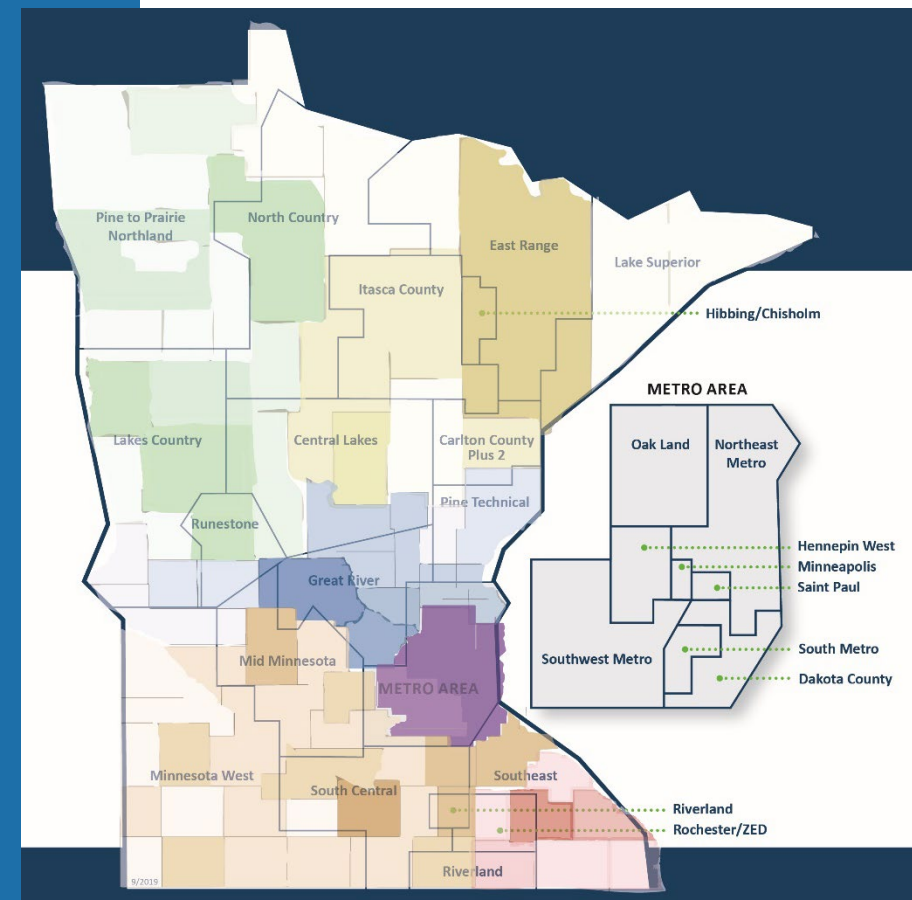


CAREER & TECHNICAL EDUCATION

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.

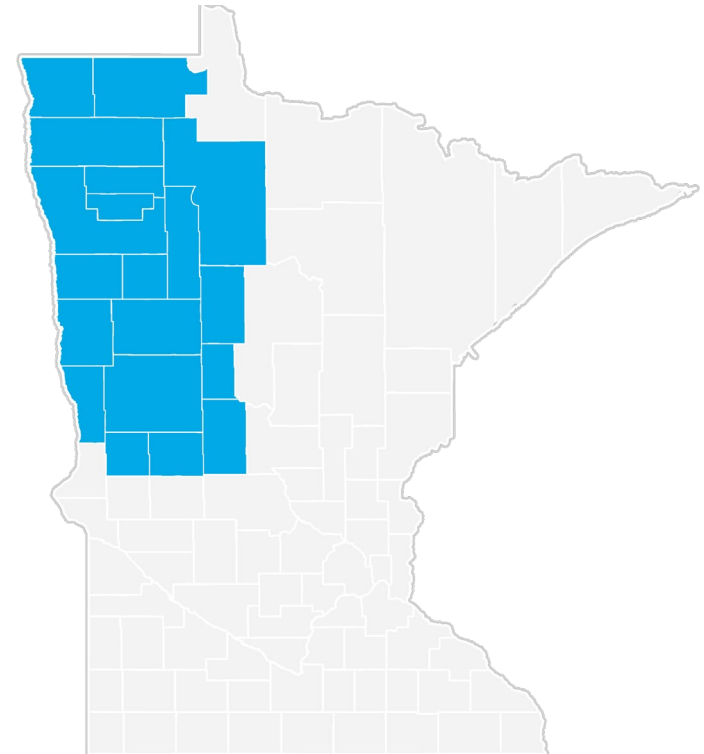
Who's in the Virtual "Room"

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

CAREER & TECHNICAL EDUCATION

Workforce Trends & Careers of Tomorrow

Northwest
Minnesota



RealTime Talent

Erin Olson, Director of Strategic Research

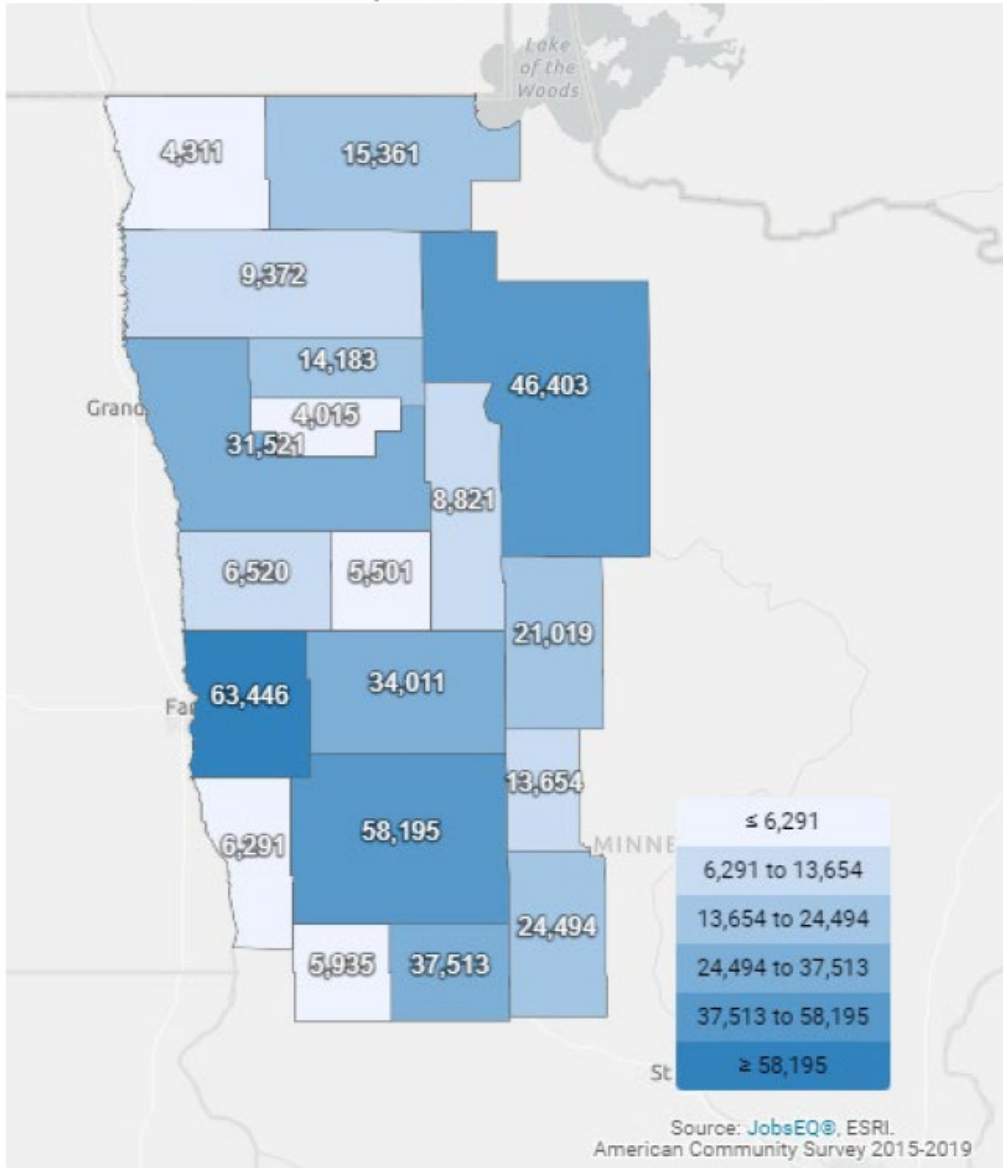
October 2021



Overview

Northwest Minnesota

Resident Population of Northwest Minnesota



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

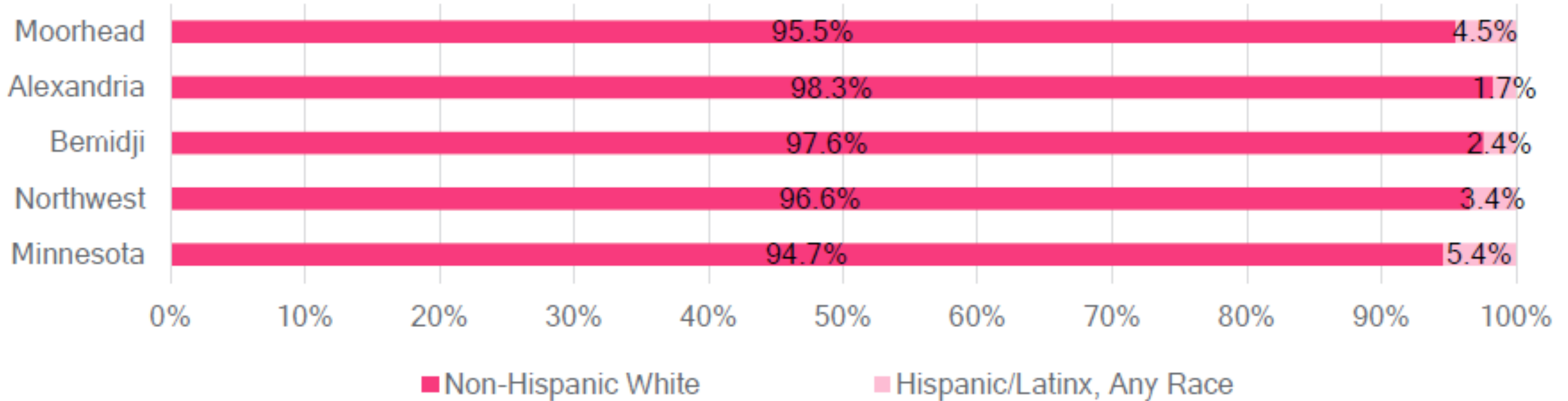
Access the full report here:
<http://www.realtimentalent.org>



Community Profile

Northwest Minnesota

Population Ethnicity, All Ages



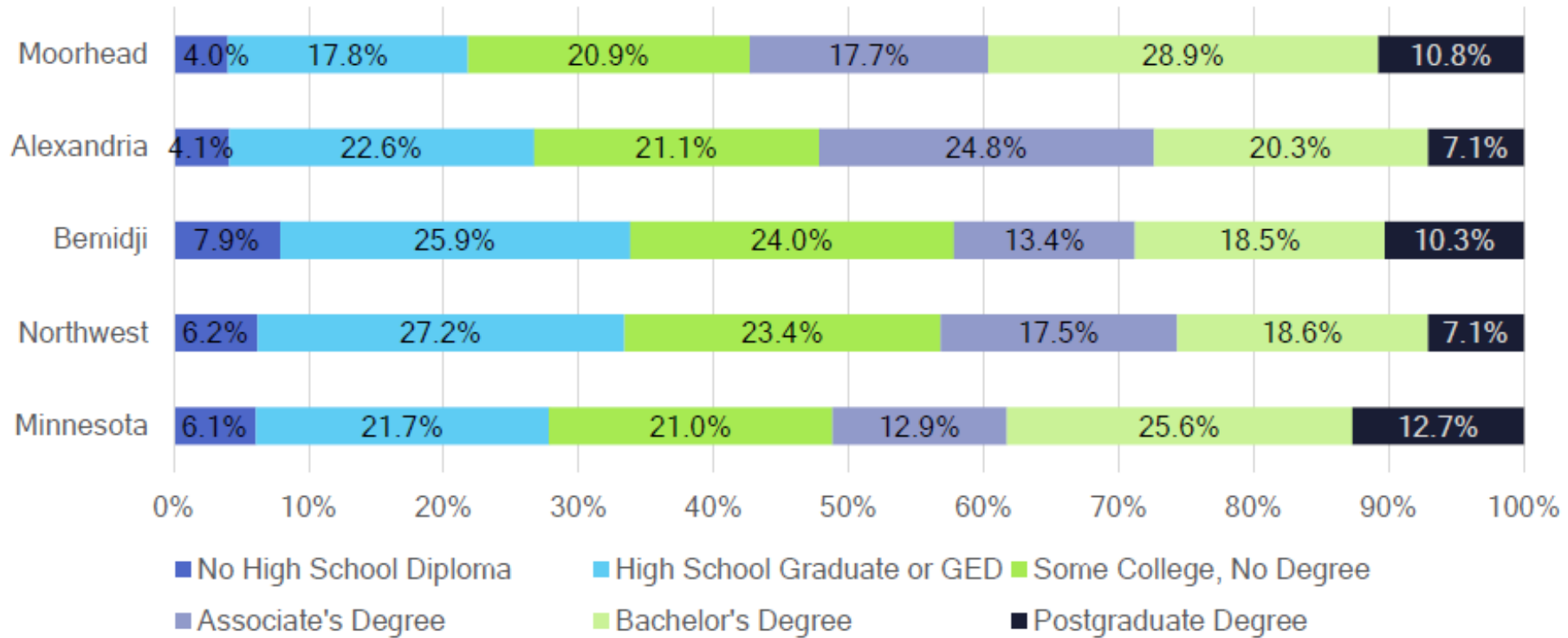
American Community Survey 2015-2019.



Community Profile

Northwest Minnesota

Educational Attainment, Age 25-64



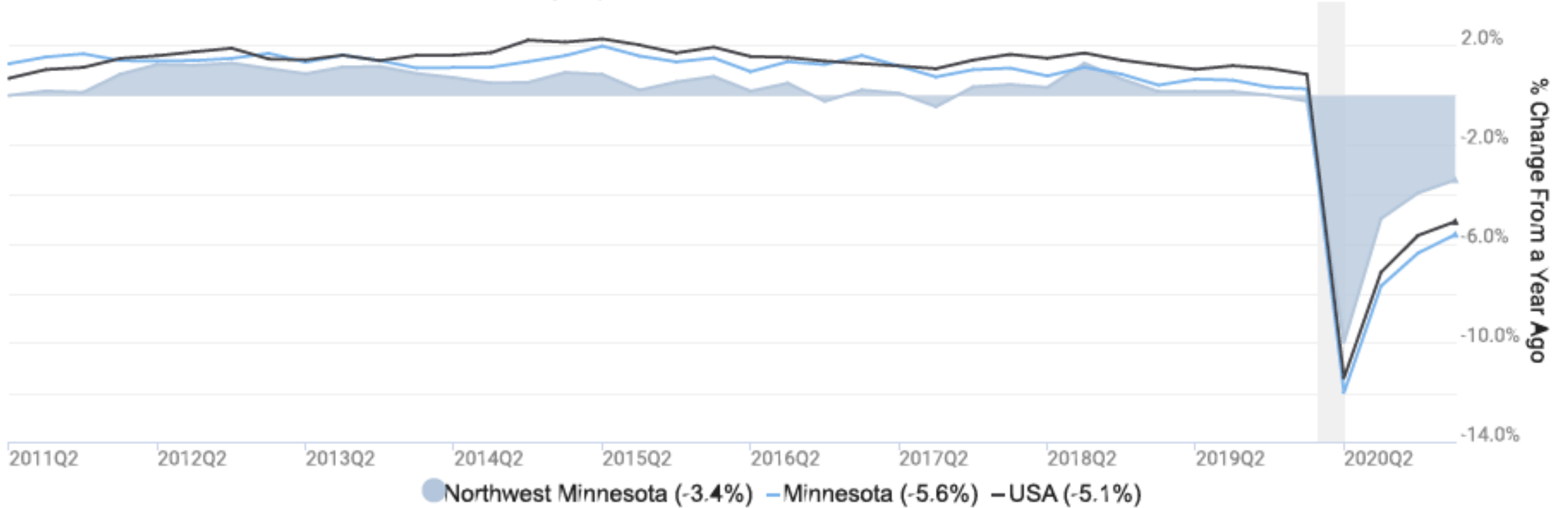
American Community Survey 2015-2019.



Community Profile

Northwest Minnesota

Employment for Northwest Minnesota



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

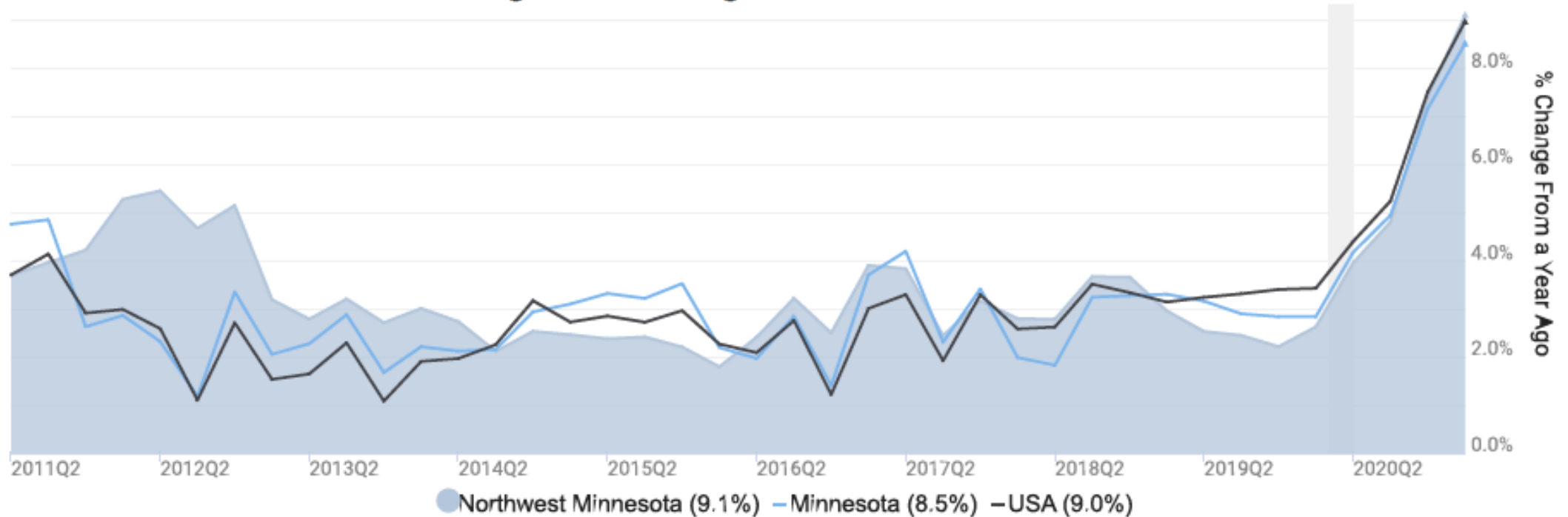
Employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.



Community Profile

Northwest Minnesota

Average Annual Wages for Northwest Minnesota

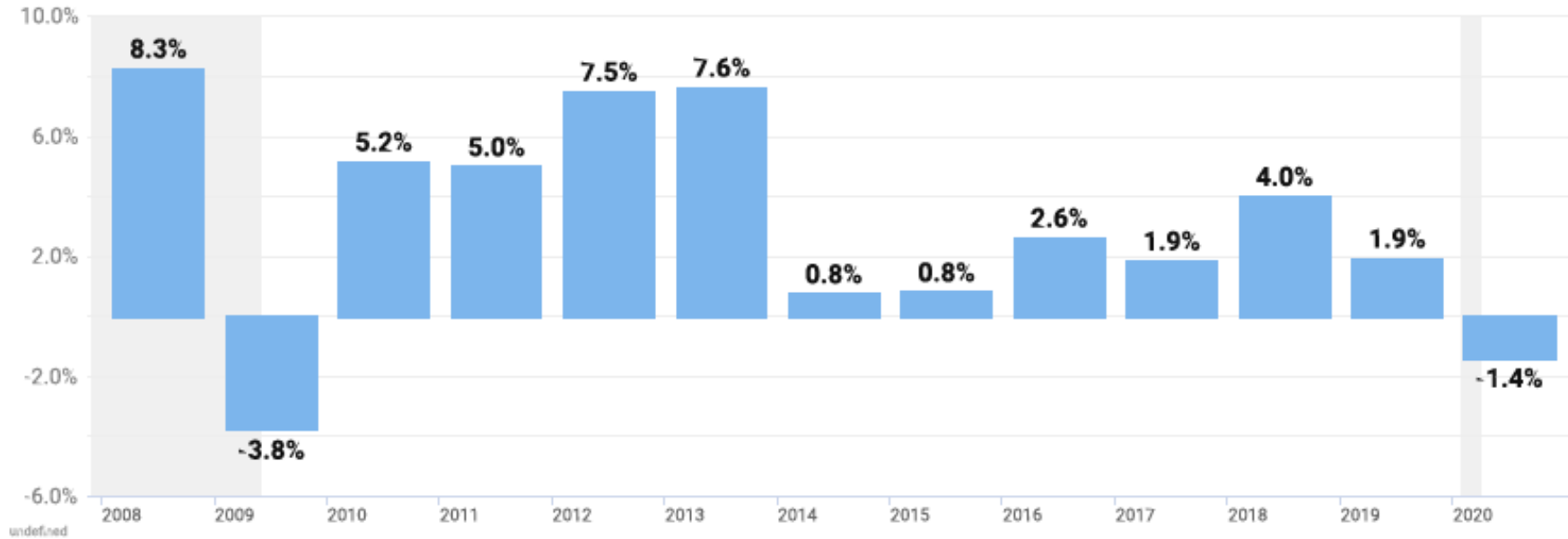


Annual average wages per worker data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.

Community Profile

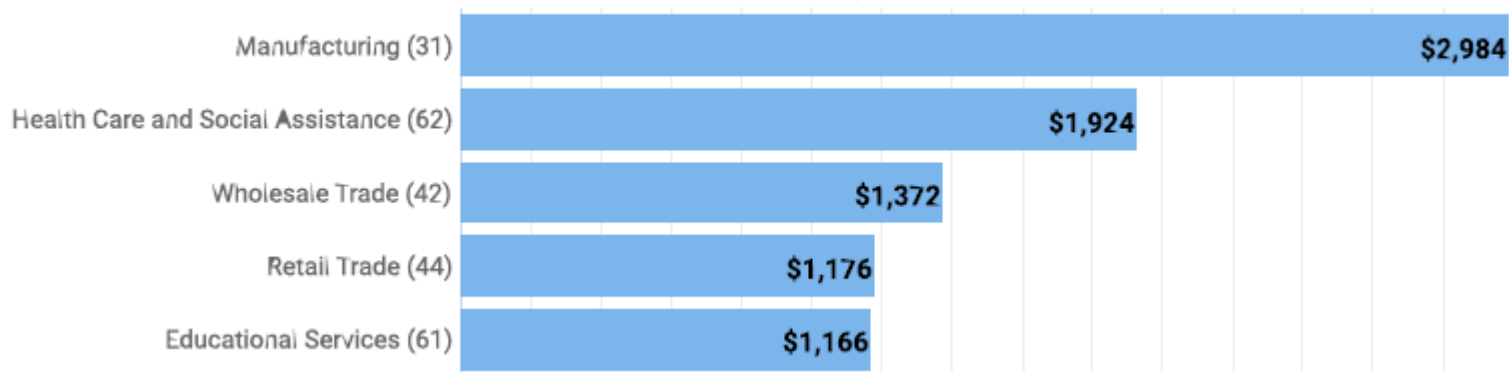
Northwest Minnesota

One-Year % Change in GDP, Northwest Minnesota



- Gross Regional Product (GRP) contracted -1.4%
- Manufacturing contributes most to GRP

GDP (in \$ millions)
Northwest Minnesota, 2020

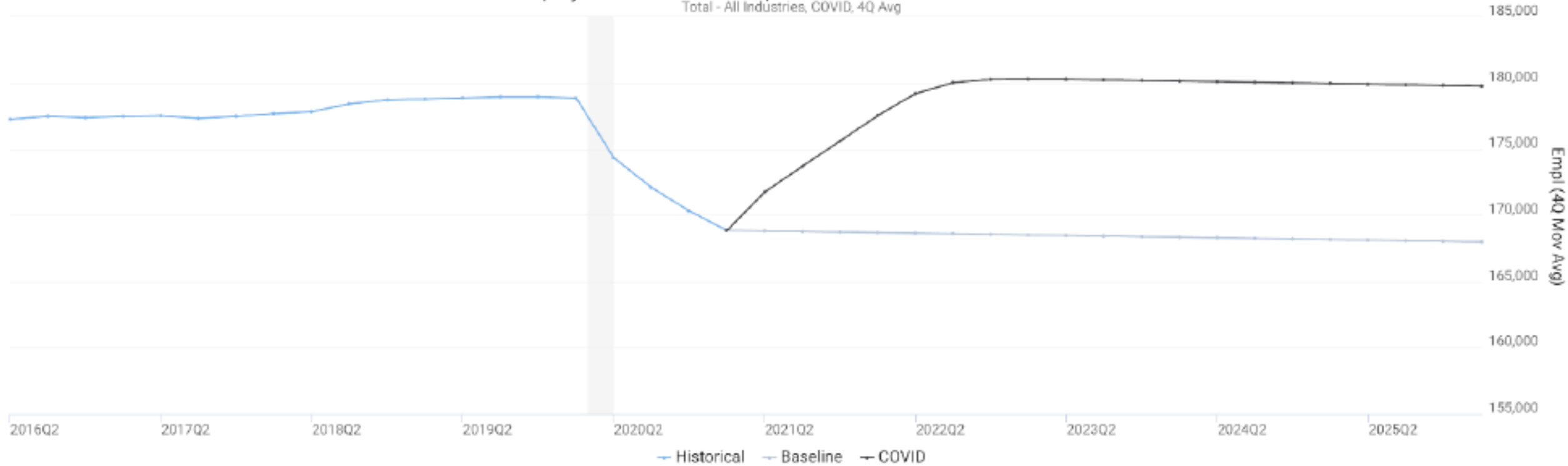


Workforce of Today & Tomorrow *Forecast*

Northwest Minnesota

5-Year Forecast Comparison in Northwest Minnesota

Total - All Industries, COVID, 4Q Avg



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

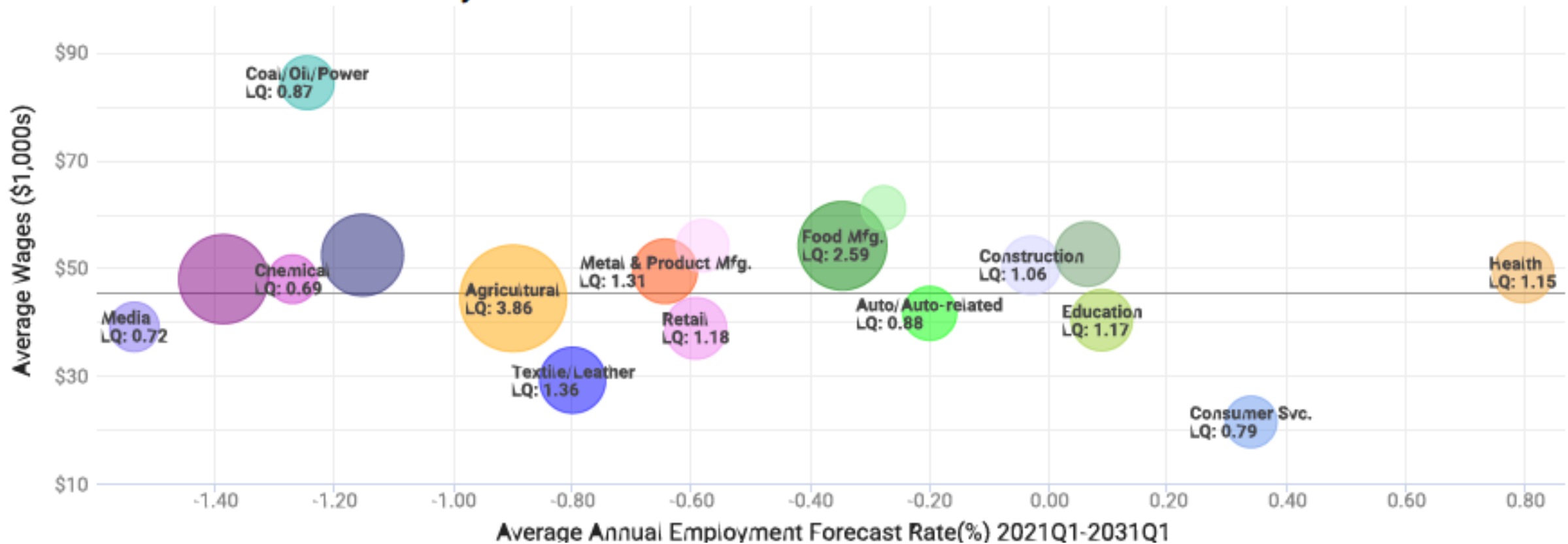
When you think about your local school, district, or consortium's programming, how well do you feel current program offerings address your community's most challenging or pressing workforce needs right now?

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

Workforce of Today & Tomorrow *Forecast*

Northwest Minnesota

Industry Clusters for Northwest Minnesota as of 2021Q1



Mid-Term Occupational Impacts

High Contact-Intensity Occupations

Northwest
Minnesota

Diverging Mid-Term Impacts (greatest losses)

- Waiters and Waitresses (-27.2%)
 - Bartenders (-26.1%)
 - Supervisors of Food Preparation Workers (-18.9%)
 - Passenger Vehicle Drivers (-5.7%)
-
- Of all high contact-intensity roles, only LPNs saw growth over the past year.

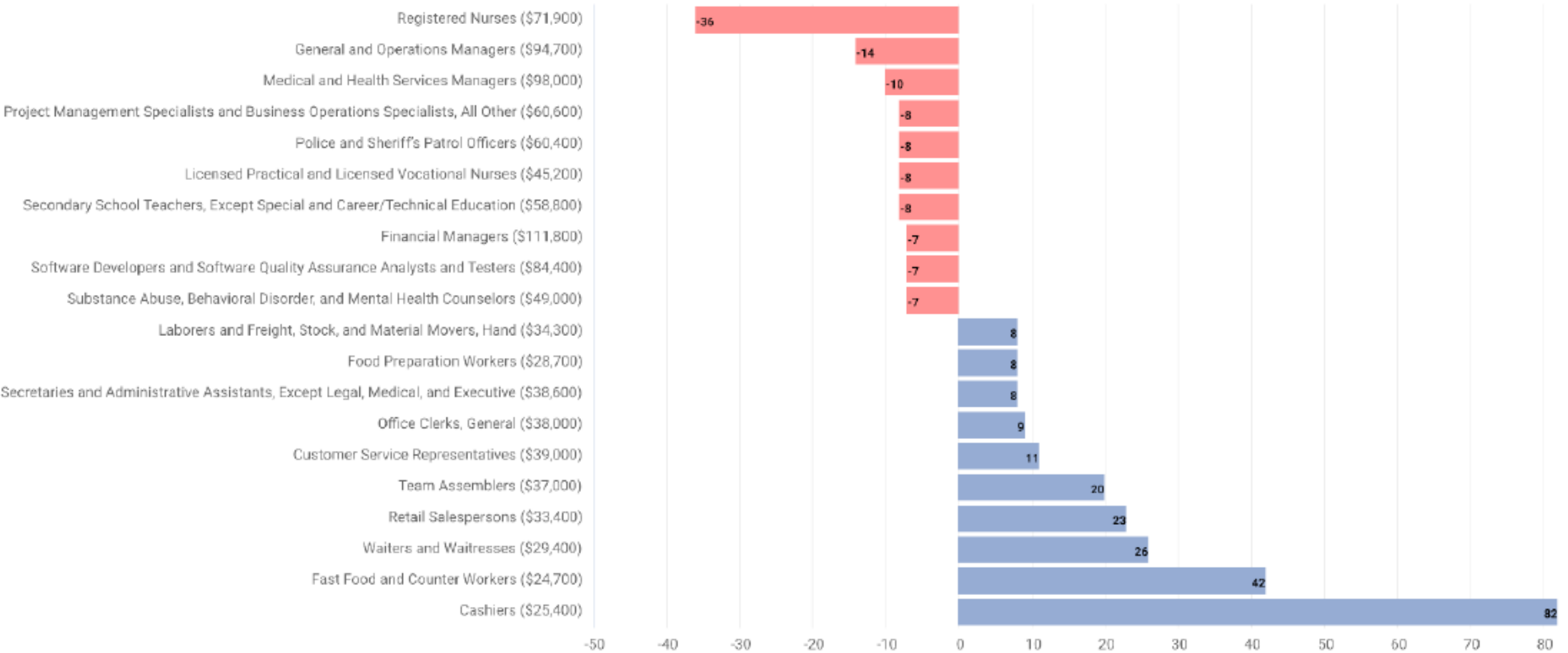
Average
unemployment
rate of **6.2%**
across all high
contact-intensity
roles.

Mid-Term Occupational Impacts

Occupation Gaps

Northwest
Minnesota

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



Source: JobsEQ®, Data as of 2021Q1 except wages which are as of 2021Q1

Emerging Career Paths

Northwest Minnesota

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

1. Nursing Assistants (+47%)
2. Light Truck or Delivery Services Drivers (+200%)
3. Social and Human Service Assistants (+24%)
4. Personal Care Aides (+24%)
5. Licensed Practical and Licensed Vocational Nurses (+47%)

Top Sustaining Occupations in Northwest Minnesota September 2020 - 2021

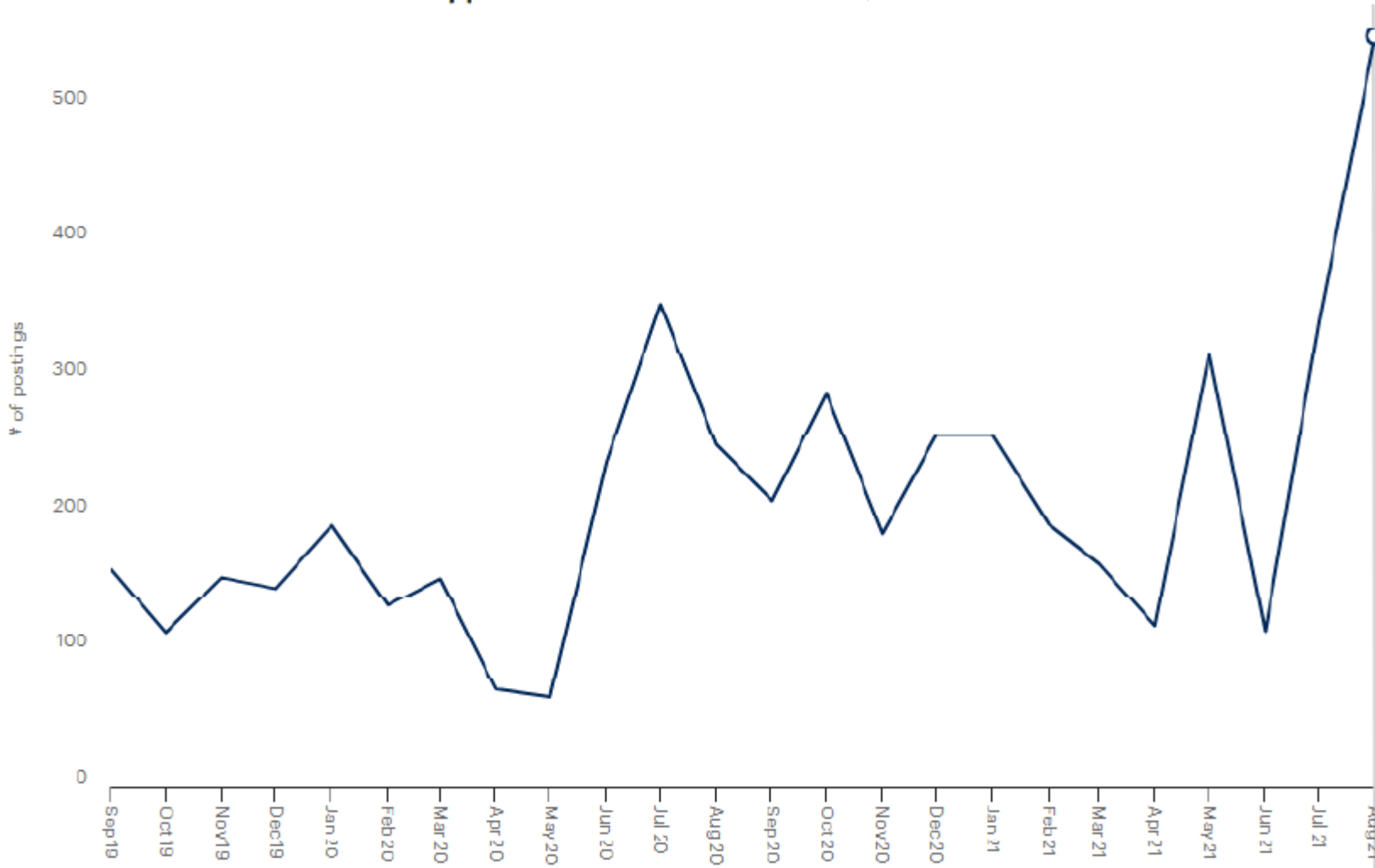
1. Registered Nurses (+85%)
2. Heavy Tractor-Trailer and Truck Drivers (+67%)
3. Customer Service Representatives (+41%)
4. Laborers and Freight, Stock, and Material Movers (+196%)
5. Stock Clerks and Order Fillers (+44%)



Emerging Career Paths

Northwest Minnesota

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



Change in Volume of Remote Work Opportunities

1. Customer Service Representatives (+1,138%)
2. Insurance Sales Agents (+969%)
3. Accountants and Auditors (+971%)
4. Human Resources Specialists (+323%)
5. Construction Laborers (+240%)

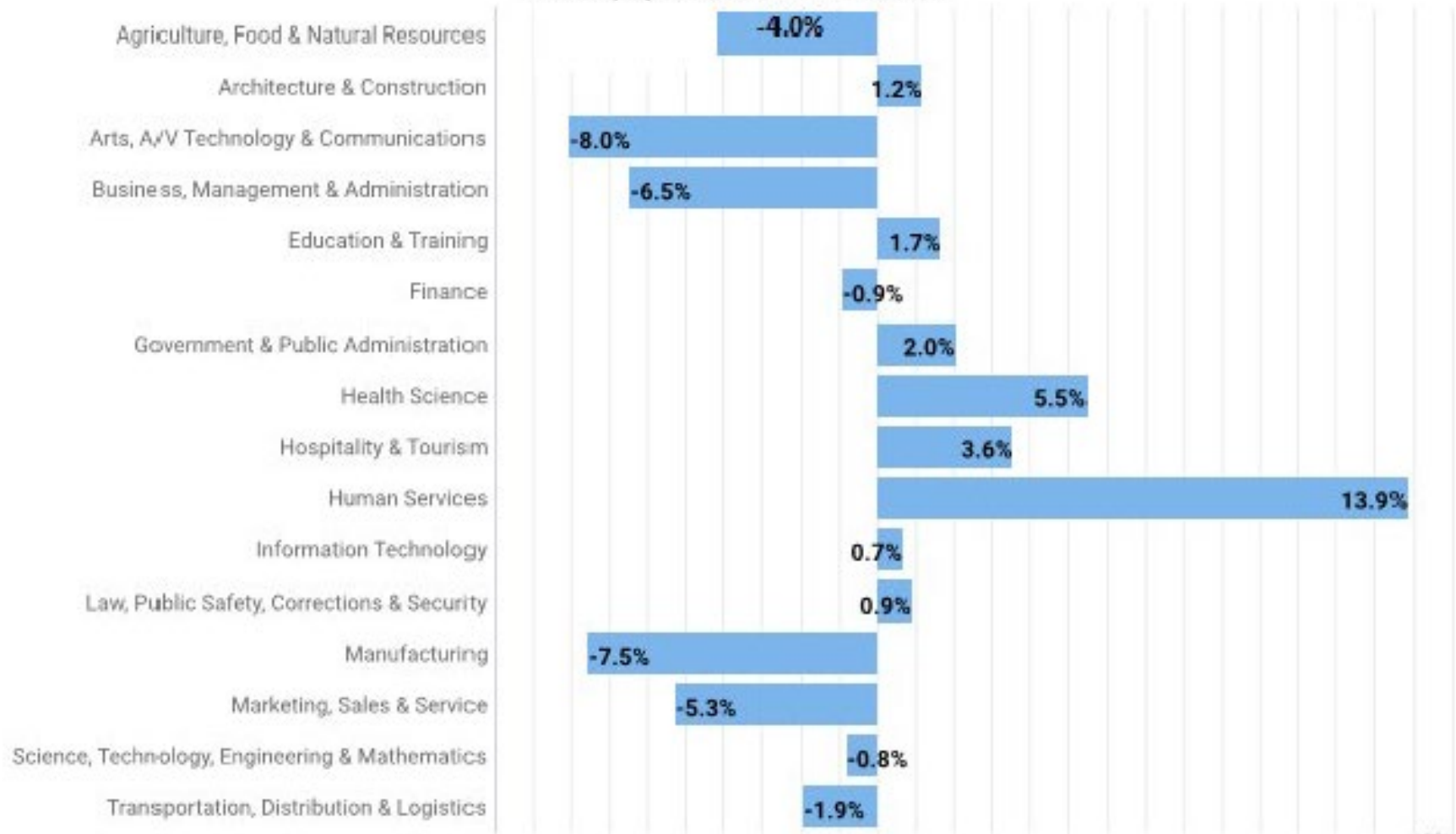


Shifting Opportunities

Northwest Minnesota

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

10 Year Forecast Growth Rate
Total Employment, Latest Available Data



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

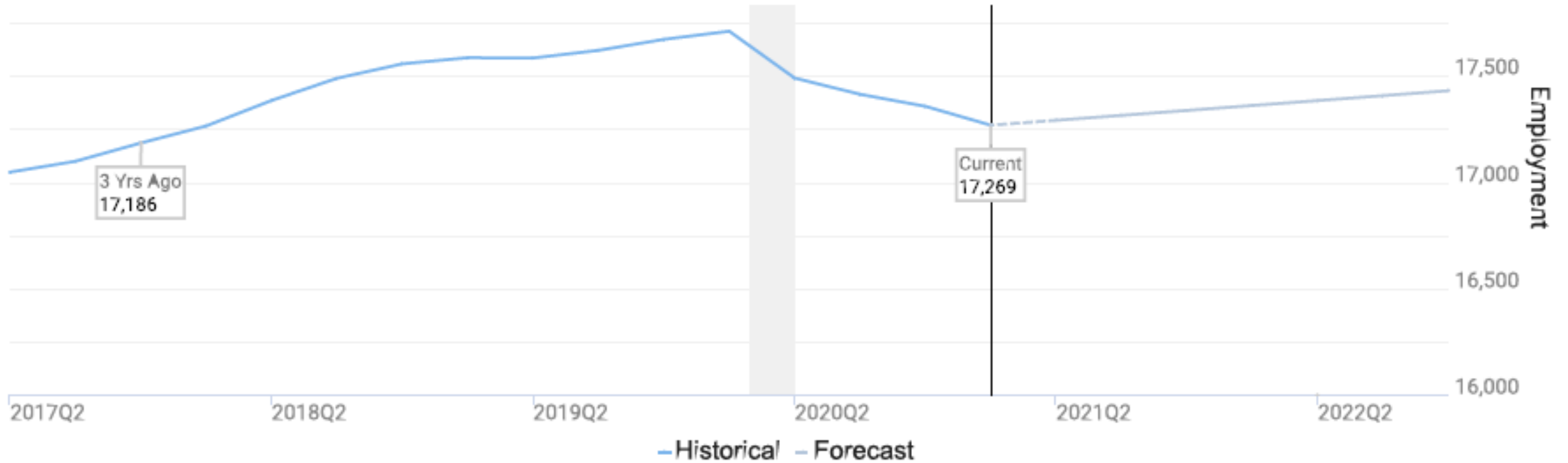
Occupation Characteristics for Consideration

- 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

Northwest Minnesota

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



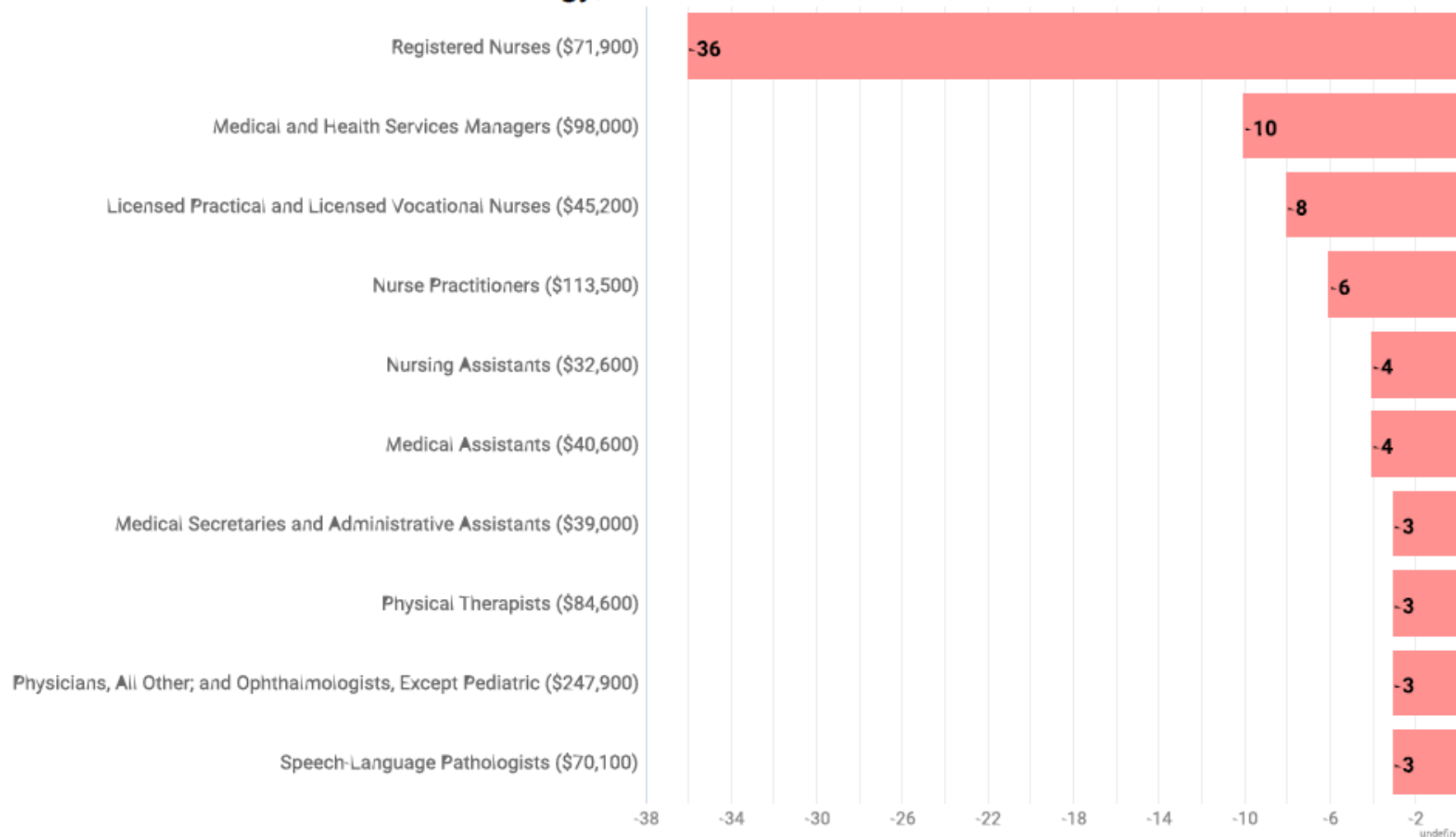
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Health Science Technology

Northwest Minnesota

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



Certification Gaps

- Licensed Practical Nurse (LPN)
- Trauma Nursing Core Course (TNCC)
- Registered Dental Assistant (RDA)
- Certified Dental Assistant (CDA)
- Medical Laboratory Technician (MLT)
- Pediatric Advanced Life Support (PALS)
- Health & Safety Certification
- Medical Technologist (Medical Technologists)
- Emergency Nursing Pediatric Course (ENPC)
- Registered Respiratory Therapist (RRT)



Health Science Technology

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)
Medical and Health Services Managers (OG)
Speech-Language Pathologists (OG)
Nurse Practitioners (OG, AG)
Respiratory Therapists (OG, AG)
Physician Assistants (OG, AG)

Gateway Occupations

Licensed Practical Nurses (HS, OG)
Medical Assistants (HS, HD, OG, AG)
Medical Secretaries and Administrative Assistants (HD, OG)
Dental Assistants (HS, HD, OG)
Medical Dosimetrists (HS, OG)

Origin Occupations

Likely

Nursing Assistants (HS, OG)
Home Health Aides (HD)
Psychiatric Technicians (HS, OG, AG)
Pharmacy Technicians (OG)
Psychiatric Aides (HD, AG)

Aligned

Personal Care Aides
Childcare Workers
Secretaries
Cashiers
Cooks

Health Science Technology

Northwest Minnesota

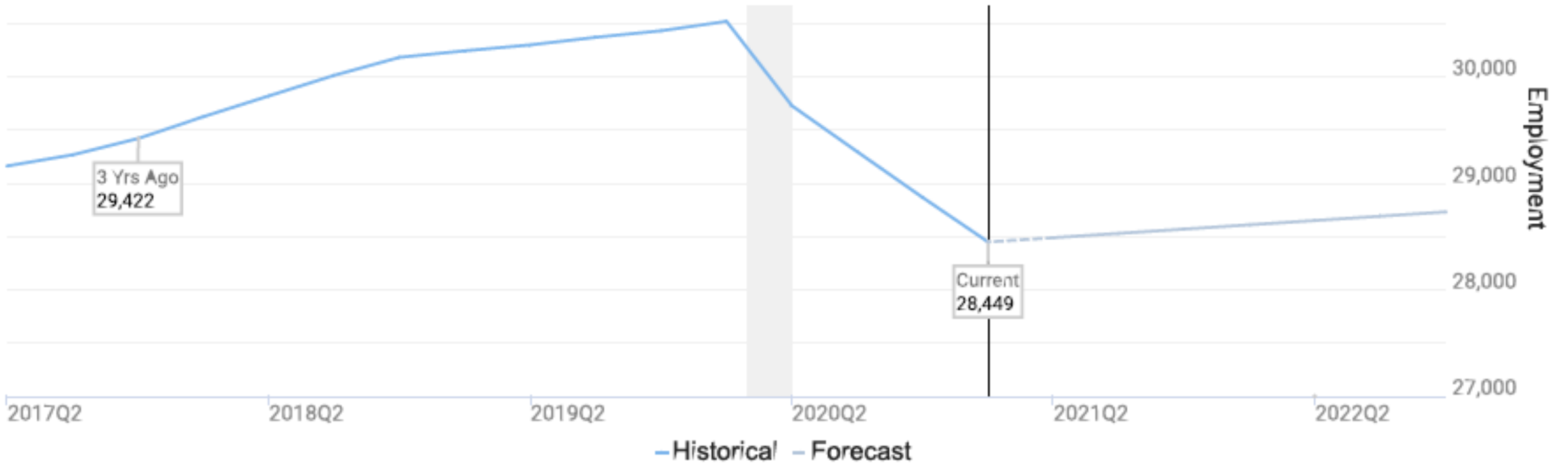
Top Ten Target Occupations in Health Science Technology, Northwest Minnesota 2021Q1

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
11-9111	Medical and Health Services Managers	466	\$98,000	HW	HS	HD	OG	
29-1127	Speech-Language Pathologists	186	\$70,100	HW	HS	HD	OG	
29-1171	Nurse Practitioners	183	\$113,500	HW	HS	HD	OG	AG
29-1126	Respiratory Therapists	155	\$64,000	HW	HS	HD	OG	AG
29-1071	Physician Assistants	107	\$122,200	HW	HS	HD	OG	AG
31-2021	Physical Therapist Assistants	94	\$55,700	HW	HS	HD	OG	
29-1011	Chiropractors	82	\$78,300	HW	HS	HD	OG	AG
31-2011	Occupational Therapy Assistants	49	\$52,100	HW	HS	HD		
29-1129	Therapists, All Other	30	\$53,400	HW	HS	HD		AG
29-1023	Orthodontists	7	\$240,200	HW	HS	HD	OG	



Human Services

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



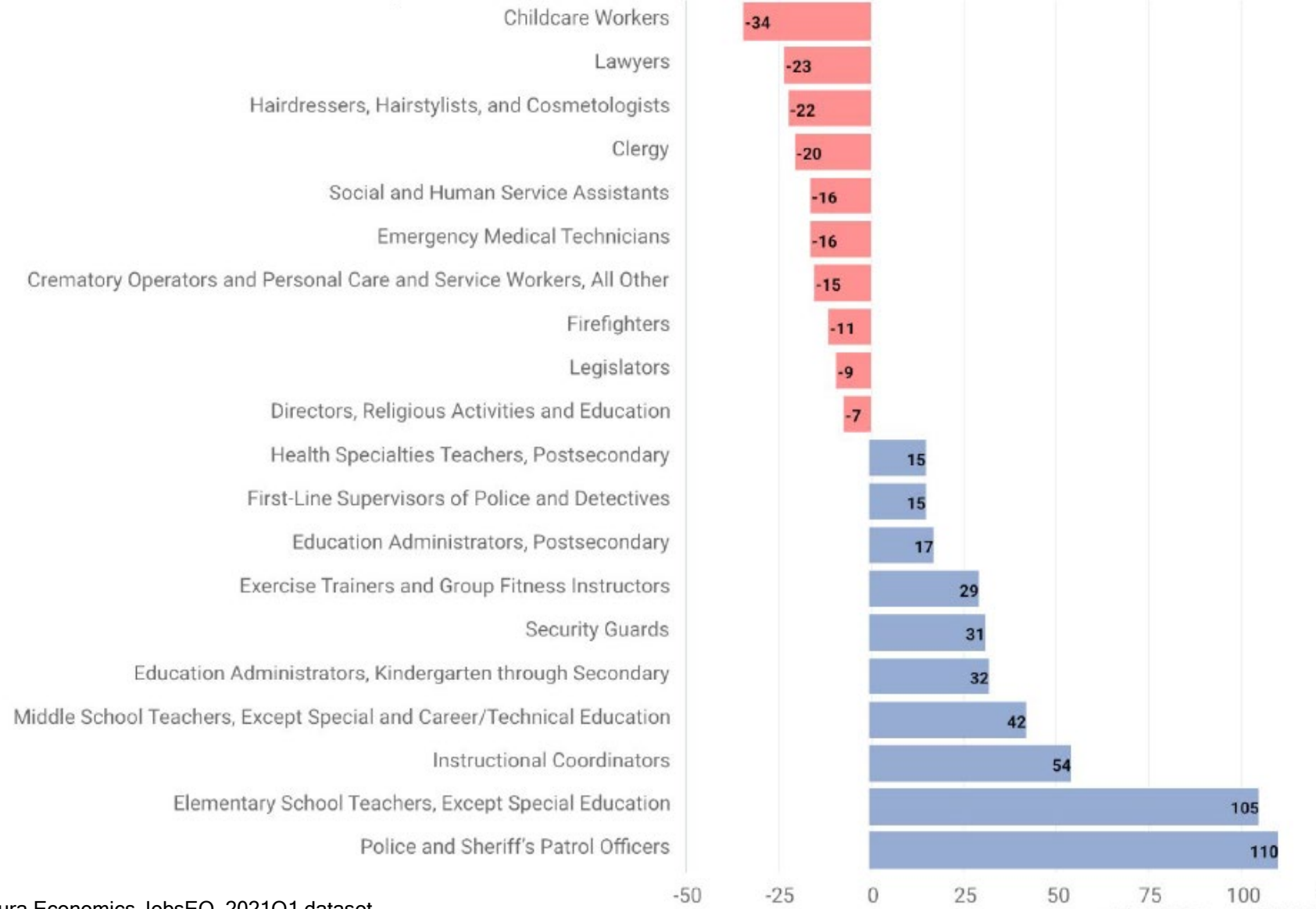
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Human Services

Northwest Minnesota

Award Gaps in Human Services, Northwest Minnesota 2021Q1



Certification Gaps

- Basic Life Support (BLS)
- Child Development Associate (CDA)
- Commercial Driver's License (CDL)
- Certified in Health Care Compliance (CHC)
- Licensed Professional Counselor (LPC)
- Certified Professional Coder (CPC)
- Emergency Medical Technician (EMT)
- AED Essentials
- Secret Clearance
- Advanced Cardiac Life Support Certification (ACLS)



Human Services

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)

Secondary School Teachers (OG)

Child, Family, and School Social Workers (OG)

Educational, Guidance, and Career Counselors (OG)

Secondary Special Education Teachers (OG)

Kindergarten Special Education Teachers (OG)

Gateway Occupations

Court, Municipal, and License Clerks (OG)

Clergy (HS, HD, OG, AG)

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

Correctional Officers and Jailers (AG)

Self-Enrichment Teachers (HD, AG)

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

Origin Occupations

Likely

Personal Care Aides (HD, AG)

Teaching Assistants (HS, HD, AG)

Childcare Workers (HD, AG)

Social and Human Service Assistants (HD, AG)

Firefighters (HS, OG, AG)

Aligned

Tellers

Retail Sales Workers

Waiters and Waitresses

Cashiers

Human Services

Northwest Minnesota

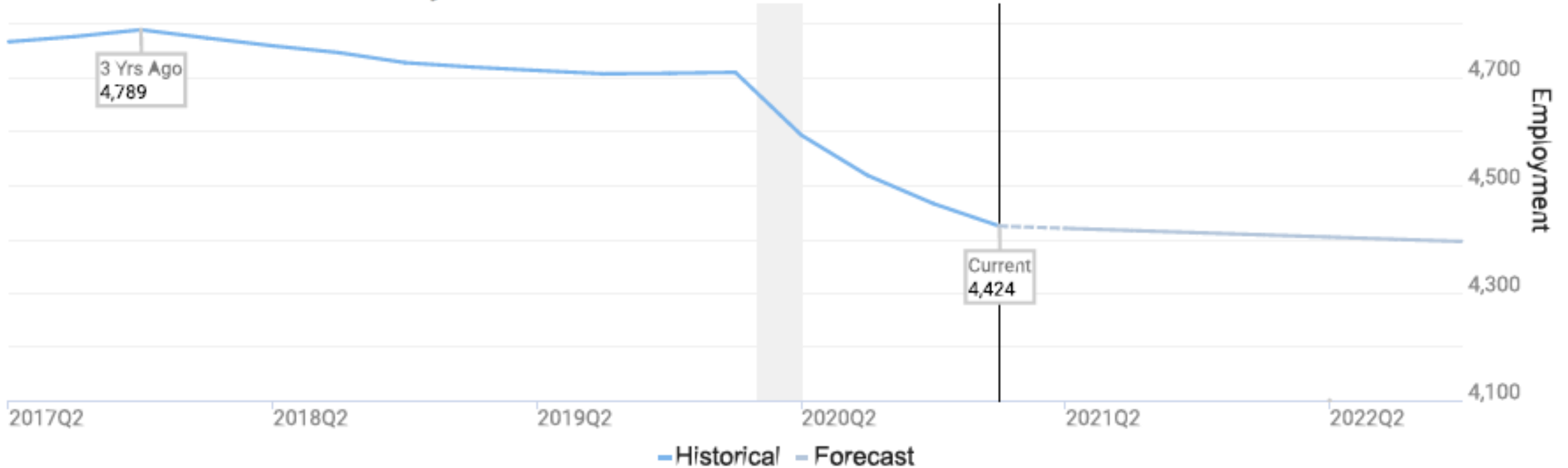
Top Ten Target Occupations in Human Services, Northwest Minnesota 2021Q1

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	1,445	\$58,800	HW	HS	HD	OG	
21-1021	Child, Family, and School Social Workers	419	\$52,700	HW	HS	HD	OG	
21-1012	Educational, Guidance, and Career Counselors and Advisors	320	\$57,400	HW	HS	HD	OG	
25-2058	Special Education Teachers, Secondary School	313	\$59,100	HW	HS	HD	OG	
25-2052	Special Education Teachers, Kindergarten and Elementary School	290	\$55,400	HW	HS	HD	OG	
11-9032	Education Administrators, Kindergarten through Secondary	289	\$100,200	HW	HS	HD	OG	
11-9151	Social and Community Service Managers	250	\$73,100	HW	HS	HD	OG	
21-1022	Healthcare Social Workers	241	\$58,000	HW	HS	HD	OG	
25-9031	Instructional Coordinators	222	\$70,900	HW	HS	HD	OG	
21-2021	Directors, Religious Activities and Education	221	\$57,800	HW	HS	HD	OG	AG



Arts, Communications, & Information Systems

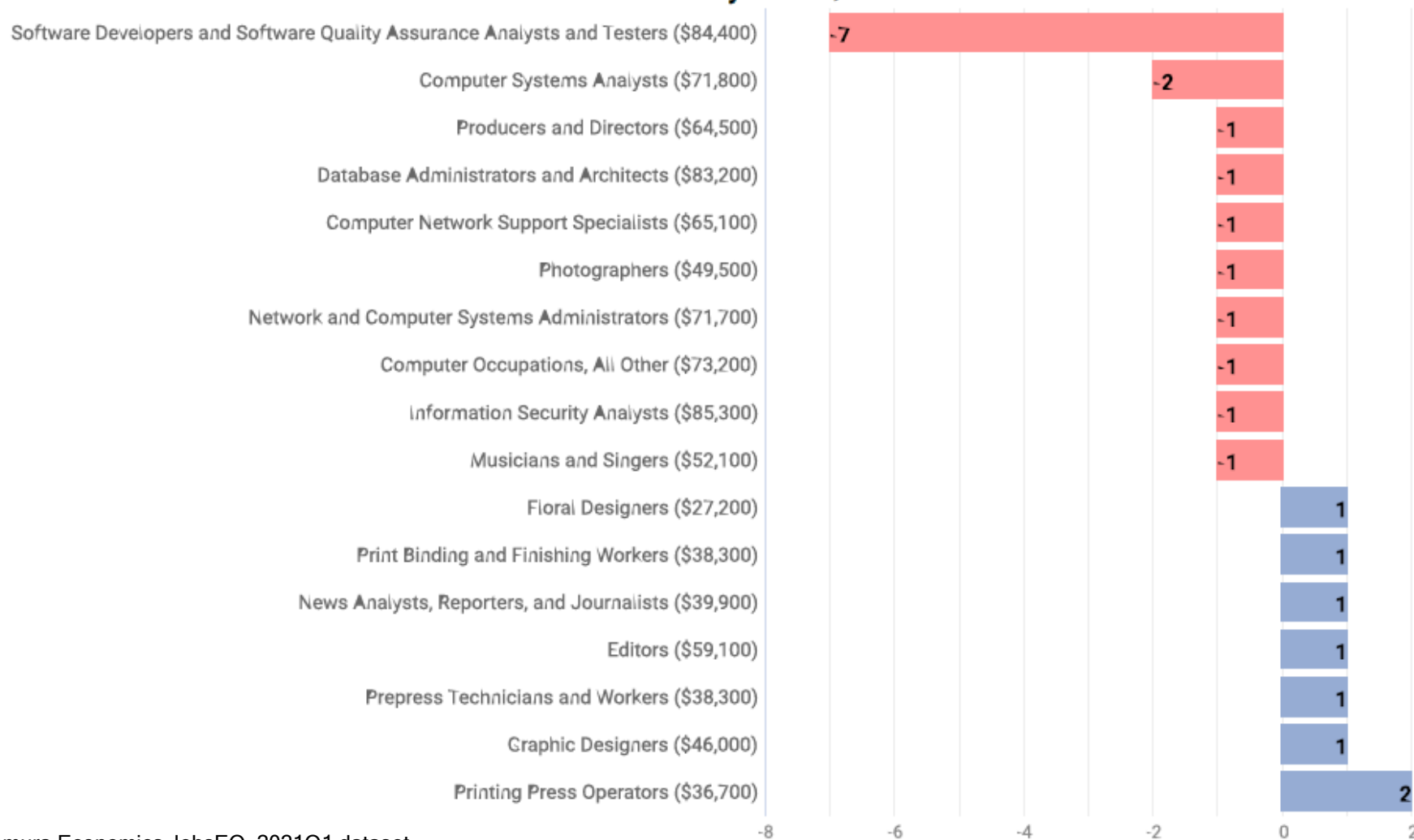
Baseline Worst-Case Scenario 3-Year Forecast for Arts, Communications, and Information Systems Careers, Northwest Minnesota 2021Q1



Arts, Communications, & Information Systems

Northwest Minnesota

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Arts, Communications. And Information Systems, Northwest Minnesota 2021Q1



Certification Gaps

- Project Management Professional (PMP)
- Certified Security Software Lifecycle Professional (CSSLP)
- Microsoft Certified Solutions Expert (MCSE)
- Certified Associate in Project Management (CAPM)
- Cisco Certified Network Associate (CCNA)
- Certified Cloud Security Professional (CCSP)
- Certified Information Systems Auditor (CISA)
- Commercial Driver's License (CDL)



Arts, Communications, & Information Systems

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)

Software Developers (OG)

Writers and Authors

Computer Programmers

Database Administrators and Architects (OG)

Computer Network Architects

Gateway Occupations

Computer User Support Specialists (HS, AG)

Graphic Designers (HS)

Music Directors and Composers (HS, HD)

Origin Occupations

Likely

Printing Press Operators (AG)

Floral Designers

Broadcast Announcers & Radio Disc Jockeys (HS, HD)

Print Binding and Finishing Workers

News Analysts, Reporters, and Journalists

Aligned

Library Technicians

Recreation Attendants

Hosts and Hostesses

Customer Service Reps

Machine Operators

Arts, Communications, & Information Systems

Northwest Minnesota

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

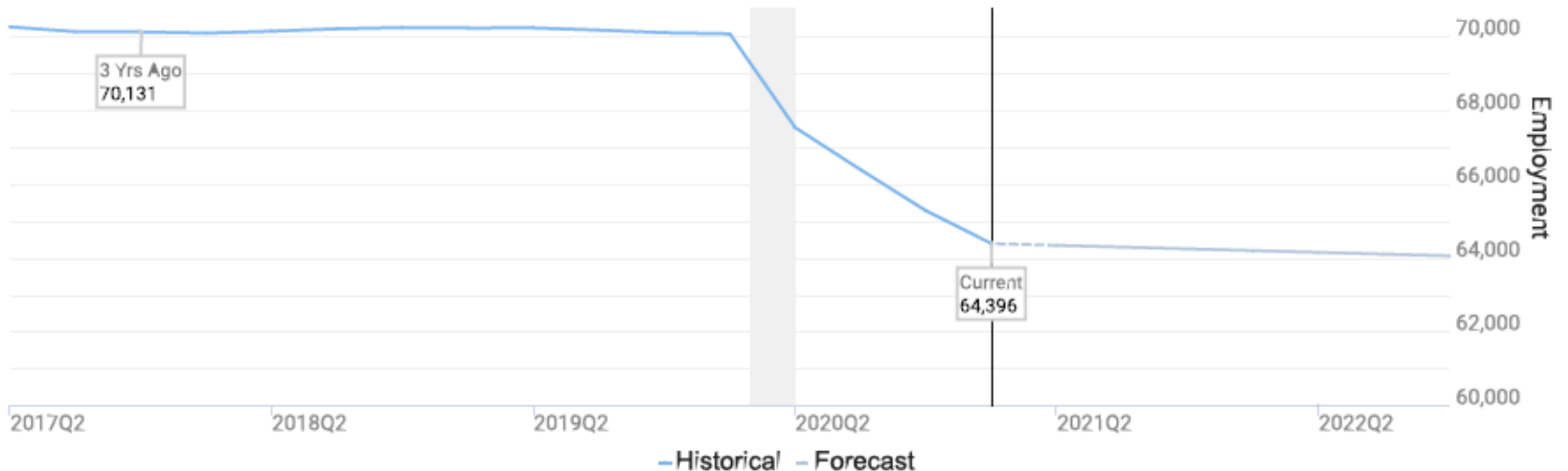
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	545	\$84,400	HW	HS	HD	OG	
27-3043	Writers and Authors	99	\$54,700	HW	HS	HD		
15-1251	Computer Programmers	88	\$84,900	HW	HS	HD		
15-1245	Database Administrators and Architects	76	\$83,200	HW	HS	HD	OG	
15-1241	Computer Network Architects	68	\$100,300	HW	HS	HD		
27-2012	Producers and Directors	64	\$64,500	HW	HS	HD	OG	
27-1011	Art Directors	58	\$96,400	HW	HS	HD		
27-1021	Commercial and Industrial Designers	52	\$66,000	HW	HS	HD		
27-3042	Technical Writers	34	\$63,000	HW	HS	HD		
27-1014	Special Effects Artists and Animators	31	\$62,600	HW	HS	HD		



Business, Management, & Administration

Northwest Minnesota

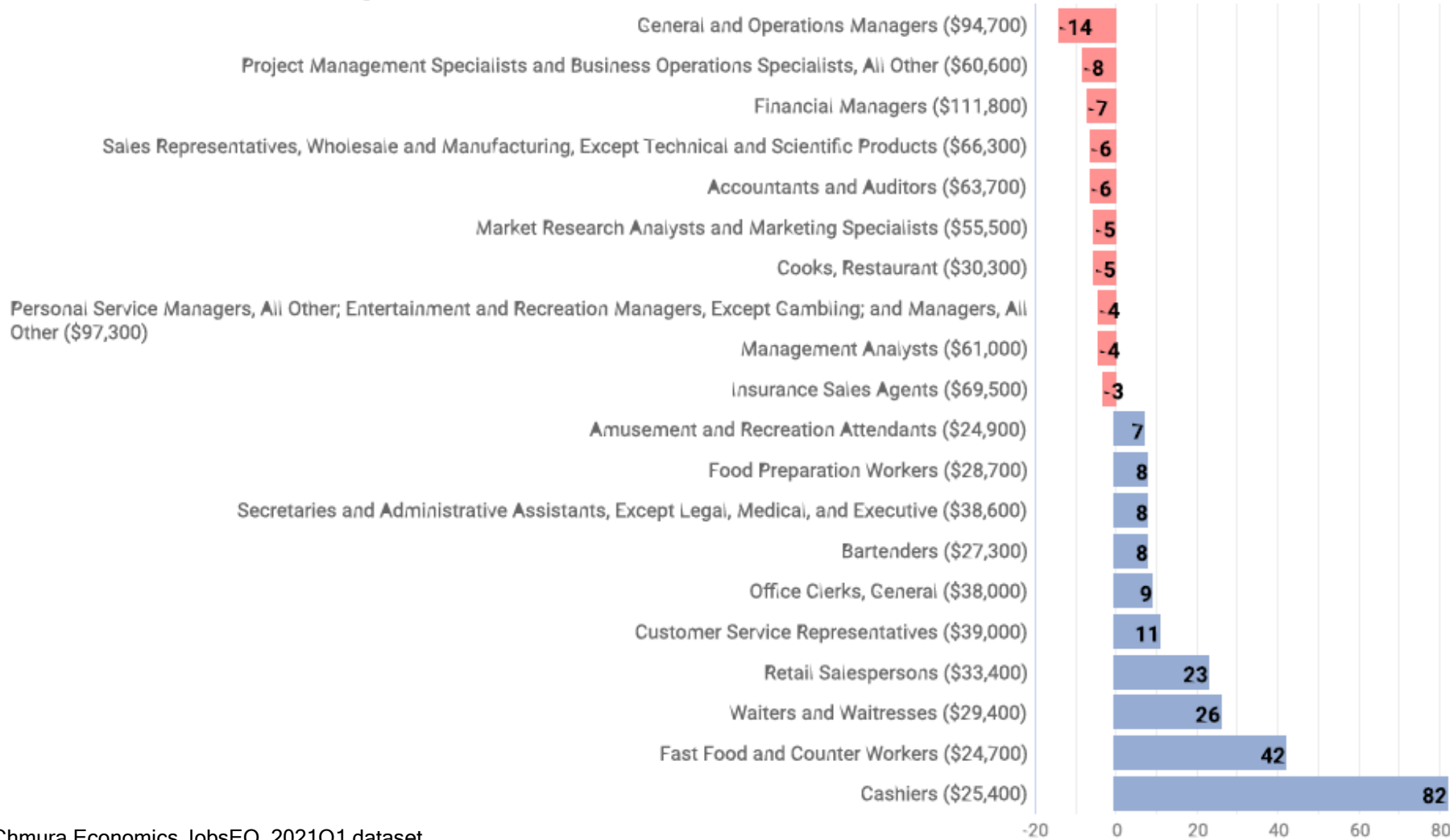
Baseline Worst-Case Scenario 3-Year Forecast for Business, Management, and Administration Careers, Northwest Minnesota 2021Q1



Business, Management, & Administration

Northwest Minnesota

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



Certification Gaps

- ServSafe Food Protection Manager Certification
- HAZMAT
- Basic Life Support (BLS)
- Project Management Professional (PMP)
- Certified Public Accountant (CPA)
- Class A Commercial Driver's License (CDL-A)
- Commercial Driver's License (CDL)
- Notary Public
- Certified Management Accountant (CMA)
- Program Management Professional (PgMP)



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Business, Management, & Administration

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)
General and Operations Managers (OG)
Project Management Specialists (OG)
Accountants and Auditors (OG)
Financial Managers (OG)
Market Research Analysts and Marketing Specialists
(OG, AG)

Gateway Occupations

Supervisors of Retail Sales Workers (HD)
Supervisors of Housekeeping and Janitorial Workers (HD, OG)
Postal Service Mail Sorters, Processors, and Machine Operators
Insurance Claims and Policy Processing Clerks
Payroll and Timekeeping Clerks (HD)
Postal Service Clerks

Origin Occupations

Likely

Cashiers
Retail Salespersons (HD)
Fast Food and Counter Workers (HD)
Office Clerks, General (AG)
Stockers and Order Fillers

Aligned

Library Technicians
Eligibility Interviewers
Childcare Workers

Business, Management, & Administration

Northwest Minnesota

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

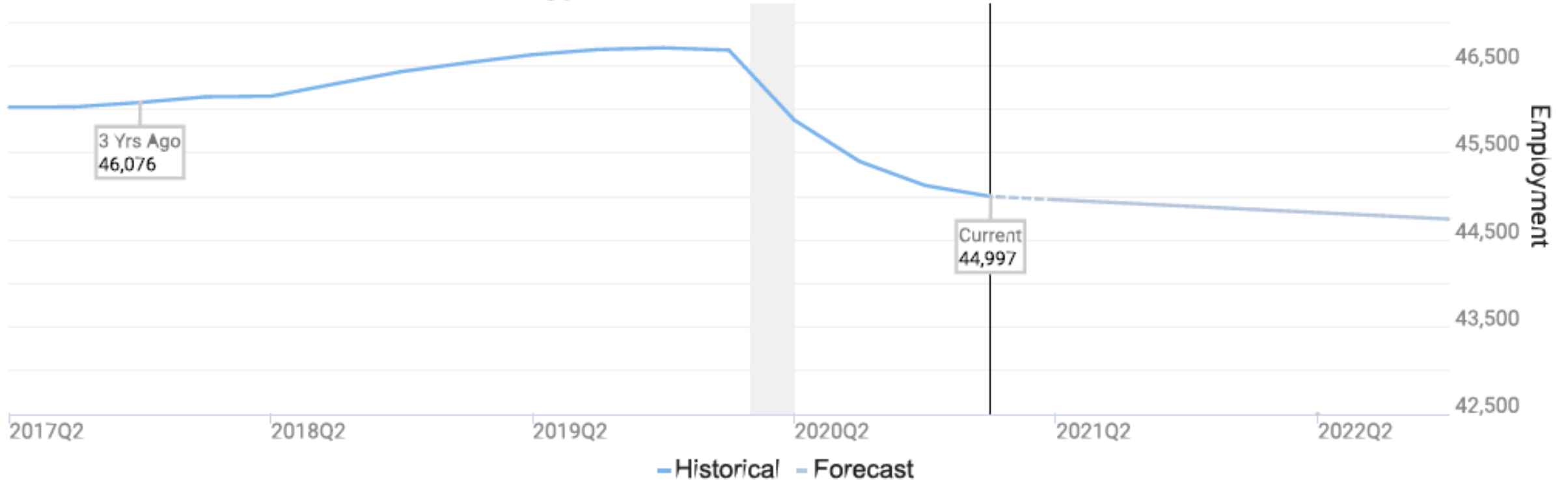
SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
11-1021	General and Operations Managers	2,083	\$94,700	HW	HS	HD	OG	
13-1198	Project Management Specialists and Business Operations Specialists, All Other	1,109	\$60,600	HW	HS	HD	OG	
13-2011	Accountants and Auditors	1,026	\$63,700	HW	HS	HD	OG	
11-3031	Financial Managers	517	\$111,800	HW	HS	HD	OG	
13-1161	Market Research Analysts and Marketing Specialists	509	\$55,500	HW	HS	HD	OG	AG
13-1111	Management Analysts	460	\$61,000	HW	HS	HD	OG	
11-2022	Sales Managers	427	\$107,800	HW	HS	HD	OG	
11-3013	Facilities Managers	262	\$86,300	HW	HS	HD	OG	
11-3021	Computer and Information Systems Managers	253	\$115,400	HW	HS	HD	OG	
27-3031	Public Relations Specialists	218	\$57,600	HW	HS	HD	OG	



Engineering, Manufacturing, & Technology

Northwest Minnesota

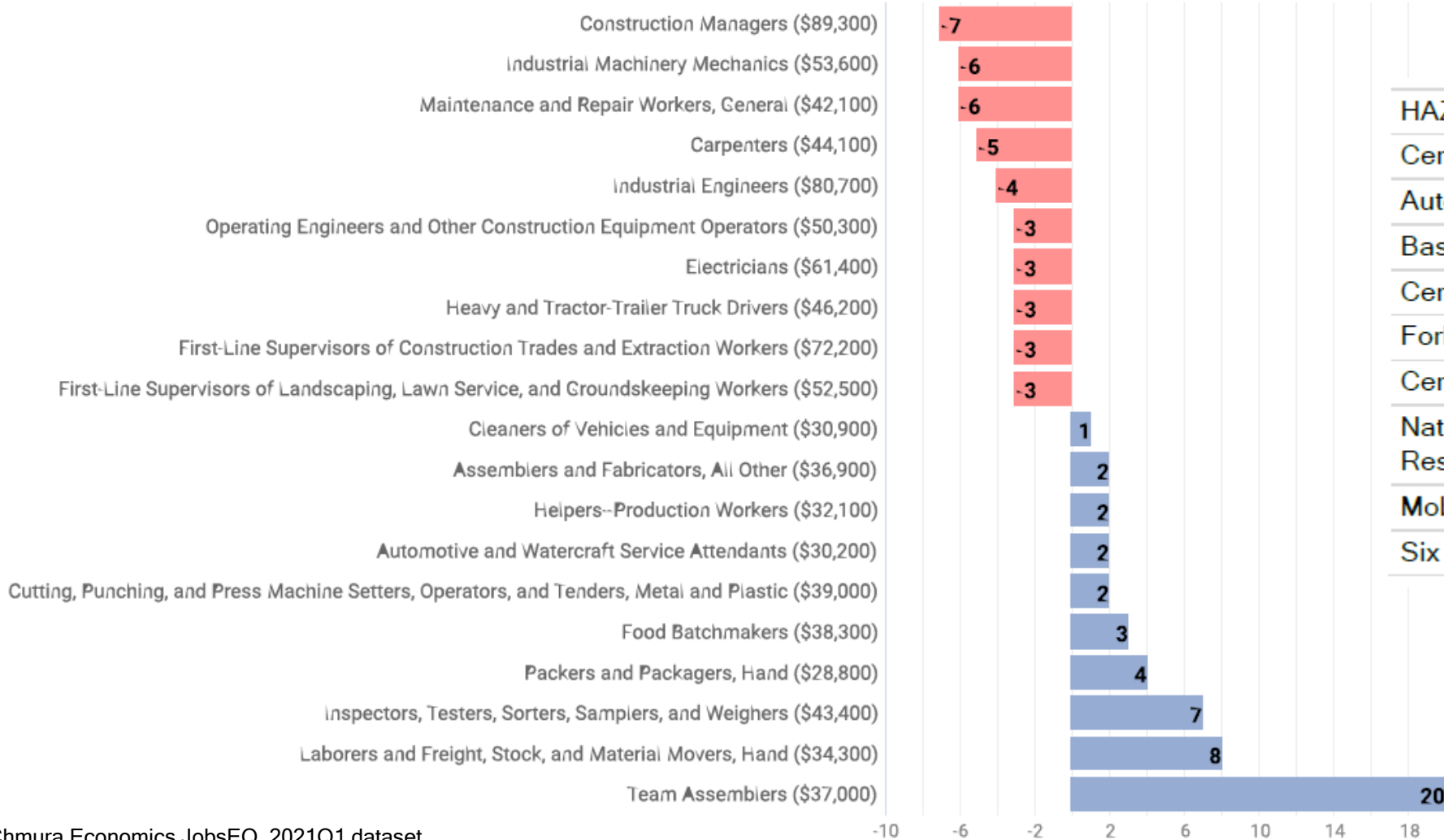
Baseline Worst-Case Scenario 3-Year Forecast for Engineering, Manufacturing, and Technology Careers, Northwest Minnesota 2021Q1



Engineering, Manufacturing, & Technology

Northwest Minnesota

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



Certification Gaps

- HAZMAT
- Certified Welder
- Automotive Service Excellence (ASE) Certification
- Basic Life Support (BLS)
- Certified Quality Auditor (CQA)
- Forklift Certified
- Certified Pesticide Applicator
- National Center for Construction Education & Research Certification (NCCER)
- Mobile Product Specialist (MECP)
- Six Sigma Green Belt Certification (SSGB)



Engineering, Manufacturing, & Technology

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)

Construction Managers (OG)

Cost Estimators (OG, AG)

Logisticians

Tool and Die Makers (AG)

CNC Tool Programmers (OG, AG)

Aircraft Mechanics and Service Technicians

Gateway Occupations

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

Carpenters (OG)

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

Passenger Vehicle Drivers (HD)

Automotive Service Technicians and Mechanics (HS, AG)

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

Origin Occupations

Likely

Laborers and Freight, Stock Movers

Team Assemblers

Construction Laborers

Landscaping and Groundskeeping Workers (HD, AG)

Light Truck Drivers

Aligned

Parking Lot Attendants

Retail Sales Workers

Stockers and Order Fillers

Janitors and Cleaners

Personal Services Managers

Engineering, Manufacturing, & Technology

Northwest Minnesota

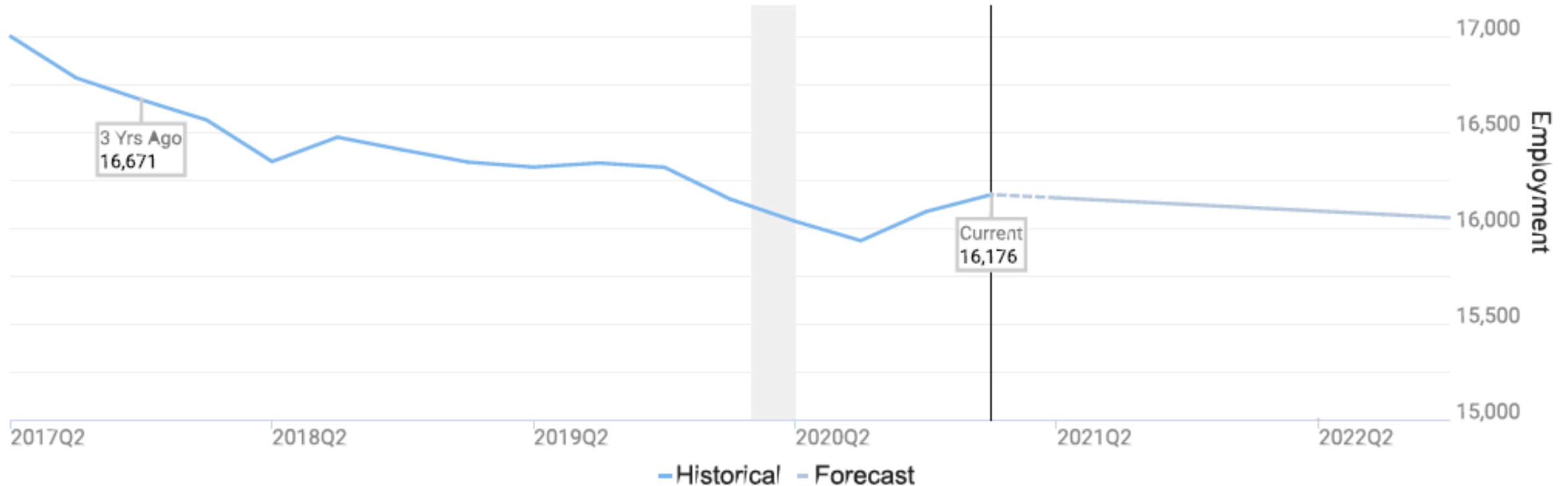
Top Ten Target Occupations in Engineering, Manufacturing, and Technology, Northwest Minnesota 2021Q1

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
11-9021	Construction Managers	677	\$89,300	HW	HS	HD	OG	
13-1051	Cost Estimators	231	\$56,100	HW	HS	HD	OG	AG
13-1081	Logisticians	127	\$59,800	HW	HS	HD		
51-4111	Tool and Die Makers	106	\$56,900	HW	HS	HD		AG
51-9162	Computer Numerically Controlled Tool Programmers	67	\$65,100	HW	HS	HD	OG	AG
49-3011	Aircraft Mechanics and Service Technicians	47	\$53,600	HW	HS	HD		
19-2099	Physical Scientists, All Other	35	\$101,000	HW	HS	HD		AG

Agriculture, Food, & Natural Resources

Northwest Minnesota

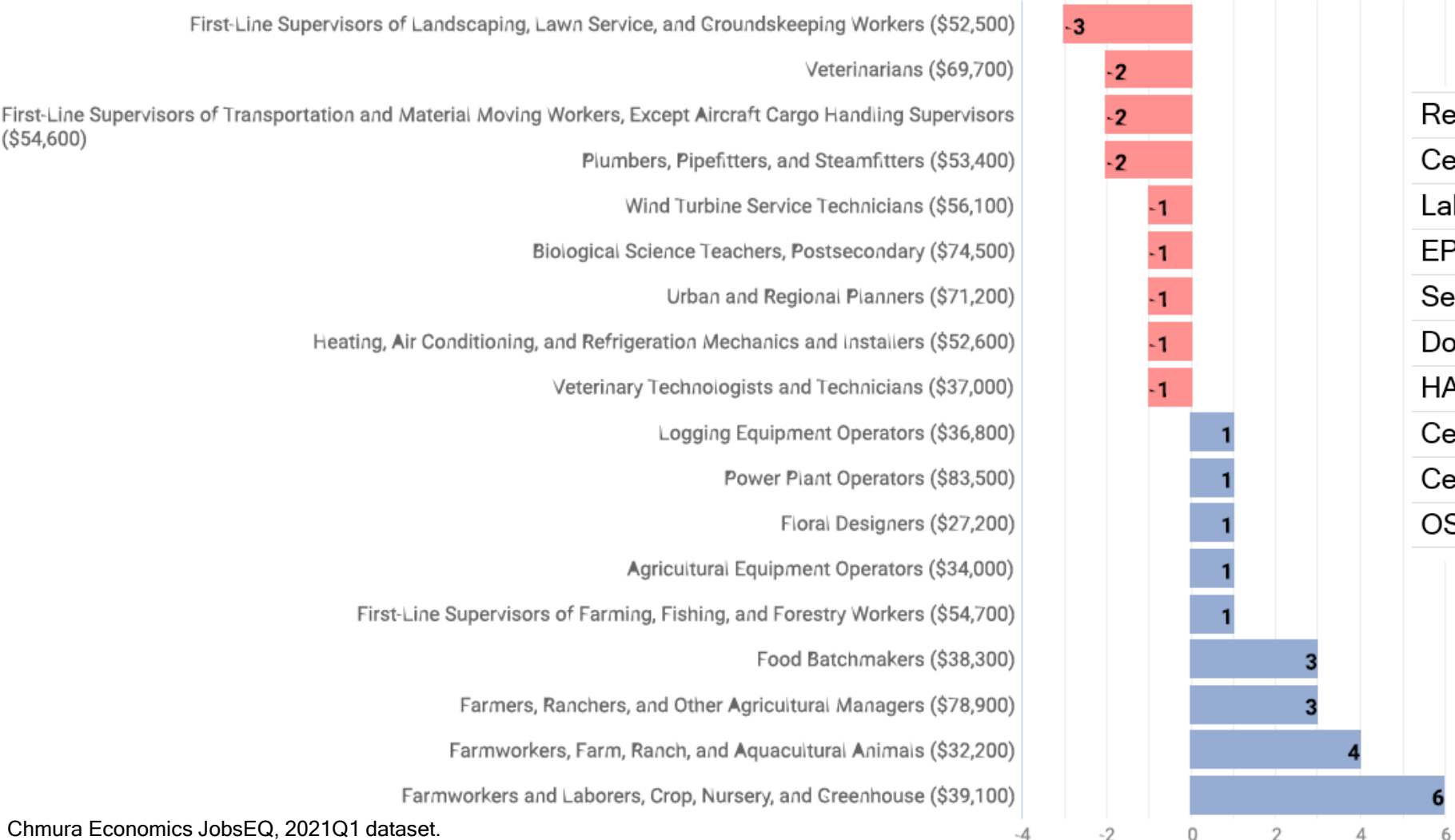
Baseline Worst-Case Scenario 3-Year Forecast for Agriculture, Food, and Natural Resources Careers, Northwest Minnesota 2021Q1



Agriculture, Food, & Natural Resources

Northwest Minnesota

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



Certification Gaps

- Registered Veterinary Technician (RVT)
- Certified Professional Dog Trainer (CPDT)
- Laboratory Animal Technician (LAT)
- EPA Section 608 Certification (EPA 608)
- ServSafe Food Protection Manager Certification
- Doctor of Veterinary Medicine (DVM)
- HAZMAT
- Certified Arborist
- Certified Pesticide Applicator
- OSHA 10



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Agriculture, Food, & Natural Resources

Northwest, 2021Q1

Target Occupations (all HW, HD, HS)
Urban and Regional Planners (OG, AG)
Biological Science Teachers, Postsecondary (OG)
Aircraft Mechanics and Service Technicians
Agricultural inspectors
Wind Turbine Service Technicians (OG)

Gateway Occupations

Farm Equipment Mechanics and Service Technicians
Tree Trimmers and Pruners
Chefs and Head Cooks (HD, AG)
Chemical Technicians (HS)
Forest and Conservation Technicians (HS)
Life, Physical, and Social Science Technicians, All Other (HS)

Origin Occupations

Likely

Landscaping and Groundskeeping Workers (HD, AG)
Farmworkers and Laborers
Food Batchmakers (HD)
Farmworkers, Farm Ranch and Aquacultural Animals
Meat, Poultry, and Fish Cutters and Trimmers (HD)

Aligned

Compliance Officers
Laborers and Freight Movers
Stockers and Order Fillers
Cooks
Customer Service Reps

Agriculture, Food, & Natural Resources

Northwest Minnesota

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

SOC	Occupation	2021Q1 Empl	Mean Ann Wages ²	High-Wage	High-Skill	High-Demand	OG	AG
19-3051	Urban and Regional Planners	61	\$71,200	HW	HS	HD	OG	AG
25-1042	Biological Science Teachers, Postsecondary	48	\$74,500	HW	HS	HD	OG	
49-3011	Aircraft Mechanics and Service Technicians	47	\$53,600	HW	HS	HD		
45-2011	Agricultural Inspectors	21	\$52,600	HW	HS	HD		
49-9081	Wind Turbine Service Technicians	15	\$56,100	HW	HS	HD	OG	

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