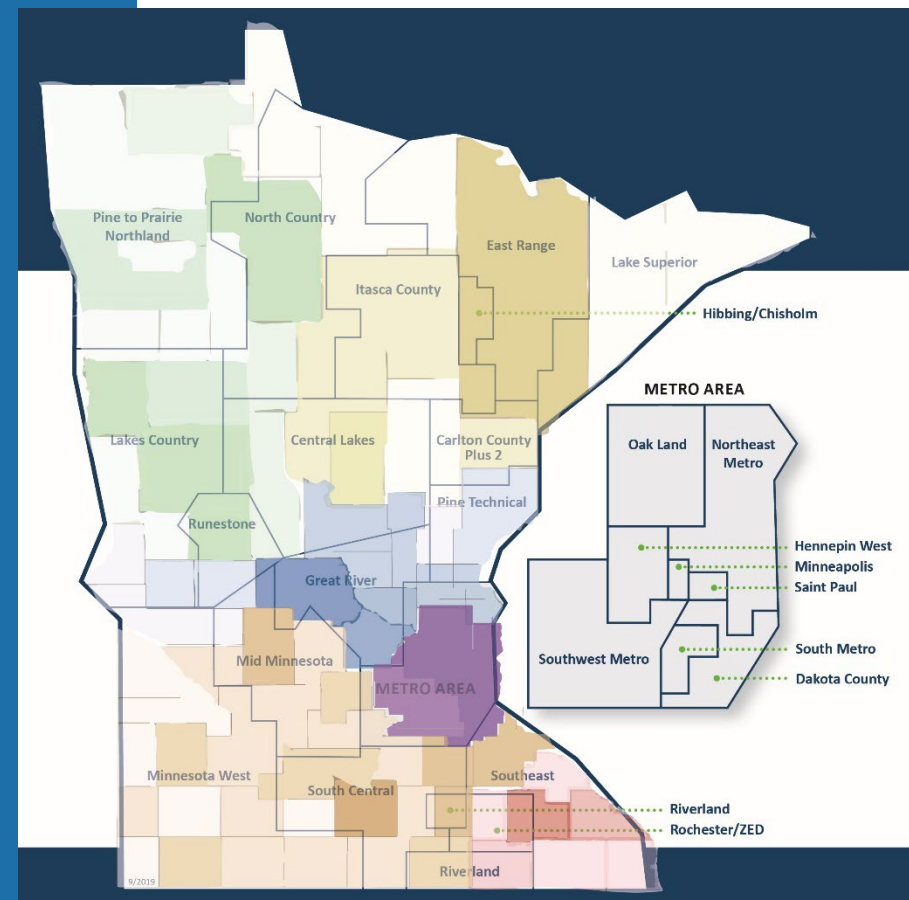


CAREER & TECHNICAL EDUCATION

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.

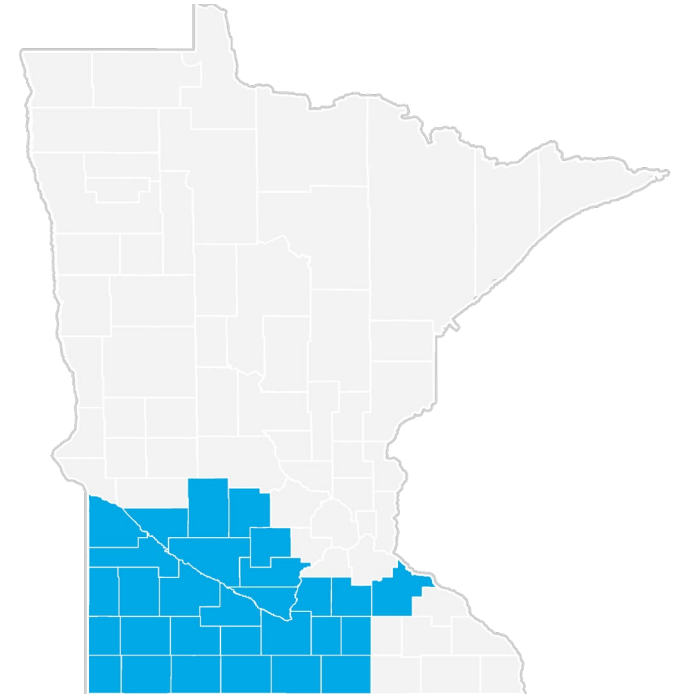
Who's in the Virtual "Room"

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

Southwest
Minnesota



RealTime Talent

Erin Olson, Director of Strategic Research

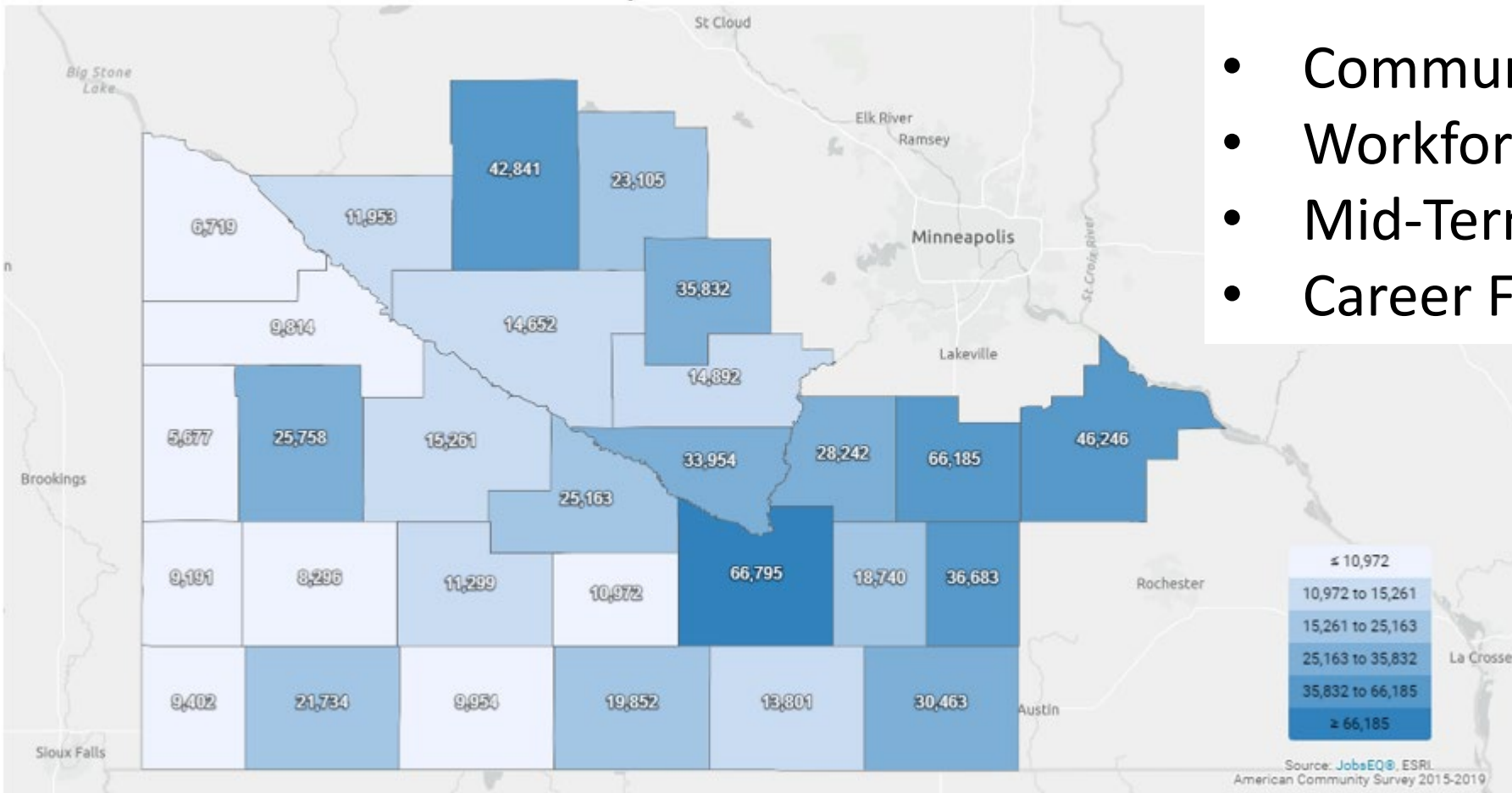
October 2021



Overview

Southwest Minnesota

Resident Population of Southwest Minnesota



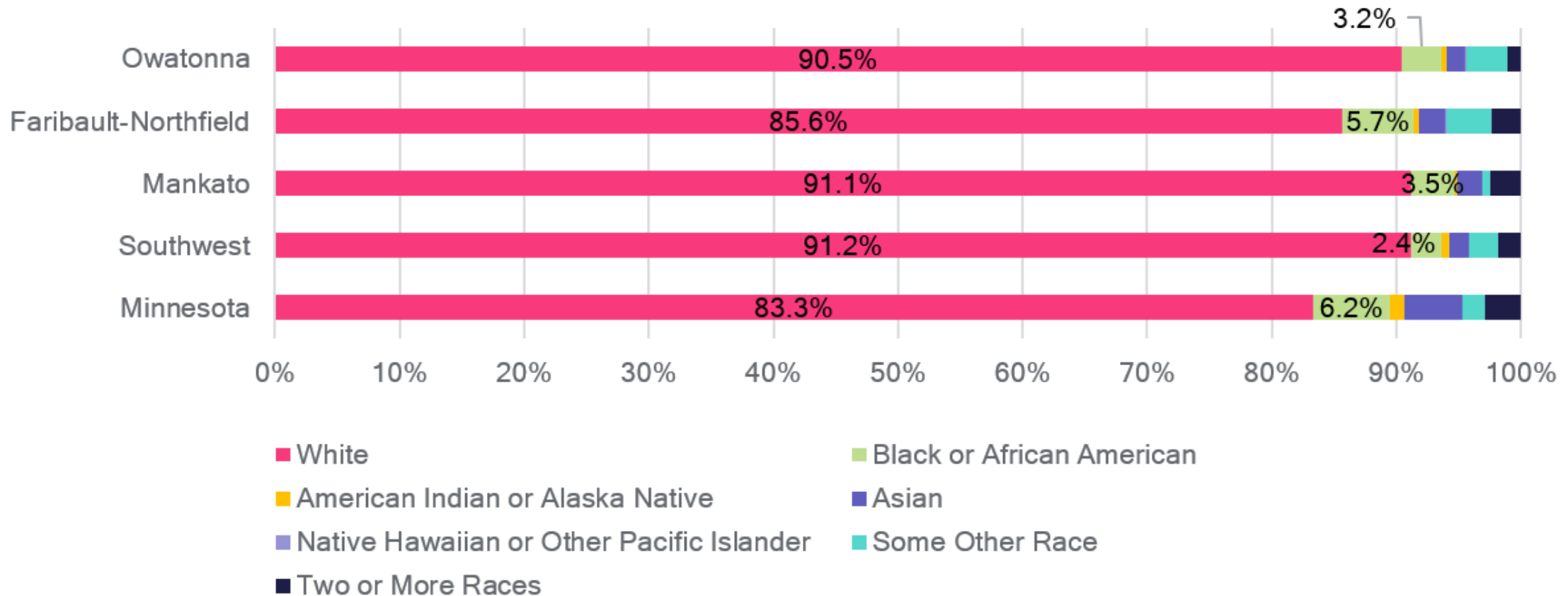
- Community Profile
- Workforce Forecast
- Mid-Term Occupational Impacts
- Career Field Insights

Access the full report here:
<http://www.realtimentalent.org>

Community Profile

Southwest Minnesota

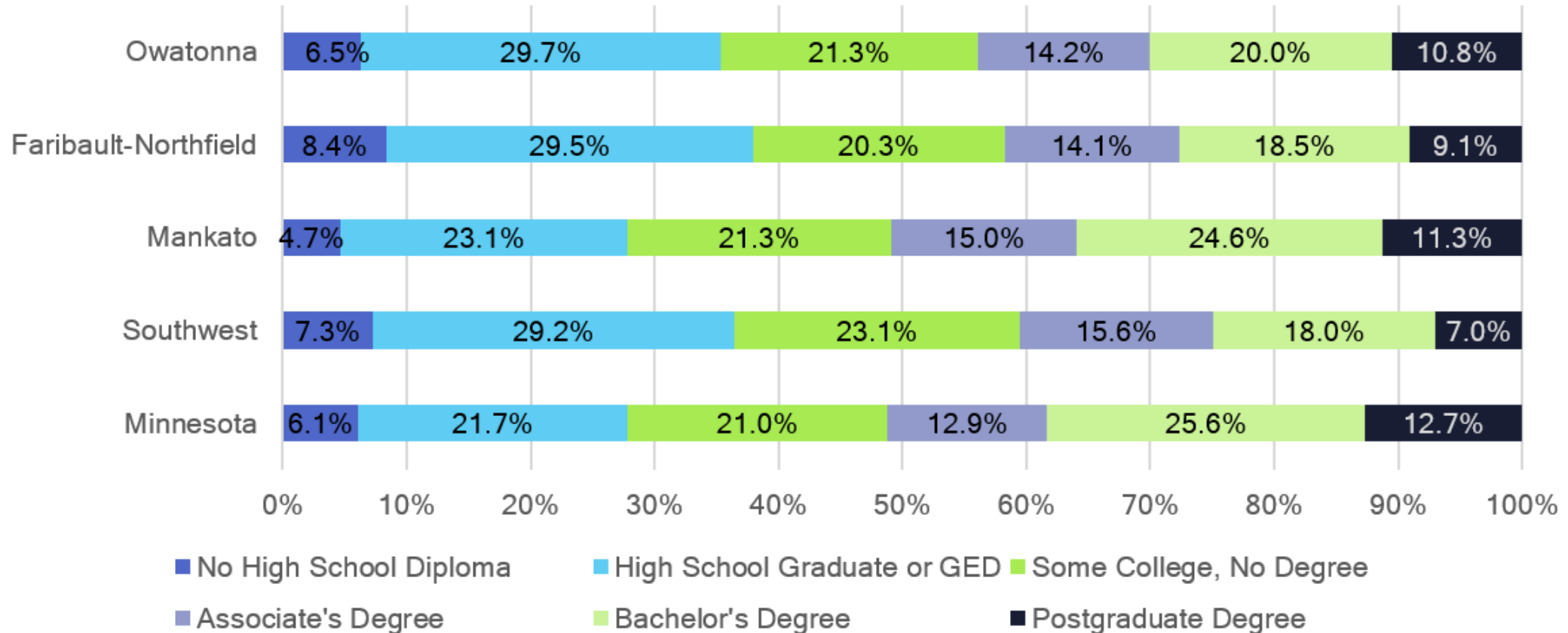
Population Race, All Ages



Community Profile

Southwest Minnesota

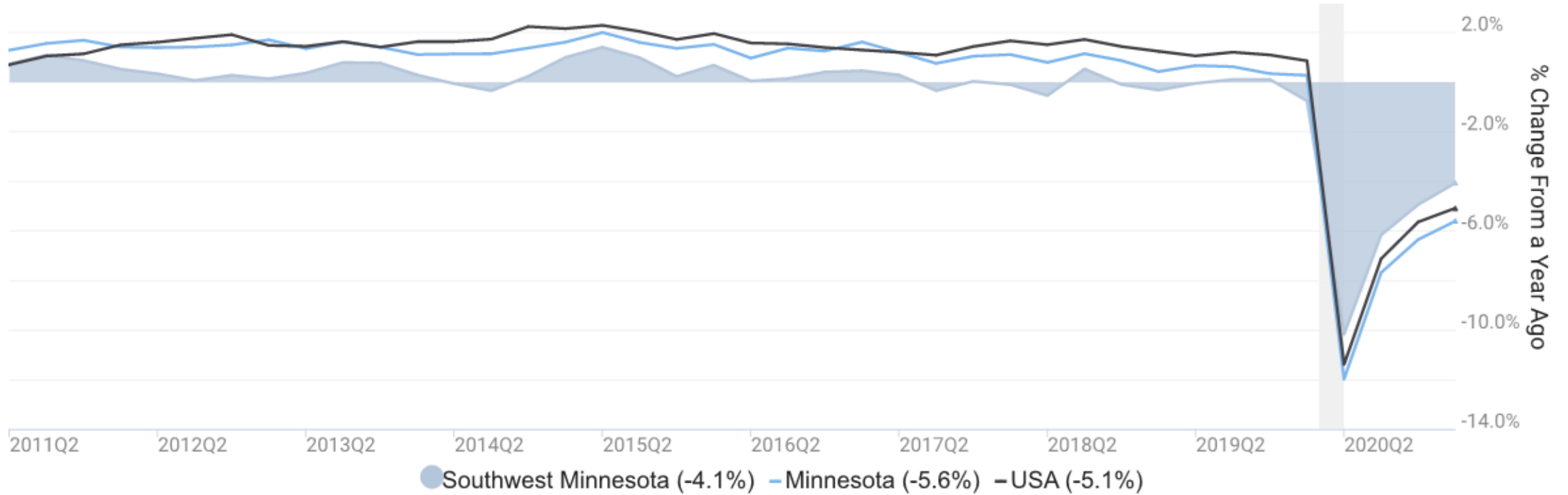
Educational Attainment, Age 25-64



Community Profile

Southwest Minnesota

Employment for Southwest Minnesota



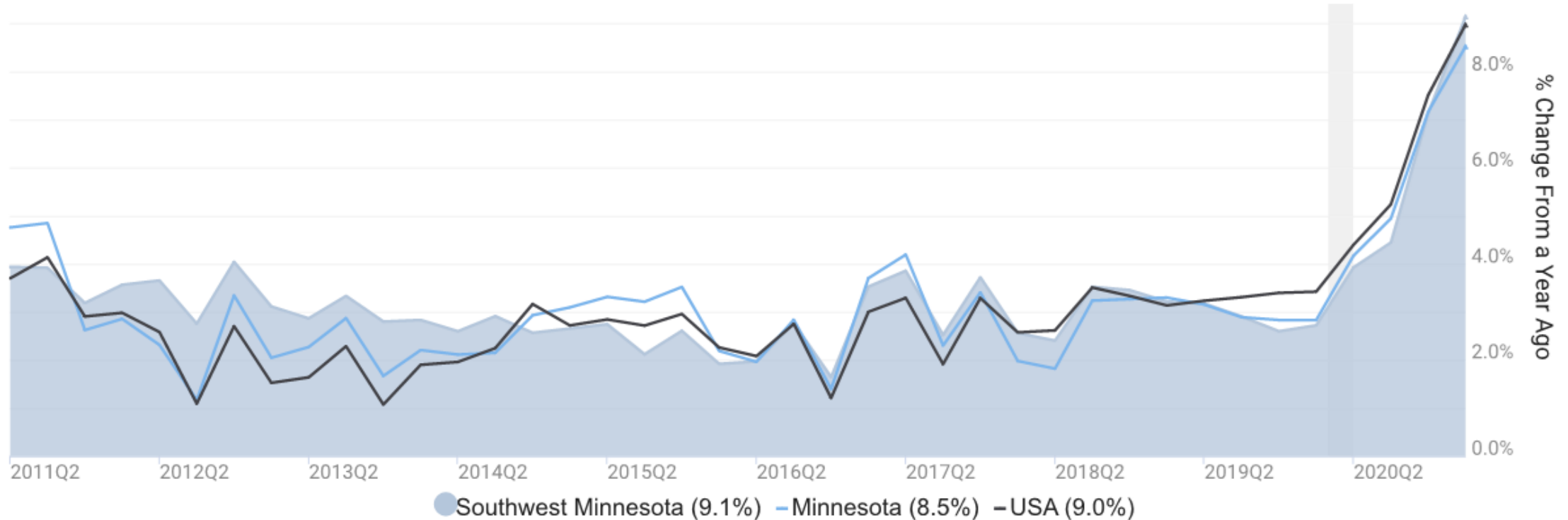
Source: JobsEQ®. Data as of 2021Q1. The shaded areas of the graph represent national recessions.

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.

Community Profile

Southwest Minnesota

Average Annual Wages for Southwest Minnesota

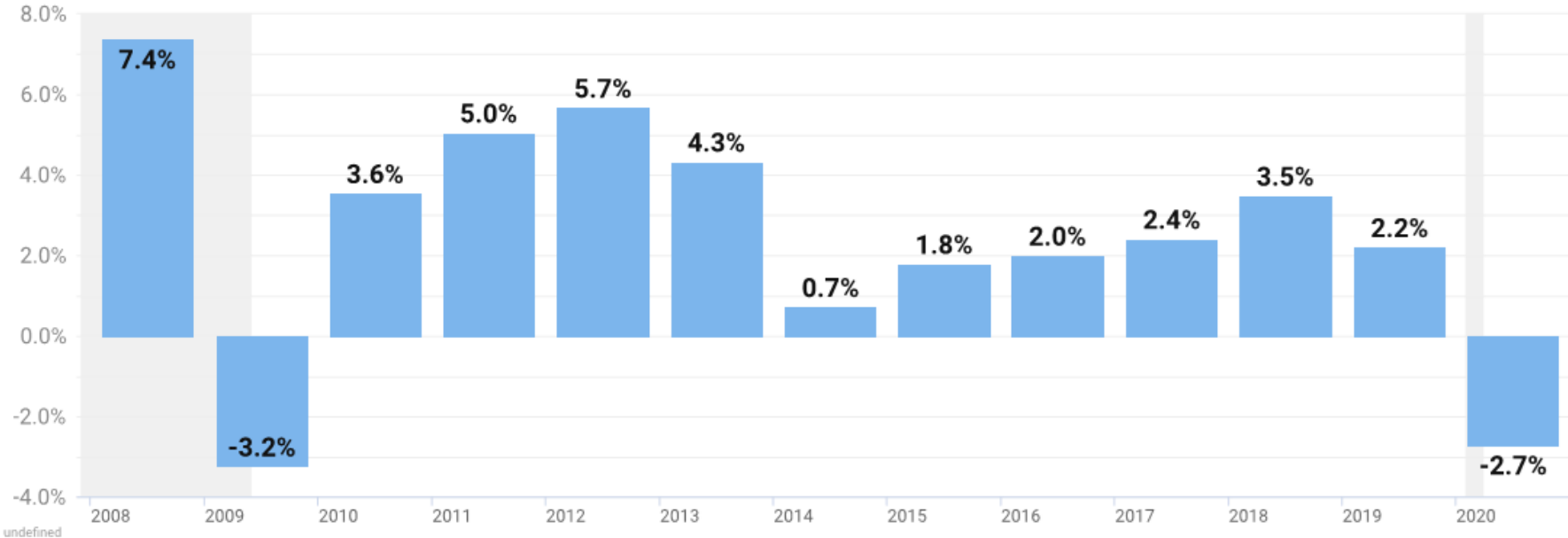


Annual average wages per worker data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.

Community Profile

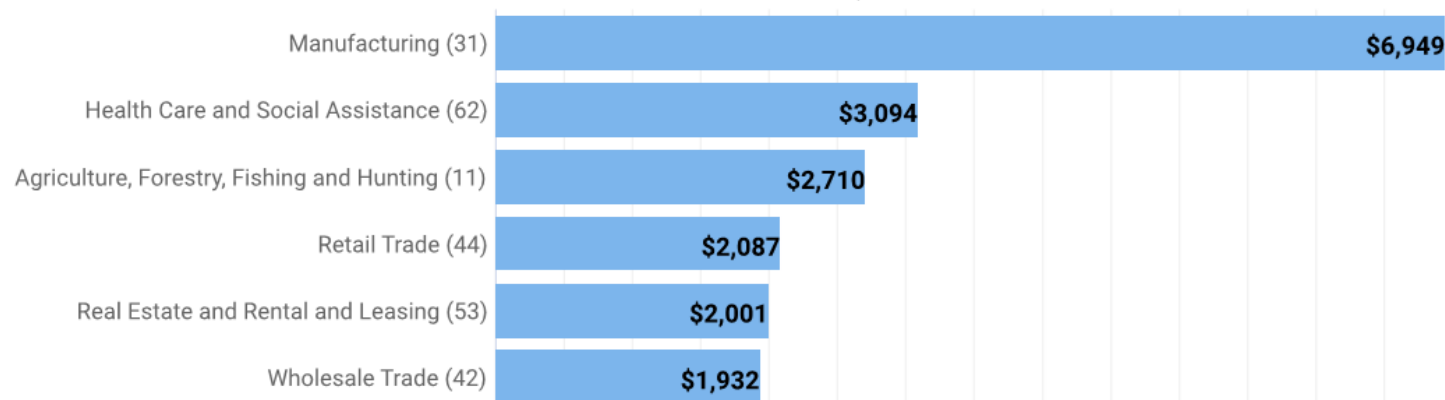
Southwest Minnesota

One-Year % Change in GDP, Southwest Minnesota



- Gross Regional Product (GRP) contracted -2.7%
- Manufacturing contributes most to GRP

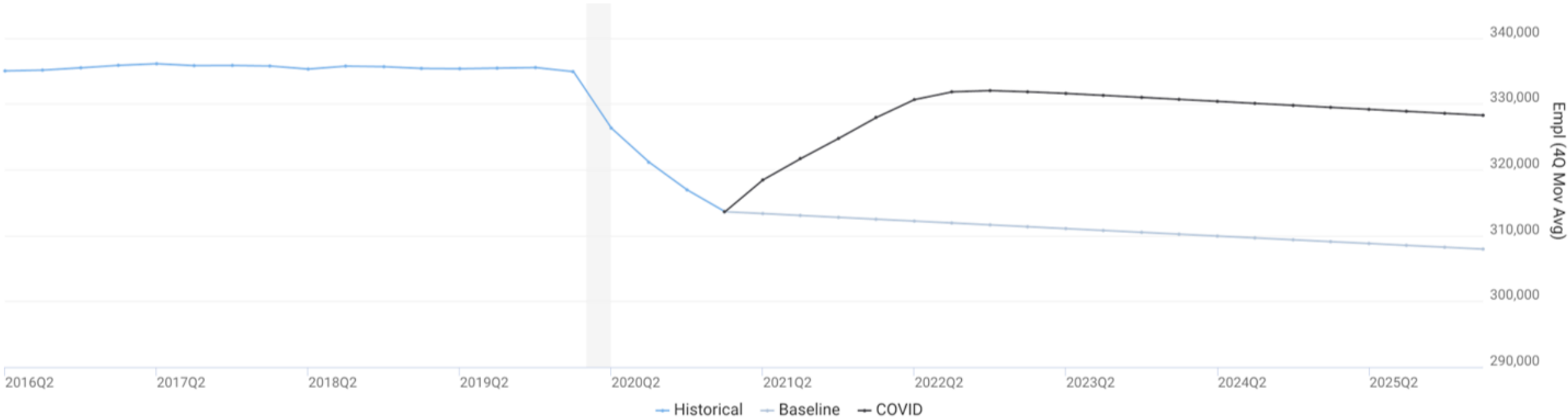
GDP (in \$ millions) Southwest Minnesota, 2020



Workforce of Today & Tomorrow *Forecast*

Southwest
Minnesota

5-Year Forecast Comparison in Southwest 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

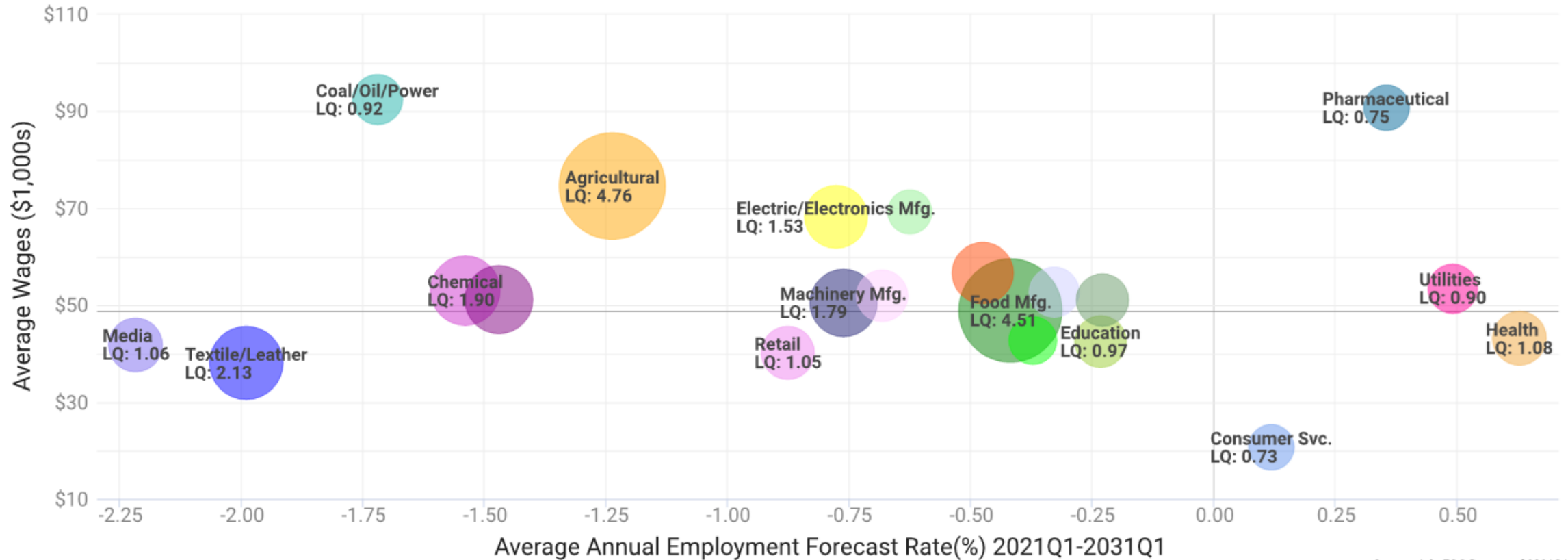
When you think about your local school, district, or consortium's programming, how well do you feel current program offerings address your community's most challenging or pressing workforce needs right now?

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

Workforce of Today & Tomorrow *Forecast*

Southwest
Minnesota

Industry Sectors for Southwest Minnesota as of 2021Q1



Source: JobsEQ®, Data as of 2021Q1



Mid-Term Occupational Impacts

High Contact-Intensity Occupations

Southwest
Minnesota

Diverging Mid-Term Impacts (greatest losses)

- Bartenders (-27.9%)
- Waiters and Waitresses (-27.8%)
- Medical Transcriptionists (-24.1%)
- Supervisors of Gambling Services Workers (-21.1%)

Growth Among High Contact-Intensity Occupations

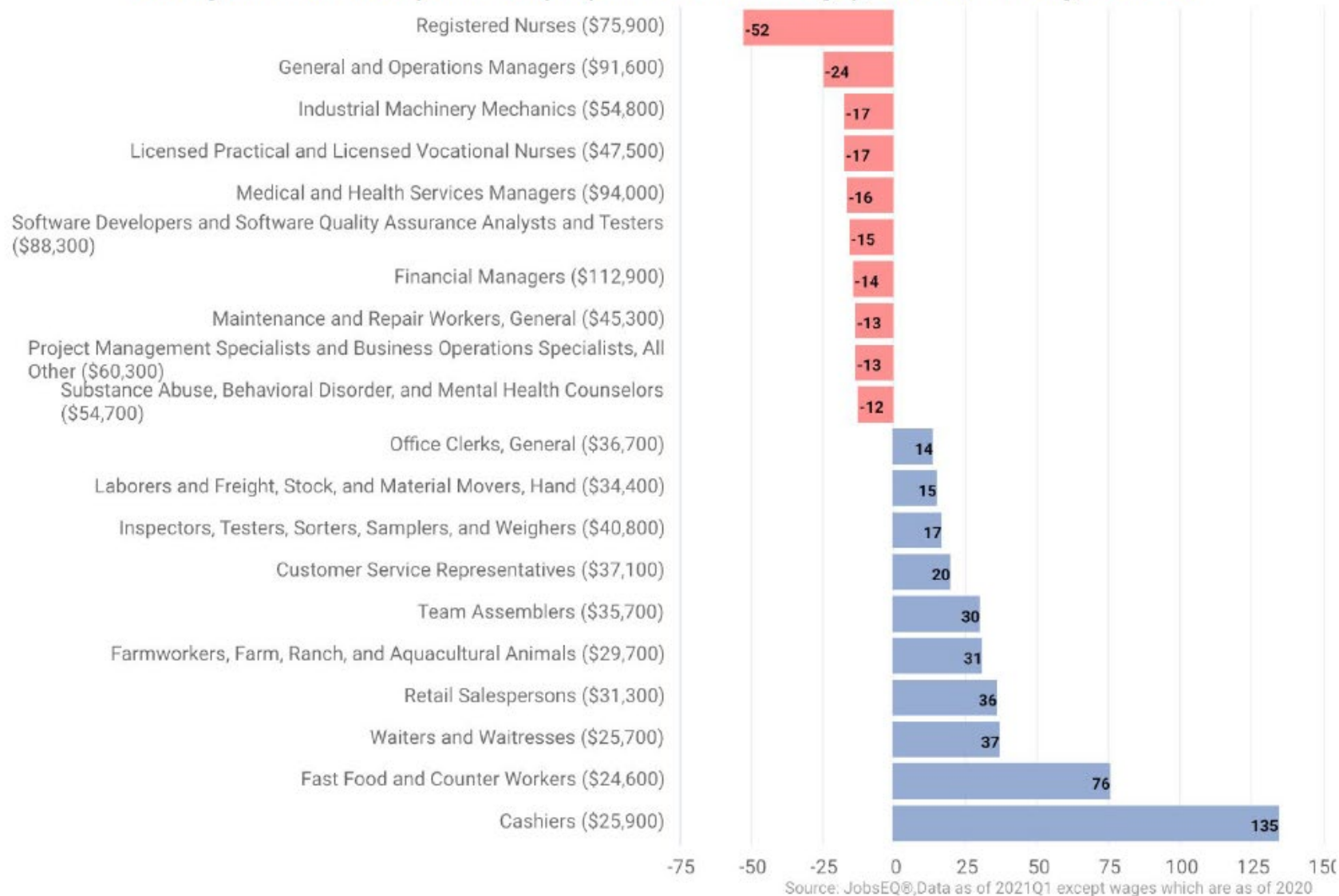
- None

Average
unemployment
rate of **6.2%**
across all high
contact-intensity
roles.

Mid-Term Occupational Impacts

Occupation Gaps

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



COVID-19 has accelerated talent surplus anticipated in lower-wage, lower-education positions, particularly:

- 1) high contact-intensity occupations and
- 2) positions that cannot be done remotely.



Emerging Career Paths

Southwest Minnesota

Top Emerging Occupations in Southwest Minnesota, March 1 – August 31, 2021

Compared to the same dates in 2020 (high-growth occupations by order of volume of postings)

1. Light Truck or Delivery Services Drivers (+276%)
2. Supervisors of Retail Sales Workers (+51%)
3. Nursing Assistants (+64%)
4. Licensed Practical and Licensed Vocational Nurses (+158%)
5. Combined Food Preparation and Serving Workers (+65%)

Top Sustaining Occupations in Southwest Minnesota September 2020 – 2021

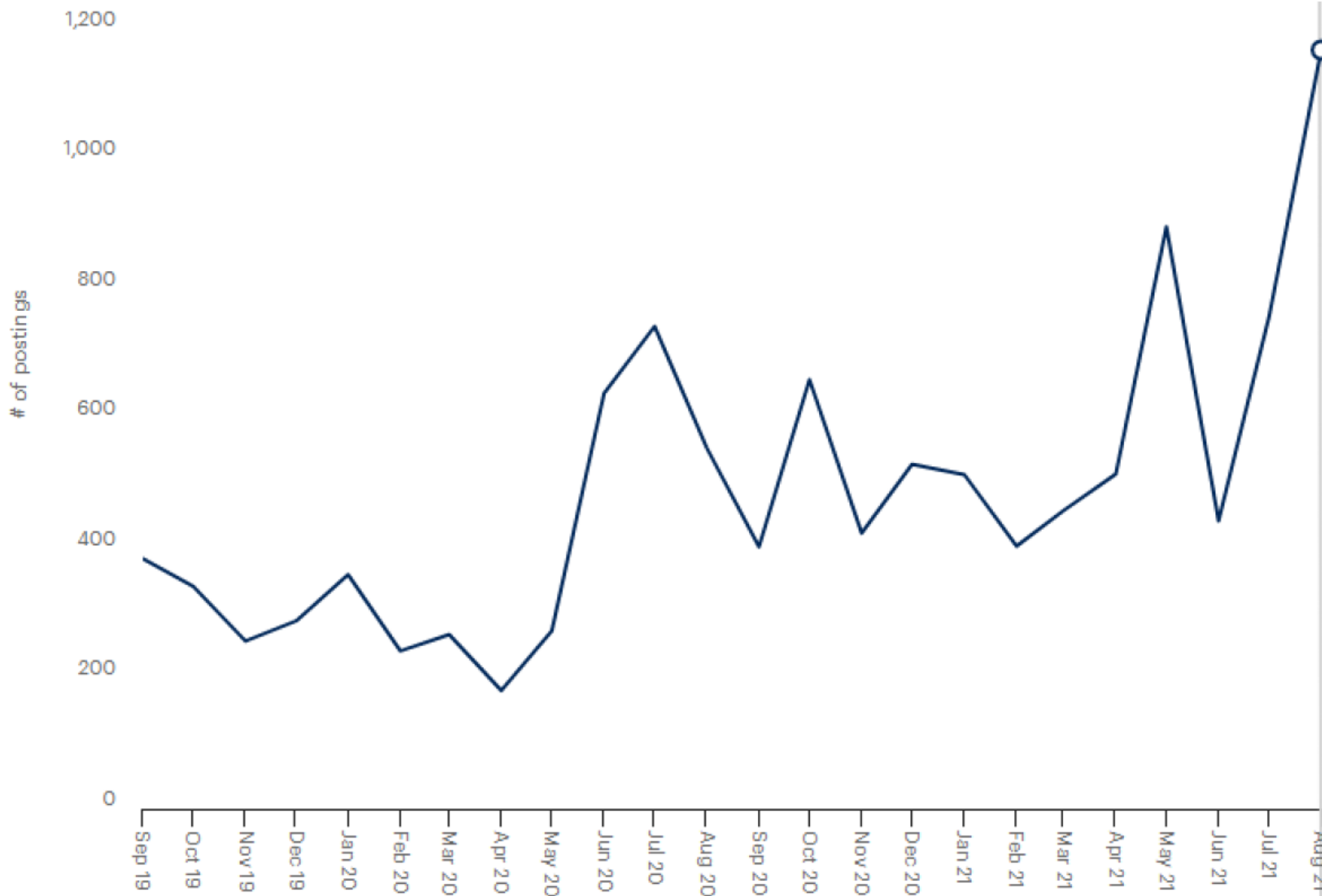
1. Heavy and Tractor-Trailer Truck Drivers (+46%)
2. Registered Nurses (+32%)
3. Stock Clerks and Order Fillers (+52%)
4. Laborers and Freight, Stock, and Material Movers (+113%)
5. Stock Clerks and Order Fillers (+84%)



Emerging Career Paths

Southwest Minnesota

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



Change in Volume of Remote Work Opportunities

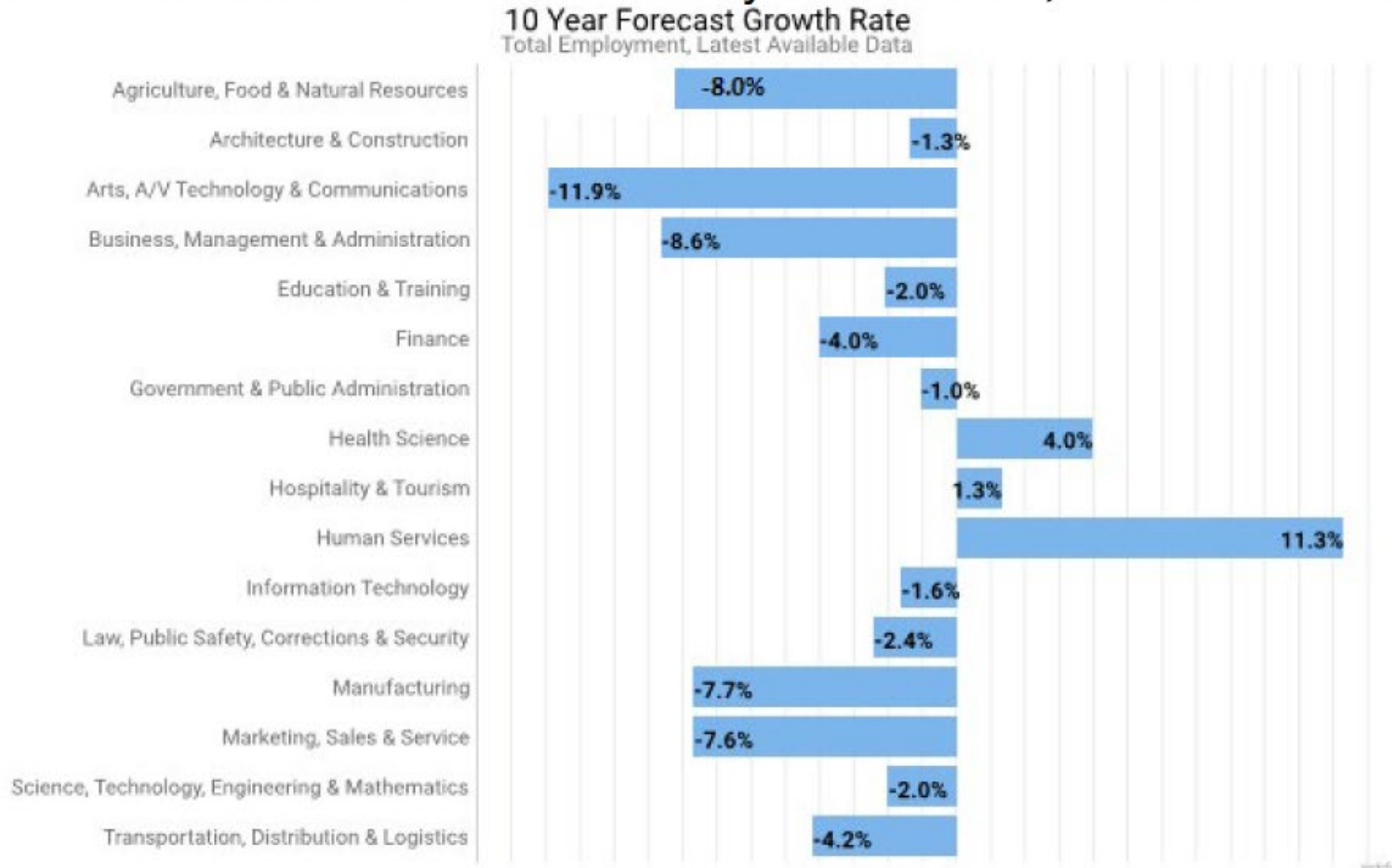
1. Customer Service Representatives (+202%)
2. Insurance Sales Agents (+191%)
3. Registered Nurses (+218%)
4. Telemarketers (+4,225%)
5. Computer Occupations, All Other (+97%)



Gartner TalentNeuron Plan accessed 9/24/2021.

Shifting Opportunities

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



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

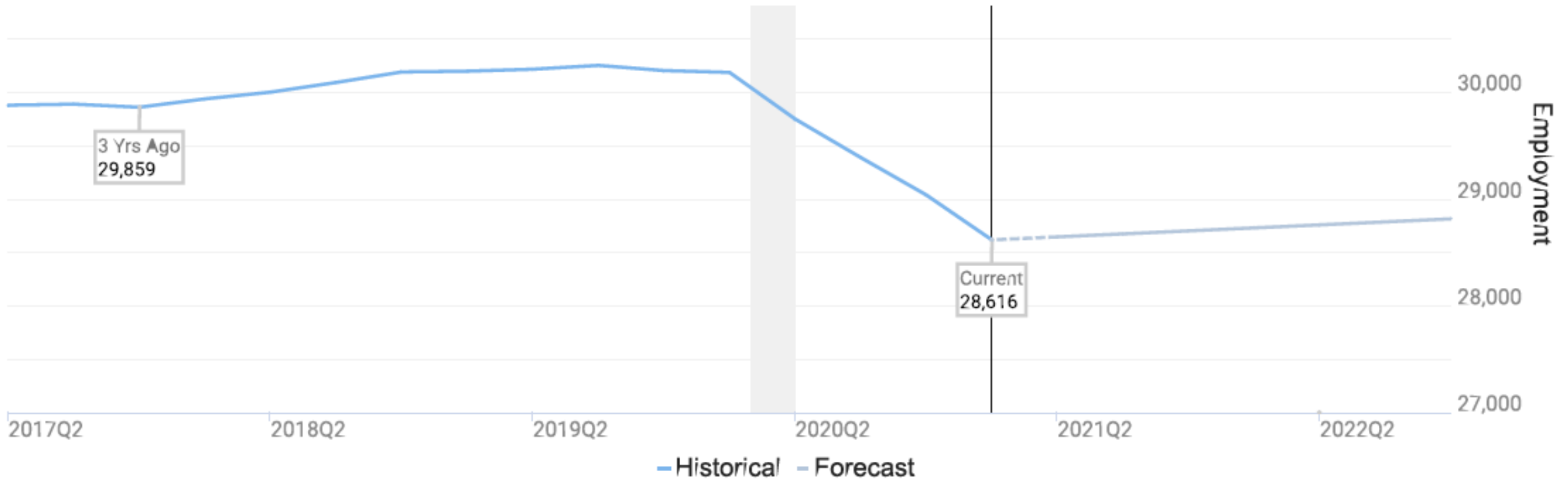
Occupation Characteristics for Consideration

- 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

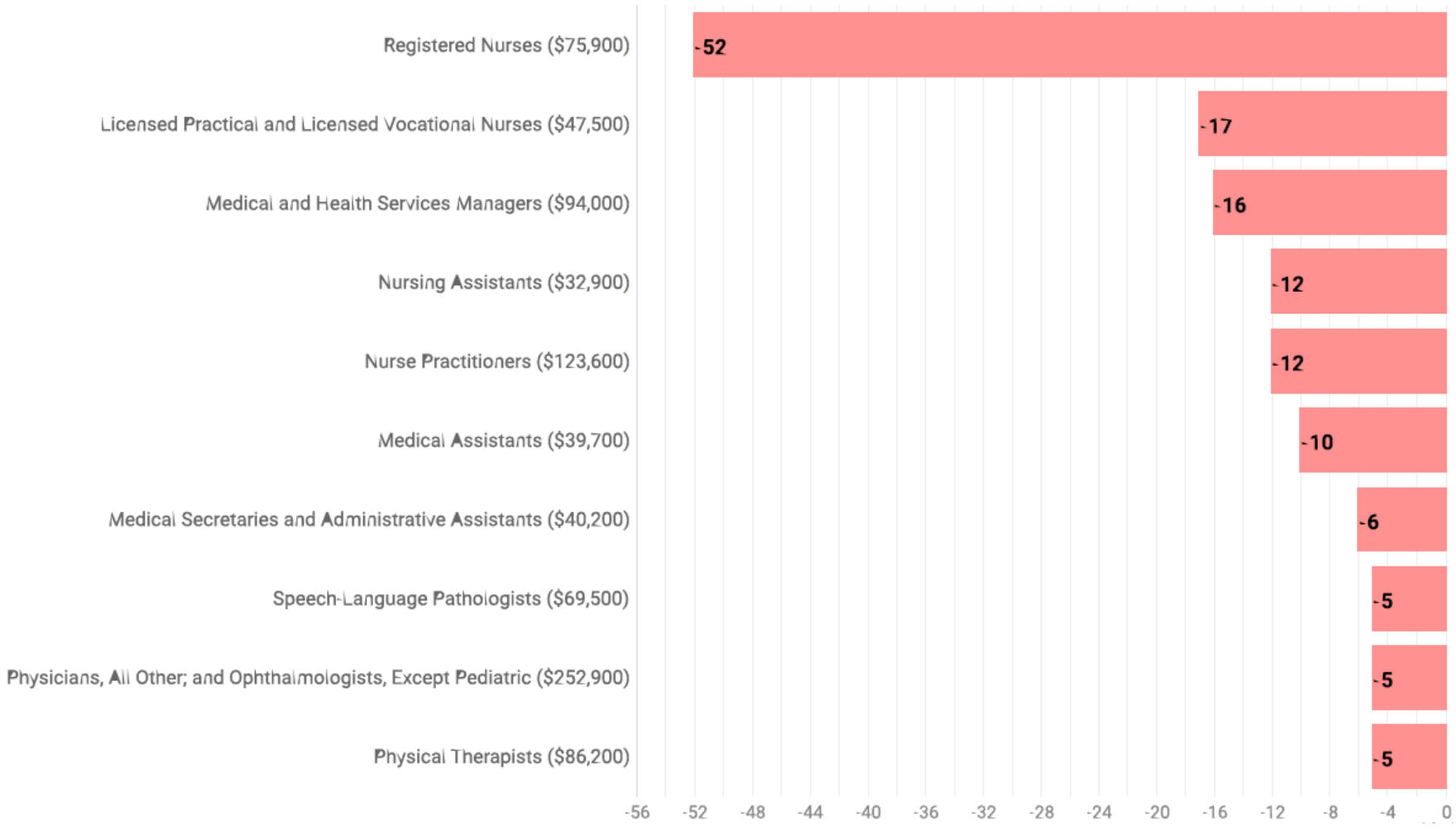
Southwest Minnesota

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



Health Science Technology

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



Certification Gaps

- Medical Technologist (Medical Technologists)
- Medical Laboratory Technician (MLT)
- Patient Care Technician (PCT)
- Medication Aide Certification (MACE)
- Registered Dental Assistant (RDA)
- The American Registry of Radiologic Technologists (ARRT) Certification
- Medical Assistant Certification (MA)
- Nationally Certified Medical Assistant (NCMA)
- Registered Respiratory Therapist (RRT)
- Family Nurse Practitioner (FNP-BC)



Health Science Technology

Southwest MN, 2021Q1

Target Occupations (all HW, HD, HS)

Registered Nurses (OG)

Medical and Health Services Managers (OG, AG)

Nurse Practitioners (OG, AG)

Speech-Language Pathologists (OG)

Occupational Therapists (OG, AG)

Gateway Occupations

Licensed Practical Nurses (HS, HD, OG, AG)

Dental Assistants (HS, HD, OG, AG)

Medical Dosimetrists (HS, OG, AG)

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

Recreational Therapists (HS, HD, OG)

Origin Occupations

Likely

Nursing Assistants (HS, HD, OG)

Home Health Aides (HD, AG)

Medical Secretaries (HD, OG, AG)

Medical Assistants (HS, HD, OG, AG)

Pharmacy Technicians (OG, AG)

Aligned

Personal Care Aides

Childcare Workers

Secretaries

Customer Service Reps

Cooks

Health Science Technology

Southwest Minnesota

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

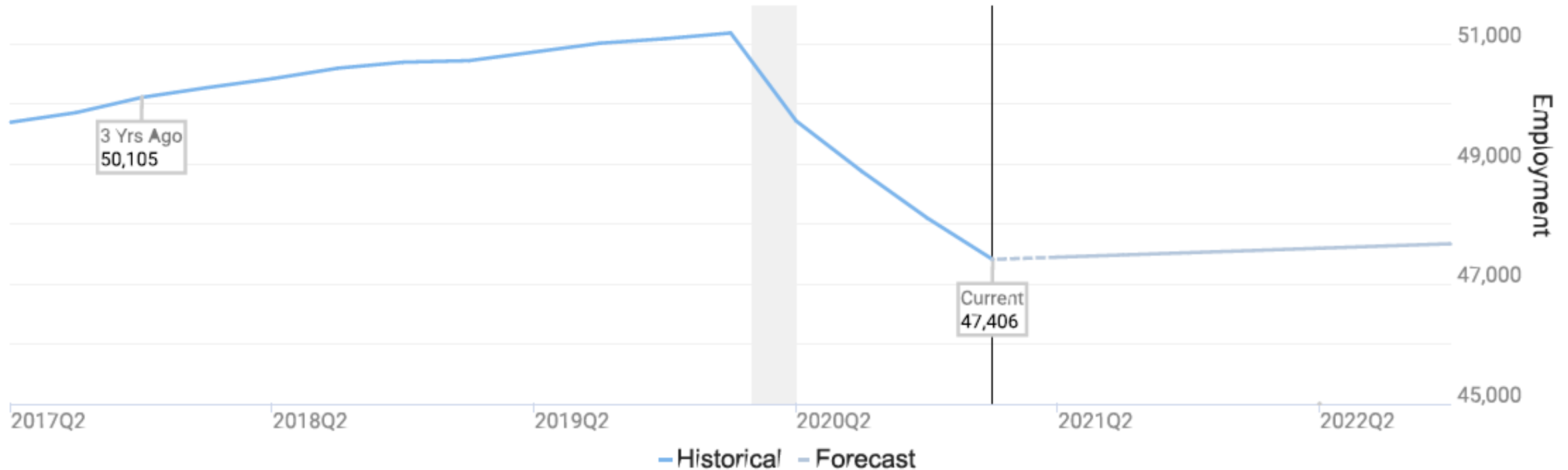
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
29-1141	Registered Nurses	6,040	\$75,900	HW	HS	HD	OG	
11-9111	Medical and Health Services Managers	768	\$94,000	HW	HS	HD	OG	AG
29-1171	Nurse Practitioners	348	\$123,600	HW	HS	HD	OG	AG
29-1127	Speech-Language Pathologists	296	\$69,500	HW	HS	HD	OG	
29-1122	Occupational Therapists	288	\$75,000	HW	HS	HD	OG	AG
29-1131	Veterinarians	269	\$104,200	HW	HS	HD	OG	AG
29-1071	Physician Assistants	206	\$125,200	HW	HS	HD	OG	AG
29-1126	Respiratory Therapists	202	\$68,000	HW	HS	HD	OG	AG
31-2021	Physical Therapist Assistants	172	\$54,600	HW	HS	HD	OG	AG
29-2032	Diagnostic Medical Sonographers	114	\$83,500	HW	HS	HD	OG	AG



Human Services

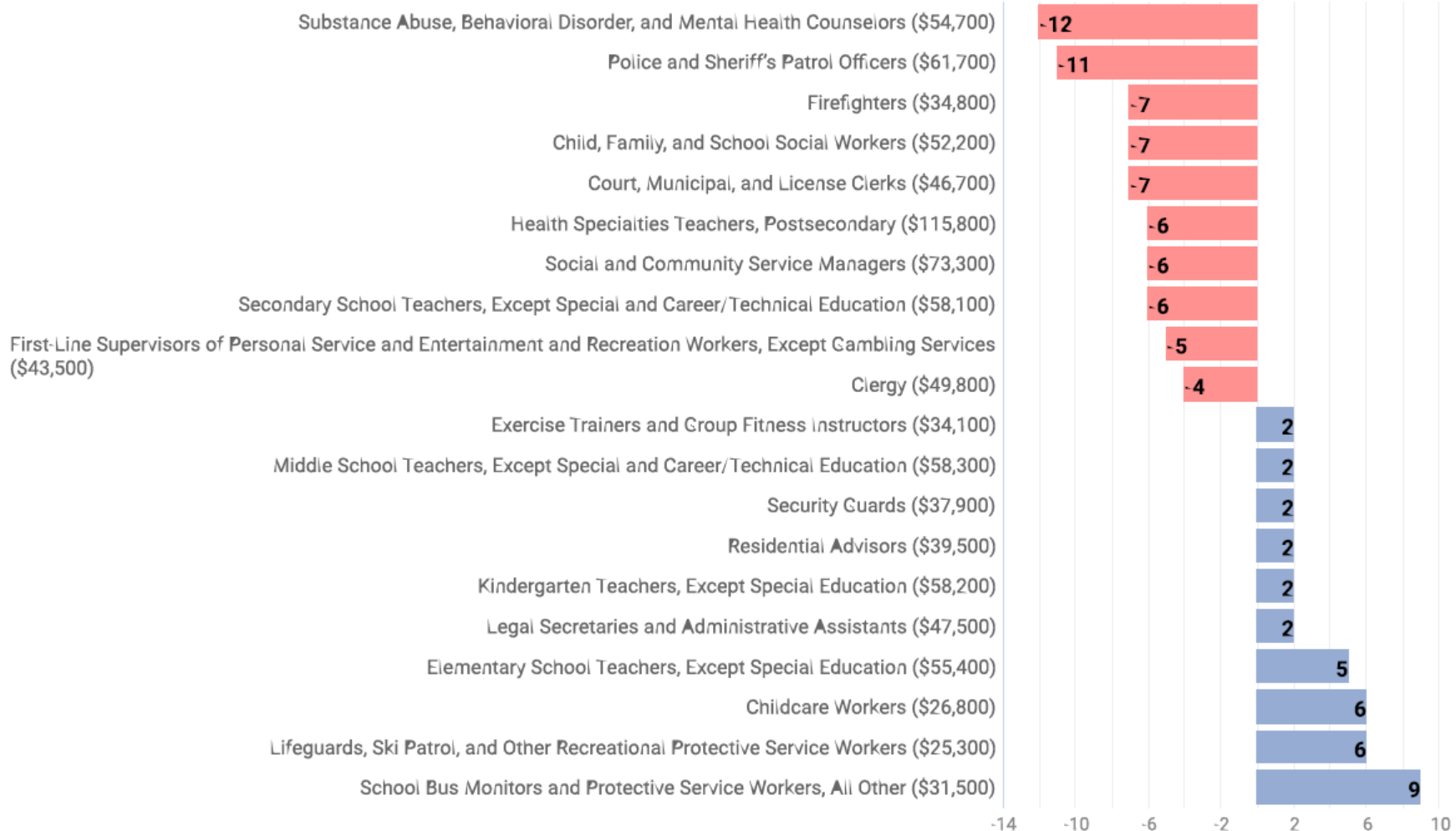
Southwest Minnesota

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



Human Services

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



Certification Gaps

- Emergency Medical Technician (EMT)
- Child Development Associate (CDA)
- AFAA Personal Fitness Trainer
- Secret Clearance
- First Responder Certification
- Advanced Cardiac Life Support Certification (ACLS)
- ServSafe Food Protection Manager Certification
- Emergency Medical Technician - Paramedic (EMT-P)
- Certified Protection Professional (CPP)
- Neonatal Resuscitation Program (NRP)



Human Services

Southwest MN, 2021Q1

Target Occupations (all HW, HD, HS, OG, AG)

Substance Abuse, Behavioral Disorder, and Mental Health Officers

Child, Family, and School Social Workers

Educational, Guidance, & Career Counselors

Social & Community Service Managers

Healthcare Social Workers

Gateway Occupations

Court, Municipal, and License Clerks (OG)

Clergy (HS, HD, OG)

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

Tutors and Teachers and Instructors (HS, HD)

Paralegals and Legal Assistants (HS)

Origin Occupations

Likely

Personal Care Aides (HD, AG)

Teaching Assistants (HS, HD)

Childcare Workers (HD, AG)

Social and Human Service Assistants (HD, AG)

Preschool Teachers (HS, HD, OG)

Aligned

Home Health Aides

Medical Assistants

Waiters and Waitresses

Cashiers

Cooks

Human Services

Southwest Minnesota

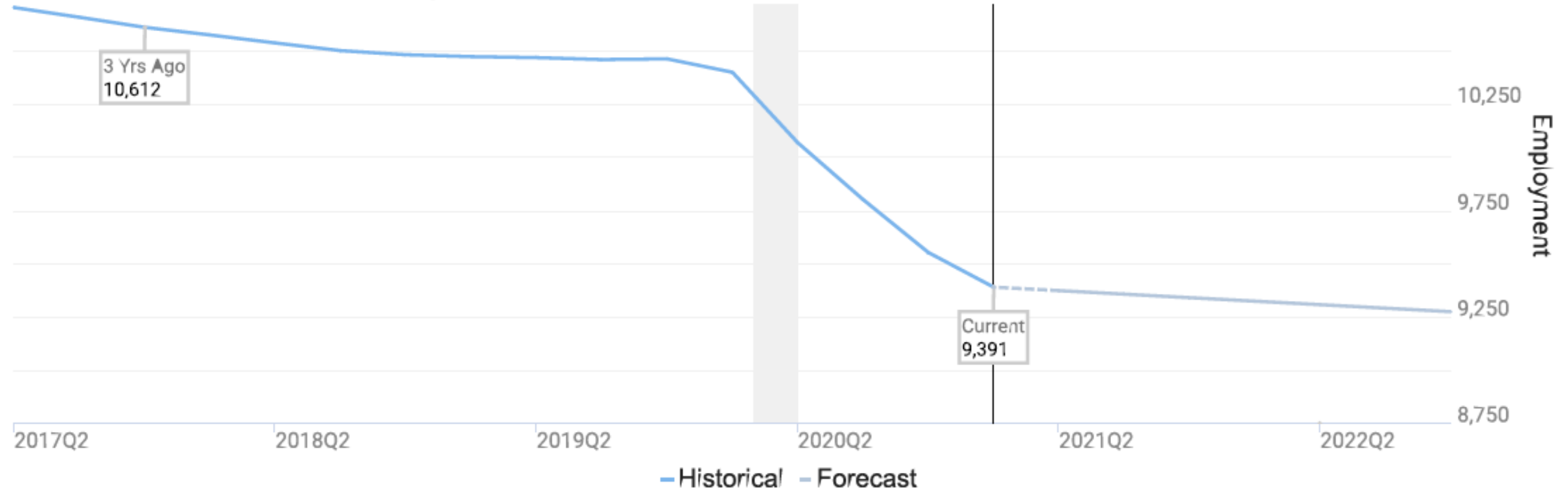
Top Ten Target Occupations in Human Services, Southwest Minnesota 2021Q1

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	834	\$54,700	HW	HS	HD	OG	AG
21-1021	Child, Family, and School Social Workers	728	\$52,200	HW	HS	HD	OG	AG
21-1012	Educational, Guidance, and Career Counselors and Advisors	514	\$55,200	HW	HS	HD	OG	AG
11-9151	Social and Community Service Managers	448	\$73,300	HW	HS	HD	OG	AG
21-1022	Healthcare Social Workers	402	\$58,300	HW	HS	HD	OG	AG
21-2021	Directors, Religious Activities and Education	359	\$56,500	HW	HS	HD	OG	
25-9031	Instructional Coordinators	345	\$74,300	HW	HS	HD	OG	AG
25-1071	Health Specialties Teachers, Postsecondary	308	\$115,800	HW	HS	HD	OG	
21-1023	Mental Health and Substance Abuse Social Workers	301	\$63,900	HW	HS	HD	OG	AG
19-3031	Clinical, Counseling, and School Psychologists	289	\$80,200	HW	HS	HD	OG	AG



Arts, Communications, & Information Systems

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



Arts, Communications, & Information Systems

Southwest MN, 2021Q1

Target Occupations (all HW, HD, HS)

Software Developers (OG)

Writers & Authors

Computer Network Architects

Producers & Directors (OG)

Information Security Analysts (OG)

Gateway Occupations

Telecommunications Equipment Installers & Repairers (HS, AG)

Telecommunications Line Installers & Repairers (HD)

Prepress Technicians & Workers (HS, AG)

News Analysts, Reporters, & Journalists (HS)

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

Origin Occupations

Likely

Graphic Designers (HS, AG)

Print Binding & Finishing Workers (HS, HD)

Broadcast Announcers & Radio Disc Jockeys (HS, HD)

Floral Designers

Music Directors & Composers (HS, HD, OG)

Aligned

Library Technicians

Recreation Attendants

Hosts and Hostesses

Customer Service Reps

Photo Process Machine Ops

Arts, Communications, & Information Systems

Southwest Minnesota

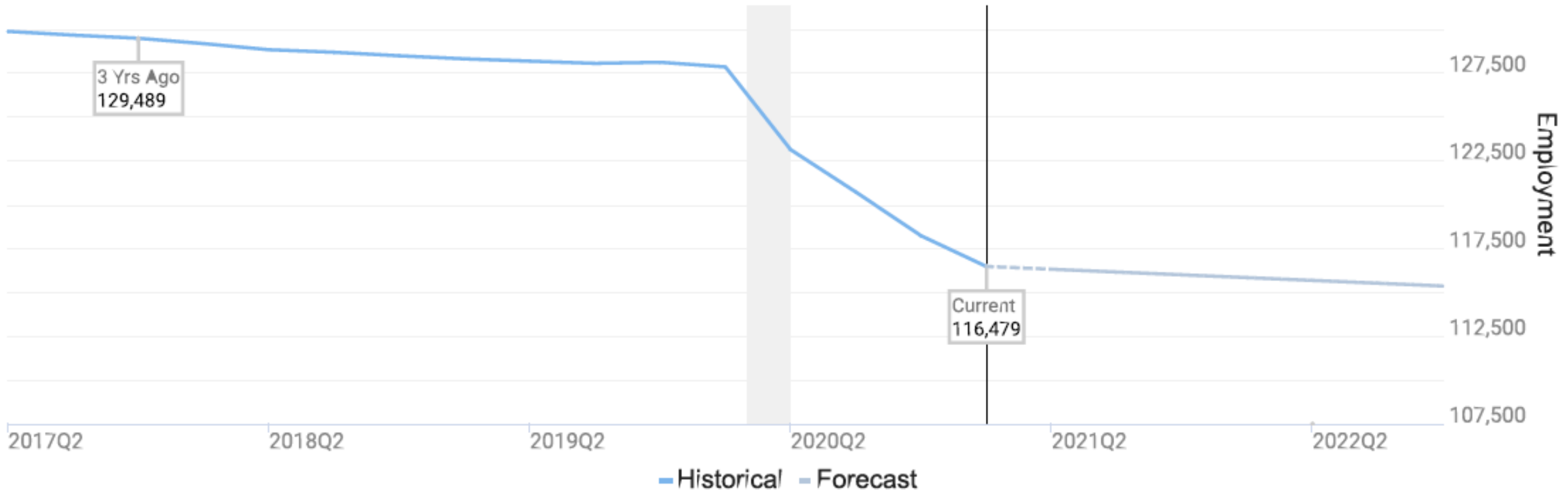
Top Target Occupations in Arts, Communications, and Information Systems, Southwest Minnesota 2021Q1

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	1,291	\$88,300	HW	HS	HD	OG	
27-3043	Writers and Authors	156	\$55,500	HW	HS	HD		
15-1241	Computer Network Architects	146	\$111,000	HW	HS	HD		
27-2012	Producers and Directors	126	\$62,800	HW	HS	HD	OG	
15-1212	Information Security Analysts	123	\$91,400	HW	HS	HD	OG	
27-1011	Art Directors	102	\$95,900	HW	HS	HD		AG
27-1021	Commercial and Industrial Designers	86	\$69,200	HW	HS	HD		AG

Business, Management, & Administration

Southwest
Minnesota

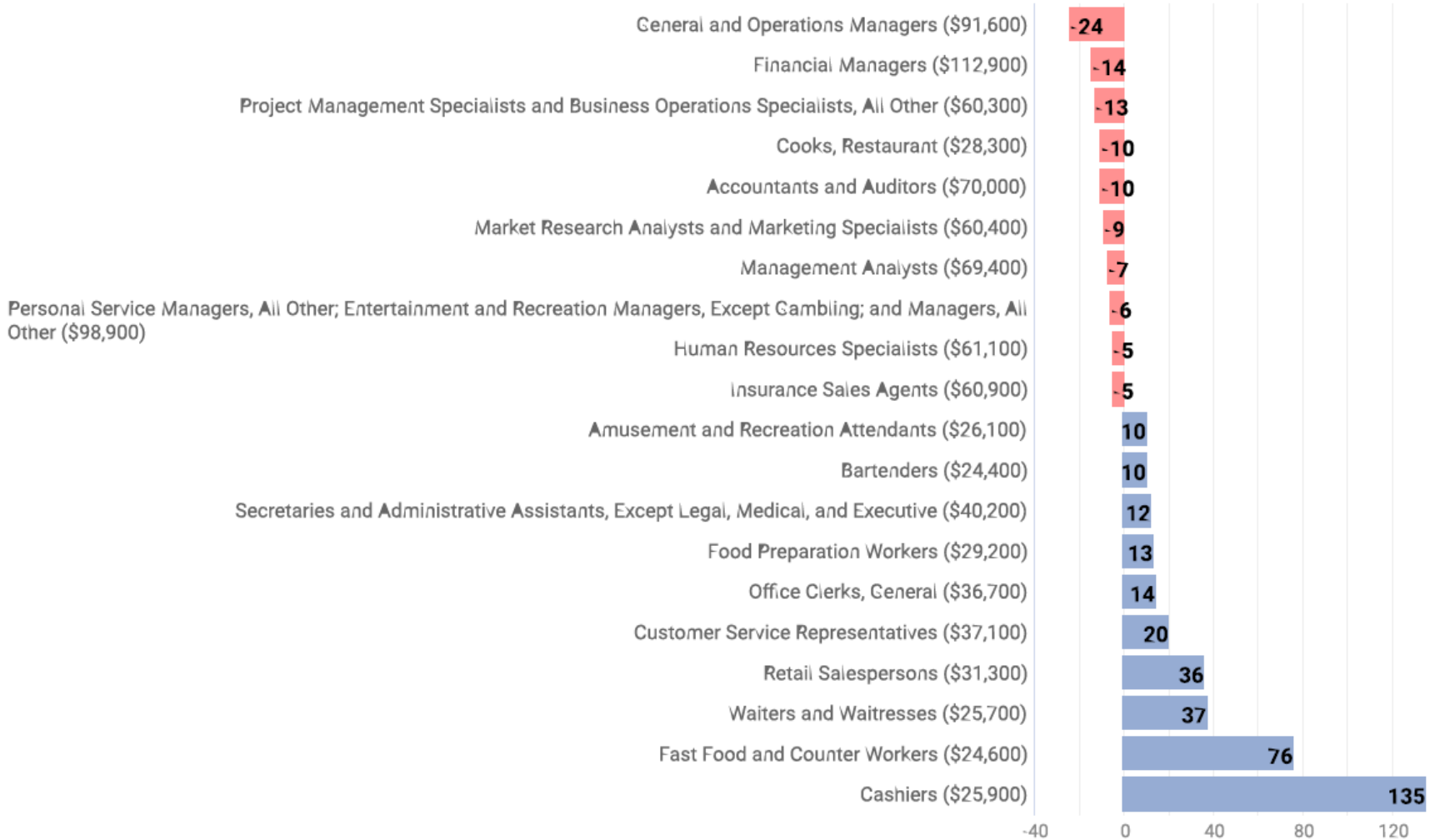
Baseline Worst-Case Scenario 3-Year Forecast for Business, Management, and Administration Careers, Southwest Minnesota 2021Q1



Business, Management, & Administration

Southwest Minnesota

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



Certification Gaps

- Commercial Driver's License (CDL)
- HAZMAT
- Class A Commercial Driver's License (CDL-A)
- Basic Life Support (BLS)
- Certified Management Accountant (CMA)
- Forklift Certified
- Certified Information Systems Auditor (CISA)
- Certified Professional Dog Trainer (CPDT)
- Series 63
- Notary Public



Business, Management, & Administration

Southwest 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 (HD, AG)

Real Estate Sales Agents (OG, AG)

Loan Interviewers and Clerks (HD, AG)

Supervisors of Housekeepers and Janitorial Workers (HD, OG)

Insurance Claims and Policy Processing Clerks

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

Business, Management, & Administration

Southwest Minnesota

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

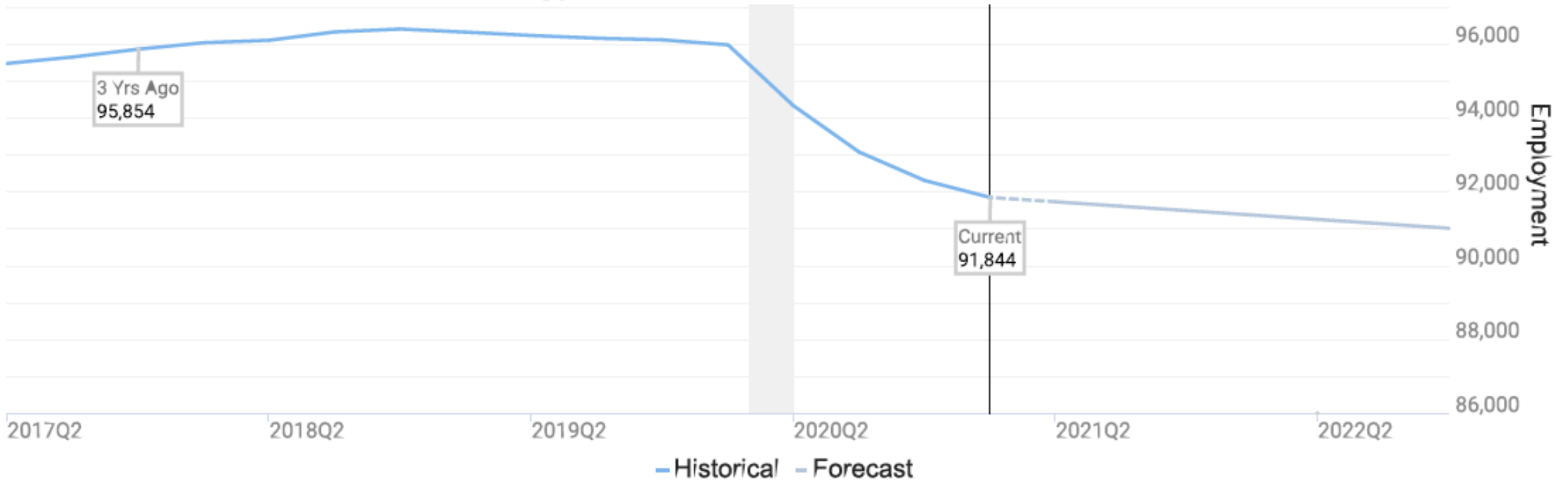
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
11-1021	General and Operations Managers	3,975	\$91,600	HW	HS	HD	OG	AG
13-1198	Project Management Specialists and Business Operations Specialists, All Other	2,065	\$60,300	HW	HS	HD	OG	AG
13-2011	Accountants and Auditors	2,037	\$70,000	HW	HS	HD	OG	
11-3031	Financial Managers	1,099	\$112,900	HW	HS	HD	OG	
13-1161	Market Research Analysts and Marketing Specialists	983	\$60,400	HW	HS	HD	OG	
13-1111	Management Analysts	891	\$69,400	HW	HS	HD	OG	AG
27-3031	Public Relations Specialists	392	\$54,200	HW	HS	HD	OG	
13-2052	Personal Financial Advisors	298	\$112,000	HW	HS	HD	OG	
13-1131	Fundraisers	184	\$50,800	HW	HS	HD	OG	AG
15-2031	Operations Research Analysts	119	\$77,700	HW	HS	HD	OG	AG



Engineering, Manufacturing, & Technology

Southwest
Minnesota

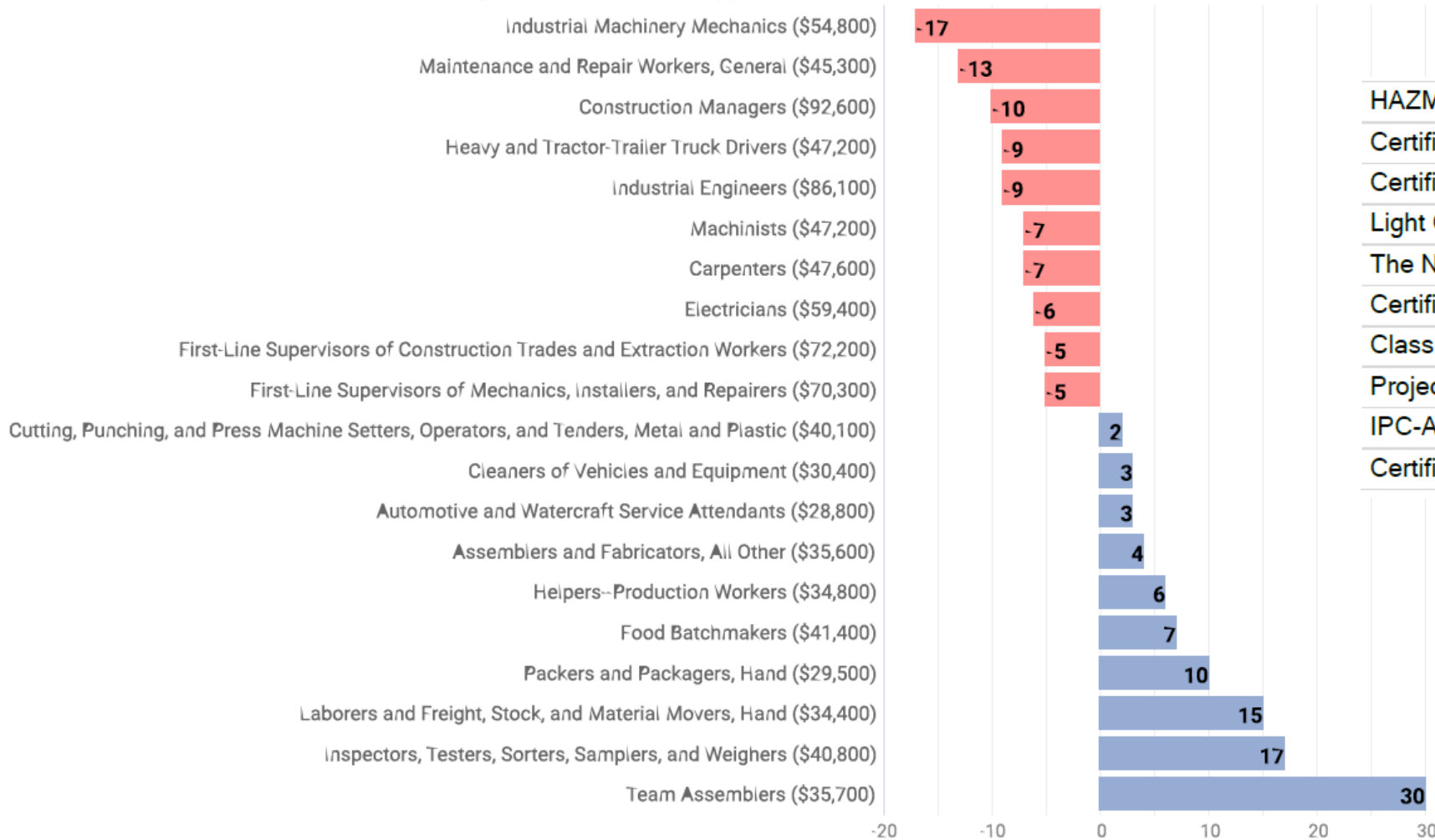
Baseline Worst-Case Scenario 3-Year Forecast for Engineering, Manufacturing, and Technology Careers, Southwest Minnesota 2021Q1



Engineering, Manufacturing, & Technology

Southwest Minnesota

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



Certification Gaps

HAZMAT

Certified Welder

Certified Pesticide Applicator

Light Commercial Refrigeration Certification (NATE Certified)

The National Institute for Metalworking Skills (NIMS) Certification

Certified Professional in Supply Management (CPSM)

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

Project Management Professional (PMP)

IPC-A-610 Acceptability of Electronic Assemblies (IPC-A-610)

Certified Maintenance & Reliability Professional (CMRP)



RealTime Talent

Using data to build the world's best workforce

Engineering, Manufacturing, & Technology

Southwest MN, 2021Q1

Target Occupations (all HW, HD, HS)
Industrial Engineers (OG, AG)
Construction Managers (OG)
Mechanical Engineers (OG, AG)
Cost Estimators (OG, AG)
Tool and Die Makers (AG)

Gateway Occupations

Heavy and Tractor-Trailer Truck Drivers (HS, HD, OG, AG)
Maintenance and Repair Workers, General (HD, OG, AG)
Construction Laborers
Carpenters (OG)
Industrial Truck and Tractor Operators

Origin Occupations

Likely

Laborers & Freight, Stock Movers
Team Assemblers
Slaughterers & Meat Packers
Packaging & Filling Machine Operators & Tenders
Passenger Vehicle Drivers (HD, AG)

Aligned

Parking Lot Attendants
Retail Sales Workers
Stockers and Order Fillers
Janitors and Cleaners
Customer Service Reps

Engineering, Manufacturing, & Technology

Southwest Minnesota

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

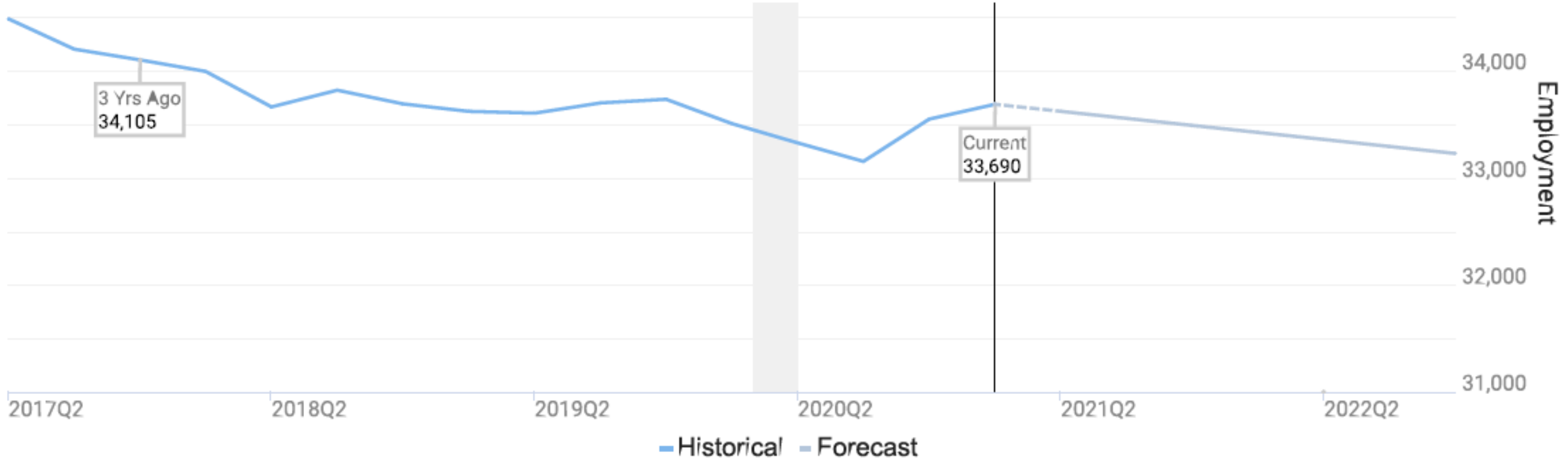
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
17-2112	Industrial Engineers	994	\$86,100	HW	HS	HD	OG	AG
11-9021	Construction Managers	947	\$92,600	HW	HS	HD	OG	
17-2141	Mechanical Engineers	695	\$80,800	HW	HS	HD	OG	AG
13-1051	Cost Estimators	418	\$63,700	HW	HS	HD	OG	AG
51-4111	Tool and Die Makers	207	\$55,500	HW	HS	HD		AG
51-9162	Computer Numerically Controlled Tool Programmers	121	\$58,900	HW	HS	HD	OG	
17-3027	Mechanical Engineering Technologists and Technicians	117	\$56,300	HW	HS	HD	OG	
19-2041	Environmental Scientists and Specialists, Including Health	103	\$70,100	HW	HS	HD	OG	
27-1025	Interior Designers	92	\$53,200	HW	HS	HD		AG
49-9081	Wind Turbine Service Technicians	85	\$56,500	HW	HS	HD	OG	AG



Agriculture, Food, & Natural Resources

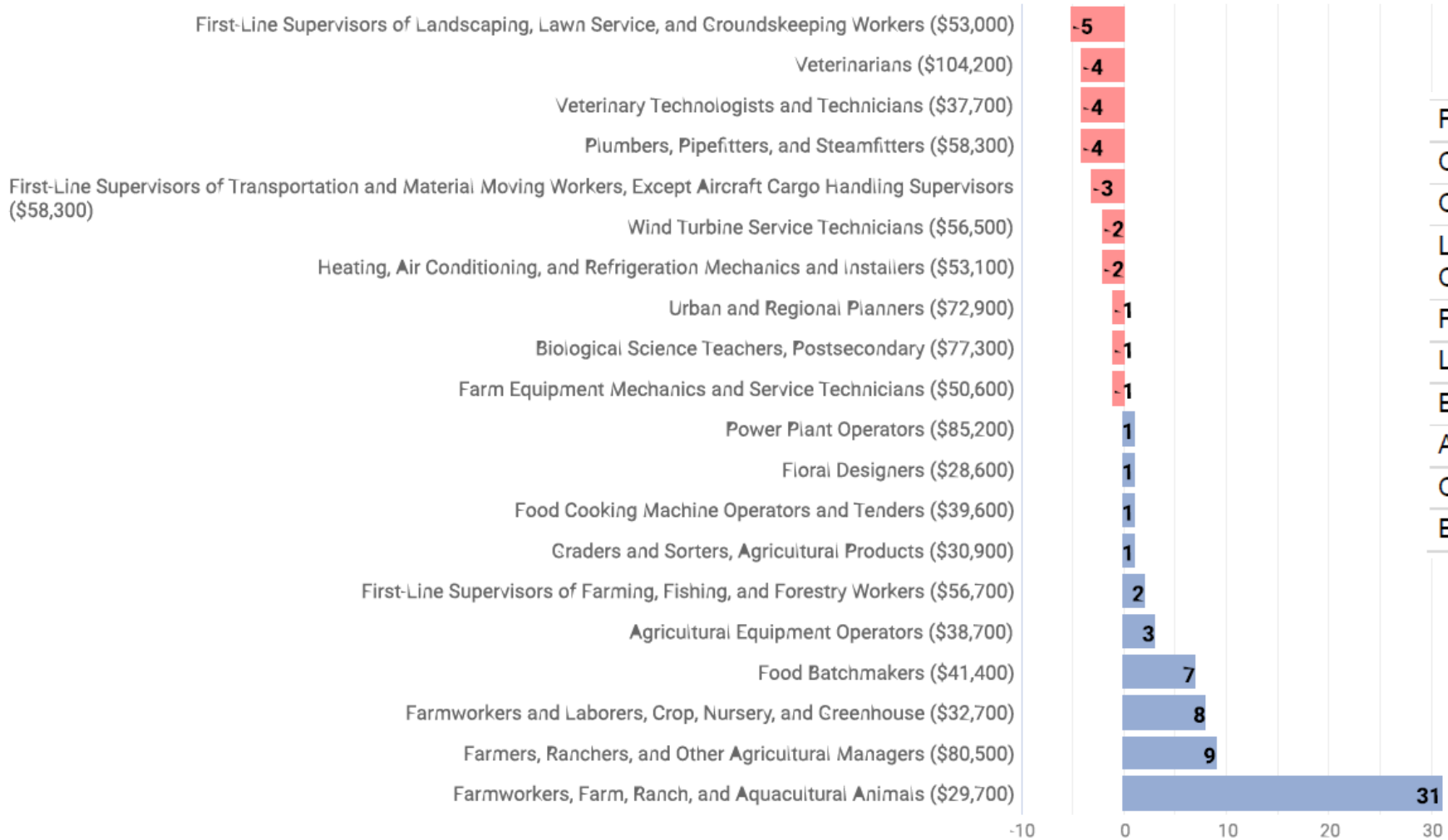
Southwest Minnesota

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



Agriculture, Food, & Natural Resources

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



Certification Gaps

- Forklift Certified
- Certified Professional Dog Trainer (CPDT)
- Certified Pesticide Applicator
- Light Commercial Refrigeration Certification (NATE Certified)
- Registered Veterinary Technician (RVT)
- Laboratory Animal Technician (LAT)
- EPA Section 608 Certification (EPA 608)
- Assistant Laboratory Animal Technician (ALAT)
- Certified Arborist
- EPA Universal Certification



Agriculture, Food, & Natural Resources

Southwest MN, 2021Q1

Target Occupations (all HW, HD, HS)

Veterinarians (OG, AG)

Environmental Scientists and Specialists (OG)

Wind Turbine Service Technicians (OG, AG)

Postsecondary Biological Science Teachers (OG)

Soil & Plant Scientists (AG)

Gateway Occupations

Telecommunications Equipment Installers (HS, AG)

Telecommunications Line Installers (HD)

Food Science Technicians (HS)

Animal Breeders (HD, AG)

Tree Trimmers & Pruners (HD)

Origin Occupations

Likely

Farmworkers, Farm, Ranch, & Aquacultural Animals

Meat, Poultry, & Fish Cutters & Trimmers

Landscaping & Groundskeeping Workers (HD, AG)

Farmworkers & Laborers, Crop Nursery & Greenhouse

Food Batchmakers (AG)

Aligned

Compliance Officers

Laborers / Freight Movers

Stockers and Order Fillers

Cooks

Customer Service Reps

Agriculture, Food, & Natural Resources

Southwest Minnesota

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

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
29-1131	Veterinarians	269	\$104,200	HW	HS	HD	OG	AG
19-2041	Environmental Scientists and Specialists, Including Health	103	\$70,100	HW	HS	HD	OG	
49-9081	Wind Turbine Service Technicians	85	\$56,500	HW	HS	HD	OG	AG
25-1042	Biological Science Teachers, Postsecondary	82	\$77,300	HW	HS	HD	OG	
19-1013	Soil and Plant Scientists	48	\$63,200	HW	HS	HD		AG
19-4042	Environmental Science and Protection Technicians, Including Health	35	\$57,400	HW	HS	HD		
25-1041	Agricultural Sciences Teachers, Postsecondary	24	\$90,500	HW	HS	HD		AG



Summary and Discussion

Discussion Question 1

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

Discussion Question 2

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

Discussion Question 3

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

Discussion Question 4

What additional information
will you seek out next?

Discussion Question 5

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:
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Appendix