupation Gaps

Potential Average Annual Occupation Gaps over 10 Years in Southeast Minnesota



Source: JobsEQ®, Data as of 2020Q1 except wages which are as of 2019

## *Emerging Career Paths*

Online job posting data can tell us a lot about employer demand for certain skills, certifications, qualifications, and occupational competencies. There is rich data available by city, county, and even by specific employer. However, it can be challenging to pinpoint exactly which positions advertised would be physically located in a specific geography without a complete address being included in a job post—or, when job postings are only advertised in a local newspaper, physical job board, or on a street corner.

Despite these limitations, there are still a sufficient number of job postings that do include a city, address, or a zip code for the location of the job opportunity being advertised. Looking at positions in this way will favor employers that have the particular practice of including the business' physical location in the posting. Although attempting to use these approximation for local job opportunities may not be a complete picture of all demand in the community, it can give a glimpse into the trending opportunities and how they compare to opportunities in the past.

During the first five months of the COVID-19 pandemic,<sup>7</sup> there were 22,049 new jobs advertised in the region—a decrease of about 3% from the same six months in 2019. The top three positions advertised by volume were for Heavy Truck Drivers, Registered Nurses, and Personal Care Aides. The most significant increases in demand were among Personal Care Aides, Medical and Health Services Managers, Insurance Sales Agents, and Customer Service Representatives. This reflects the rapid shifts in demand toward different kinds of healthcare and services needed as a result of the pandemic.

### **Top Emerging Occupations in Southeast Minnesota, March 1-August 31, 2020**

1. **Heavy and Tractor-Trailer and Truck Drivers (+28%)**
2. **Registered Nurses (+30%)**
3. **Personal Care Aides (+101%)**
4. **Retail Salespersons (+4%)**
5. **Customer Service Representatives (+49%)**
6. **Nursing Assistants (+22%)**
7. **Insurance Sales Agents (+52%)**
8. **Sales Representatives, Services (+38%)**
9. **Licensed Practical and Licensed Vocational Nurses (+22%)**
10. **Medical and Health Services Managers (+70%)**

The certifications and technical skills in demand locally match in particular to the transportation, distribution and entry-level health care positions identified above, with Commercial Driver's License, Certified Registered Nurse, Direct Support Professional, Basic Life Support, and CPR appearing in high volumes in local job postings during this period compared to a full year prior. Skills and character traits like dedication, friendliness, flexibility, and administering medications were mentioned in job postings as required competencies for candidates in moderately higher volumes in Southeast Minnesota from March through August in comparison to early 2020 or any point in 2019. Overall, these emerging and declining skills mark changes in employer behavior in explicit requirements listed in online job postings. Further surveys and analysis are needed to determine to what extent the duties of positions have changed.

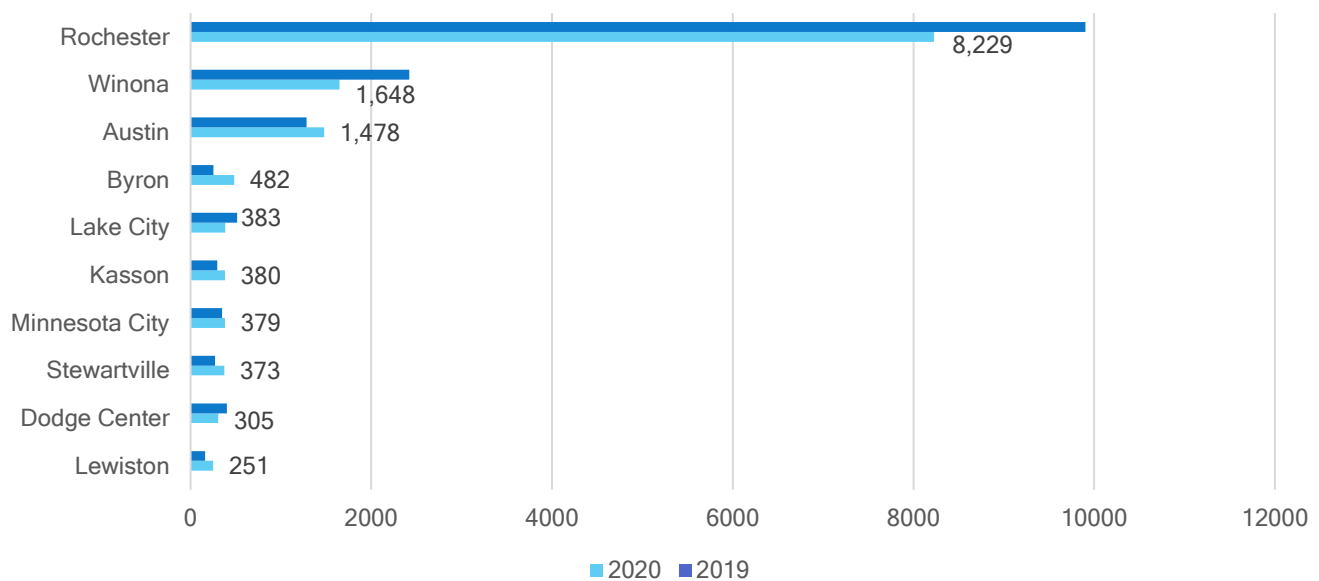
<sup>7</sup> March 15-August 31, 2020.

### Top Emerging Skills in Southeast Minnesota in Order of Frequency in Job Postings, March 1-August 31, 2020

1. Dedication (+2% from pre-COVID-19)
2. Communication (-26% from pre-COVID-19)
3. Customer Service (-17% from pre-COVID-19)
4. Friendliness (+12% from pre-COVID-19)
5. Leadership (+0% from pre-COVID-19)
6. Supervision (-10% from pre-COVID-19)
7. Relationship Management (+1% from pre-COVID-19)
8. Operations (-21% from pre-COVID-19)
9. Innovation (-10% from pre-COVID-19)
10. Responsibility (-61% from pre-COVID-19)

By city, Austin, Byron, Kasson, and Stewartville saw small increases in total volume of new job postings advertised in their communities between March and August 2020 compared to 2019. Most other cities and towns in Southeast Minnesota saw drops in total volume of new positions.

### Top Cities by Job Posting Volume, March 1-August 31, 2020



There are over 800 defined occupations at the detailed level. Among those occupations that support a living wage, Medical Assistants, Registered Nurses and Medical Secretaries are expected to add the most jobs over the next ten years in Southeast Minnesota.

Occupation	Employment	Avg Ann Wages	Job Ads	Hist 10yr Change	Proj 10yr Growth
Medical Assistants	3,414	\$43,400	17	1,025	614
Registered Nurses	7,190	\$77,000	285	1,477	392
Medical Secretaries and Administrative Assistants	2,500	\$42,800	68	495	251
Nurse Practitioners	1,031	\$144,100	26	513	240
Physicians, All Other; and Ophthalmologists, Except Pediatric	2,266	\$238,400	41	741	220
Physician Assistants	688	\$122,000	28	262	195
Medical and Health Services Managers	989	\$95,400	96	281	170
Family Medicine Physicians	803	\$206,700	11	52	81
Licensed Practical and Licensed Vocational Nurses	1,734	\$49,000	91	-247	75
Billing and Posting Clerks	1,101	\$41,600	1	-4	74

Of occupations supporting a living wage, Team Assemblers and Secretaries and Administrative Assistants are projected to have the largest decline in employment locally over the next ten years.

Occupation	Employment	Avg Ann Wages	Job Ads	Hist 10yr Change	Proj 10yr Growth
Team Assemblers	1,200	\$33,900	11	220	-278
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,925	\$36,600	67	40	-258
Office Clerks, General	3,051	\$36,900	9	139	-228
Farmers, Ranchers, and Other Agricultural Managers	2,722	\$85,100	0	-580	-221
Customer Service Representatives	2,448	\$36,000	154	566	-214
Inspectors, Testers, Sorters, Samplers, and Weighers	617	\$42,000	12	119	-150
Bookkeeping, Accounting, and Auditing Clerks	1,548	\$41,400	21	-354	-130
Executive Secretaries and Executive Administrative Assistants	518	\$52,000	0	-698	-124
First-Line Supervisors of Retail Sales Workers	1,578	\$43,500	229	-67	-81
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	618	\$35,100	13	-6	-76

## Skill and Certification Gaps

Below are the top 10 skill and certification gaps (supply shortfalls) among occupations which support a living wage within Southeast Minnesota. These data are based on online resumes and job ads live as of September 2020 that reflect local supply and demand.

Top 10 Skill Gaps in Southeast Minnesota

Name	Candidates	Openings	Gap
Patient Care	79	272	-193
Automated External Defibrillators (AED)	45	220	-174
Keyboarding/Typing	274	394	-119
Electronic Health Record (EHR)	29	100	-71
Finance	160	228	-68
People Skills	62	126	-64
Long-Term Care	9	60	-51
Insurance	32	83	-51
Telecommunications	27	71	-44
Anatomy	18	61	-43

Top 10 Certification Gaps in Southeast Minnesota

Name	Candidates	Openings	Gap
Licensed Practical Nurse (LPN)	96	274	-179
Registered Nurse (RN)	264	400	-136
Basic Life Support (BLS)	408	488	-79
Family Nurse Practitioner (FNP-BC)	6	58	-53
Certified Nursing Assistant (CNA)	168	202	-34
Adult Nurse Practitioner (ANP-BC)	0	26	-26
Medical Technologist (Medical Technologists)	6	27	-22
Acute Care Nurse Practitioner (ACNP-BC)	1	20	-19
Certified Public Accountant (CPA)	35	51	-16
Certified Internal Auditor (CIA)	0	15	-15

# Accessible Career Pathways

## Local Careers for People with an Associate's Degree or Less

Taking a holistic look at high-wage, accessible career opportunities in Southeast Minnesota reveal a large number of opportunities are 1) uniquely concentrated in this community, 2) have seen high historic employment growth, 3) are trending in job postings since March 2020, and 3) could see shortages in talent in the next five to ten years.

The field of most significant shortage in this region is Health Science Technology, in which there are a number of significant opportunities for career development at the Associate's degree level and with certifications or some college education added on to a high school diploma. Positions like Medical Assistants, Licensed Practical Nurses, Medical Secretaries, and Medical Records Specialists are all likely to have employer demand exceeding anticipated talent supply in the region.

Retail, customer service, and personal care services including hairdressing have all seen extreme volatility, with sharp drops in demand followed by unprecedented spikes. Local sales and delivery driver positions have increased dramatically—more than doubling the volumes seen in 2019. Business, Management and Administration careers as a whole are down in new job volumes in 2020 compared to 2019, with lower education positions down about 17% during the pandemic period. However, entry-level openings for Financial Services Sales Agents, Loan Interviewers and Clerks, and Telemarketers have all more than doubled in new posting volume in March-August 2020 compared to the same period in 2019.

In overall volume of job postings, lower education Engineering, Manufacturing, and Technology positions are being posted in Southeast Minnesota at a rate similar to those seen in 2019. Some Engineering, Manufacturing, and Technology career field opportunities may not be fully captured in current vacancy estimates or official forecasts. Transportation and logistics roles in diesel mechanics, repair, and construction labor are in demand right now, and may see longer-term shortages through 2025 and beyond, as well as Carpenters, Maintenance and Repair Workers, HVAC, and Plumber positions.

Local demand for lower education Arts, Communications, and Information Systems talent may rebound after the pandemic, but many key positions have seen decreases of 17% to 80% in volumes compared to the same time frame in 2019. Overall, positions in this field are down by 32% and while there are higher education Information Technology cluster positions anticipating shortages over the next five years, there are not likely to be significant shortages in positions that require an Associate's degree or less in the Southeast.

## Lower Education Pathways and Occupations in Demand by Career Field

Career Field	Top Pathway(s) In Demand	Top Occupations in Shortage Over 10 years	Top Occupations Advertised March 1, 2020 - August 31, 2020	Top Employers Recruiting
<b>Health Science Technology</b>	<ul style="list-style-type: none"> <li>Therapeutic Services</li> <li>Support Services</li> <li>Diagnostic Services</li> <li>Health Informatics</li> </ul>	<ul style="list-style-type: none"> <li>Medical Assistants</li> <li>Licensed Practical and Licensed Vocational Nurses</li> <li>Medical Secretaries and Administrative Assistants</li> <li>Medical Records Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Personal Care Aides</li> <li>Nursing Assistants</li> <li>Licensed Practical Nurses</li> <li>Surgical Technologists</li> <li>Medical Assistants</li> <li>Medical Secretaries</li> <li>Medical and Clinical Laboratory Technicians</li> <li>Pharmacy Technicians</li> <li>Home Health Aides</li> <li>Physical Therapist Assistants</li> <li>Medical Records and Health Informatics Technicians</li> <li>Medical Equipment Preparers</li> </ul>	<ol style="list-style-type: none"> <li>Mayo Clinic</li> <li>The Mentor Network</li> <li>REM Hennepin, Inc.</li> <li>Benedictine Health System</li> <li>Home Instead</li> </ol>
<b>Engineering, Manufacturing, &amp; Technology</b>	<ul style="list-style-type: none"> <li>Transportation Operations</li> <li>Facility and Mobile Equipment Maintenance</li> <li>Warehousing and Distribution Center Operations</li> <li>Construction</li> <li>Maintenance/Operations</li> </ul>	<ul style="list-style-type: none"> <li>Heavy and Tractor-Trailer Truck Drivers</li> <li>Carpenters</li> <li>Maintenance and Repair Workers, General</li> <li>Plumbers, Pipefitters, and Steamfitters</li> <li>Industrial Machinery Mechanics</li> <li>Electricians</li> <li>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</li> <li>Supervisors of Construction Trades and Extraction Workers</li> </ul>	<ul style="list-style-type: none"> <li>Heavy and Tractor-Trailer Truck Drivers</li> <li>Driver/Sales Workers</li> <li>Laborers and Freight, Stock, and Material Movers</li> <li>Production Workers</li> <li>Construction Laborers</li> <li>Industrial Engineering Technicians</li> <li>Automotive Specialty Technicians</li> </ul>	<ol style="list-style-type: none"> <li>U.S. Xpress</li> <li>Dart Transit</li> <li>A.D. Transport</li> <li>Marten Transport</li> <li>Roehl Transport</li> </ol>
<b>Arts, Communications, &amp; Information Systems</b>	<ul style="list-style-type: none"> <li>Information Support Services</li> </ul>	N/A	<ul style="list-style-type: none"> <li>Merchandise Displayers and Window Trimmers</li> <li>Computer User Support Specialists</li> <li>Web Developers</li> <li>Coaches and Scouts</li> <li>Computer Programmers</li> </ul>	<ol style="list-style-type: none"> <li>Lawrence Merchandising Services</li> <li>Computer Task Group</li> <li>Acosta Inc.</li> <li>Fastenal</li> <li>Mayo Clinic</li> </ol>
<b>Agriculture, Food, &amp; Natural Resources</b>	<ul style="list-style-type: none"> <li>Animal Systems</li> <li>Agribusiness</li> <li>Environmental Service Systems</li> </ul>	<ul style="list-style-type: none"> <li>Farmers, Ranchers, and Other Agricultural Managers</li> <li>Plumbers, Pipefitters, and Steamfitters</li> <li>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</li> <li>Veterinary Technologists and Technicians</li> <li>Supervisors of Transportation and Material Moving Workers</li> <li>Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers</li> </ul>	<ul style="list-style-type: none"> <li>Accountants</li> <li>Supervisors of Production and Operating Workers</li> <li>Insurance Sales Agents</li> <li>Sales Managers</li> <li>Market Research Analysts</li> <li>Marketing Managers</li> <li>Veterinarians</li> </ul>	<ol style="list-style-type: none"> <li>American National Insurance Company</li> <li>Intuit Inc.</li> <li>Bayer</li> <li>Hormel Foods Corporation &amp; Food Sales</li> <li>Spectrum</li> </ol>
<b>Business, Management, &amp; Administration</b>	<ul style="list-style-type: none"> <li>General Management</li> <li>Professional Sales</li> <li>Insurance</li> <li>Banking Services</li> </ul>	<ul style="list-style-type: none"> <li>Personal Service Managers, All Other</li> <li>Facilities Managers</li> </ul>	<ul style="list-style-type: none"> <li>Retail Salespersons</li> <li>Customer Service Representatives</li> <li>Insurance Sales Agents</li> <li>Supervisors of Retail Sales Workers</li> <li>Sales Representatives, Services</li> </ul>	<ol style="list-style-type: none"> <li>Spectrum</li> <li>Home Depot</li> <li>Platinum Supplemental Insurance</li> <li>Assurance</li> <li>TTEC</li> </ol>

			• Sales Agents, Financial Services	
<b>Human Services</b>	<ul style="list-style-type: none"> <li>• Security and Protective Services</li> <li>• Law Enforcement Services</li> <li>• Personal Care Services</li> </ul>	<ul style="list-style-type: none"> <li>• Police and Sheriff's Patrol Officers</li> <li>• Emergency Medical Technicians</li> <li>• Social and Community Service Managers</li> <li>• Firefighters</li> </ul>	<ul style="list-style-type: none"> <li>• Supervisors of Food Preparation and Serving Workers</li> <li>• Combined Food Preparation and Serving Workers</li> <li>• Social and Human Services Assistants</li> <li>• Hairdressers</li> <li>• Janitors and Cleaners</li> <li>• Maids and Housekeeping Cleaners</li> </ul>	<ol style="list-style-type: none"> <li>1. Kwik Trip</li> <li>2. Great Clips</li> <li>3. Compass Group</li> <li>4. Lutheran Social Services</li> <li>5. Benedictine Health System</li> <li>6. Target Corporation</li> </ol>

\* The occupations by job posting and employer data shown in this section is based on content found in jobs newly posted online during the period identified. Data from Gartner TalentNeuron Recruit, accessed 9/6/2020 at [www.wantedanalytics.com](http://www.wantedanalytics.com).

## Local Careers for People with a Bachelor's Degree or Higher

Perhaps the most recognizable industry profile for Southeast Minnesota is that of Health Science Technology, due to the global reputation of Mayo Clinic and the healthcare infrastructure in and around the Rochester area. Despite a strong local talent pipeline and high interest among students locally in the field, the Southeast will see a growing shortage of Health Science Technology talent if it does not cultivate more local talent and increase educational opportunities in these pathways. Therapeutic Services and Diagnostic Services will maintain and grow demand over the next five years and beyond. Registered Nurses are the number one occupation of shortage in the region by 2025, and rank high in regional job posting volume—particularly at the 4-year education level. In fact, nine out of the ten occupations overall expecting the highest volume of shortages over the next ten years were tied to healthcare delivery, and the tenth—General and Operations Managers—are largely management roles held within healthcare organizations. During the pandemic, the healthcare industry has seen significant fluctuation in demand, with some positions on extended furlough while other positions sit open indefinitely for ongoing hiring. New job postings for Health Science Technology positions requiring a Bachelor's degree or higher were 24% higher from March through August 2020 compared to the same six months in 2019.

Information Technology careers that require a Bachelor's degree or higher have swelled in the region, growing in volume in March-August 2020 by 47% compared to 2019 (while the region saw lower education positions decline). Software Developers will be in shortage regionally through 2025 and beyond with current anticipated local talent pipelines, as will Computer Systems Analysts, Database Administrators, and other Computer Programmers.

Business, Management and Administration careers as a whole are down in new job volumes in 2020 compared to 2019, with high education positions down about 14% during the pandemic period. However, openings for Loan Officers, Services Sales Representatives, Advertising Sales Agents, Cost Estimators have all doubled, tripled, or quadrupled in new posting volume in March-August 2020 compared to the same period in 2019.

**Higher Education Pathways and Occupations in Demand by Career Field**

Career Field	Top Pathway(s) In Demand	Top Occupations in Shortage Over 10 years	Top Occupations Advertised March 1, 2020 - August 31, 2020	Top Employers Recruiting
<b>Health Science Technology</b>	<ul style="list-style-type: none"> <li>Therapeutic Services</li> <li>Diagnostic Services</li> </ul>	<ul style="list-style-type: none"> <li>Registered Nurses</li> <li>Physicians (all other)</li> <li>Nurse Practitioners</li> <li>Physician Assistants</li> <li>Medical and Health Services Managers</li> <li>Family Medicine Physicians</li> </ul>	<ul style="list-style-type: none"> <li>Registered Nurses</li> <li>Medical and Health Services Managers</li> <li>Speech-Language Pathologists</li> <li>Critical Care Nurses</li> <li>Physicians and Surgeons</li> <li>Medical Scientists</li> <li>Family and General Practitioners</li> </ul>	<ol style="list-style-type: none"> <li>Mayo Clinic</li> <li>Sunbelt Staffing Solutions</li> <li>Soliant</li> <li>Olmsted Medical Center</li> <li>Comphealth Inc.</li> </ol>
<b>Engineering, Manufacturing, &amp; Technology</b>	<ul style="list-style-type: none"> <li>Construction</li> <li>Maintenance/Operations</li> <li>Manufacturing Production</li> <li>Engineering and Technology</li> </ul>	<ul style="list-style-type: none"> <li>Construction Managers</li> <li>Industrial Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Supervisors of Production and Operating Workers</li> <li>Civil Engineers</li> <li>Industrial Engineers</li> <li>Electrical Engineers</li> <li>Construction Managers</li> <li>Industrial Production Managers</li> </ul>	<ol style="list-style-type: none"> <li>U.S. Xpress</li> <li>BH Trans Corp.</li> <li>Mayo Clinic</li> <li>GPAC</li> <li>Hormel Foods Corp.</li> </ol>
<b>Arts, Communications, &amp; Information Systems</b>	<ul style="list-style-type: none"> <li>Programming and Software Development</li> <li>Network Systems</li> <li>Information Support and Services</li> </ul>	<ul style="list-style-type: none"> <li>Software Developers, Applications</li> <li>Computer Systems Analysts</li> <li>Database Administrators and Architects</li> <li>Computer Programmers</li> </ul>	<ul style="list-style-type: none"> <li>Software Developers, Applications</li> <li>Computer Systems Analysts</li> <li>Network and Computer Systems Administrators</li> </ul>	<ol style="list-style-type: none"> <li>Mayo Clinic</li> <li>Computer Task Group</li> <li>Rochester Public Schools</li> <li>Home Depot</li> <li>Fastenal</li> </ol>



		<ul style="list-style-type: none"> <li>• Web Developers and Digital Interface Designers</li> </ul>	<ul style="list-style-type: none"> <li>• Information Security Analysts</li> <li>• IT Project Managers</li> </ul>	
<b>Agriculture, Food, &amp; Natural Resources</b>	<ul style="list-style-type: none"> <li>• Animal Systems</li> <li>• Agribusiness</li> </ul>	<ul style="list-style-type: none"> <li>• Veterinarians</li> </ul>	<ul style="list-style-type: none"> <li>• Supervisors of Retail Sales Workers</li> <li>• Supervisors of Office and Administrative Support Workers</li> <li>• Stock Clerks, Sales Floor</li> <li>• Demonstrators and Product Promoters</li> <li>• Insurance Sales Agents</li> </ul>	<ol style="list-style-type: none"> <li>1. Kwik Trip</li> <li>2. Fresh Thyme Farmers Market</li> <li>3. Hormel Food Corporation</li> <li>4. Hy-Vee, Inc.</li> <li>5. Natural Grocers by Vitamin Cottage</li> </ol>
<b>Business, Management, &amp; Administration</b>	<ul style="list-style-type: none"> <li>• Accounting</li> <li>• Operations Management</li> <li>• General Management</li> <li>• Insurance</li> <li>• Business Finance</li> <li>• Operations Management</li> <li>• Marketing Research</li> <li>• Marketing Management</li> </ul>	<ul style="list-style-type: none"> <li>• General and Operations Managers</li> <li>• Financial Managers</li> <li>• Market Research Analysts and Marketing Specialists</li> <li>• Program Management Specialists and Business Operations Specialists</li> <li>• Accountants and Auditors</li> <li>• Management Analysts</li> <li>• Insurance Sales Agents</li> </ul>	<ul style="list-style-type: none"> <li>• Accountants</li> <li>• Sales Managers</li> <li>• Sales Representatives, Wholesale and Manufacturing</li> <li>• Market Research Analysts and Marketing Specialists</li> <li>• Sales Agents, Financial Services</li> <li>• General and Operations Managers</li> <li>• Marketing Managers</li> <li>• Loan Officers</li> <li>• Sales Representatives, Services</li> </ul>	<ol style="list-style-type: none"> <li>1. Spectrum</li> <li>2. Mayo Clinic</li> <li>3. Bayer</li> <li>4. Allstate</li> <li>5. GPAC</li> </ol>
<b>Human Services</b>	<ul style="list-style-type: none"> <li>• Teaching/Training</li> <li>• Counseling and Mental Health Services</li> <li>• Family and Community Services</li> </ul>	<ul style="list-style-type: none"> <li>• Secondary School Teachers</li> <li>• Substance Abuse, Behavioral Disorder, and Mental Health Counselors</li> <li>• Health Specialties Teachers, Postsecondary</li> <li>• Child, Family, and School Social Workers</li> <li>• Clinical, Counseling, and School Psychologists</li> </ul>	<ul style="list-style-type: none"> <li>• Social and Human Service Assistants</li> <li>• Food Service Managers</li> <li>• Social and Community Service Managers</li> <li>• Child, Family, and School Social Workers</li> <li>• Healthcare Social Workers</li> <li>• Community and Social Service Specialists</li> </ul>	<ol style="list-style-type: none"> <li>1. Compass Group</li> <li>2. Lutheran Social Services</li> <li>3. Rochester Public Schools</li> <li>4. Mayo Clinic</li> <li>5. Family Service Rochester Inc.</li> </ol>

\* The occupations by job posting and employer data shown in this section is based on content found in jobs newly posted online during the period identified. Data from Gartner TalentNeuron Recruit, accessed 9/6/2020 at [www.wantedanalytics.com](http://www.wantedanalytics.com).

## Conclusion

Southeast Minnesota is poised to see changes in demand for talent over the next five years and beyond as the region responds to the impacts of COVID-19 on the local population, economy, and business infrastructure. Employer talent needs are changing rapidly in response to the sustained health, social, and economic challenges facing our state, in many cases accelerating occupation and skill gaps once anticipated for 10 years out into a much shorter time frame. Complications of the pandemic may continue to accelerate automation and reskilling of the existing workforce to a changing market and a stagnant labor pool.

The region's most in-demand occupations of the future require a 2-year degree or higher, offer high average wages, and will likely experience talent shortages by 2025. All six career and technical education Career Field areas will experience talent shortages and oversupply in certain occupations and skill areas. Overall, digital skills, human skills, and business enablers will be the foundational skills of the future in Southeast Minnesota.

# Region Definitions

## Northwest MN

Northwest Minnesota is comprised of 19 counties:

Becker County, Minnesota	Norman County, Minnesota
Beltrami County, Minnesota	Otter Tail County, Minnesota
Clay County, Minnesota	Pennington County, Minnesota
Clearwater County, Minnesota	Polk County, Minnesota
Douglas County, Minnesota	Red Lake County, Minnesota
Grant County, Minnesota	Roseau County, Minnesota
Hubbard County, Minnesota	Todd County, Minnesota
Kittson County, Minnesota	Wadena County, Minnesota
Mahnomen County, Minnesota	Wilkin County, Minnesota
Marshall County, Minnesota	

## Northeast MN

Northeast Minnesota is comprised of:

Aitkin County, Minnesota	Itasca County, Minnesota
Carlton County, Minnesota	Koochiching County, Minnesota
Cass County, Minnesota	Lake County, Minnesota
Cook County, Minnesota	Lake of The Woods County, Minnesota
Crow Wing County, Minnesota	St. Louis County, Minnesota

## Central MN

Central Minnesota is comprised of 15 counties:

Benton County, Minnesota	Pine County, Minnesota
Big Stone County, Minnesota	Pope County, Minnesota
Chisago County, Minnesota	Sherburne County, Minnesota
Isanti County, Minnesota	Stearns County, Minnesota
Kanabec County, Minnesota	Stevens County, Minnesota
Mille Lacs County, Minnesota	Swift County, Minnesota
Morrison County, Minnesota	Traverse County, Minnesota
	Wright County, Minnesota

# Southeast MN

Southeast Minnesota is comprised of 7 counties:

Dodge County, Minnesota	Olmsted County, Minnesota
Fillmore County, Minnesota	Wabasha County, Minnesota
Houston County, Minnesota	Winona County, Minnesota
Mower County, Minnesota	

# Southwest MN

Southwest Minnesota is comprised of 29 counties:

Blue Earth County, Minnesota	Meeker County, Minnesota
Brown County, Minnesota	Murray County, Minnesota
Chippewa County, Minnesota	Nicollet County, Minnesota
Cottonwood County, Minnesota	Nobles County, Minnesota
Faribault County, Minnesota	Pipestone County, Minnesota
Freeborn County, Minnesota	Redwood County, Minnesota
Goodhue County, Minnesota	Renville County, Minnesota
Jackson County, Minnesota	Rice County, Minnesota
Kandiyohi County, Minnesota	Rock County, Minnesota
Lac Qui Parle County, Minnesota	Sibley County, Minnesota
Le Sueur County, Minnesota	Steele County, Minnesota
Lincoln County, Minnesota	Waseca County, Minnesota
Lyon County, Minnesota	Watonwan County, Minnesota
McLeod County, Minnesota	Yellow Medicine County, Minnesota
Martin County, Minnesota	

# MSP Metro MN

The MSP Metro is comprised of 7 counties:

Anoka County, Minnesota	Ramsey County, Minnesota
Carver County, Minnesota	Scott County, Minnesota
Dakota County, Minnesota	Washington County, Minnesota
Hennepin County, Minnesota	

# Sources and Data Notes

- Demographic data comes from the 2014-2018 American Community Survey 5-year estimates provided by the US Census Bureau, unless otherwise noted.
- Graduate awards, enrollment, and average net price data are provided by National Center for Education Statistics (NCES) IPEDS data from the 2017-18 school year, unless otherwise noted.
- Occupation employment is imputed by Chmura to 2020Q1 based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS Occupation Employment Statistics (OES) base data. Occupation wages are per the BLS OES data and are as of 2018. Occupation employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts to the identified geography. Alternate forecasts based on COVID-19 impacts are modeled by RealTime Talent utilizing Chmura Economics JobsEQ software for specific geographies.
- Job ads data are online job posts from Gartner TalentNeuron Recruit's legacy platform accessed in September 2020 at [www.wantedanalytics.com](http://www.wantedanalytics.com). These job posting data are scraped from over 30,000 unique websites and deduplicated for accuracy. Most reference to job posting data in the Accessible Career Pathways section of this report reflects newly-advertised, unique and deduplicated jobs posted from March 1, 2020 - August 31, 2020. Data found in summary tables reflect ads active during the twelve month period from 08/31/2019 through 09/01/2020 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Staffing agency job postings are included in results.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of Chmura Economics RTI (job posting) data; skill supply data are estimated using a four-year sample of resumes data scraped from online candidate profiles.
- Figures may not sum due to rounding.

# FAQ

## **What is a location quotient?**

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

## **What is a cluster?**

A cluster is a geographic concentration of interrelated industries or occupations. If a regional cluster has a location quotient of 1.25 or greater, the region is considered to possess a competitive advantage in that cluster.

## **What is the difference between industry wages and occupation wages?**

Industry wages and occupation wages are estimated via separate data sets, often the time periods being reported do not align, and wages are defined slightly differently in the two systems (for example, certain bonuses are included in the industry wages but not the occupation wages). It is therefore common that estimates of the average industry wages and average occupation wages in a region do not match exactly.

## **How are industries, occupations, and the CTE career fields and clusters defined?**

Industries are defined via the North American Industry Classification System (NAICS). “Sectors” in this report represent 2-digit NAICS codes and industries in the “Industry Analysis” section of this report represent 4-digit NAICS codes. Occupations are defined via the Standard Occupational Classification System (SOC). Occupations in the “Occupation Analysis” section of this report represent 6-digit SOC codes. “CTE Clusters” are collections of 6-digit SOC occupations as defined through the National Career Clusters® Framework. The only exception to this is the Agriculture, Food, and Natural Resources Cluster, which is more inclusive of occupations that fall under respective career pathways and thus overlaps with other career clusters. All other clusters used in this report have distinct classifications of occupations.

## **What is NAICS?**

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the “all industry” level to the 6-digit level.

## **What is SOC?**

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

**How is “Ann Total Demand” defined?**

Annual total employment demand is forecast job demand that includes job needs due to growth, exits (such as retirements), and transfers (individuals moving from one career into another).

**What is separation demand?**

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

**What is the Living Wage used in this report?**

The living wage in the United States is \$16.14 per hour in 2018, before taxes for a family of four (two working adults, two children) - MIT Living Wage Calculator.