

# Workforce Trends

## For Career & Technical Education

### RealTime Talent

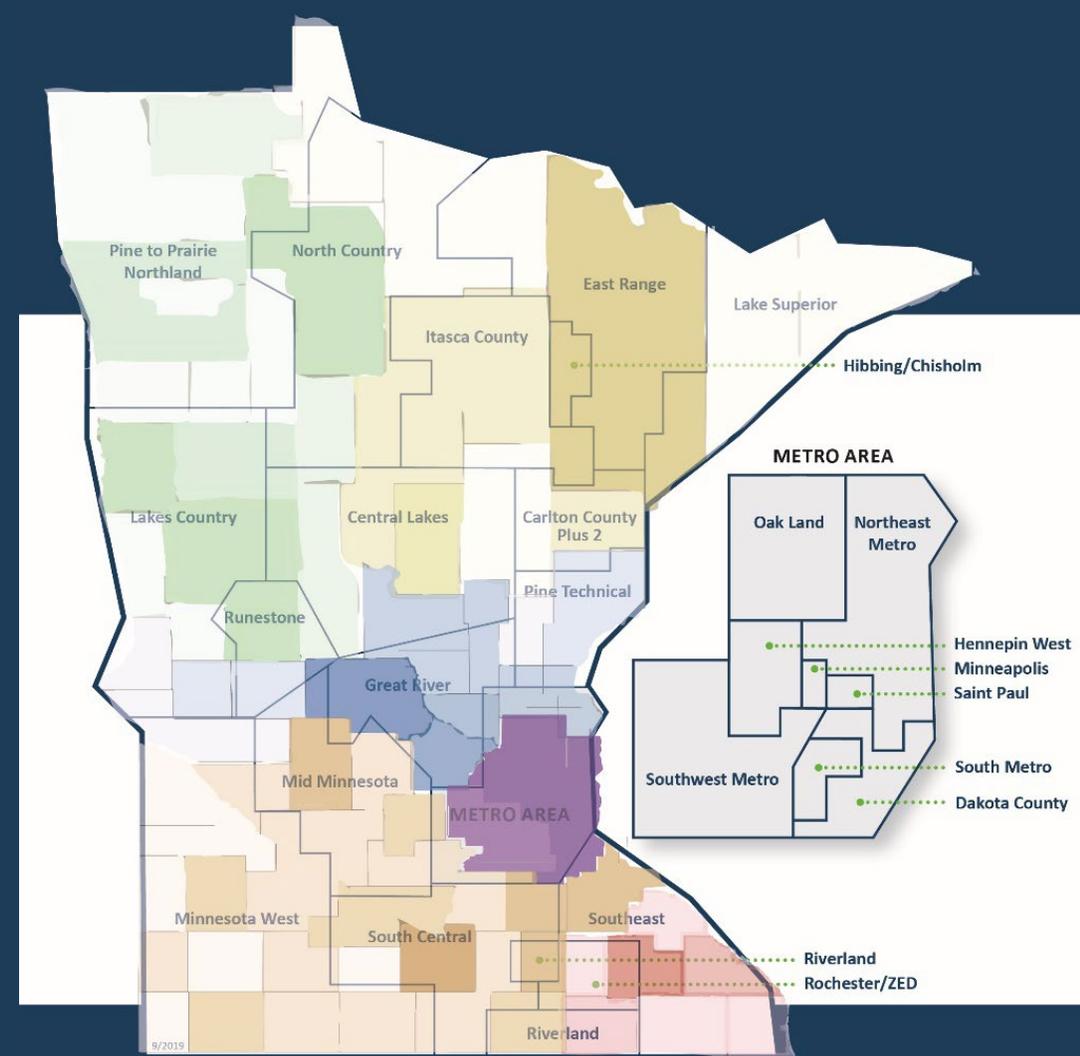
Erin Olson

Senior Director of Strategic Research

Julia Diaz

Research Analyst

December 6<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup> and 15<sup>th</sup> 2023



The contents of this series 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.



**RealTime Talent**

Using data to build the world's best workforce

## Who's in the Virtual "Room"

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

# Workforce Trends

For Career & Technical Education

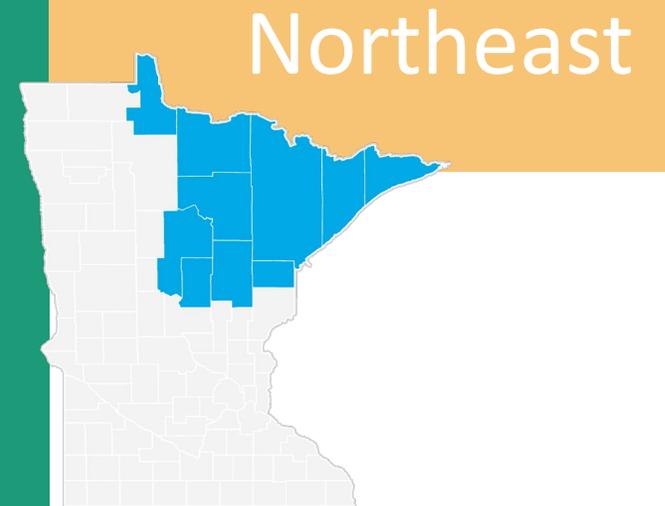
# Northern Minnesota

## RealTime Talent

Erin Olson, Senior Director of Strategic Research

Julia Diaz, Research Analyst

December 11, 2023



**Access the full report here:**

<http://www.realtimetalent.org>

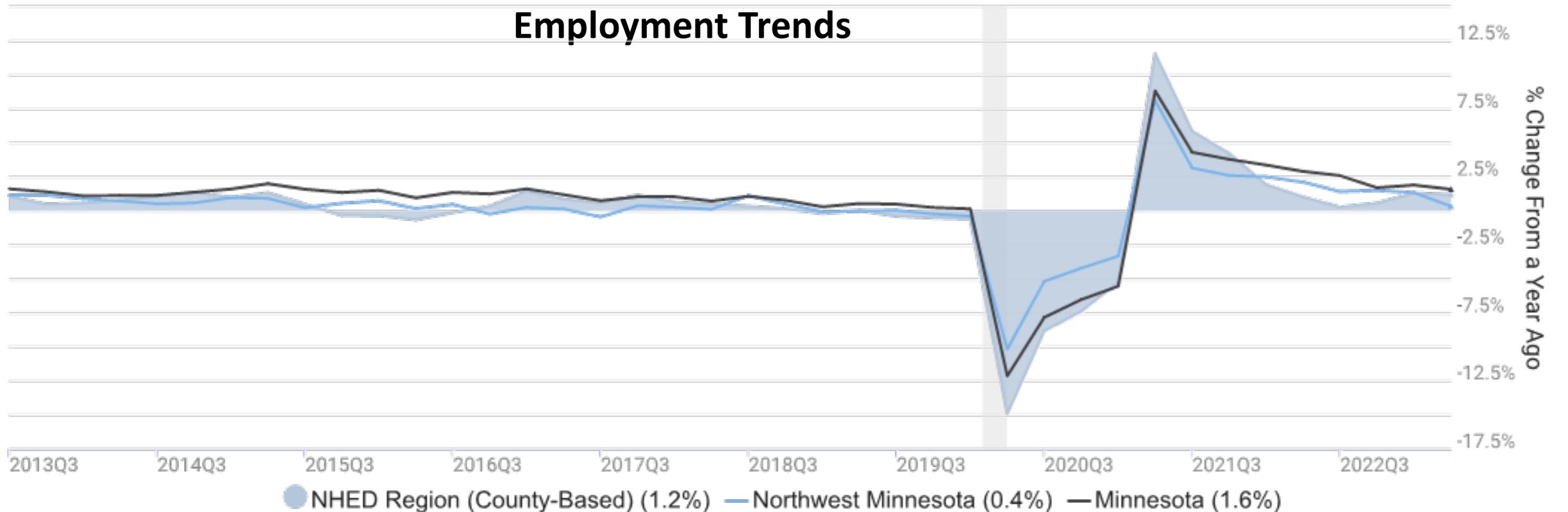
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# Community Profile

Northeast  
Northwest

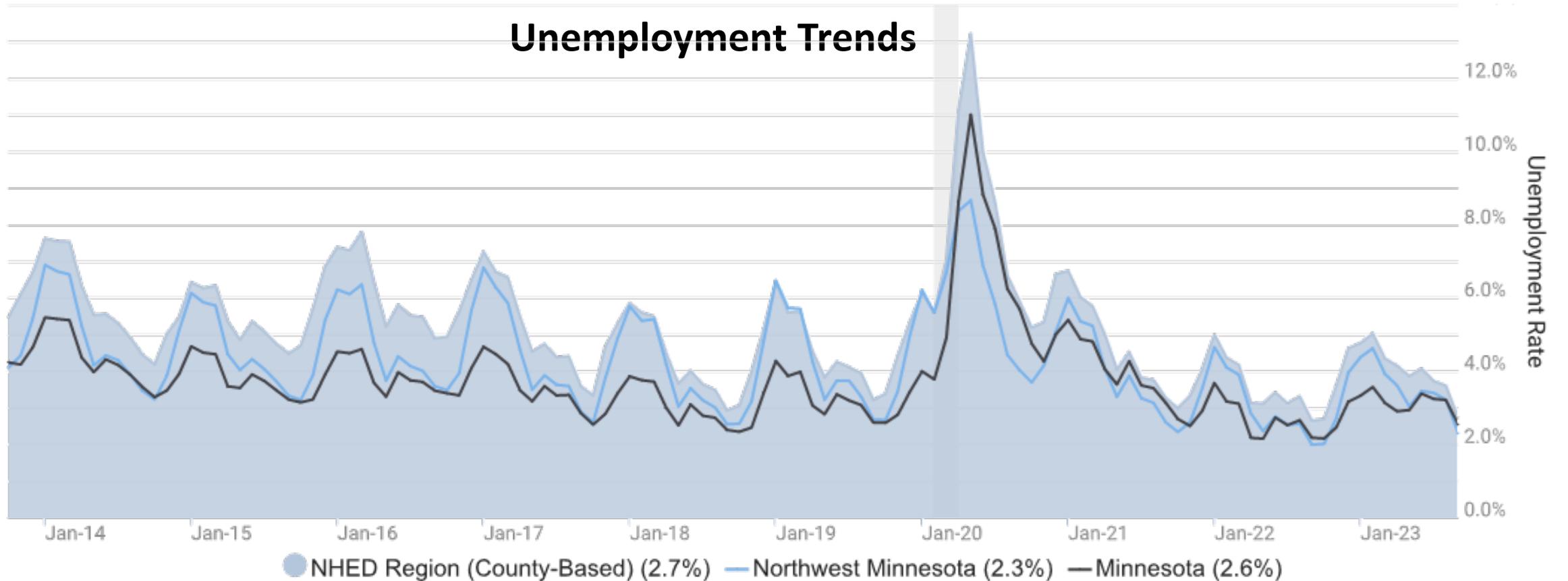
## Employment Trends



In 2022, GDP Expanded by 5.5% in Northeast Minnesota,  
and by 9.2% in Northwest Minnesota

# Community Profile

Northeast  
Northwest

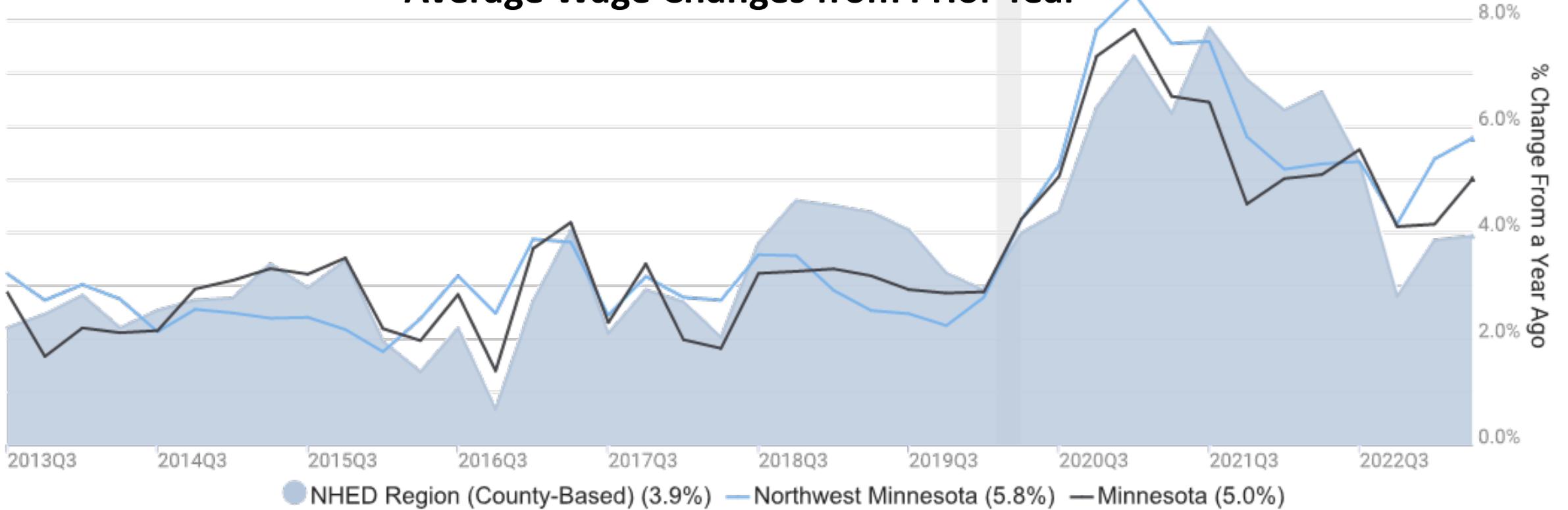


Source: JobsEQ®. Data as of Sep 2023. The shaded areas of the graph represent national recessions.



# Community Profile

## Average Wage Changes from Prior Year



Source: JobsEQ®, Data as of 2023Q2. The shaded areas of the graph represent national recessions.

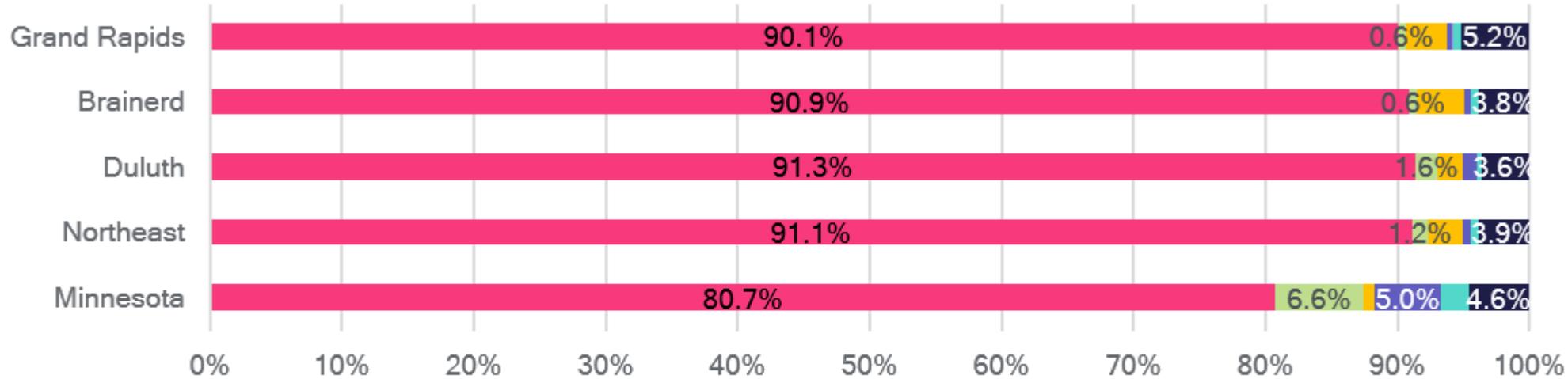
Annual average wages per worker data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2023Q1 with preliminary estimates updated to 2023Q2.



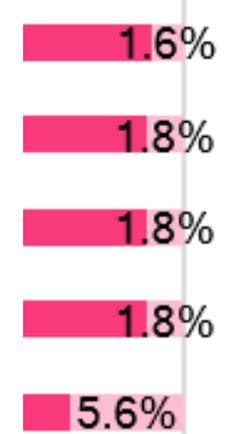
# Population Demographics

## Northeast

Population Race, All Ages



Population of Hispanic/Latinx



- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Some Other Race
- Two or More Races

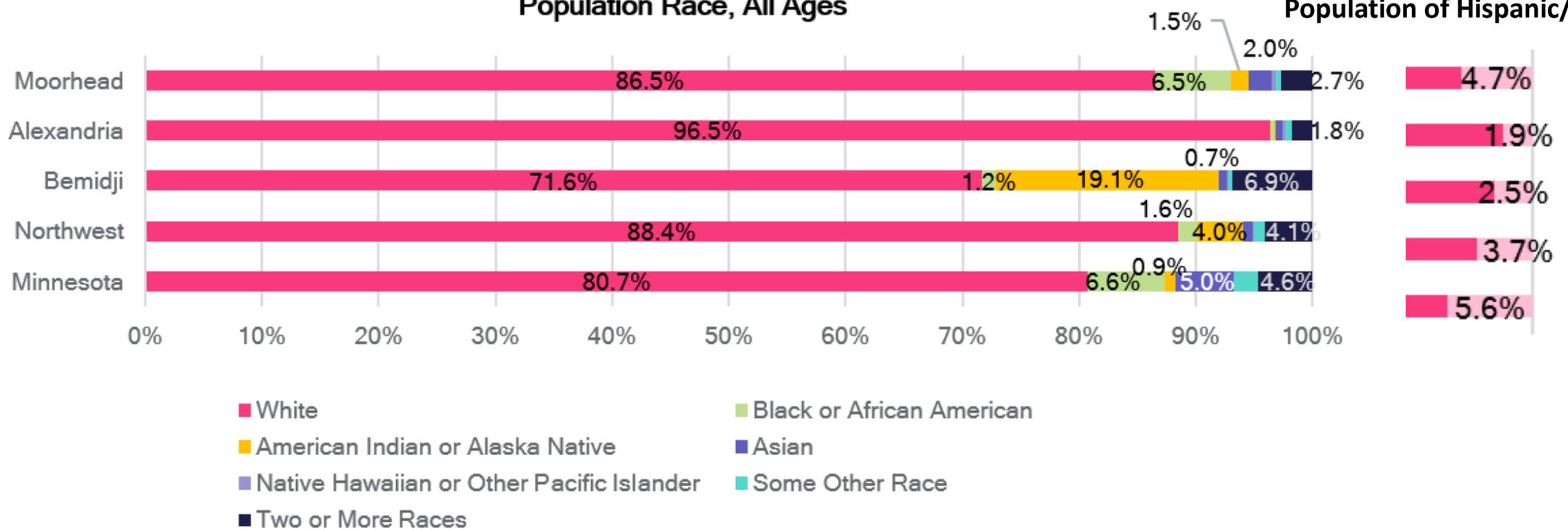


# Population Demographics

## Northwest

Population Race, All Ages

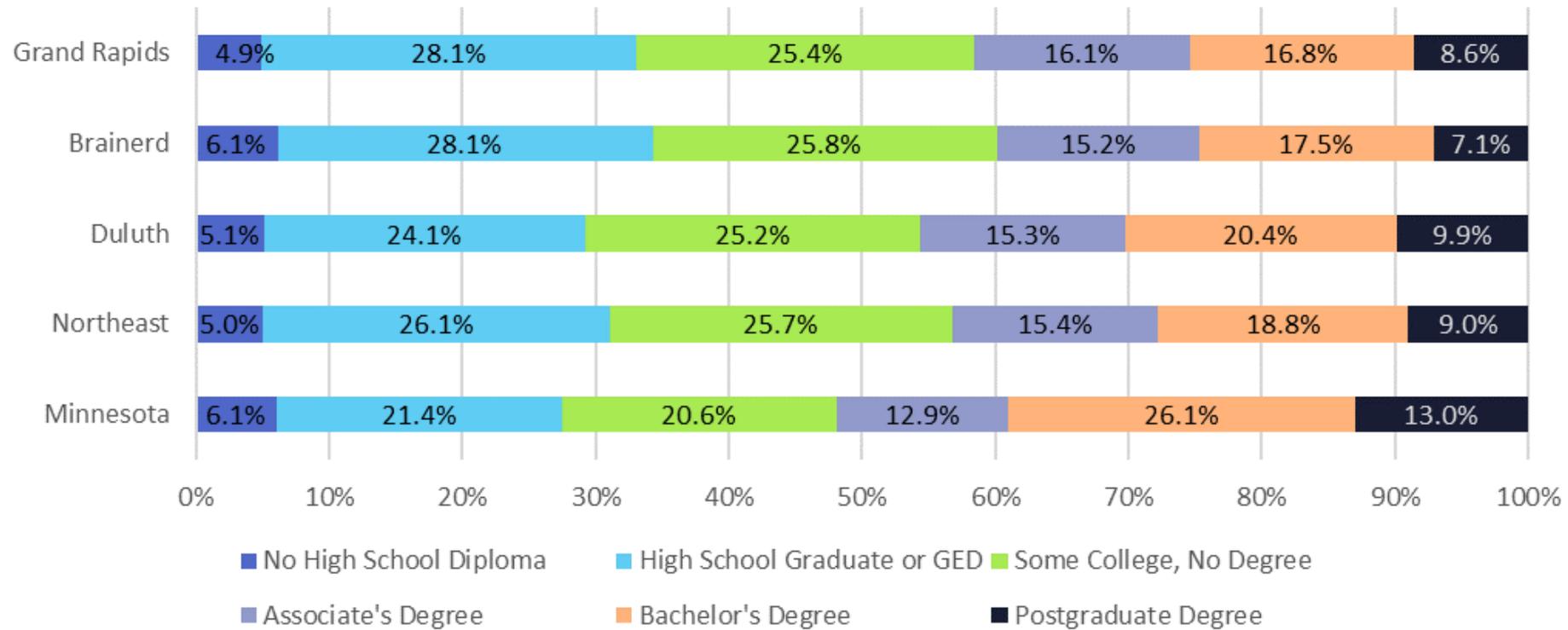
Population of Hispanic/Latinx



# Community Profile

## Northeast Minnesota

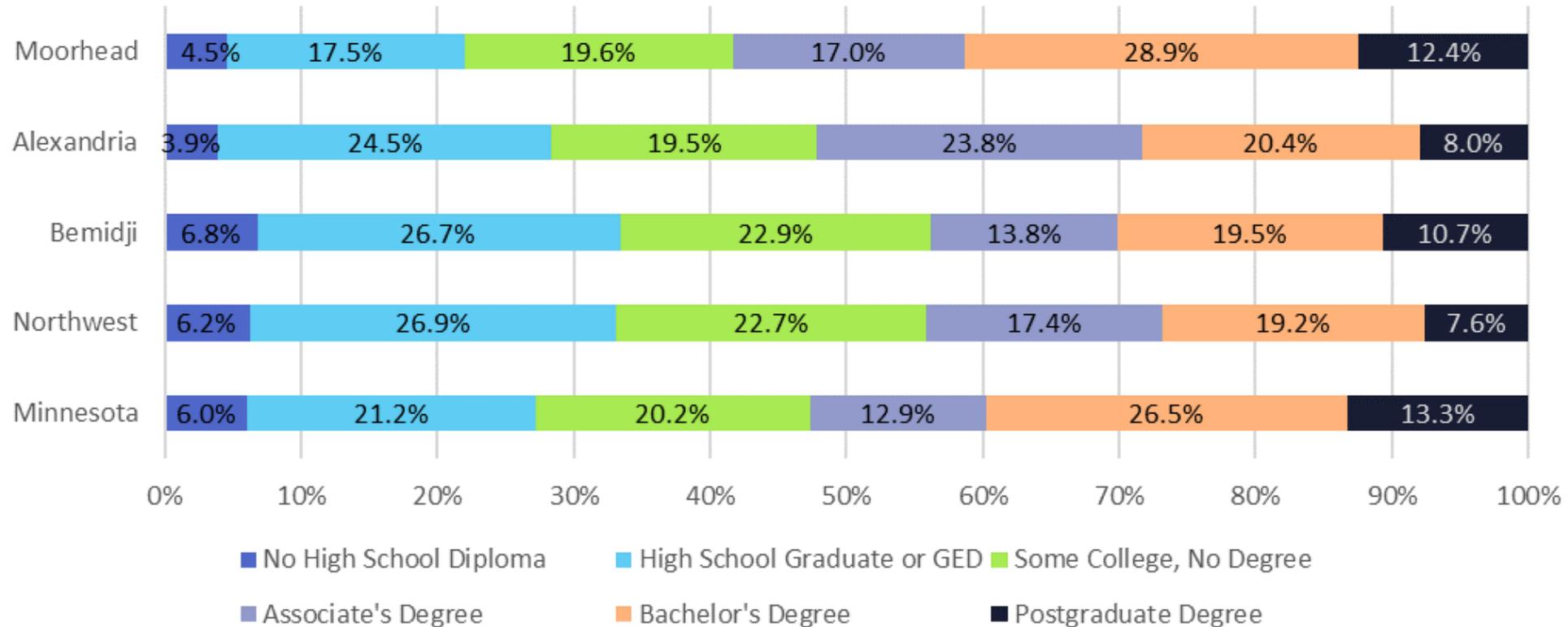
### Educational Attainment, Age 25-64



# Community Profile

## Northwest Minnesota

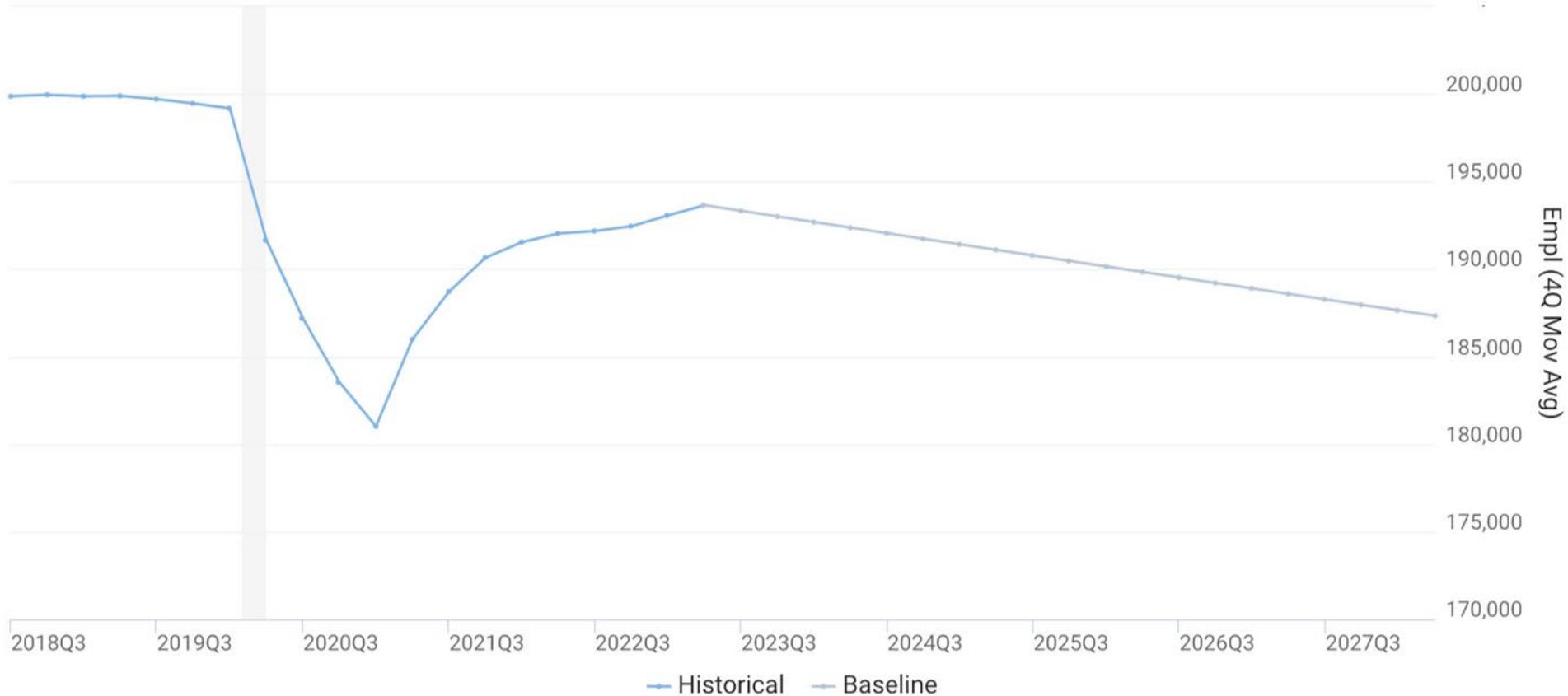
### Educational Attainment, Age 25-64



# Labor Market *Workforce Forecast*

Northeast  
Minnesota

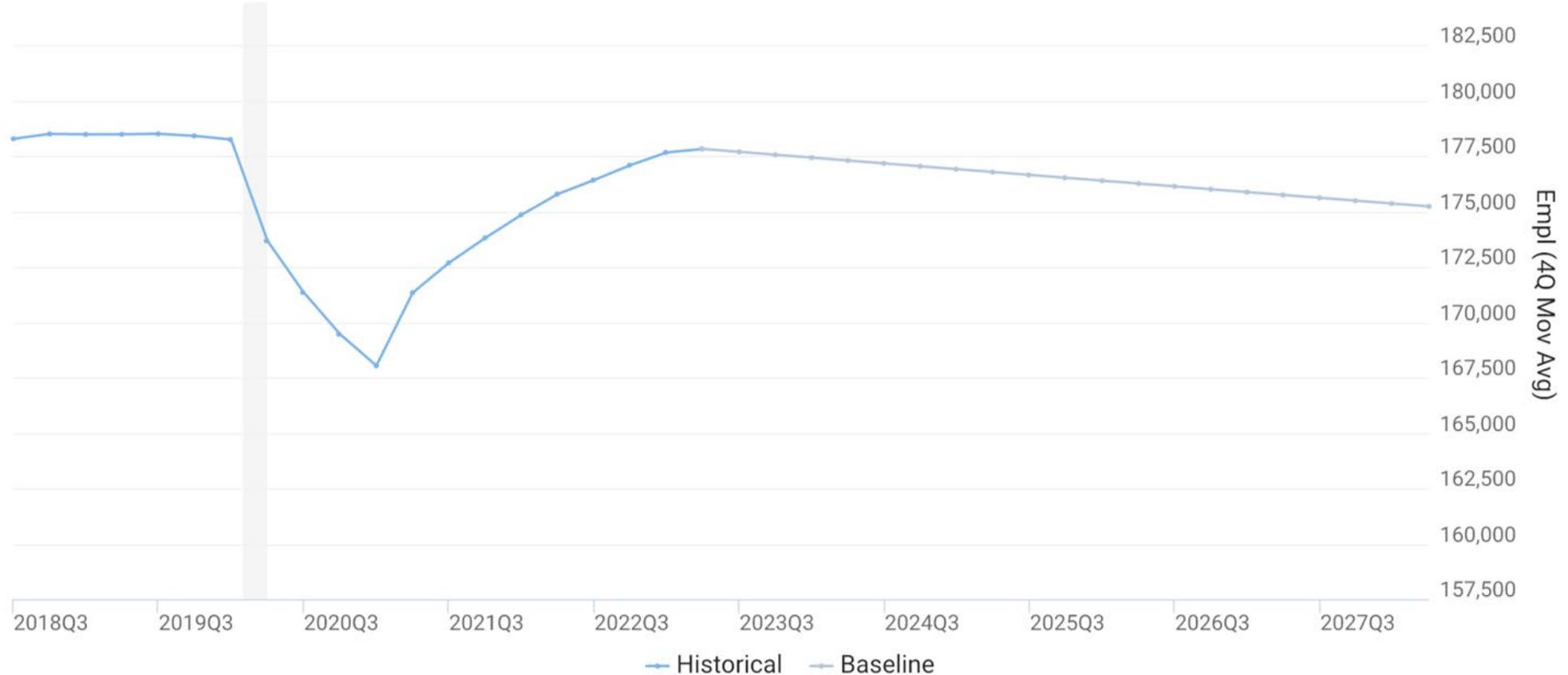
5-Year Forecast in Northeast Minnesota



Employment is forecast to decline  
by -0.7% on average annually

# Labor Market *Workforce Forecast*

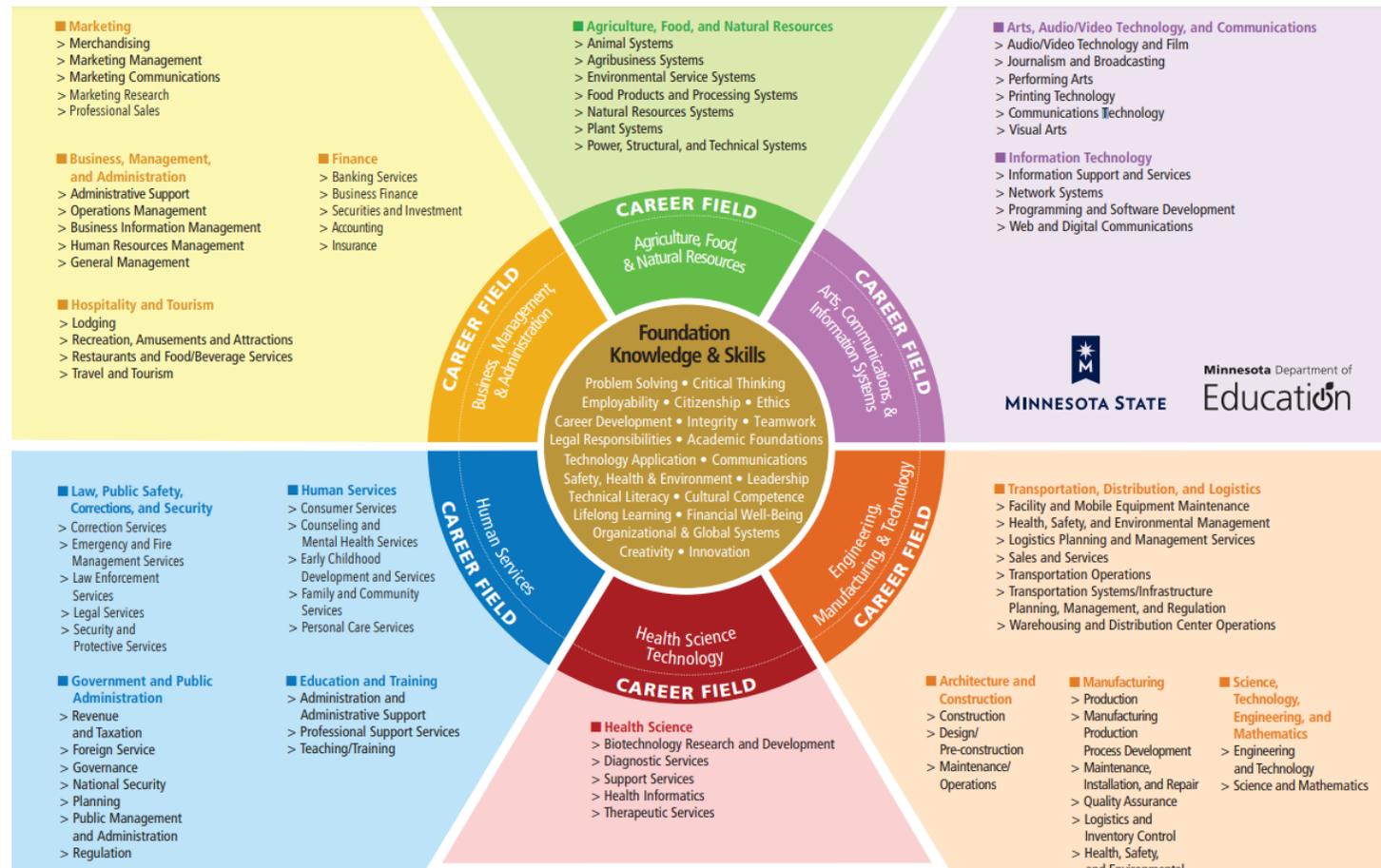
### 5-Year Forecast in Northwest Minnesota



Employment is forecast to decline by -0.3% on average annually

# Polling Question

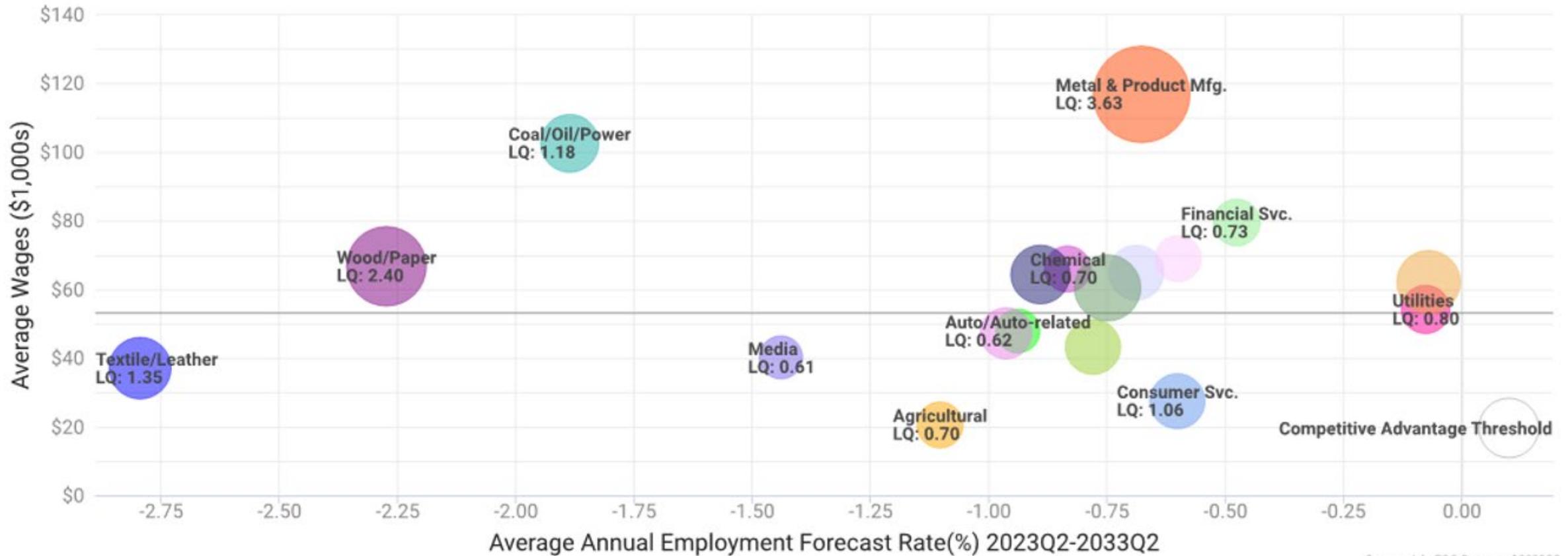
When you think about the current economic situation in your community, what occupation OR career field(s) do you believe are most ripe for creation of a career pathway?



# Labor Market *Workforce Forecast*

Northeast  
Minnesota

Industry Clusters for Northeast Minnesota as of 2023Q2

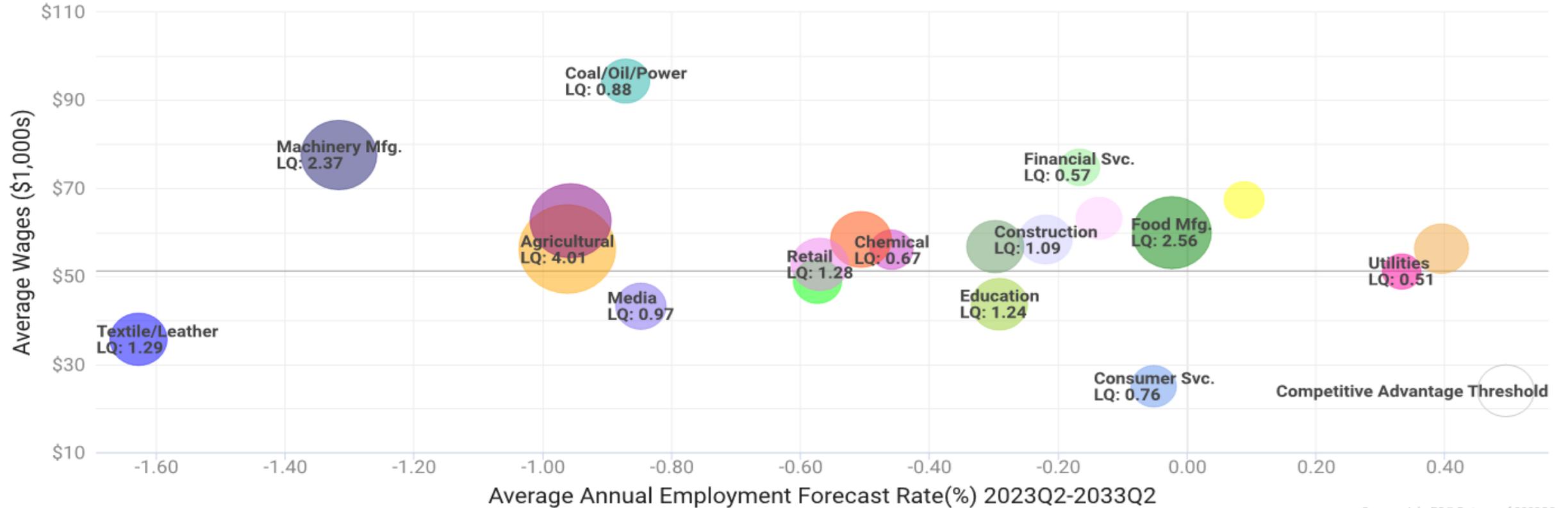


Source: JobsEQ®, Data as of 2023Q2

# Labor Market *Workforce Forecast*

Northwest  
Minnesota

## Industry Clusters for Northwest Minnesota as of 2023Q2



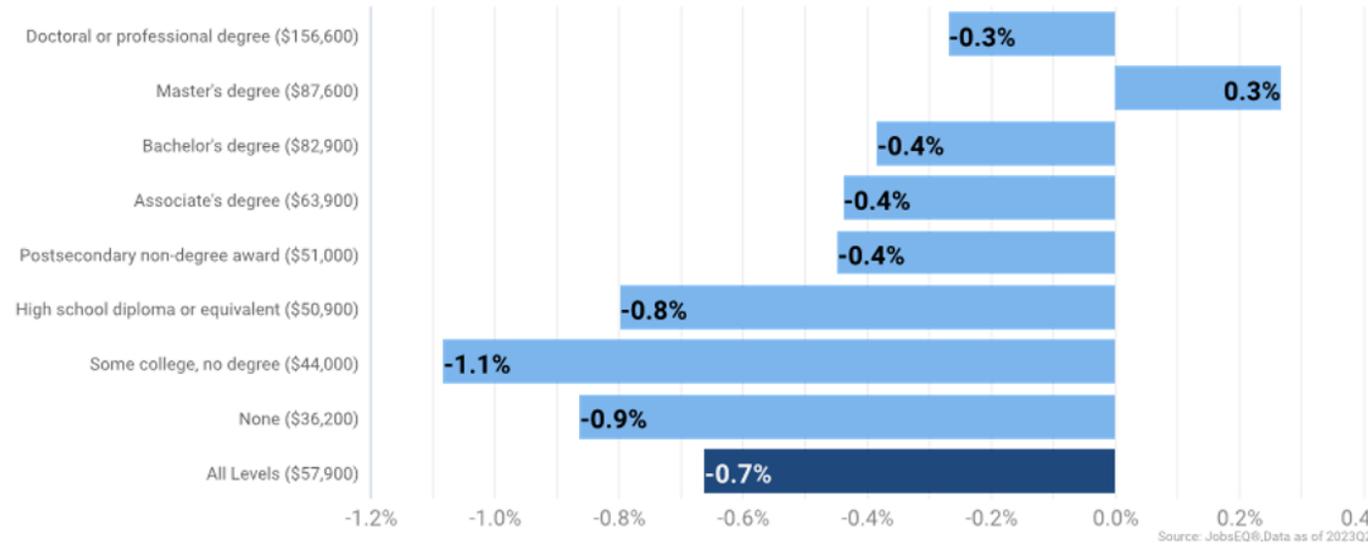
Source: JobsEQ®, Data as of 2023Q2

# Quantifying Talent Shortages

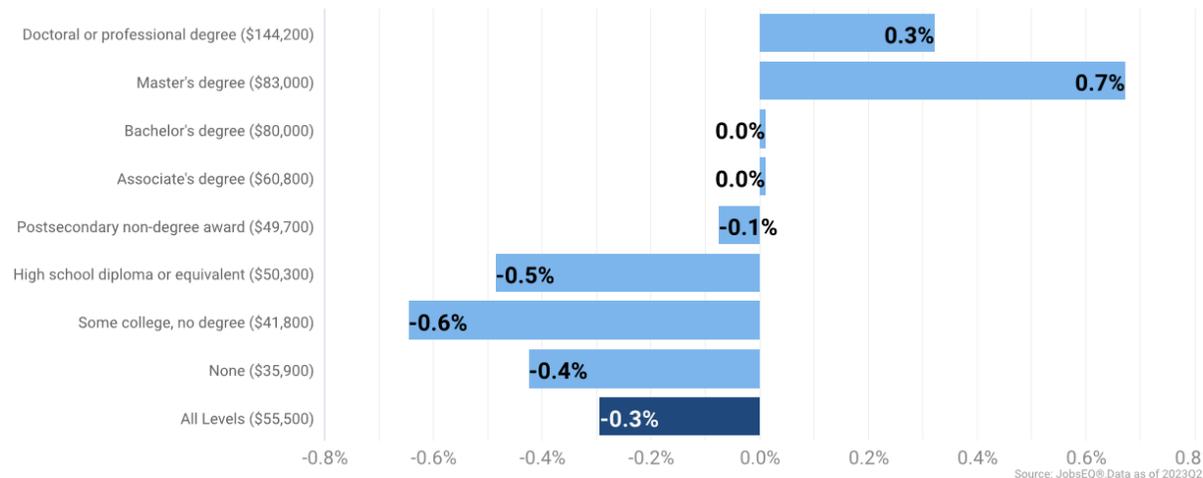
## Forecast

Northeast  
Northwest

Annual Average Projected Job Growth by Training Required for Northeast Minnesota, 2023Q2



Annual Average Projected Job Growth by Training Required for Northwest Minnesota, 2023Q2



Northeast  
unemployment rate:

**2.7%**

Northwest  
unemployment rate:

**3.2%**

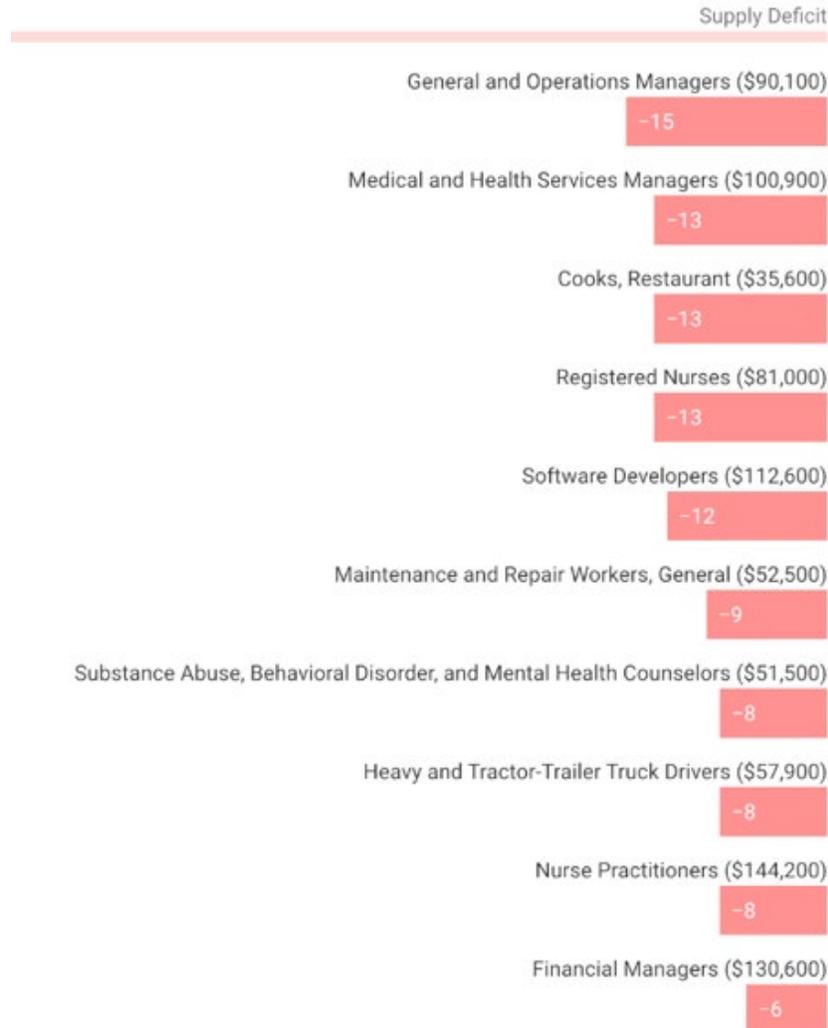
\*As of 2023Q2



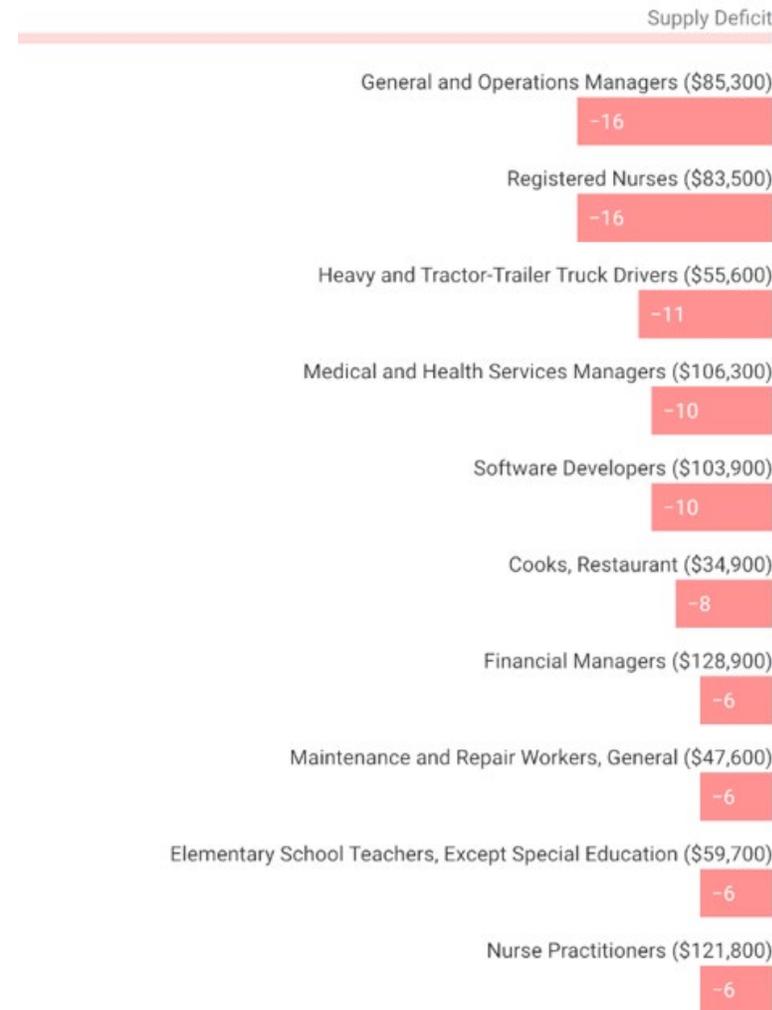
# Talent Shortage *Occupation Gaps*

Northeast  
Northwest

## Northeast



## Northwest



## New in 2023

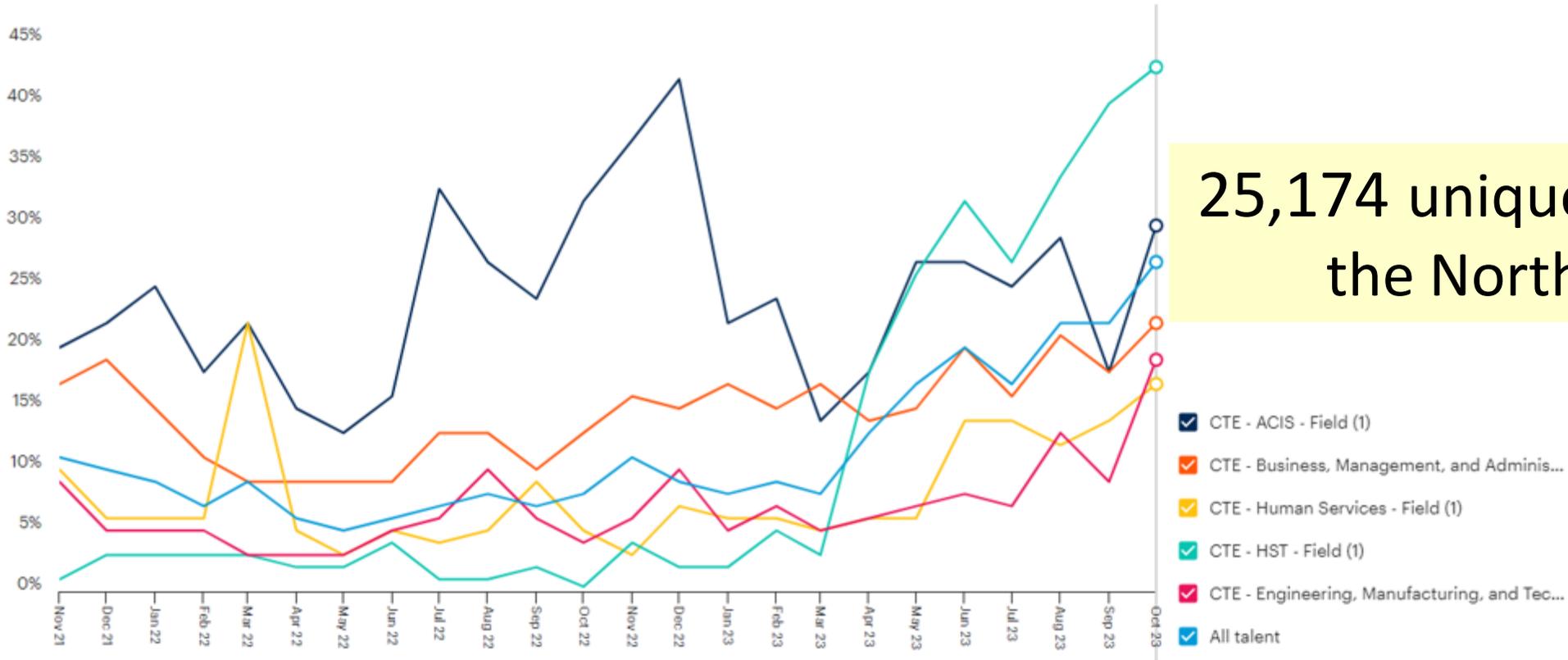
- In both regions, General & Operations Manager is now the top occupation forecasting shortages.
- Eight out of the ten occupations forecasting shortages in the NW are Target or Gateway occupations



# Emerging Career Paths

## Northeast Minnesota

Total Remote Job Postings Advertised Monthly in Northeast Minnesota, October 2022-2023



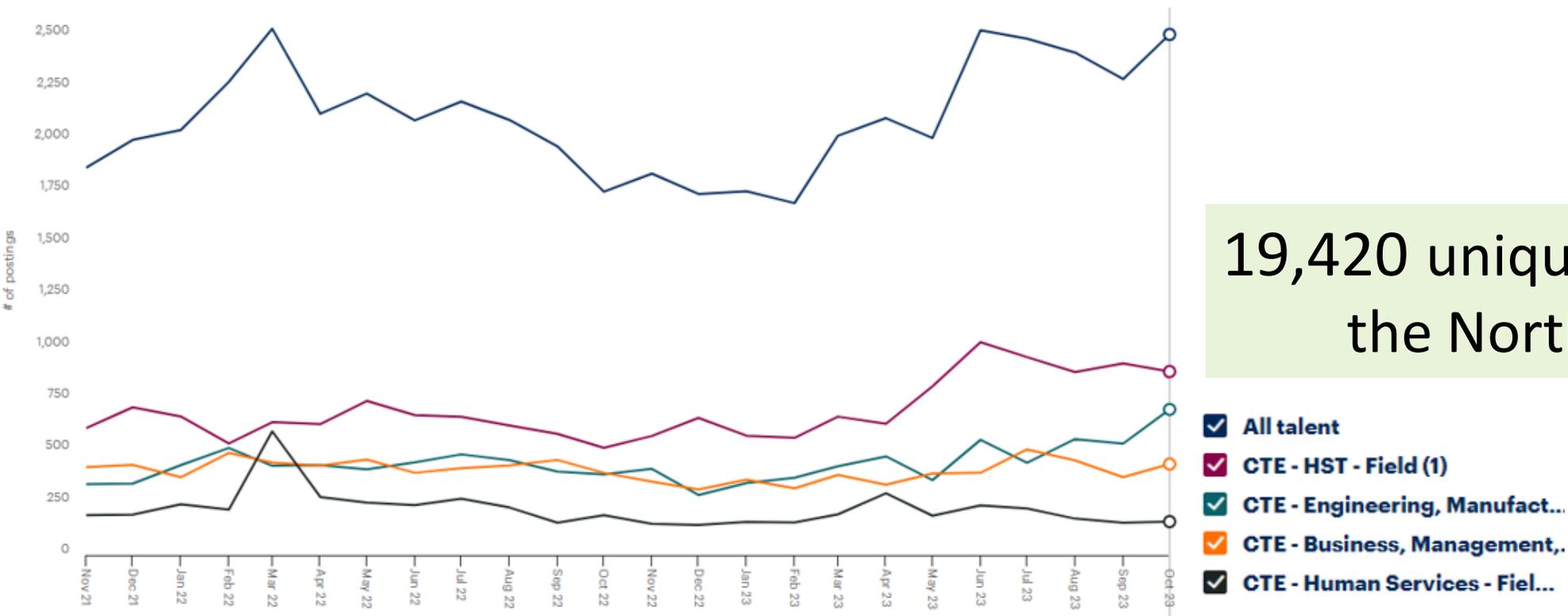
25,174 unique job postings in the Northeast (+3%)

SOURCE: Gartner TalentNeuron Plan accessed 11/1/2023

# Emerging Career Paths

## Northwest Minnesota

Total Remote Job Postings Advertised Monthly in Northwest Minnesota, October 2022-2023



19,420 unique job postings in the Northwest (-6%)

SOURCE: Gartner TalentNeuron Plan accessed 11/6/2023

# Career Fields

## Northeast Minnesota

### CTE Field Employment and Wages in Northeast Minnesota, 2023Q2<sup>1</sup>

CTE Field (occupation overlap exists, will not sum)	Current 2023Q2 Estimates						5-Year History		
	2023Q2 Empl	2023 Avg Entry-Level Wages	2023 Avg Ann Wages	LQ	Unempl	Unempl Rate	Online Job Ads 10/1/2023- 11/1/2023 <sup>3</sup>	Empl Change	Ann %
Health Science Technology	22,619	\$37,900	\$80,700	1.28	491	2.2%	2,676	-1,649	-1.4%
Human Services	34,287	\$39,900	\$54,200	1.14	1,011	2.9%	1,587	-690	-0.4%
Arts, Communications, and Information Systems	5,548	\$51,000	\$77,900	0.62	168	3.0%	369	-174	-0.6%
Business, Management, and Administration	83,421	\$33,600	\$50,500	0.97	3,772	4.4%	3,943	-2,598	-0.6%
Engineering, Manufacturing, and Technology	44,650	\$43,700	\$60,500	0.94	2,069	4.4%	1,574	-90	0.0%
Agriculture, Food, and Natural Resources*	9,460	\$41,900	\$58,800	0.94	353	3.6%	357	-22	0.0%
<b>Total - All Occupations</b>	<b>193,658</b>	<b>\$30,400</b>	<b>\$57,900</b>	<b>1.00</b>	<b>7,621</b>	<b>3.9%</b>	<b>10,245</b>	<b>-5,441</b>	<b>-0.6%</b>

Data as of 2023Q2 unless noted otherwise

Note: Figures may not sum due to rounding. Employment by place of work.

1. Data based on a four-quarter moving average unless noted otherwise.

2. Wage data represent the average for all Covered Employment

3. Data represent found online ads active within the last thirty days in the selected region. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list). Ad counts for ZCTA-based regions are estimates.

## CTE Field Employment and Wages in Northwest Minnesota, 2023Q2<sup>1</sup>

CTE Field (occupation overlap exists, will not sum)	Current 2023Q2 Estimates							5-Year History	
	2023Q2 Empl	2023 Avg Entry-Level Wages	2023 Avg Ann Wages	LQ	Unempl	Unempl Rate	Online Job Ads	Empl Change	Ann %
							10/10/2023- 11/10/2023 <sup>3</sup>		
<b>Health Science Technology</b>	16,821	\$36,800	\$77,200	1.04	398	2.0%	2,135	-431	-0.5%
<b>Human Services</b>	29,641	\$39,900	\$53,900	1.07	824	2.5%	1,893	311	0.2%
<b>Arts, Communications, and Information Systems</b>	4,823	\$48,200	\$72,100	0.59	135	2.4%	215	-10	0.0%
<b>Business, Management, and Administration</b>	69,895	\$33,900	\$51,300	0.89	3,059	3.6%	3,351	123	0.0%
<b>Engineering, Manufacturing, and Technology</b>	47,770	\$40,000	\$53,400	1.10	2,205	3.7%	1,839	1,328	0.6%
<b>Agriculture, Food, and Natural Resources*</b>	15,679	\$37,300	\$53,900	1.69	502	2.9%	347	-73	-0.1%
<b>Total - All Occupations</b>	<b>177,841</b>	<b>\$30,800</b>	<b>\$55,600</b>	<b>1.00</b>	<b>6,859</b>	<b>3.2%</b>	<b>9,584</b>	<b>691</b>	<b>0.1%</b>

Data as of 2023Q2 unless noted otherwise

Note: Figures may not sum due to rounding. Employment by place of work.

1. Data based on a four-quarter moving average unless noted otherwise.

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# Zero Unemployment

# Northeast Minnesota

SOC	Occupation	Current						5-Year History		5-Year Forecast				
		Empl	Mean Ann Wages <sup>2</sup>	LQ	Unempl	Unempl Rate	30-Day Online Job Ads <sup>3</sup>	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Change	Ann % Change
11-3012	Administrative Services Managers	306	\$116,600	1.06	0	n/a	1	57	4.2%	117	49	75	-7	-0.5%
21-2021	Directors, Religious Activities and Education	230	\$61,500	1.18	0	n/a	n/a	-30	-2.4%	109	47	70	-8	-0.7%
49-9043	Maintenance Workers, Machinery	176	\$61,000	2.31	0	n/a	2	-11	-1.2%	83	42	48	-6	-0.7%
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	154	\$63,300	3.58	0	n/a	n/a	-13	-1.6%	73	23	54	-4	-0.5%
29-1215	Family Medicine Physicians	138	\$306,100	1.06	0	n/a	54	-9	-1.2%	16	13	6	-3	-0.5%
53-4031	Railroad Conductors and Yardmasters	128	\$72,000	2.67	0	n/a	2	-8	-1.2%	48	14	39	-5	-0.8%
29-1216	General Internal Medicine Physicians	127	\$295,500	1.41	0	n/a	10	4	0.7%	13	12	6	-4	-0.6%
19-3033	Clinical and Counseling Psychologists	115	\$90,100	1.36	0	n/a	10	7	1.3%	40	18	20	3	0.5%
19-2041	Environmental Scientists and Specialists, Including Health	106	\$77,900	1.17	0	n/a	6	-4	-0.8%	44	11	36	-3	-0.6%
29-1131	Veterinarians	106	\$104,300	0.99	0	n/a	3	10	2.0%	24	11	7	6	1.1%
13-2081	Tax Examiners and Collectors, and Revenue Agents	90	\$60,900	1.44	0	n/a	26	0	0.0%	35	18	20	-3	-0.7%
11-1031	Legislators	84	\$63,000	1.69	0	n/a	n/a	0	0.1%	30	13	20	-2	-0.5%
19-3034	School Psychologists	77	\$79,900	1.05	0	n/a	17	-26	-5.8%	26	8	20	-2	-0.5%
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	75	\$47,700	1.08	0	n/a	n/a	-4	-1.1%	30	12	24	-5	-1.5%
00-0000	<b>Total - All Occupations</b>	<b>192,894</b>	<b>\$52,500</b>	<b>1.00</b>	<b>6,119</b>	<b>3.2%</b>	<b>11,793</b>	<b>-5,395</b>	<b>-0.6%</b>	<b>106,416</b>	<b>42,501</b>	<b>63,932</b>	<b>-17</b>	<b>0.0%</b>

# Zero Unemployment

# Northwest Minnesota

SOC	Occupation	Current						5-Year History		5-Year Forecast				
		Empl	Mean Ann Wages <sup>2</sup>	LQ	Unempl	Unempl Rate	30-Day Online Job Ads <sup>3</sup>	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Change	Ann % Change
21-2021	Directors, Religious Activities and Education	302	\$58,900	1.68	0	n/a	2	-15	-1.0%	153	63	94	-4	-0.2%
11-3012	Administrative Services Managers	248	\$104,900	0.94	0	n/a	n/a	47	4.3%	102	41	62	-1	-0.1%
19-1042	Medical Scientists, Except Epidemiologists	155	\$74,300	1.23	0	n/a	0	-9	-1.1%	52	12	37	4	0.5%
49-9043	Maintenance Workers, Machinery	103	\$59,000	1.47	0	n/a	n/a	-4	-0.8%	53	25	29	-1	-0.2%
29-1215	Family Medicine Physicians	94	\$290,300	0.78	0	n/a	17	-15	-3.0%	14	9	4	0	0.1%
19-3034	School Psychologists	93	\$81,800	1.40	0	n/a	13	-6	-1.3%	34	10	25	0	-0.1%
53-4011	Locomotive Engineers	85	\$75,100	2.24	0	n/a	1	-19	-3.9%	36	12	26	-2	-0.4%
29-1216	General Internal Medicine Physicians	83	\$276,700	1.01	0	n/a	7	-2	-0.4%	11	8	4	0	-0.1%
29-1131	Veterinarians	82	\$102,800	0.83	0	n/a	2	8	2.2%	20	9	6	6	1.5%
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	82	\$42,900	1.28	0	n/a	n/a	-15	-3.3%	39	14	27	-2	-0.5%
29-1031	Dietitians and Nutritionists	77	\$68,400	0.90	0	n/a	11	3	0.7%	26	13	12	0	0.0%
00-0000	<b>Total - All Occupations</b>	<b>177,841</b>	<b>\$55,600</b>	<b>1.00</b>	<b>6,859</b>	<b>3.2%</b>	<b>9,584</b>	<b>691</b>	<b>0.1%</b>	<b>99,150</b>	<b>43,123</b>	<b>58,679</b>	<b>-2,651</b>	<b>-0.3%</b>



# 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* (\$45,000 – 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* (<\$45,000/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

# Polling Question – Choose A Field!

Which ONE career field would you like to learn more about in further detail today?

The top 3 selections by the group will be highlighted now through the end of today's presentation.

(all fields are detailed in the full report)

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

# Health Science Technology

## *Summary Statistics*

Northeast

Northwest

### Northeast

- **2023Q2 Employment:** 22,619 (11.7% of NE employment)
- **Average Wage:** \$80,700 (compared to \$57,900 across all occupations)
- **Location Quotient:** 1.28
- **2023Q2 Unemployment:** 491 (2.2% rate)
- **30-Day Job Ads:** 3,101\*
- **5-Year Ann Avg Employment Change:** -1.4%
- **Forecast 5-Year Ann Employment Change:** -0.1%
- **Total 5-Year Demand:** 9,113

### Northwest

- **2023Q2 Employment:** 16,821 (9.5% of NW employment)
- **Average Wage:** \$77,200 (compared to \$55,600 across all occupations)
- **Location Quotient:** 1.04
- **2023Q2 Unemployment:** 398 (2.0% rate)
- **30-Day Job Ads:** 2,160\*
- **5-Year Ann Avg Employment Change:** -0.5%
- **Forecast 5-Year Ann Employment Change:** 0.3%
- **Total 5-Year Demand:** 7,572



# Health Science Technology

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

- Medical & Health Services Managers
- Registered Nurses
- Nurse Practitioners
- Nursing Assistants
- Medical Assistants

#### Top Award Gaps

- Medical Secretaries & Administrative Assistants
- Medical Assistants
- Pharmacists
- Physicians, All Other
- Diagnostic Medical Sonographers

### Northwest

#### Top Occupation Gaps

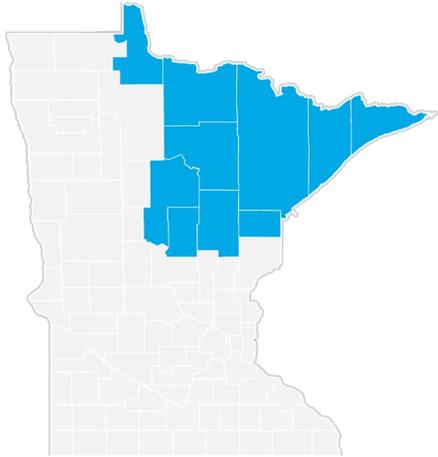
- Registered Nurses
- Medical & Health Services Managers
- Nurse Practitioners
- Licensed Practical & Licensed Vocational Nurses
- Physician Assistants

#### Top Award Gaps

- Medical Assistants
- Nurse Practitioners
- Pharmacists
- Physical Therapists
- Occupational Therapists

# Health Science Technology

## Northeast



### Target Occupations (All HW, HD, HS)

Registered Nurses (OG)

Medical & Health Services Managers (OG)

Pharmacists (OG, AG)

Radiologic Technicians (OG)

Physicians (AG)

### Gateway Occupations (All HD, OG)

Licensed Practical Nurses (HS, HD, OG)

Medical Secretaries (HD, OG, AG)

Medical Assistants (HS, HD, OG, AG)

Dental Assistants (HS, HD, OG)

Medical Records Specialists (HS, HD, OG)

### Origin Occupations

Nursing Assistants (HS, HD, OG)

Home Health Aides (HD)

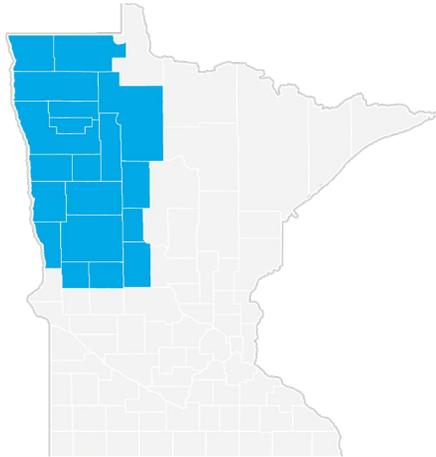
Pharmacy Technicians (OG, AG)

Healthcare Support Workers (HD, AG)

Psychiatric Technicians (HS, OG, AG)

# Health Science Technology

## Northwest



### Target Occupations (All HW, HD, HS, OG)

Registered Nurses  
Medical & Health Services Managers  
Pharmacists (AG)  
Dental Hygienists  
Physical Therapists (AG)

### Gateway Occupations (All HS, OG)

Licensed Practical Nurses  
Dental Assistants (HD)  
Medical Records Specialists (HD)  
Ophthalmic Medical Technicians (HD)  
Therapists, All Other (HD, AG)

### Origin Occupations

Nursing Assistants (HS, OG, AG)  
Home Health Aides (HD)  
Medical Secretaries & Administrative Assistants (HD, OG)  
Pharmacy Technicians (OG, AG)  
Medical Assistants (HS, HD, OG, AG)

# Health Science Technology

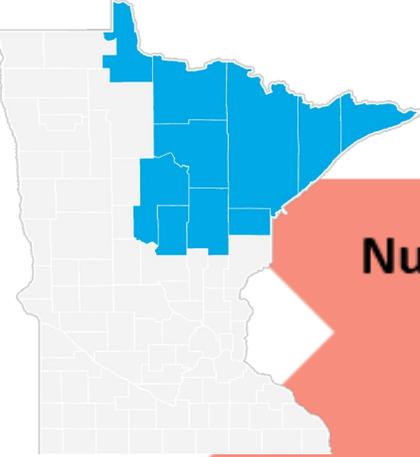
Northeast  
Northwest

## Northeast Region Featured Pathway

Origin

Gateway

Target



Nursing Assistants  
(HD, AG)

Licensed Practical  
and Licensed  
Vocational Nurses  
(HS, HD, OG)

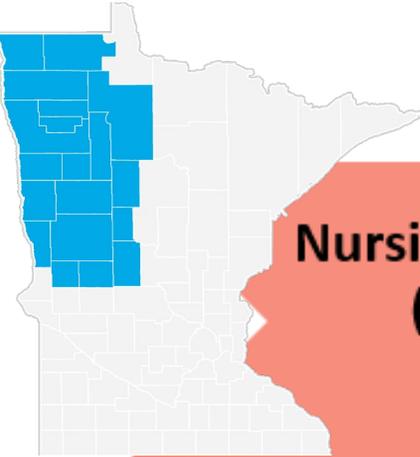
Registered Nurses  
(HW, HS, HD, OG)

## Northwest Region Featured Pathway

Origin

Gateway

Target



Nursing Assistants  
(HD, AG)

Licensed Practical  
and Licensed  
Vocational Nurses  
(HS, HD, OG)

Registered Nurses  
(HW, HS, HD, OG)

# Human Services

## *Summary Statistics*

Northeast

Northwest

### Northeast

- **2023Q2 Employment:** 34,287 (17.8% of NE employment)
- **Average Wage:** \$54,200 (compared to \$57,900 across all occupations)
- **Location Quotient:** 1.14
- **2023Q2 Unemployment:** 1,011 (2.9% rate)
- **30-Day Job Ads:** 1,385\*
- **5-Year Ann Avg Employment Change:** -0.4%
- **Forecast 5-Year Ann Employment Change:** -0.3%
- **Total 5-Year Demand:** 17,591

### Northwest

- **2023Q2 Employment:** 29,641 (16.7% of NW employment)
- **Average Wage:** \$53,900 (compared to \$505,600 across all occupations)
- **Location Quotient:** 1.07
- **2023Q2 Unemployment:** 824 (2.5% rate)
- **30-Day Job Ads:** 1,806\*
- **5-Year Ann Avg Employment Change:** 0.2%
- **Forecast 5-Year Ann Employment Change:** 0.1%
- **Total 5-Year Demand:** 15,743



# Human Services

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

- Substance, Behavioral, Mental Health Counselors
- Police & Sheriff's Patrol Officers
- Social & Community Service Managers
- Marriage & Family Therapists
- Child, Family, & School Social Workers

#### Top Award Gaps

- Teaching Assistants
- Childcare Workers
- Hairdressers, Hairstylists, & Cosmetologists
- Coaches & Scouts
- Social & Human Service Assistants

### Northwest

#### Top Occupation Gaps

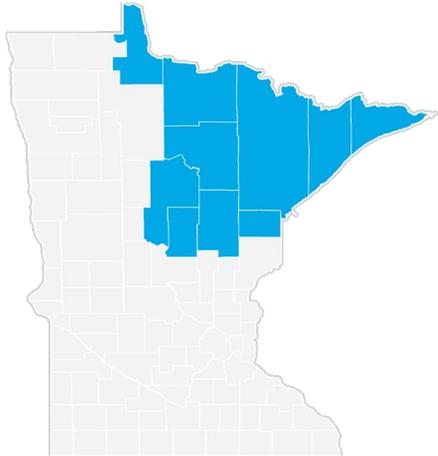
- Secondary School Teachers
- Substance, Behavioral, Mental Health Counselors
- Elementary School Teachers
- Child, Family, & School Social Workers
- Social & Community Service Managers

#### Top Award Gaps

- Childcare Workers
- Lawyers
- Hairdressers, Hairstylists, & Cosmetologists
- Clergy
- Social & Human Services Assistants

# Human Services

## Northeast



### Target Occupations (All HW, HS, HD, OG)

Child, Family, & School Social Workers  
Lawyers (AG)  
Social & Community Service Managers  
Compliance Officers  
Social Workers, All Other

### Gateway Occupations

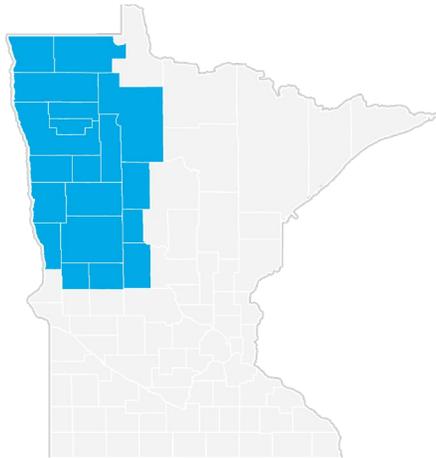
Substance Abuse, Behavioral Disorder, & Mental Health Counselors (HS, HD, OG)  
License Clerks (HD, OG)  
Correctional Officers  
Exercise Trainers & Group Fitness Instructors (HD)  
Clergy (HS, HD, OG, AG)

### Origin Occupations

Personal Care Aides (HD, AG)  
Teaching Assistants (HS, AG)  
Childcare Workers (AG)  
Social & Human Service Assistants (HD, AG)  
Preschool Teachers (HS, HD, OG)

# Human Services

## Northwest



### Target Occupations (All HW, HS, HD)

Child, Family, & School Social Workers (OG)

Lawyers (OG, AG)

Social & Community Service Managers (OG)

Directors, Religious Activities & Education (AG)

Guidance & Career Counselors (OG)

### Gateway Occupations

License Clerks (HD, OG)

Substance Abuse, Behavioral Disorder, & Mental Health Counselors (HS, HD, OG)

Clergy (HS, HD, OG, AG)

Correctional Officers (AG)

Exercise Trainers & Group Fitness Instructors (HD)

### Origin Occupations

Personal Care Aides (HD)

Teaching Assistants (HS, AG)

Childcare Workers (AG)

Social & Human Service Assistants (HD, AG)

Preschool Teachers (HS, HD, OG, AG)

# Human Services

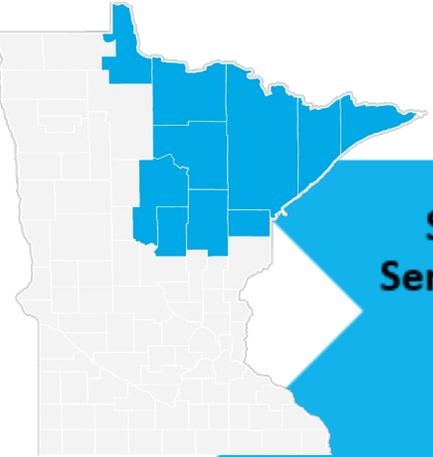
Northeast  
Northwest

## Northeast Region Featured Pathway

Origin

Gateway

Target



**Social and Human  
Service Assistants (HD,  
AG)**

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

**Social and Community  
Service Managers  
(HW, HS, HD, OG)**

## Northwest Region Featured Pathway

Origin

Target



**Social and Human Service  
Assistants  
(HD, AG)**

**Childcare Workers (AG)**

**Child, Family, and School  
Social Workers  
(HW, HS, HD, OG)**

# Arts, Communications, & Information Systems

## *Summary Statistics*

Northeast  
Northwest

### Northeast

- **2023Q2 Employment:** 5,548 (2.9% of NE employment)
- **Average Wage:** \$77,900 (compared to \$57,900 across all occupations)
- **Location Quotient:** 0.62
- **2023Q2 Unemployment:** 168 (3.0% rate)
- **30-Day Job Ads:** 382\*
- **5-Year Ann Avg Employment Change:** -0.6%
- **Forecast 5-Year Ann Employment Change:** -0.4%
- **Total 5-Year Demand:** 2,200

### Northwest

- **2023Q2 Employment:** 4,823 (2.7% of NW employment)
- **Average Wage:** \$72,100 (compared to \$55,600 across all occupations)
- **Location Quotient:** 0.59
- **2023Q2 Unemployment:** 135 (2.4% rate)
- **30-Day Job Ads:** 189\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.1%
- **Total 5-Year Demand:** 2,064



# Arts, Communications, & Information Systems

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

- Software Developers
- Computer Systems Analysts
- Web Developers
- Telecommunications Equipment Installers
- Software Quality Assurance Analysts & Testers

#### Top Award Gaps

- Photographers
- Art Directors
- Musicians & Singers
- Dancers
- Special Effects Artists & Animators

### Northwest

#### Top Occupation Gaps

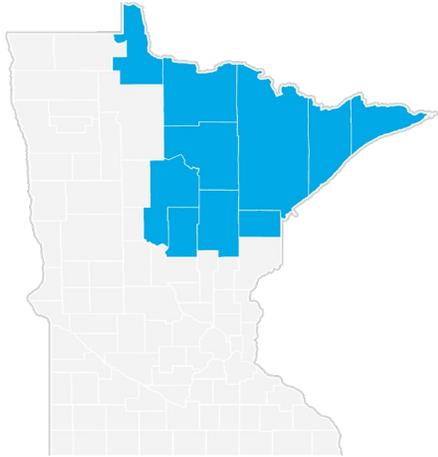
- Software Developers
- Computer Systems Analysts
- Photographers
- Musicians & Singers
- Computer Network Support Specialists

#### Top Award Gaps

- Computer User Support Specialists
- Musicians & Singers
- Telecommunications Equipment Installers
- Prepress Technicians & Workers
- Music Directors & Composers

# Arts, Communications, & Information Systems

## Northeast



### Target Occupations (All HW, HD, HS, OG)

Software Developers  
Computer Systems Analysts  
Computer Network Support Specialists  
Computer Occupations, All Other  
Telecommunications Equipment Installers

### Gateway Occupations

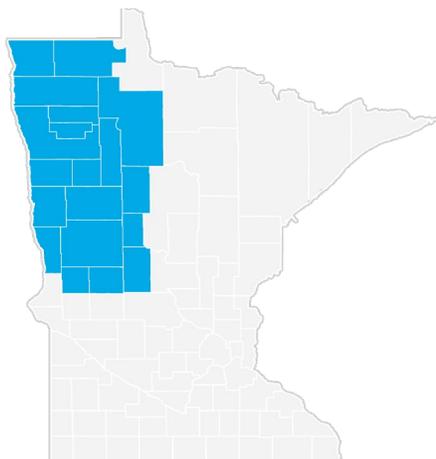
Graphic Designers (HS)  
Photographers (OG, AG)  
Audio & Video Technicians (HS, AG)  
Prepress Technicians & Workers (HS)  
Designers, All Other (HS, HD, AG)

### Origin Occupations

Printing Press Operators  
Floral Designers  
Print Binding & Finishing Workers (HD AG)  
Dancers (HD, AG)

# Arts, Communications, & Information Systems

## Northwest



### Target Occupations (All HW, HD, HS, OG)

Software Developers

Computer Systems Analysts

Computer Network Support Specialists

Telecommunications Equipment Installers (AG)

Computer Occupations, All Other

### Gateway Occupations

Graphic Designers (HS)

Photographers (OG)

Broadcast Announcers (HS)

Designers, All Other (HS, HD)

Broadcast Technicians (HS)

### Origin Occupations

Printing Press Operators (AG)

Floral Designers

Prepress Technicians & Workers (HS, AG)

Print Binding & Finishing

Reporters & Journalists (HS)

# Arts, Communications, & Information Systems

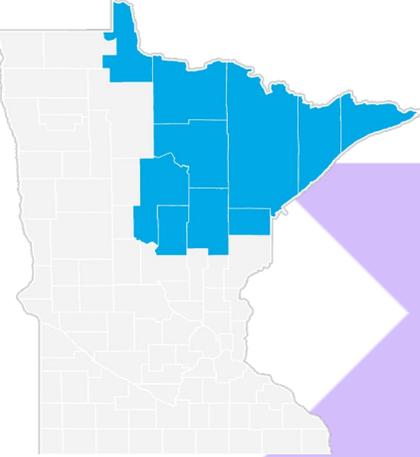
Northeast

Northwest

## Northeast Region Featured Pathway

Gateway

Target



Audio and Visual Technicians (HS, AG)

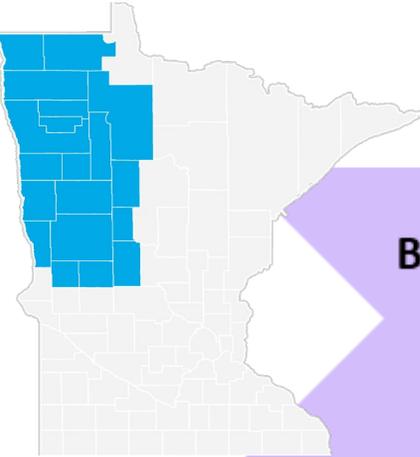
Telecommunications Line Installers and Repairers (HW, HD, OG)

Computer Network Support Specialists (HW, HS, HD, OG)

## Northwest Region Featured Pathway

Gateway

Target



Broadcast Technicians (HS, AG)

Telecommunications Installers and Repairers (HW, HS, HD, OG, AG)

Computer Network Support Specialists (HW, HS, HD, OG)

# Business, Management, & Administration *Summary Statistics*

Northeast  
Northwest

## Northeast

- **2023Q2 Employment:** 82,421 (43.1% of NE employment)
- **Average Wage:** \$50,500 (compared to \$57,900 across all occupations)
- **Location Quotient:** 0.97
- **2023Q2 Unemployment:** 3,772 (4.4% rate)
- **30-Day Job Ads:** 3,693\*
- **5-Year Ann Avg Employment Change:** -0.6%
- **Forecast 5-Year Ann Employment Change:** -1.0%
- **Total 5-Year Demand:** 50,943

## Northwest

- **2023Q2 Employment:** 69,895 (39.3% of NW employment)
- **Average Wage:** \$51,300 (compared to \$55,600 across all occupations)
- **Location Quotient:** 0.89
- **2023Q2 Unemployment:** 3,059 (3.6% rate)
- **30-Day Job Ads:** 3,104\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.5%
- **Total 5-Year Demand:** 44,042



# Business, Management, & Administration *Top Occupation & Award Gaps*

Northeast  
Northwest

## Northeast

### Top Occupation Gaps

- General & Operations Managers
- Restaurant Cooks
- Financial Managers
- Management Analysts
- Market Research Analysts & Specialists

### Top Award Gaps

- General & Operations Managers
- Business Operations Specialists
- Management Analysts
- Project Management Specialists
- Restaurant Cooks

## Northwest

### Top Occupation Gaps

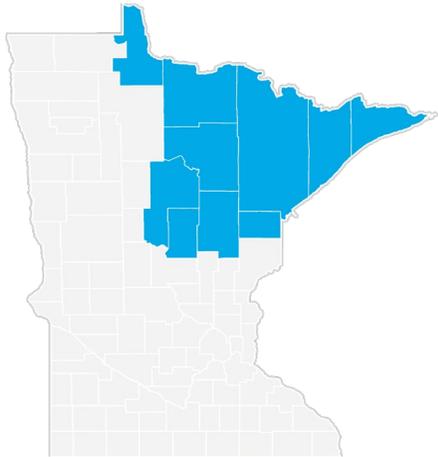
- General & Operations Managers
- Restaurant Cooks
- Financial Managers
- Market Research Analysts & Specialists
- Managers, All Other

### Top Award Gaps

- Supervisors of Food Prep & Serving Workers
- Food Service Managers
- Restaurant Cooks
- Recreation Workers
- Customer Service Representatives

# Business, Management, & Administration

## Northeast



### Target Occupations (All HW, HD, HS, OG)

General & Operations Managers (AG)

Accountants & Auditors

Managers, All Other

Business Operations Specialists (AG)

Market Research Analysts & Marketing Specialists

### Gateway Occupations

Secretaries & Administrative Assistants (AG)

Supervisors of Retail Workers (HD)

Bookkeeping, Accounting, & Auditing Clerks (HS, AG)

Billing & Posting Clerks (HD)

Supervisors of Housekeeping & Janitorial Workers (HD, OG)

### Origin Occupations

Retail Salespersons (HD)

Cashiers

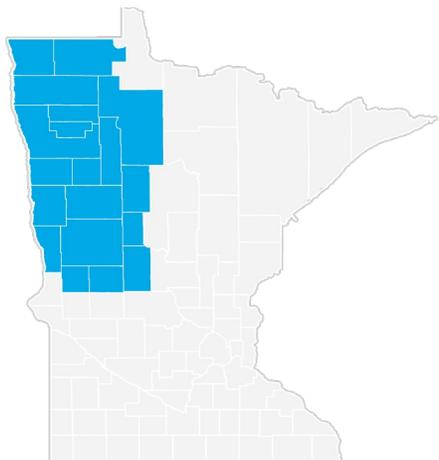
Fast Food & Counter Workers (HD)

Waiters & Waitresses

Office Clerks, General

# Business, Management, & Administration

## Northwest



### Target Occupations (All HW, HD, HS, OG)

General & Operations Managers

Accountants & Auditors

Managers, All Other

Business Operations Specialists

Market Research Analysts & Marketing Specialists (AG)

### Gateway Occupations

Supervisors of Retail Workers

Bookkeeping, Accounting, & Auditing Clerks (HS, HD)

Real Estate Managers (HD, OG, AG)

Billing & Posting Clerks (HD)

Supervisors of Housekeeping & Janitorial Workers (HD, OG)

### Origin Occupations

Cashiers

Retail Salespersons

Fast Food & Counter Workers

Office Clerks, General (HD, AG)

Stockers & Order Fillers (HD)

# Business, Management, & Administration

Northeast  
Northwest

Origin

Northeast Region Featured Pathway  
Gateway

Target

Retail Salespersons (HD)

Supervisors of Retail  
Workers (HD)

General Operations  
Managers  
(HW, HS, HD, OG, AG)

Origin

Northwest Region Featured Pathway  
Gateway

Target

Office Clerks, Genera (HD,  
AG)

Real Estate Managers  
(HD, OG, AG)

Market Research Analysts  
& Marketing Specialists  
(HW, HS, HD, OG, AG)

# Engineering, Manufacturing, & Technology

## *Summary Statistics*

Northeast  
Northwest

### Northeast

- **2023Q2 Employment:** 44,650 (23.1% of NE employment)
- **Average Wage:** \$60,500 (compared to \$57,900 across all occupations)
- **Location Quotient:** 0.94
- **2023Q2 Unemployment:** 2,069 (4.4% rate)
- **30-Day Job Ads:** 1,530\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.8%
- **Total 5-Year Demand:** 21,195

### Northwest

- **2023Q2 Employment:** 47,770 (26.9% of NW employment)
- **Average Wage:** \$53,400 (compared to \$55,600 across all occupations)
- **Location Quotient:** 1.10
- **2023Q2 Unemployment:** 2,205 (3.7% rate)
- **30-Day Job Ads:** 1,733\*
- **5-Year Ann Avg Employment Change:** 0.6%
- **Forecast 5-Year Ann Employment Change:** -0.4%
- **Total 5-Year Demand:** 24,764



# Engineering, Manufacturing, & Technology

Northeast  
Northwest

## Northeast

### Top Occupation Gaps

- Maintenance & Repair Workers
- Heavy & Tractor Trailer Truck Drivers
- Supervisors of Construction Trades Workers
- Carpenters
- Construction Managers

### Top Award Gaps

- Industrial Engineers
- Automotive Service Mechanics
- HVAC Technicians
- Heavy & Tractor Trailer Truck Drivers
- Construction Managers

## Northwest

### Top Occupation Gaps

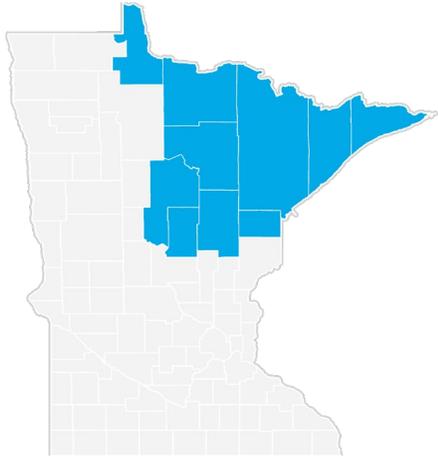
- Heavy & Tractor Trailer Truck Drivers
- Carpenters
- Maintenance & Repair Workers
- Supervisors of Construction Trades Workers
- Industrial Machinery Mechanics

### Top Award Gaps

- Welders, Cutters, Solderers, & Brazers
- Industrial Engineers
- Mechanical Engineers
- Civil Engineers
- Automotive Service Mechanics

# Engineering, Manufacturing, & Tech

## Northeast



### Target Occupations (All HW, HD, HS, OG)

Construction Managers (AG)

Industrial Engineers (AG)

HVAC Mechanics (AG)

Civil Engineers

Mechanical Engineers

### Gateway Occupations

Construction Laborers

Maintenance & Repair Workers, General (OG, AG)

Heavy & Tractor Trailer Drivers (HS, OG, AG)

Carpenters (OG)

Light Truck Drivers (HD, AG)

### Origin Occupations

Laborers & Freight, Stock Movers (HD)

Landscaping & Groundskeeping Workers (HD)

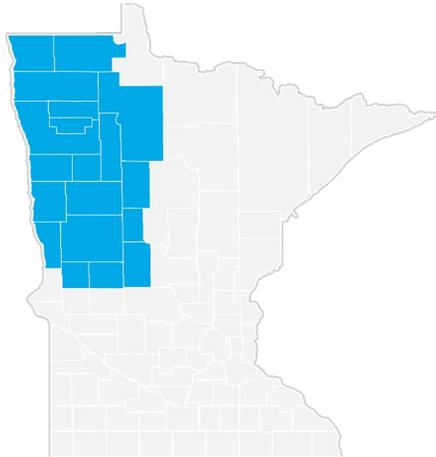
Team Assemblers

Packers & Packagers, Hand

Shuttle Drivers & Chauffeurs (HD, AG)

# Engineering, Manufacturing, & Tech

## Northwest



### Target Occupations (All HW, HD, HS, OG)

Industrial Engineers (AG)  
Construction Managers  
HVAC Mechanics  
Mechanical Engineers (AG)  
Civil Engineers (AG)

### Gateway Occupations

Heavy & Tractor Trailer Drivers (HS, HD, OG)  
Construction Laborers  
Maintenance & Repair Workers, General (OG, AG)  
Carpenters (OG)  
Light Truck Drivers (HD)

### Origin Occupations

Laborers & Freight, Stock Movers  
Team Assemblers  
Landscaping & Groundskeeping Workers (HD, AG)  
Food Batchmakers (HD, AG)  
Packaging & Filling Machine Operators (HD, OG)

# Engineering, Manufacturing, & Technology



**Origin**

**Northeast Region Featured Pathway**

**Gateway**

**Target**



**Origin**

**Northwest Region Featured Pathway**

**Gateway**

**Target**



# Agriculture, Food, & Natural Resources

## Summary Statistics

Northeast

Northwest

### Northeast

- **2023Q2 Employment:** 9,460 (4.9% of NE employment)
- **Average Wage:** \$58,800 (compared to \$57,900 across all occupations)
- **Location Quotient:** 0.94
- **2023Q2 Unemployment:** 353 (3.6% rate)
- **30-Day Job Ads:** 322\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.7%
- **Total 5-Year Demand:** 4,985

### Northwest

- **2023Q2 Employment:** 15,679 (8.8% of NW employment)
- **Average Wage:** \$53,900 (compared to \$55,600 across all occupations)
- **Location Quotient:** 1.69
- **2023Q2 Unemployment:** 502 (2.9% rate)
- **30-Day Job Ads:** 327\*
- **5-Year Ann Avg Employment Change:** -0.1%
- **Forecast 5-Year Ann Employment Change:** -0.6%
- **Total 5-Year Demand:** 8,834



# Agriculture, Food, & Natural Resources

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

- HVAC Mechanics
- Veterinary Technologists & Technicians
- Plumbers, Pipefitters, & Steamfitters
- Chefs & Head Cooks
- Telecommunications Equipment Installers

#### Top Award Gaps

- HVAC Mechanics
- Mining & Geological Engineers
- Veterinarians
- Environmental Engineers
- Plumbers, Pipefitters, & Steamfitters

### Northwest

#### Top Occupation Gaps

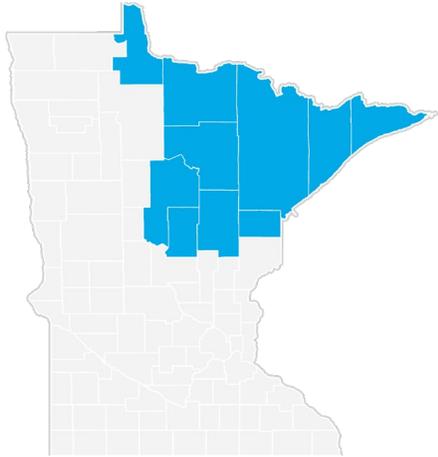
- Plumbers, Pipefitters, & Steamfitters
- Veterinary Technologists & Technicians
- Farm Equipment Mechanics & Service Techs
- HVAC Mechanics
- Electrical Power-Line Installers

#### Top Award Gaps

- Urban & Regional Planners
- Veterinarians
- Veterinary Technologists & Technicians
- Landscaping & Groundskeeping Workers
- Surveying & Mapping Technicians

# Agriculture, Food, & Natural Resources

## Northeast



### Target Occupations (All HW, HD, HS)

HVAC Mechanics (OG, AG)

Telecommunications Equipment Installers (OG)

Aircraft Mechanics & Service Technicians (OG)

Chemical Technicians

Surveyors

### Gateway Occupations

Logging Equipment Operators

Chefs & Head Cooks (HD, OG, AG)

Tree Trimmers & Pruners (HD)

Outdoor Power Equipment Mechanics (HD)

Forest & Conservation Technicians (HS, HD)

### Origin Occupations

Landscaping & Groundskeeping Workers

Animal Caretakers

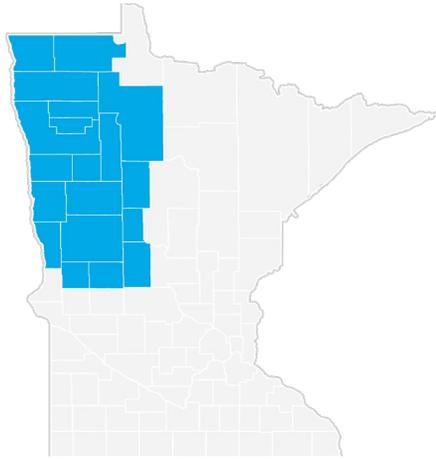
Refuse & Recyclable Material Collectors

Veterinary Technologists & Technicians (HS< OG)

Bakers (AG)

# Agriculture, Food, & Natural Resources

## Northwest



### Target Occupations (All HW, HD, HS)

HVAC Mechanics (OG, AG)

Telecommunications Equipment Installers (OG, AG)

Urban & Regional Planners (AG)

Biological Science Teachers, Postsecondary

Aircraft Mechanics

### Gateway Occupations (ALL HD)

Farm Equipment Mechanics (OG)

Chefs & Head Cooks (AG)

Refuse & Recyclable Material Collectors

Logging Equipment Operators

Tree Trimmers & Pruners

### Origin Occupations

Landscaping & Groundskeeping Workers (HD, AG)

Farmworkers & Laborers

Food Batchmakers (HD, AG)

Meat, Poultry, & Fish Cutters & Trimmers (HD)

Farmworkers, Farm, Ranch, & Aquacultural Animals

# Agriculture, Food, & Natural Resources

Northeast

Northwest

Origin

Northeast Region Featured Pathway

Other Aligned Occupation



Veterinary  
Assistants and  
Laboratory Animal  
Caretakers (HD)

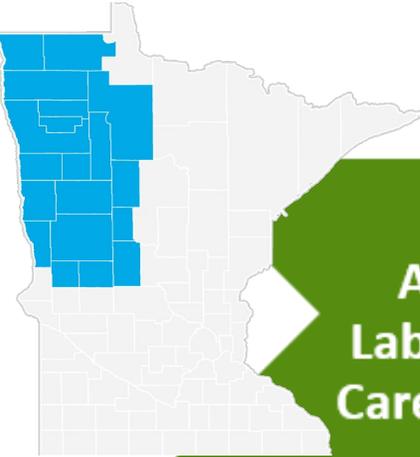
Veterinary  
Technician and  
Technologists  
(HS, HD, OG)

Veterinarians  
(HW, HS, OG, AG)

Northwest Region Featured Pathway

Origin

Aligned Occupation



Veterinary  
Assistants and  
Laboratory Animal  
Caretakers (HD, AG)

Veterinary  
Technician and  
Technologists  
(HS, HD, OG, AG)

Veterinarians  
(HW, HS, OG, 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:  
Erin Olson, Director of Strategic Research,  
[erin@realtimetalentmn.org](mailto:erin@realtimetalentmn.org)

# Appendix