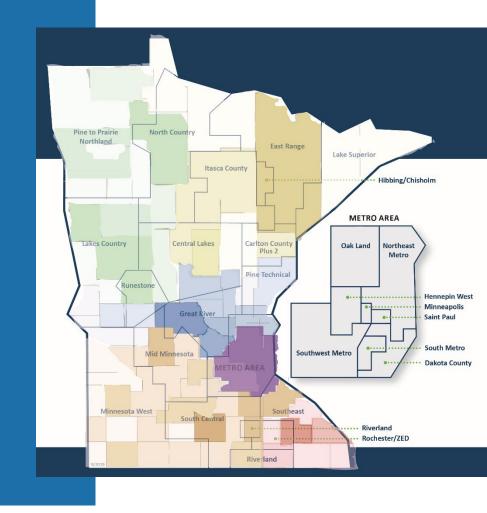
CAREER & TECHNICAL EDUCATION

Workforce Trends & Careers of Tomorrow



RealTime Talent

Erin Olson, Director of Strategic Research October 2021



The contents of this publication were made possible through the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) federal grant from the United States Department of Education administered through Minnesota State Colleges and Universities.

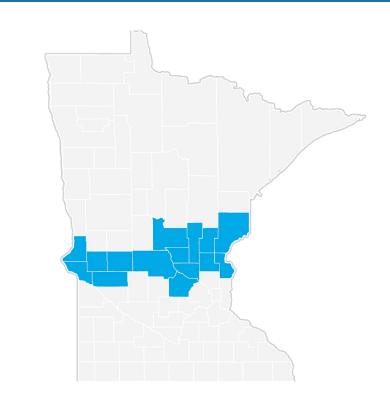
Who's in the Virtual "Room"

In the chat field, please share your name, your role, and the organization that you represent.

CAREER & TECHNICAL EDUCATION BEYOND 2020

Workforce Trends & Careers of Tomorrow

Central Minnesota



RealTime Talent

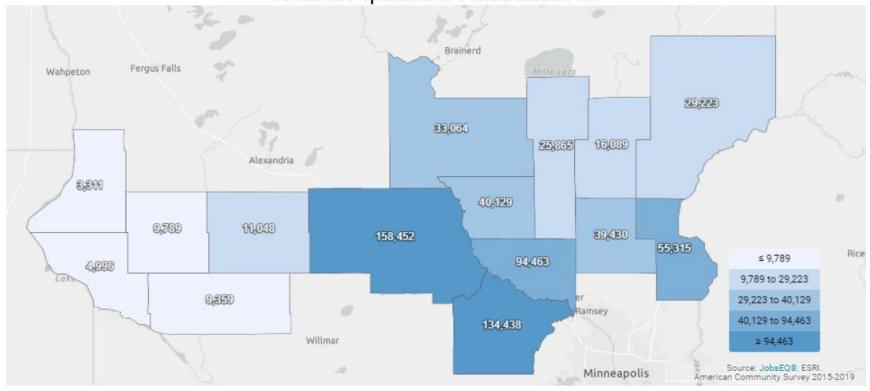
Erin Olson, Director of Strategic Research October 2021



Overview

Central Minnesota

Resident Population of Central Minnesota



- Community Profile
- Workforce Forecast
- Mid-Term Occupational Impacts
- Career Field Insights

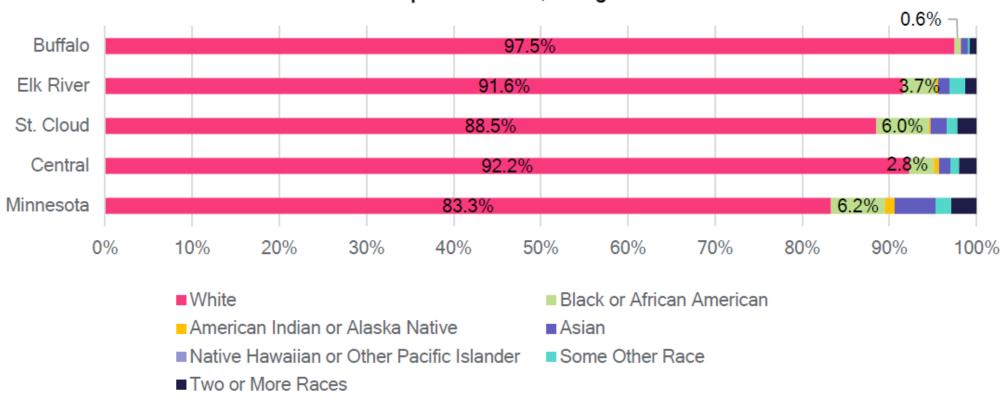


http://www.realtimetalent.org



Central Minnesota

Population Race, All Ages

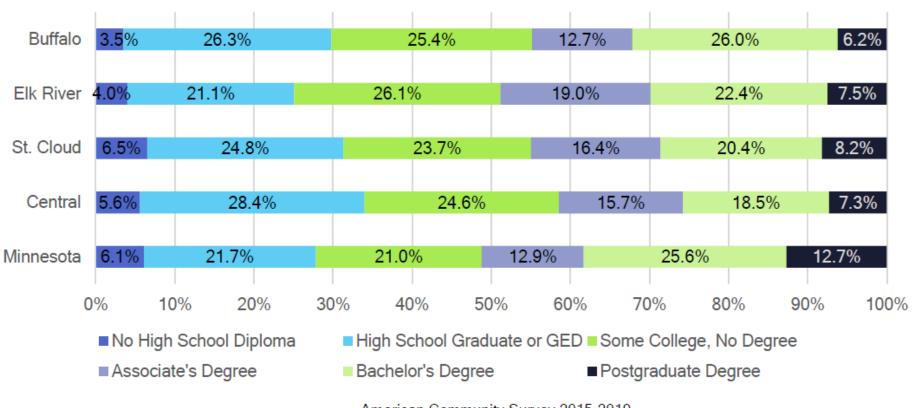


American Community Survey 2015-2019.



Central Minnesota

Educational Attainment, Age 25-64

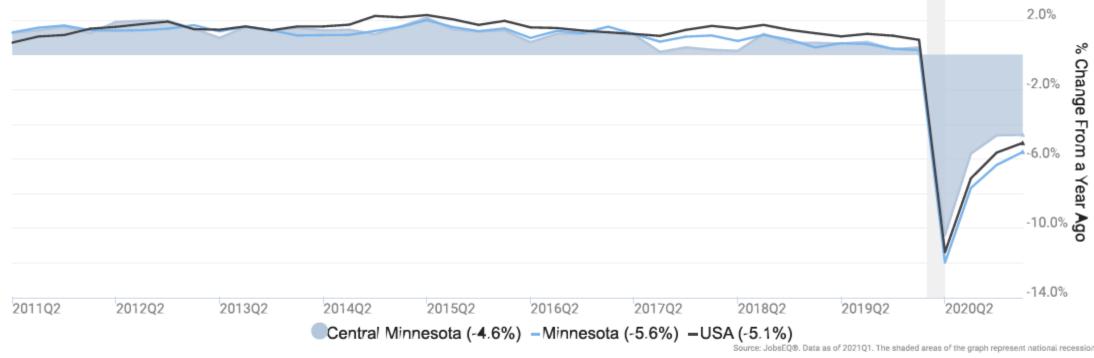


American Community Survey 2015-2019.



Central Minnesota



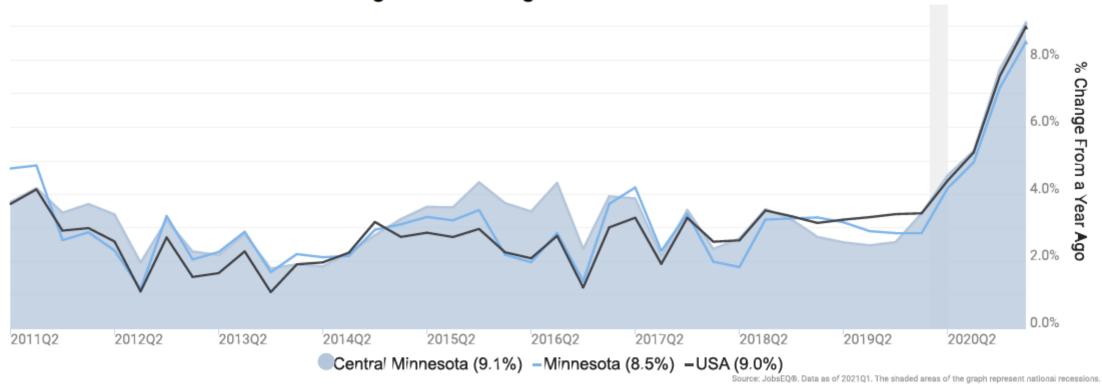


Employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.



Central Minnesota

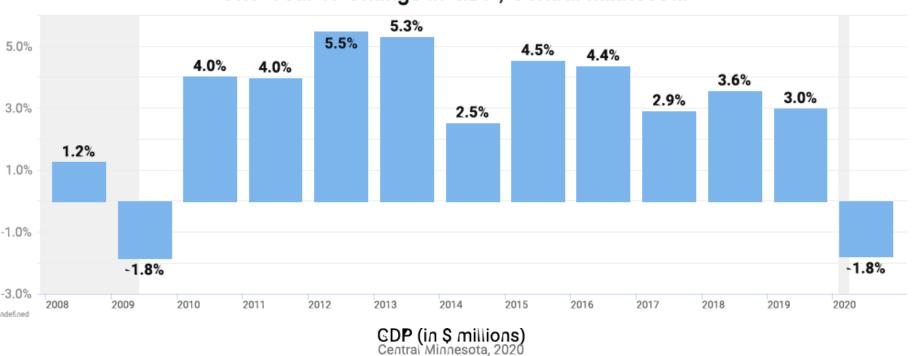
Average Annual Wages for Central Minnesota



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 2020Q4 with preliminary estimates updated to 2021Q1.



One-Year % Change in GDP, Central Minnesota





Central Minnesota

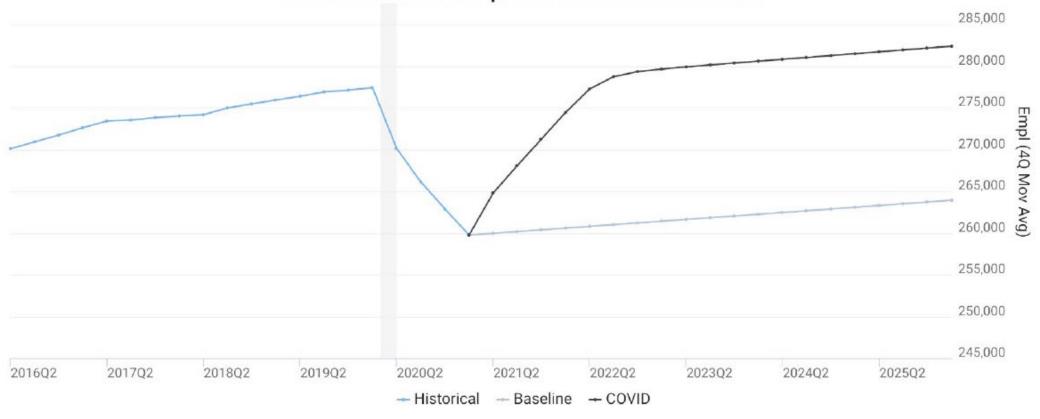
- Gross Regional Product (GRP) contracted -1.8%
- Manufacturing contributes most to GRP



Workforce of Today & Tomorrow Forecast

Central Minnesota





Source: JobsEQ®,Data as of 2021Q1



Polling Question

When you think about the current economic situation in your community, which of the following career fields do you feel has the most challenging or pressing workforce needs to be addressed right now? (select up to two)

- 1. Agriculture, Food, and Natural Resources
- 2. Arts, Communications, and Information Systems
- 3. Business, Management, and Administration
- 4. Engineering, Manufacturing, and Technology
- 5. Health Science Technology
- 6. Human Services

Polling Question

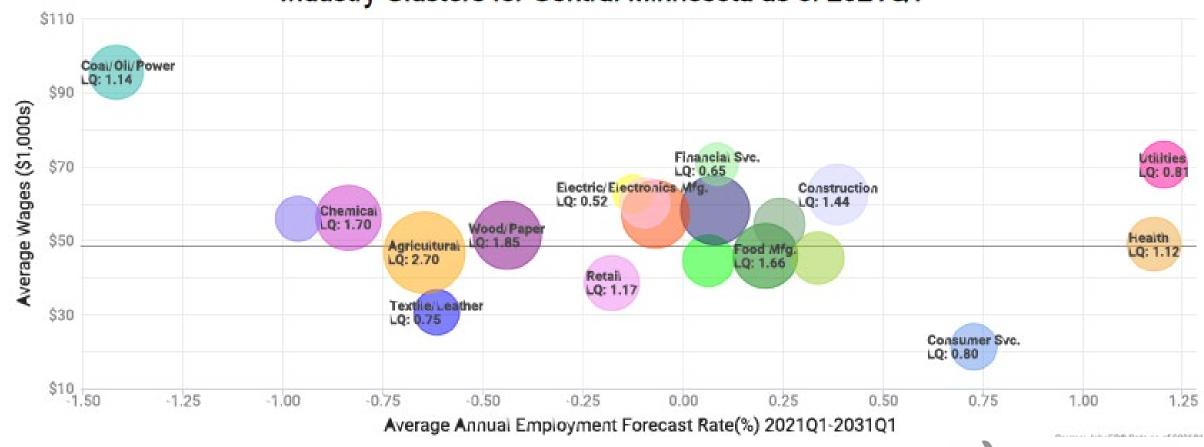
When you think about your local school, district, or consortium's programming, how well do you feel current program offerings address your community's most challenging or pressing workforce needs right now?

- 1. To a Great Extent
- 2. Somewhat
- 3. Very Little
- 4. Not at all
- 5. I do not know

Workforce of Today & Tomorrow Forecast

Central Minnesota

Industry Clusters for Central Minnesota as of 2021Q1



Mid-Term Occupational Impacts

High Contact-Intensity Occupations

Central Minnesota

Diverging Mid-Term Impacts (greatest losses)

- Bartenders (-30.1%)
- Waiters and Waitresses (-29.1%)
- Supervisors of Food Preparation Workers (-14.5%)
- Passenger Vehicle Drivers (-14.0%)

Growth Among High Contact-Intensity Occupations

- Personal Care Aides (+3.4%)
- Medical Assistants (+2.9%)
- Physicians (+3.8%)

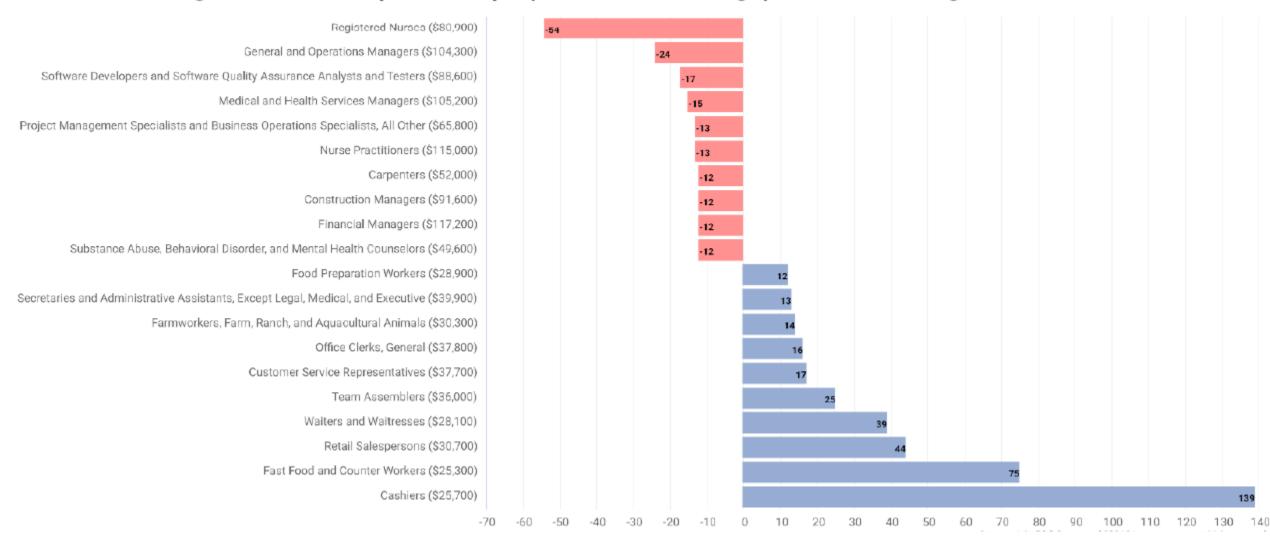
Average unemployment rate of **7.2%** across all high contact-intensity roles.



Mid-Term Occupational Impacts Occupation Gaps

Central Minnesota

Average Annual Occupation Gaps (i.e. Talent Shortage), 2021Q1 through 2031Q1



Emerging Career Paths

Central Minnesota

Top Emerging Occupations in Central Minnesota, March 1-August 31, 2021 compared to the same dates in 2020 (high-growth occupations by order of volume of postings)

- 1. Supervisors of Retail Sales Workers (+28%)
- 2. Light Truck or Delivery Services Drivers (+137%)
- 3. Nursing Assistants (+84%)
- Licensed Practical and Licensed Vocational Nurses (+213%)
- 5. Hairdressers, Hairstylists, and Cosmetologists (+40%)

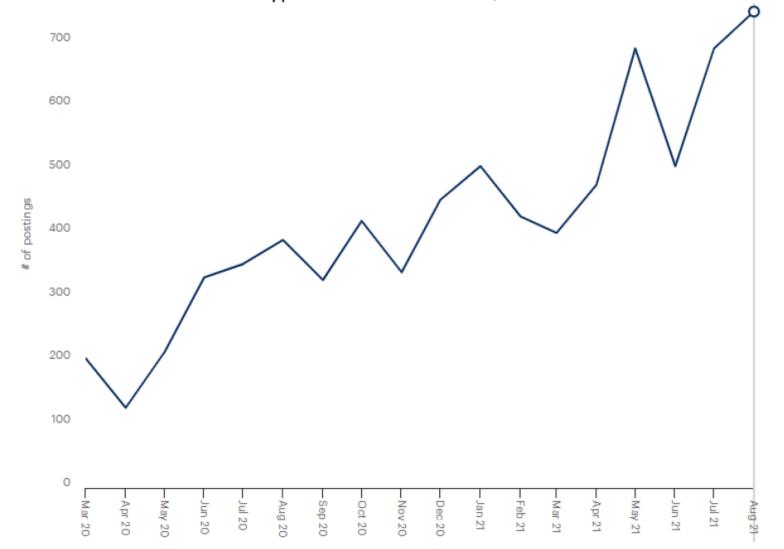
Top Sustaining Occupations in Central Minnesota September 2020 - 2021

- 1. Heavy and Tractor-Trailer Truck Drivers (+70%)
- 2. Registered Nurses (+51%)
- 3. Stock Clerks and Order Fillers (+52%)
- Laborers and Freight, Stock, and Material Movers (+17%)
- 5. Customer Service Representatives (+21%)



Emerging Career Paths

Trends in Remote Work Opportunities Advertised Online, Central Minnesota 2021Q1



Central Minnesota

Change in Volume of Remote Work Opportunities

- . Customer Service Representatives (+205%)
- 2. Insurance Sales Agents (+97%)
- 3. Accountants and Auditors (+649%)
- Bookkeeping, Accounting, and Auditing Clerks
- 5. Software Developers, Applications (+266%)

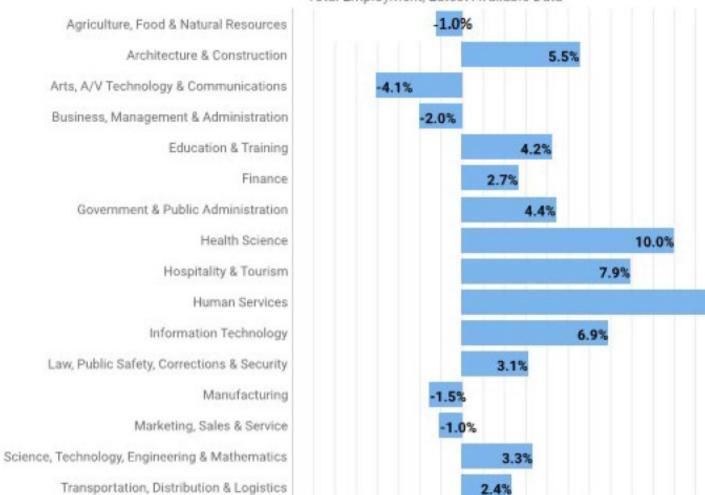


Shifting Opportunities

Central Minnesota

Baseline Worst-Case Scenario 10-Year Forecasts by Career Cluster, Central Minnesota 2021Q1

10 Year Forecast Growth Rate Total Employment, Latest Available Data





17.1%

Career Field Analysis

Target Occupations

High wage (above regional average)

High-skill (require some credential)

High-demand (2/4 indicators: under 3% unempl, higher than average 5-year growth, total 5-year demand >50% of current empl, high job posting volume)

*Often also high occupation gap and award gap

Gateway Occupations

Mid-wage (\$42,000 – regional average)
Low-middle skills (HS diploma, some OJT)
Sufficient demand (3-5% unemployment and/or high volumes of current opportunities)

Origin Occupations

Low wage (<\$42,000/year)

Low skill (no credential)

Low demand (over 5% unemployment, low growth, low replacement demand, and/or low job postings)

Career Field Analysis

Occupation Characteristics for Consideration

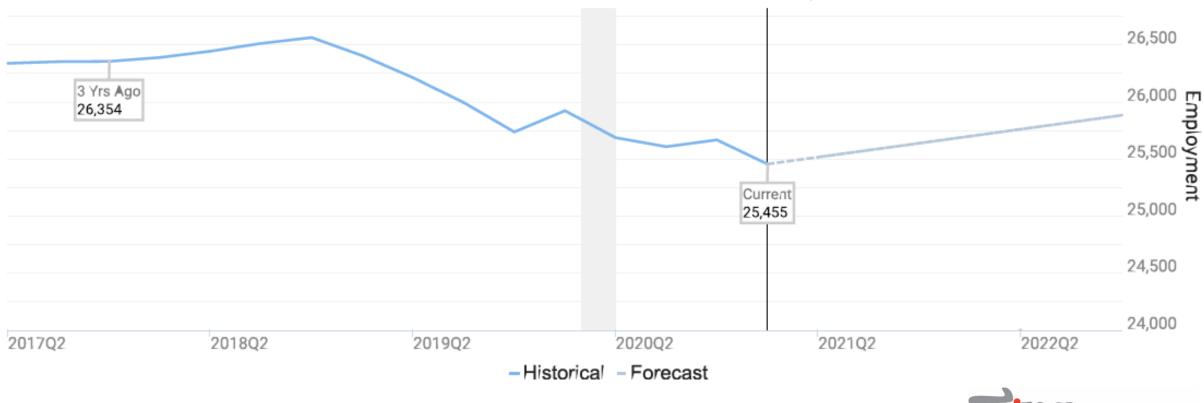
- High-Wage: Paying above the area mean wage
- High-Skill: Requiring some form of credential
- High-Demand: 2/4 of the following requirements met:
 - Low unemployment
 - High volume of job postings in the past 3 months
 - Forecasted growth outpaces average regional forecasted growth
 - Forecasted total demand equal to or greater than 50% of total current employment
- Occupation Gaps
- Award Gaps



Health Science Technology

Central Minnesota

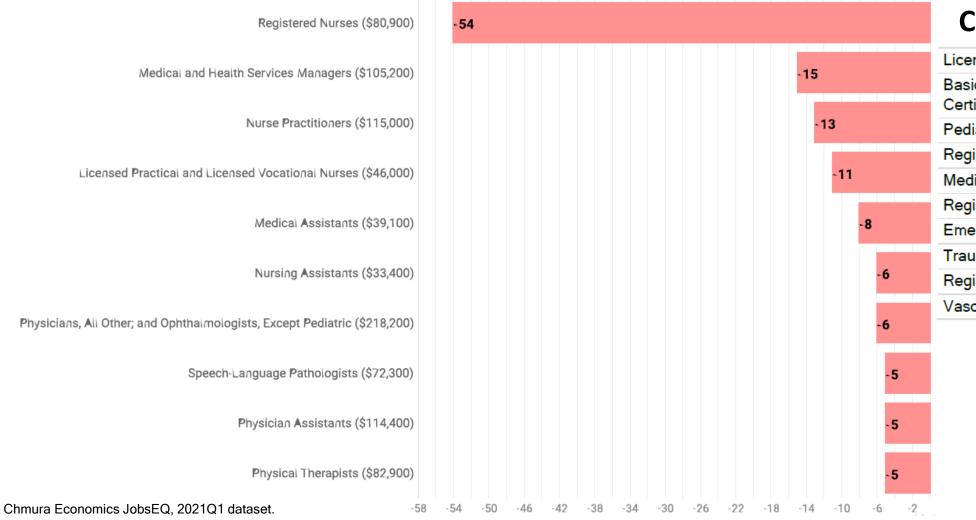
Baseline Worst-Case Scenario 3-Year Forecast for Health Science Technology Careers,
Central Minnesota 2021Q1



Health Science Technology

Central Minnesota

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Health Science Technology, Central Minnesota 2021Q1



Certification Gaps

Licensed Practical Nurse (LPN)

Basic Cardiac Life Support Certification (BCLS Certification)

Pediatric Advanced Life Support (PALS)

Registered Medical Assistant

Medical Technologist (Medical Technologists)

Registered Respiratory Therapist (RRT)

Emergency Nursing Pediatric Course (ENPC)

Trauma Nursing Core Course (TNCC)

Registered Veterinary Technician (RVT)

Vascular Surgery



Health Science Technology

Central MN, 2021Q1

Target Occupations (all HW, HD, HS)

Registered Nurses (OG)

Medical and Health Services Managers (OG, AG)

Dental Hygienists (OG)

Nurse Practitioners (OG, AG)

Speech-Language Pathologists (OG)

Gateway Occupations

Licensed Practical Nurses (HS, OG)

Dental Assistants (HS, HD, OG, AG)

Medical Dosimetrists (HS, OG)

Occupational Therapy Assistants (HS, HD, OG, AG)

Recreational Therapists (HS, AG)

Origin Occupations

Likely

Nursing Assistants (HS, OG, AG)

Home Health Aides (HD)

Medical Secretaries (OG, AG)

Medical Assistants (HS, HD, OG)

Pharmacy Technicians (OG)

Aligned

Personal Care Aides

Childcare Workers

Secretaries

Cashiers

Cooks

Health Science Technology

Central Minnesota

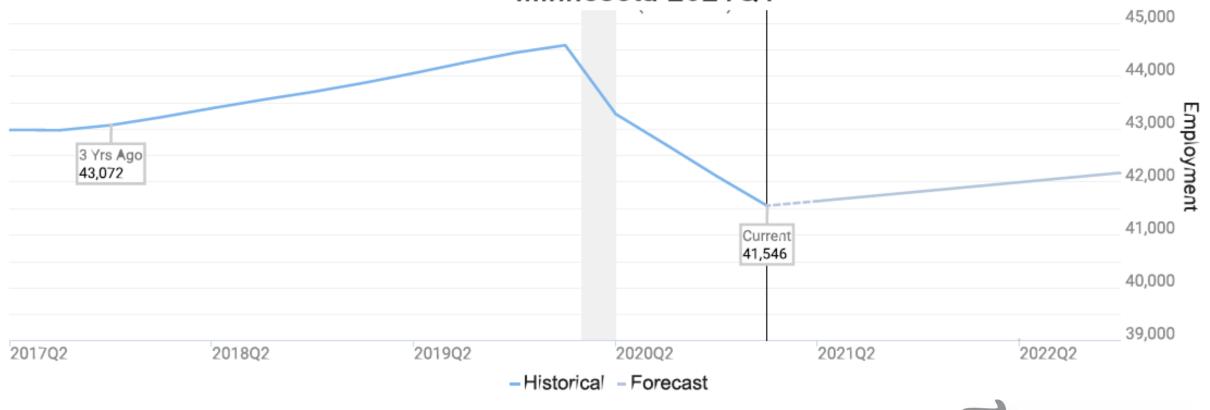
Top Ten Target Occupations in Health Science Technology, Central Minnesota 2021Q1

soc	Occupation	2021Q1 Empl	Mean Ann Wages ²	High- Wage	High-Skill	High- Demand	OG	AG
29-1141	Registered Nurses	6,252	\$80,900	HW	HS	HD	OG	
11-9111	Medical and Health Services Managers	690	\$105,200	HW	HS	HD	OG	AG
29-1292	Dental Hygienists	378	\$70,700	HW	HS	HD	OG	
29-1171	Nurse Practitioners	338	\$115,000	HW	HS	HD	OG	AG
29-1127	Speech-Language Pathologists	275	\$72,300	HW	HS	HD	OG	
29-1122	Occupational Therapists	242	\$75,700	HW	HS	HD	OG	AG
29-1126	Respiratory Therapists	236	\$67,400	HW	HS	HD	OG	AG
29-1131	Veterinarians	208	\$83,200	HW	HS	HD	OG	AG
29-1071	Physician Assistants	203	\$114,400	HW	HS	HD	OG	AG
31-2021	Physical Therapist Assistants	138	\$53,800	HW	HS	HD	OG	



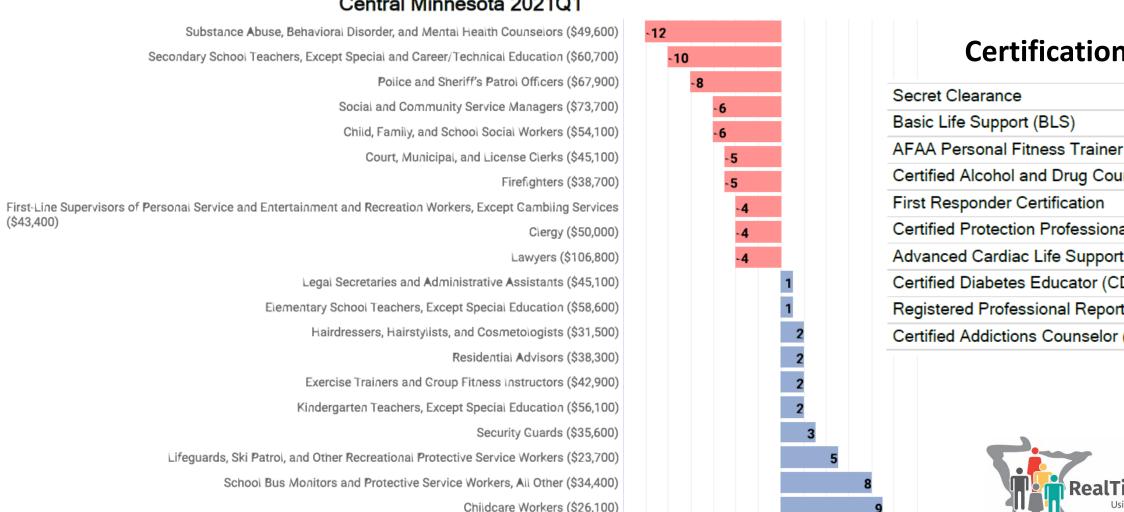
Central Minnesota

Baseline Worst-Case Scenario 3-Year Forecast for Human Services Careers, Central
Minnesota 2021Q1



Central Minnesota

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Human Services, Central Minnesota 2021Q1



-10

Certification Gaps

Certified Alcohol and Drug Counselor (ADC)

Certified Protection Professional (CPP)

Advanced Cardiac Life Support Certification (ACLS)

Certified Diabetes Educator (CDE)

Registered Professional Reporter (RPR)

Certified Addictions Counselor (CAC)



Central MN, 2021Q1

Target Occupations (all HW, HD, HS)
Child, Family, & School Social Workers (OG, AG)
K-12 Education Administrators (OG)
Educational, Guidance, & Career Counselors (OG, AG)
Social & Community Service Managers (OG, AG)
Compliance Officers (OG)

Gateway Occupations

Substance Abuse and Mental Health Counselors (HS, HD, OG, AG)

Court, Municipal, and License Clerks (HD, OG)

Correctional Officers and Jailers (AG)

Clergy (HS, HD, OG, AG)

Self-Enrichment Teachers (HD, AG)

Supervisors of Personal Service and Recreation Workers (HD, OG, AG)

Origin Occupations	
--------------------	--

Likely

Personal Care Aides (HD, AG)

Teaching Assistants (HS, HD)

Childcare Workers (HD, AG)

Social and Human Service Assistants (HD)

Preschool Teachers (HS, HD, OG)

Aligned

Home Health Aides

Medical Assistants

Waiters and Waitresses

Cashiers

Cooks

Central Minnesota

Top Ten Target Occupations in Human Services, Central Minnesota 2021Q1

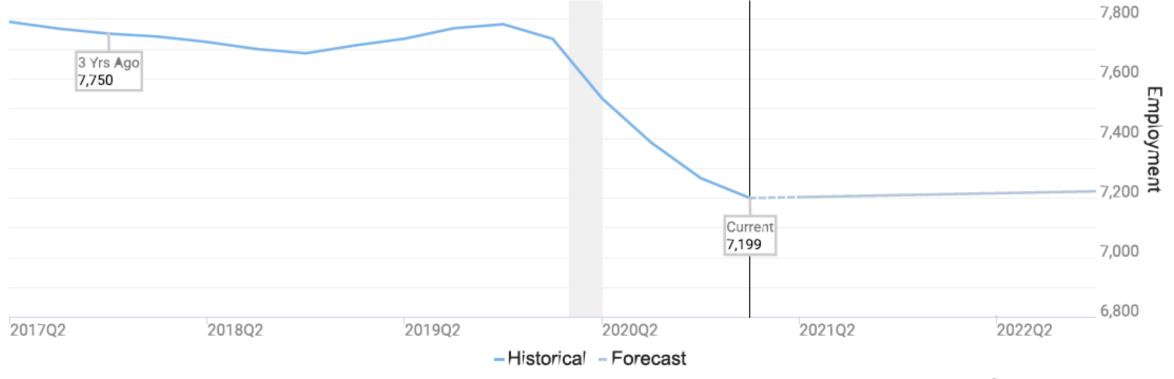
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High- Wage	High-Skill	High- Demand	OG	AG
21-1021	Child, Family, and School Social Workers	613	\$54,100	HW	HS	HD	OG	AG
11-9032	Education Administrators, Kindergarten through Secondary	429	\$105,000	HW	HS	HD	OG	
21-1012	Educational, Guidance, and Career Counselors and Advisors	425	\$57,700	HW	HS	HD	OG	AG
11-9151	Social and Community Service Managers	363	\$73,700	HW	HS	HD	OG	AG
13-1041	Compliance Officers	353	\$73,100	HW	HS	HD	OG	
21-1022	Healthcare Social Workers	341	\$51,800	HW	HS	HD	OG	AG
25-9031	Instructional Coordinators	307	\$68,300	HW	HS	HD	OG	AG
21-2021	Directors, Religious Activities and Education	274	\$64,500	HW	HS	HD	OG	AG
21-1023	Mental Health and Substance Abuse Social Workers	252	\$59,600	HW	HS	HD	OG	AG
25-4022	Librarians and Media Collections Specialists	221	\$57,300	HW	HS	HD	OG	



Arts, Communications, & Information Systems

Central Minnesota

Baseline Worst-Case Scenario 3-Year Forecast for Arts, Communications, and Information Systems Careers, Central Minnesota 2021Q1



Arts, Communications, & Information Systems

Central MN, 2021Q1

Target Occupations (all HW, HD, HS)

Software Developers (OG, AG)

Writers and Authors

Art Directors

Information Security Analysts (OG, AG)

Producers and Directors (OG, AG)

Gateway Occupations

Graphic Designers (HS)

Printing Press Operators

Music Directors and Composers (HS, HD, OG, AG)

Audio and Video Technicians (HS, HD, OG, AG)

Prepress Technicians and Workers (HS)

Origin Occupations

Likely

Aligned

Print Binding and Finishing Workers

Library Technicians

Floral Designers

Recreation Attendants

Broadcast Announcers & Radio Disc Jockeys (HS)

Hosts and Hostesses

Actors (HS, HD)

Customer Service Reps

Entertainers and Performers (HD)

Photo Process Machine Ops

Arts, Communications, & Information Systems

Central Minnesota

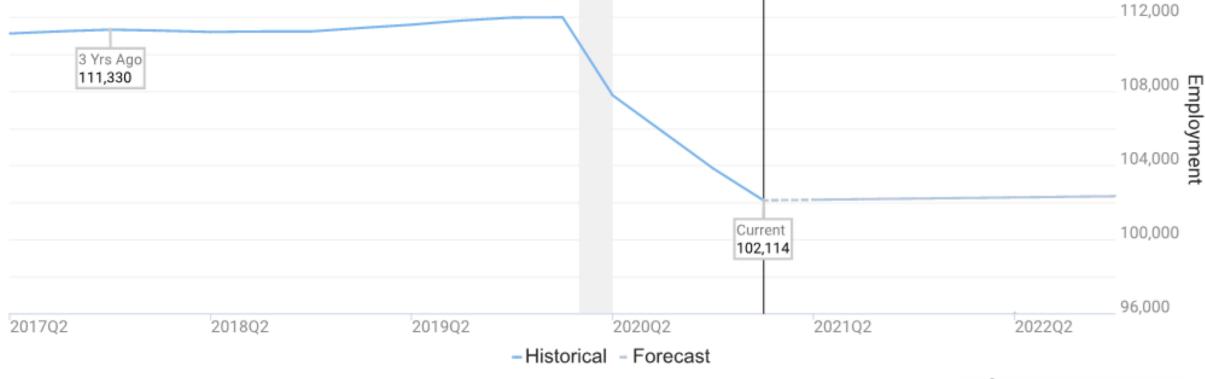
Top Ten Target Occupations in Arts, Communications, and Information Systems, Central Minnesota 2021Q1

		2021Q1	Mean Ann	High-		High-	0.0	
SOC	Occupation	Empl	Wages ²	Wage	High-Skill	Demand	OG	AG
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	1,068	\$88,600	HW	HS	HD	OG	AG
27-3043	Writers and Authors	145	\$56,700	HW	HS	HD		
27-1011	Art Directors	114	\$97,600	HW	HS	HD		
15-1212	Information Security Analysts	103	\$89,200	HW	HS	HD	OG	AG
27-2012	Producers and Directors	93	\$60,000	HW	HS	HD	OG	AG
27-1021	Commercial and Industrial Designers	76	\$64,800	HW	HS	HD		
27-1014	Special Effects Artists and Animators	59	\$58,300	HW	HS	HD		
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	25	\$60,300	HW	HS	HD		
27-1029	Designers, All Other	21	\$62,100	HW	HS	HD		
27-1022	Fashion Designers	20	\$64,300	HW	HS	HD		



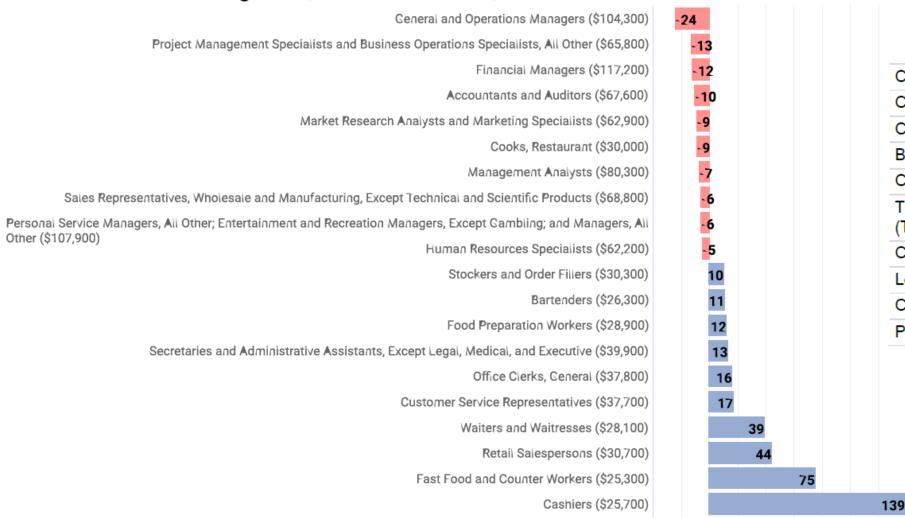
Central Minnesota

Baseline Worst-Case Scenario 3-Year Forecast for Business, Management, and Administration Careers, Central Minnesota 2021Q1





Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Business, Management, and Administration, Central Minnesota 2021Q1



Central Minnesota

Certification Gaps

Certified Internal Auditor (CIA)

Certified Public Accountant (CPA)

Certified Professional Dog Trainer (CPDT)

Basic Life Support (BLS)

120

80

Class A Commercial Driver's License (CDL-A)

Texas Alcoholic Beverage Commission Certification (TABC)

Certified Facility Manager (CFM)

Loss Prevention Qualified (LPQ)

Class B Commercial Driver's License (CDL-B)

Professional Certified Investigator (PCI)



Central MN, 2021Q1

Target Occupations (all HW, HD, HS)

General and Operations Managers (OG, AG)

Project Management Specialists (OG, AG)

Accountants and Auditors (OG)

Financial Managers (OG)

Market Research Analysts & Marketing Specialists (OG)

Gateway Occupations

Supervisors of Retail Sales Workers (AG)

Postal Service Mail Carriers

Real Estate Sales Agents (OG)

Loan Interviewers and Clerks (HD)

Supervisors of Housekeepers and Janitorial Workers (HD, OG)

Origin Occupations

Likely

Cashiers

Retail Salespersons (HD)

Fast Food and Counter Workers (HD)

Office Clerks, General (AG)

Stockers and Order Fillers (HD)

Aligned

Personal Care Aides

Eligibility Interviewers

Childcare Workers

Library Technicians

Central Minnesota

Top Ten Target Occupations in Business, Management, and Administration, Central Minnesota 2021Q1

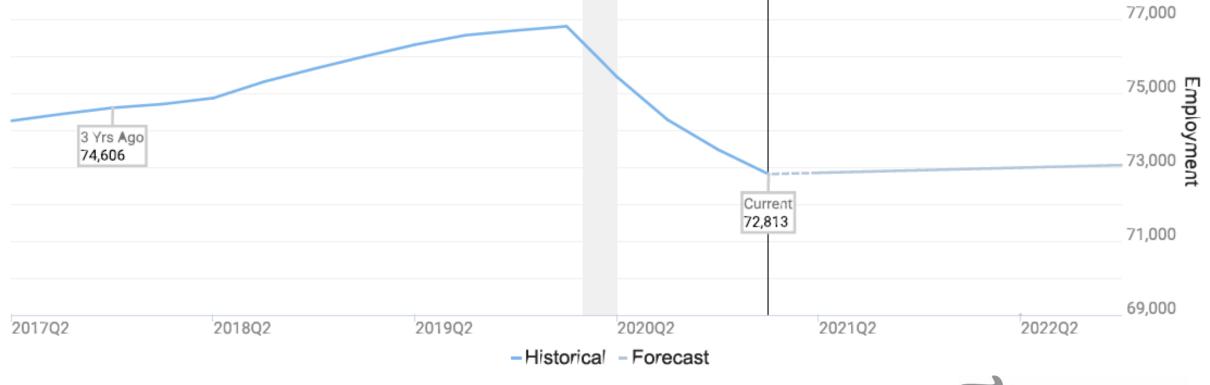
200	O a sum ation	2021Q1	Mean Ann	High-	Librate Oldin	High-	00	40
SOC	Occupation	Empl	Wages ²	Wage	High-Skill	Demand	OG	AG
11-1021	General and Operations Managers	3,387	\$104,300	HW	HS	HD	OG	AG
13-1198	Project Management Specialists and Business Operations Specialists, All Other	1,787	\$65,800	HW	HS	HD	OG	AG
13-2011	Accountants and Auditors	1,762	\$67,600	HW	HS	HD	OG	
11-3031	Financial Managers	881	\$117,200	HW	HS	HD	OG	
13-1161	Market Research Analysts and Marketing Specialists	825	\$62,900	HW	HS	HD	OG	
11-2022	Sales Managers	664	\$119,000	HW	HS	HD	OG	AG
41-3031	Securities, Commodities, and Financial Services Sales Agents	568	\$79,800	HW	HS	HD	OG	AG
27-3031	Public Relations Specialists	334	\$54,600	HW	HS	HD	OG	
13-2052	Personal Financial Advisors	271	\$131,200	HW	HS	HD	OG	
11-3121	Human Resources Managers	246	\$110,300	HW	HS	HD	OG	AG



Engineering, Manufacturing, & Technology

Central Minnesota

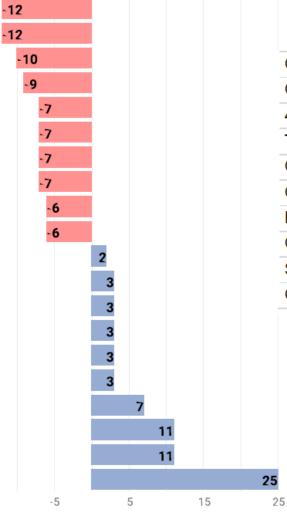
Baseline Worst-Case Scenario 3-Year Forecast for Engineering, Manufacturing, and Technology Careers, Central Minnesota 2021Q1



Engineering, Manufacturing, & Technology

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Engineering, Manufacturing, and Technology, Central Minnesota 2021Q1





Central Minnesota

Certification Gaps

Certified Welder

Certified Flight Instructor (CFI)

40 hour HAZWOPER

Transportation Worker Identification Credential (TWIC)

Certified Purchasing Professional (CPP)

Certified Quality Auditor (CQA)

EPA Section 608 Certification (EPA 608)

Certified Pesticide Applicator

Six Sigma Green Belt Certification (SSGB)

Certified Construction Manager (CCM)



Engineering, Manufacturing, & Technology

Central MN, 2021Q1

Target Occupations (all HW, HD, HS)

Construction Managers (OG, AG)

Industrial Engineers (OG, AG)

Cost Estimators (OG, AG)

Logisticians (OG, AG)

CNC Tool Programmers (OG)

Gateway Occupations

Heavy and Tractor-Trailer Truck Drivers (HS, OG, AG)

Construction Laborers

Maintenance and Repair Workers, General (HD, OG, AG)

Automotive Service Technicians and Mechanics (HS, AG)

Welders, Cutters, Solderers, and Brazers (HD, OG, AG)

Origin Occupations

Likely

Laborers and Freight, Stock Movers

Team Assemblers

Landscaping and Groundskeeping Workers (HD, AG) Stockers and Order Fillers

Passenger Vehicle Drivers (HD, AG)

Light Truck Drivers (AG)

Aligned

Parking Lot Attendants

Retail Sales Workers

Janitors and Cleaners

Personal Services Managers

Engineering, Manufacturing, & Technology

Central Minnesota

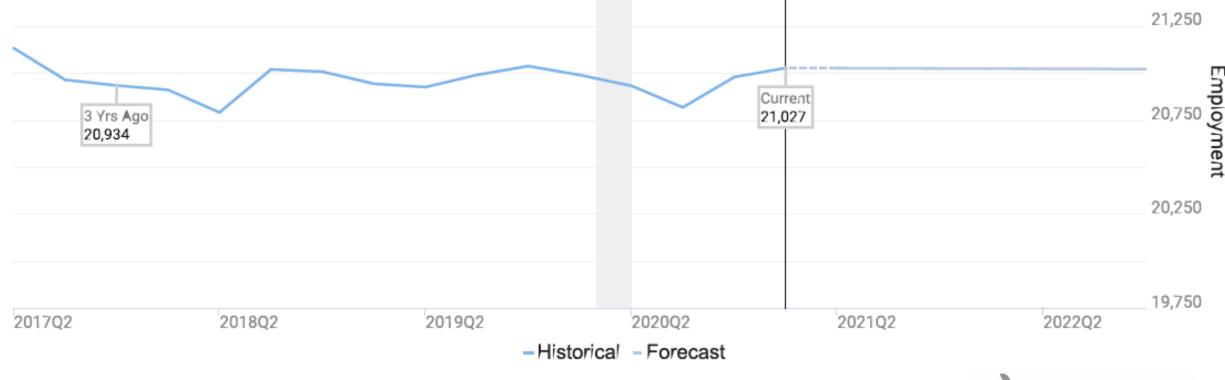
Top Target Occupations in Engineering, Manufacturing, and Technology, Central Minnesota 2021Q1

soc	Occupation	2021Q1 Empl	Mean Ann Wages ²	High- Wage	High-Skill	High- Demand	OG	AG
11-9021	Construction Managers	1,071	\$91,600	HW	HS	HD	OG	AG
17-2112	Industrial Engineers	660	\$81,800	HW	HS	HD	OG	AG
13-1051	Cost Estimators	474	\$64,400	HW	HS	HD	OG	AG
13-1081	Logisticians	192	\$69,400	HW	HS	HD	OG	AG
51-9162	Computer Numerically Controlled Tool Programmers	131	\$58,700	HW	HS	HD	OG	
27-1025	Interior Designers	99	\$54,200	HW	HS	HD		AG
19-2041	Environmental Scientists and Specialists, Including Health	91	\$72,700	HW	HS	HD	OG	
49-9062	Medical Equipment Repairers	71	\$57,400	HW	HS	HD		



Central Minnesota

Baseline Worst-Case Scenario 3-Year Forecast for Agriculture, Food, and Natural Resources Careers, Central Minnesota 2021Q1





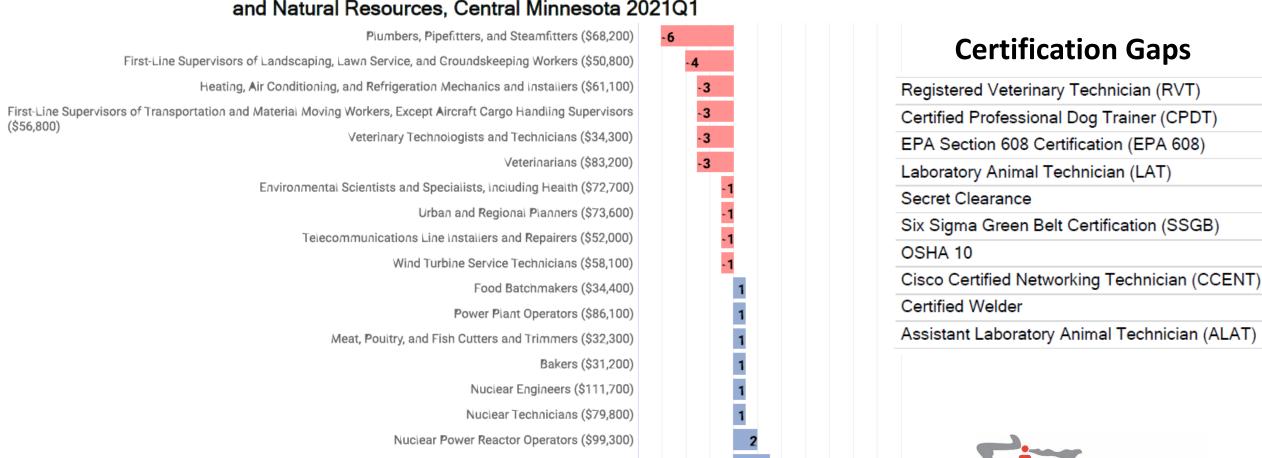
Central Minnesota

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Agriculture, Food, and Natural Resources, Central Minnesota 2021Q1

Farmers, Ranchers, and Other Agricultural Managers (\$80,800)

Farmworkers, Farm, Ranch, and Aquacultural Animals (\$30,300)

Farmworkers and Laborers, Crop, Nursery, and Greenhouse (\$35,200)



12

Central MN, 2021Q1

Target Occupations (all HW, HD, HS)

Veterinarians (OG, AG)

Environmental Scientists and Specialists (OG)

Postsecondary Biological Science Teachers (OG)

Stockers and Order Fillers

Wind Turbine Service Technicians (OG, AG)

Food Scientists and Technologists (AG)

Gateway Occupations

Farm Equipment Mechanics and Service Technicians (AG)

Chefs and Head Cooks (HD, AG)

Tree Trimmers and Pruners

Chemical Technicians (HS)

Logging Equipment Operators (HD)

Chemical and Plant System Operators (HD, AG)

Origin Occupations Likely Aligned

Landscaping and Groundskeeping Workers (HD, AG) Compliance Officers

Farmworkers, Farm, Ranch, and Aquacultural Animals Laborers and Freight Movers

Farmworkers and Crop Laborers (HD)

Meat, Poultry, and Fish Cutters and Trimmers Cooks

Food Batchmakers Customer Service Reps

Central Minnesota

Top Ten Target Occupations in Agriculture, Food, and Natural Resources, Central Minnesota 2021Q1

soc	Occupation	2021Q1 Empl	Mean Ann Wages ²	High- Wage	High-Skill	High- Demand	OG	AG
29-1131	Veterinarians	208	\$83,200	HW	HS	HD	OG	AG
19-2041	Environmental Scientists and Specialists, Including Health	91	\$72,700	HW	HS	HD	OG	
25-1042	Biological Science Teachers, Postsecondary	50	\$79,100	HW	HS	HD	OG	
49-9081	Wind Turbine Service Technicians	41	\$58,100	HW	HS	HD	OG	AG
19-1012	Food Scientists and Technologists	38	\$79,000	HW	HS	HD		AG
19-1032	Foresters	31	\$58,400	HW	HS	HD		AG
19-4042	Environmental Science and Protection Technicians, Including Health	30	\$61,700	HW	HS	HD		
13-1021	Buyers and Purchasing Agents, Farm Products	20	\$59,900	HW	HS	HD		
19-2043	Hydrologists	15	\$76,100	HW	HS	HD		
19-2042	Geoscientists, Except Hydrologists and Geographers	10	\$77,100	HW	HS	HD		



Summary and Discussion

What piece of the data surprised, inspired, validated, or challenged you?

From your perspective, what are the most important considerations in these data for Career and Technical Education programs?

What is one barrier that you can help remove for BIPOC students?

What additional information will you seek out next?

What changes or evaluations to your program will you prioritize next as a result of this data?

Thank you!

If you have questions about this report, please contact:
Erin Olson, Director of Strategic Research,
erin@realtimetalentmn.org



Appendix

