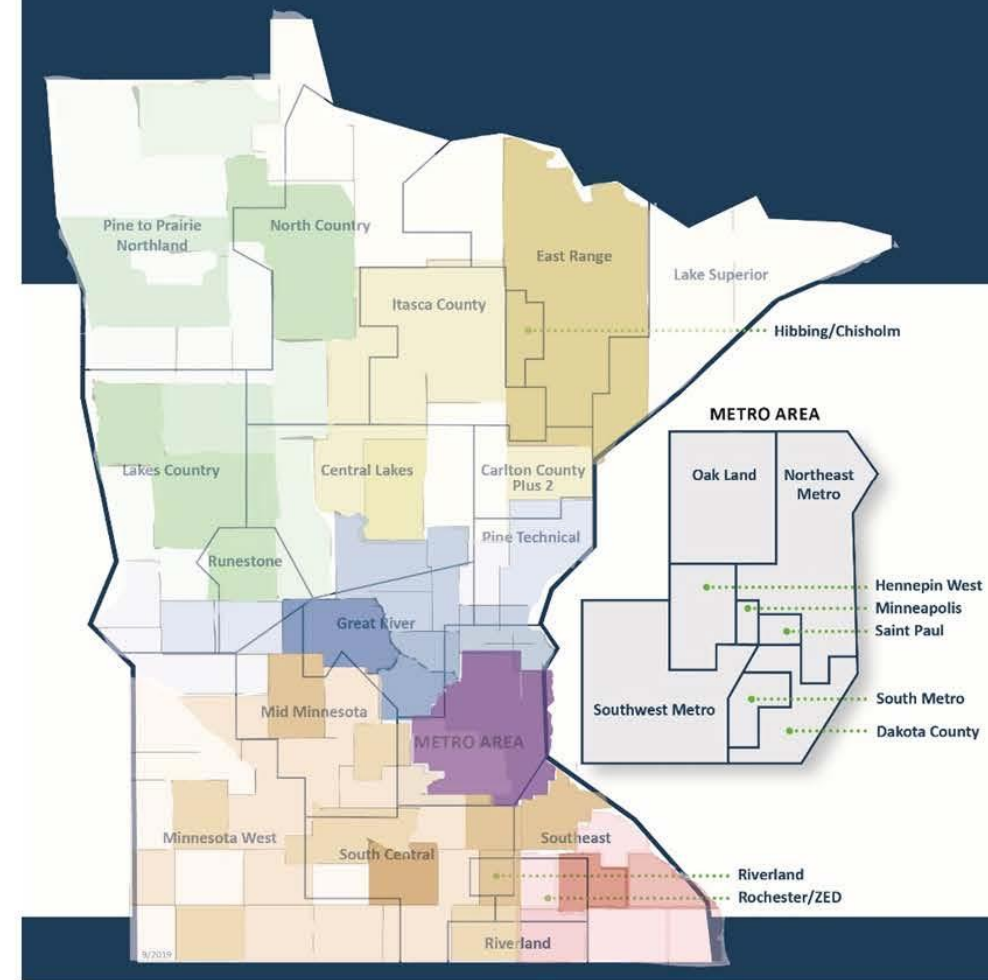


# 2024 Regional Career Trends

For Career and Technical Education

Erin Olson, Senior Director of Strategic Research  
Catherine Jett, Research Strategist  
Melinda Fierro, Research Strategist



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.

# ABOUT US

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**Catherine Jett, MPH**  
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RealTime Talent



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RealTime Talent



# REALTIME TALENT'S APPROACH

To create more informed and efficient market-oriented decisions throughout the Minnesota workforce and education ecosystem by engaging a broad set of stakeholders

## Core Capabilities:

- Current labor market research, insights, forecasts
- Data Tool Support Services
- Talent Pipeline Management

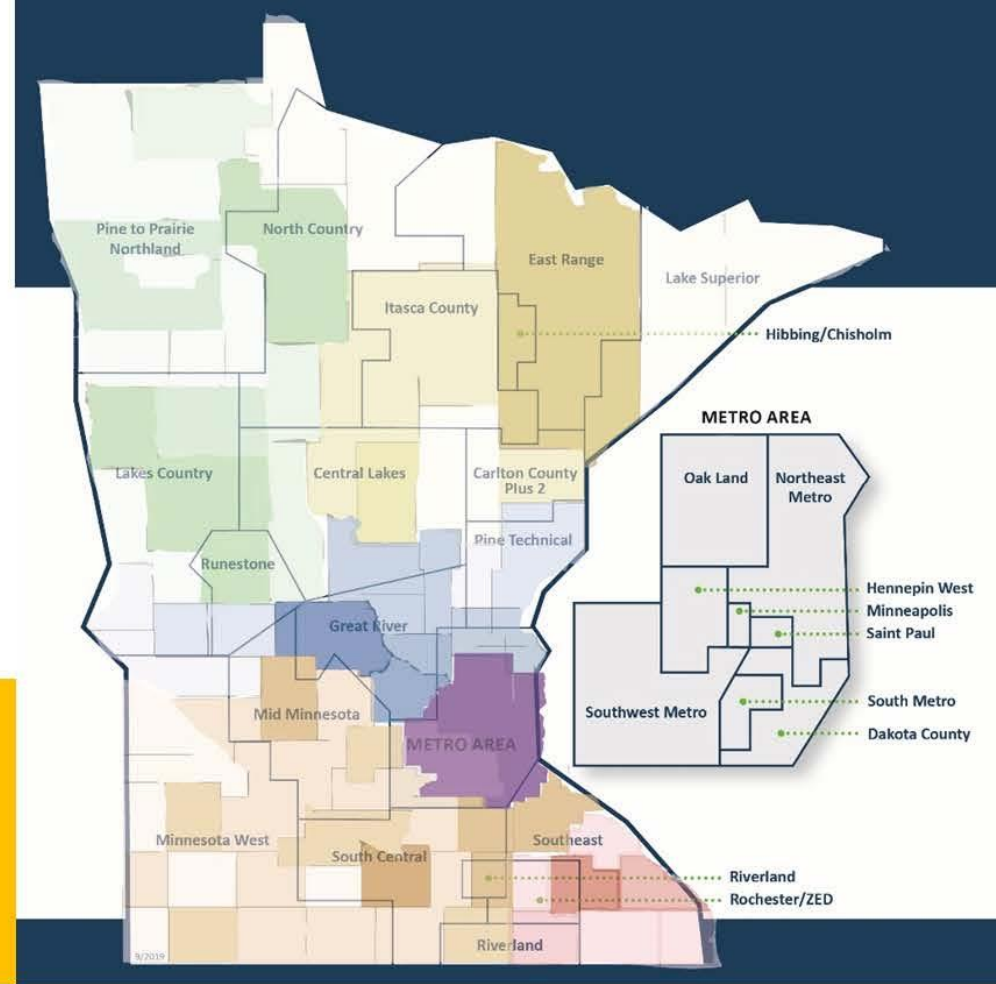


# 2024 Regional Career Trends

For Career and Technical Education

Northwest

Northeast



December 12, 2024



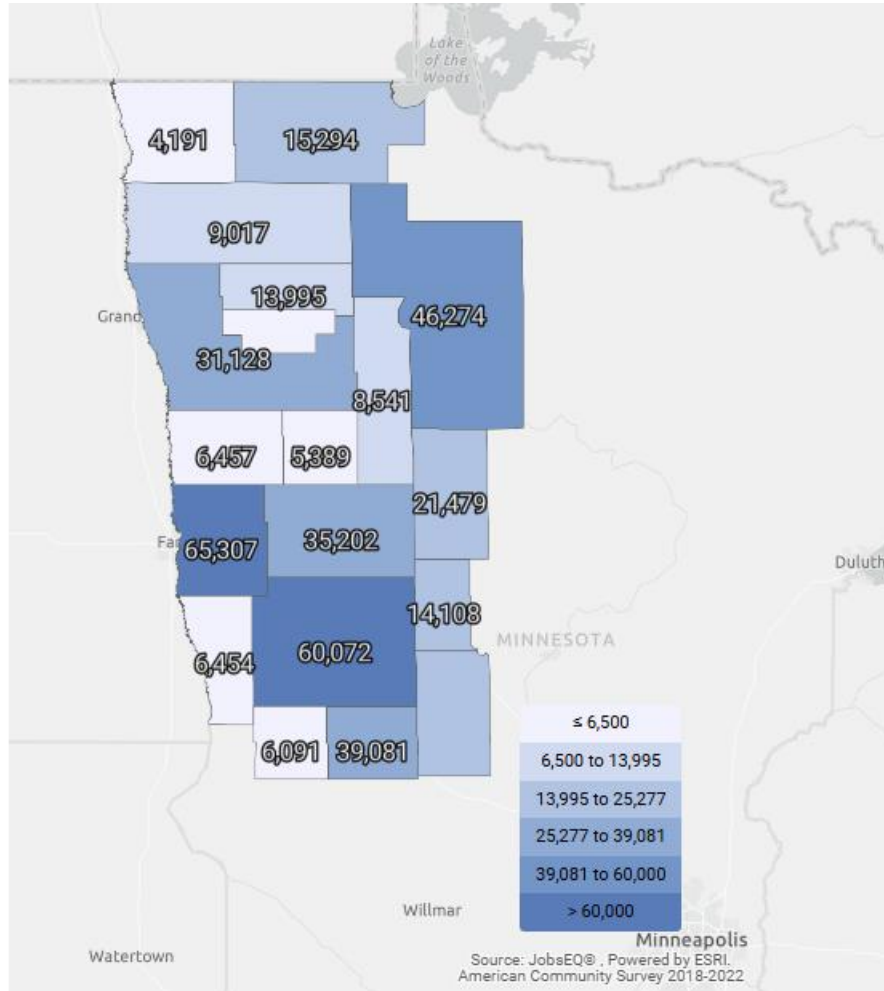
The contents of this series were made possible through the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) Federal grant from the United States Department of Education administered through Minnesota State Colleges and Universities.



# Population

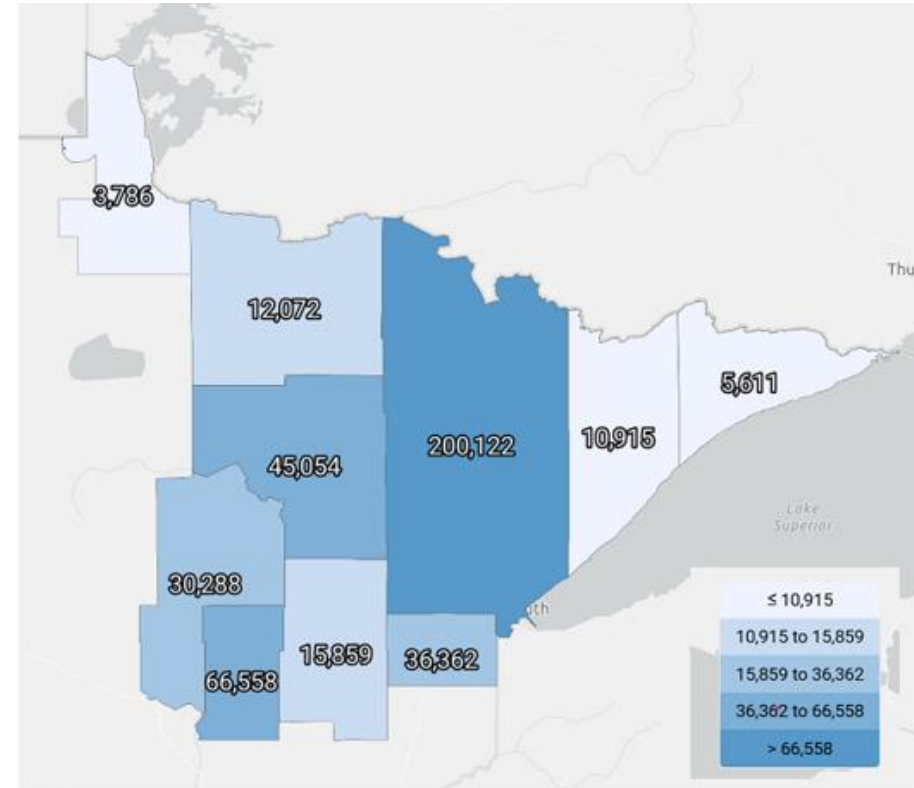
Northeast  
Northwest

## Resident Population of Northwest Minnesota



American Community Survey 2018-2022.

## Resident Population of Northeast Minnesota

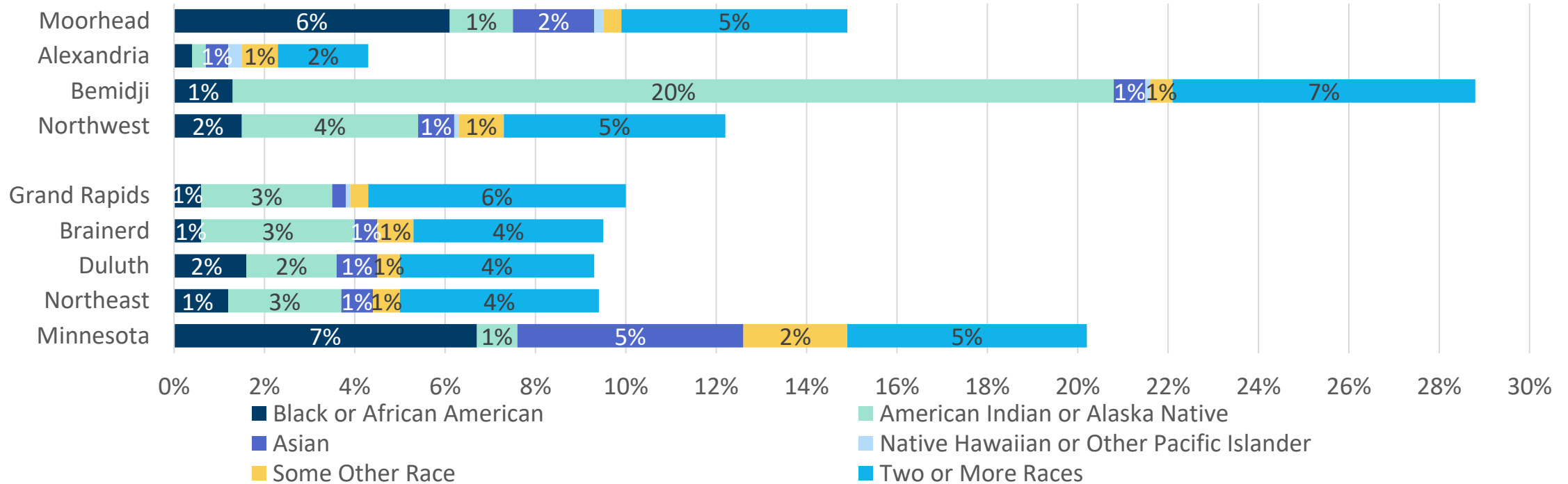


American Community Survey 2018-2022.

# Population Demographics



Population Race of BIPOC Residents by Race, All Ages



Race and Ethnicity Summary Info

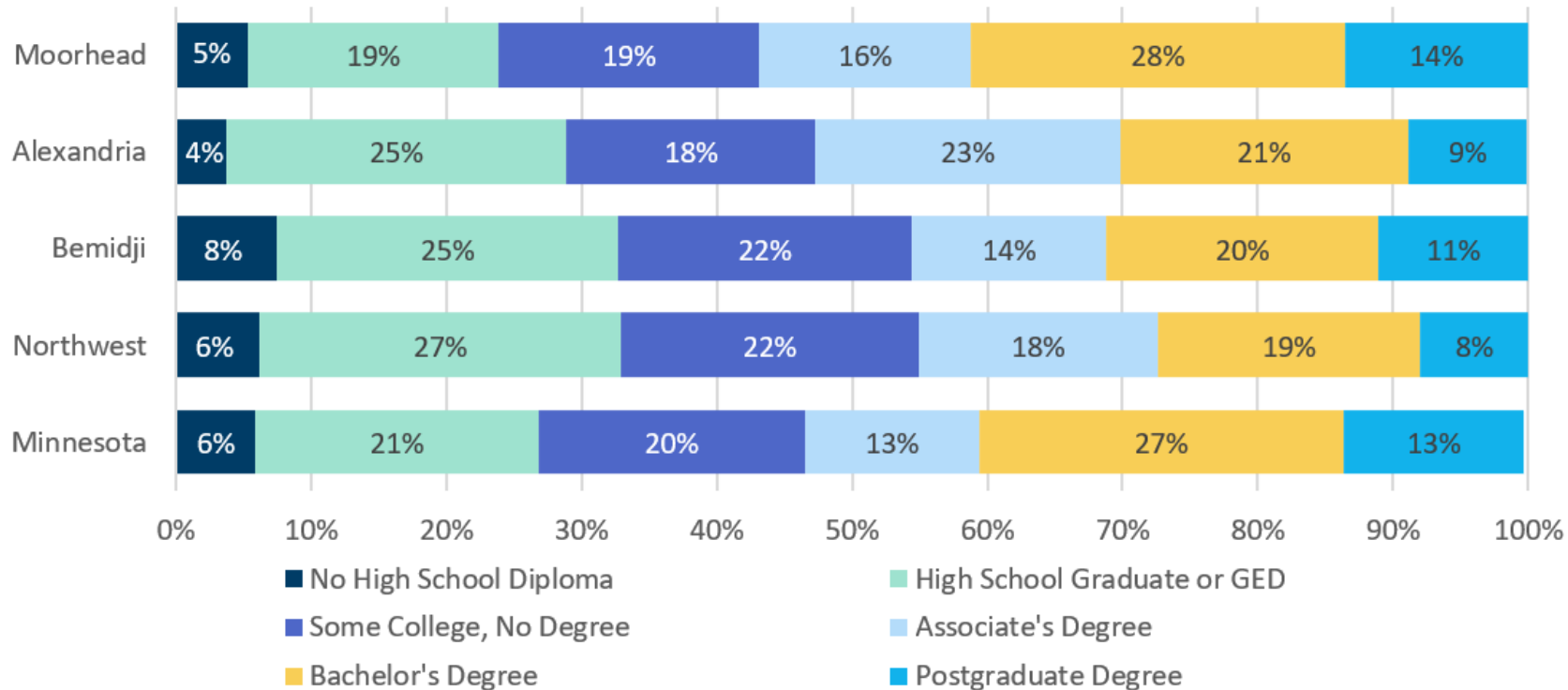
Geography	% BIPOC by Race	% white by Race	% Hispanic/Latine Ethnicity
Northeast	9.3%	90.7%	1.8%
Northwest	12.2%	87.8%	3.8%



# Educational Attainment

## Northwest

**Educational Attainment, Age 25-64**



American Community Survey 2018-2022.

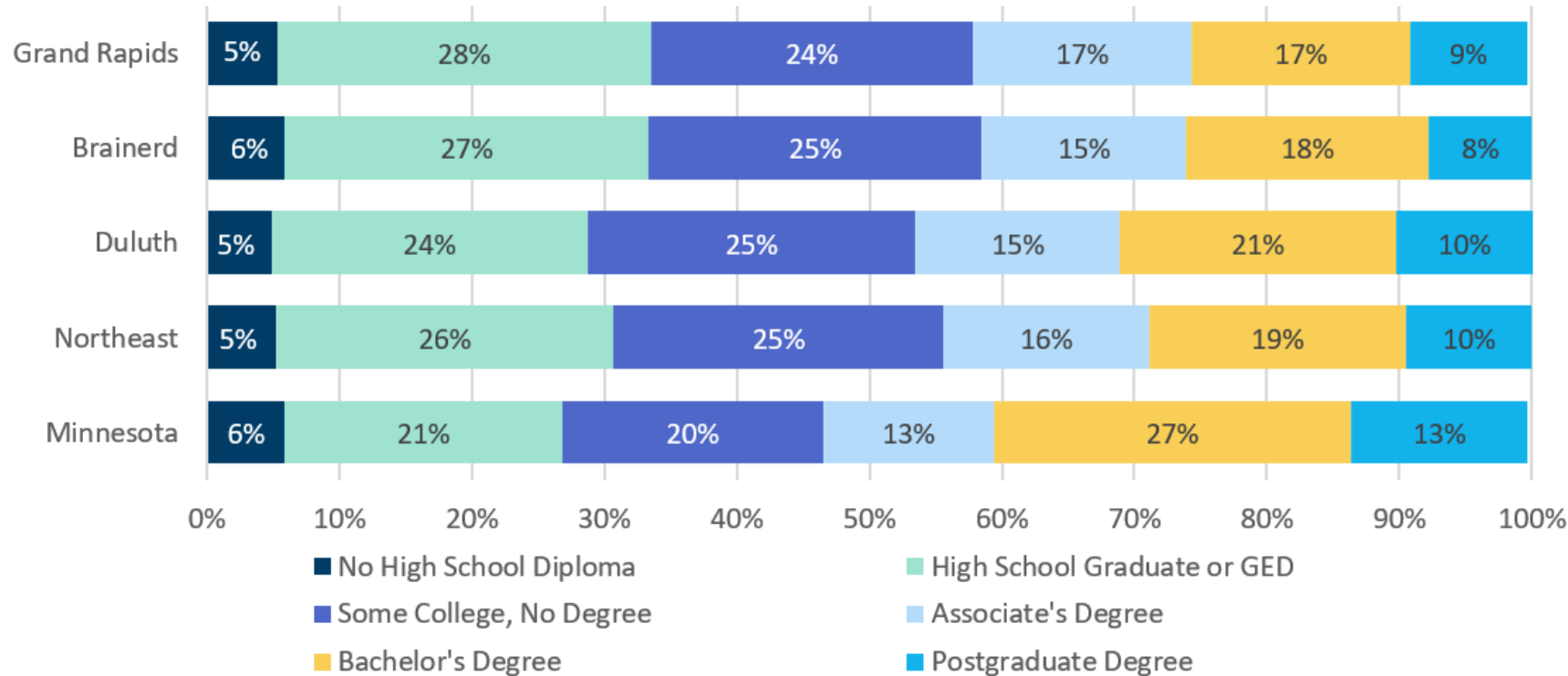
11 Postsecondary Institutions  
6,116 postsecondary awards conferred (SY2022-23)



# Educational Attainment

Northeast

Educational Attainment, Age 25-64



American Community Survey 2018-2022.

7 Postsecondary Institutions  
6,618 postsecondary awards conferred (SY2022-23)



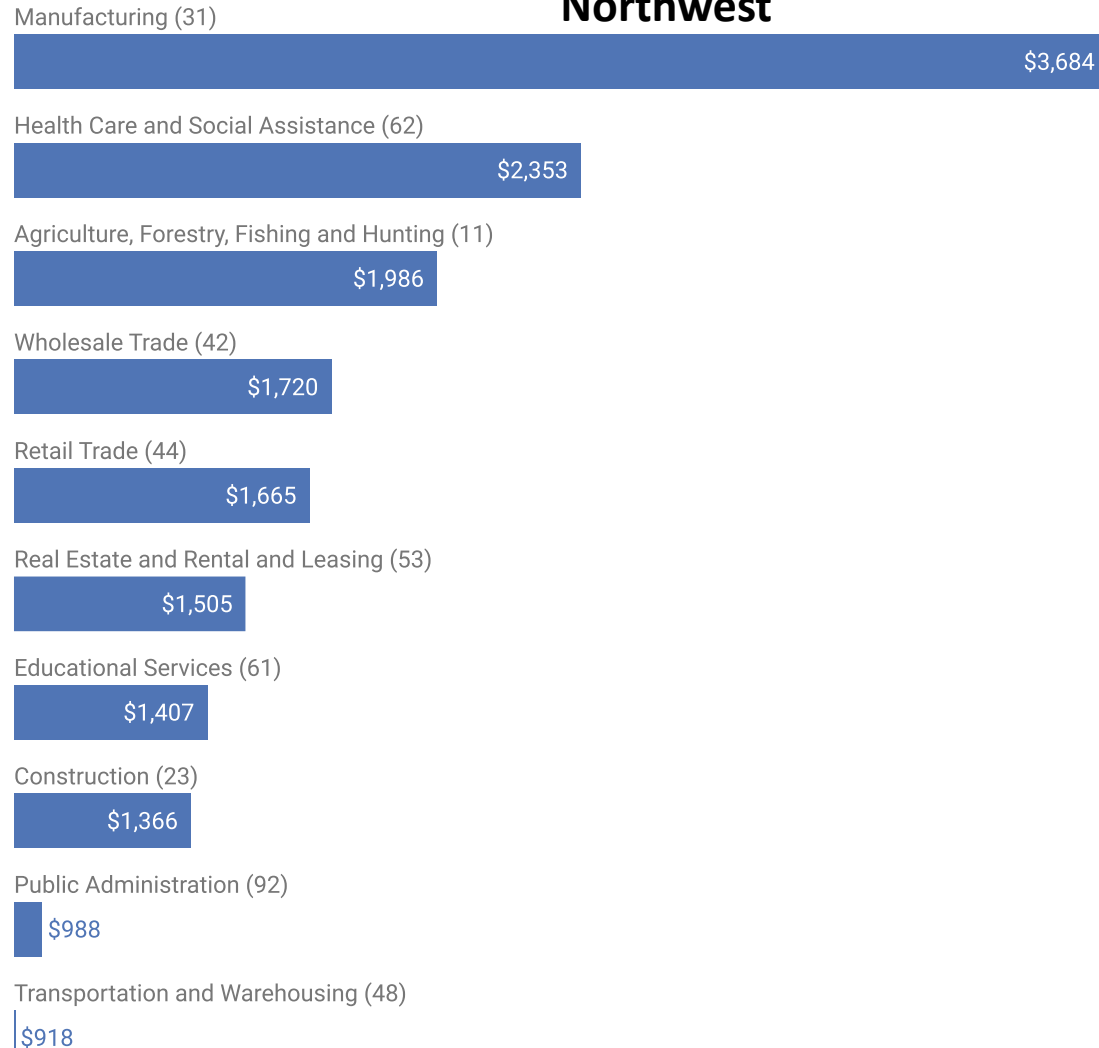


# Economic Growth

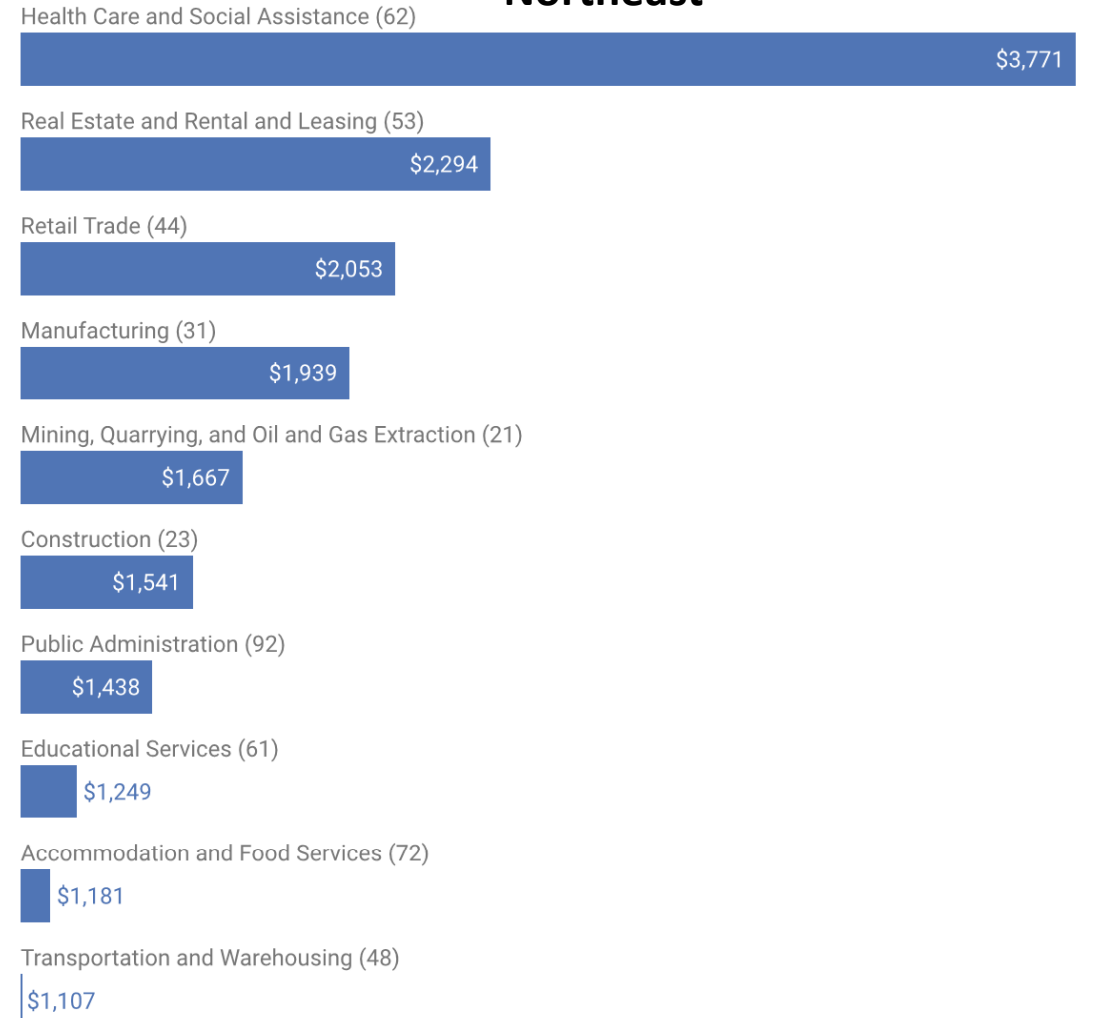
## Industry Contributions to GDP (in \$ Millions), 2023



### Northwest



### Northeast



Gross Domestic Product data are provided by the Bureau of Economic Analysis, imputed by Chmura where necessary, updated through 2023.

# Labor Force Participation and Unemployment

Northeast  
Northwest

	Northwest	Northeast	Minnesota
<b>Civilian Labor Force</b>	210,417	208,279	3,112,649
<b>Labor Force Participation Rate</b>	63.9%	59.0%	68.7%
<b>Prime Working-Age Participation Rate (ages 25-54)</b>	86.8%	84.8%	88.4%
<b>Unemployment, June 2024 (compared to June 2023)</b>	4.0% (3.3% in 2023)	4.4% (3.9% in 2023)	3.8% (2.9% in 2023)

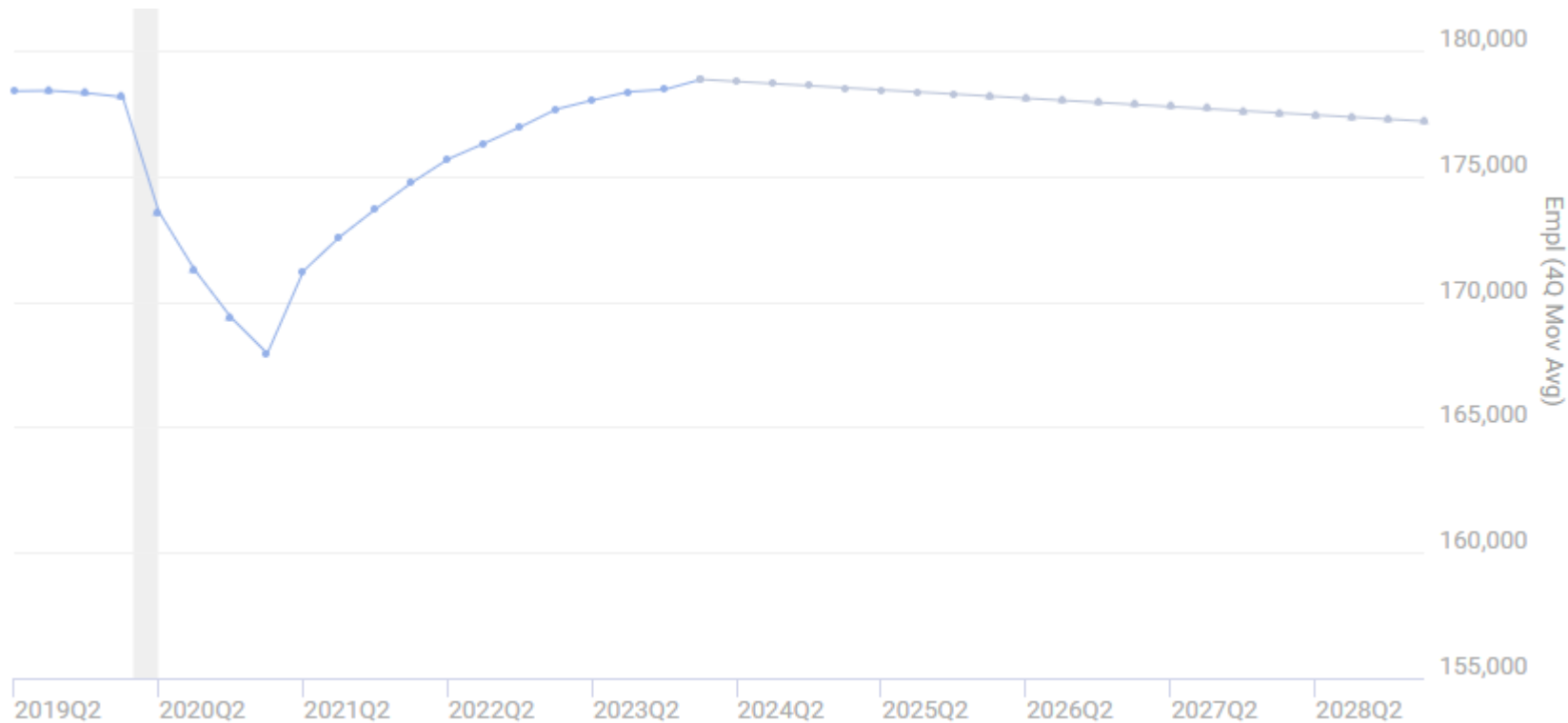
Unemployment rate data are from the Local Area Unemployment Statistics, provided by the Bureau of Labor Statistics and updated through September 2024.



# Labor Market *Forecast: Workforce*

Northwest

### 5-Year Employment Forecast in Northwest Minnesota

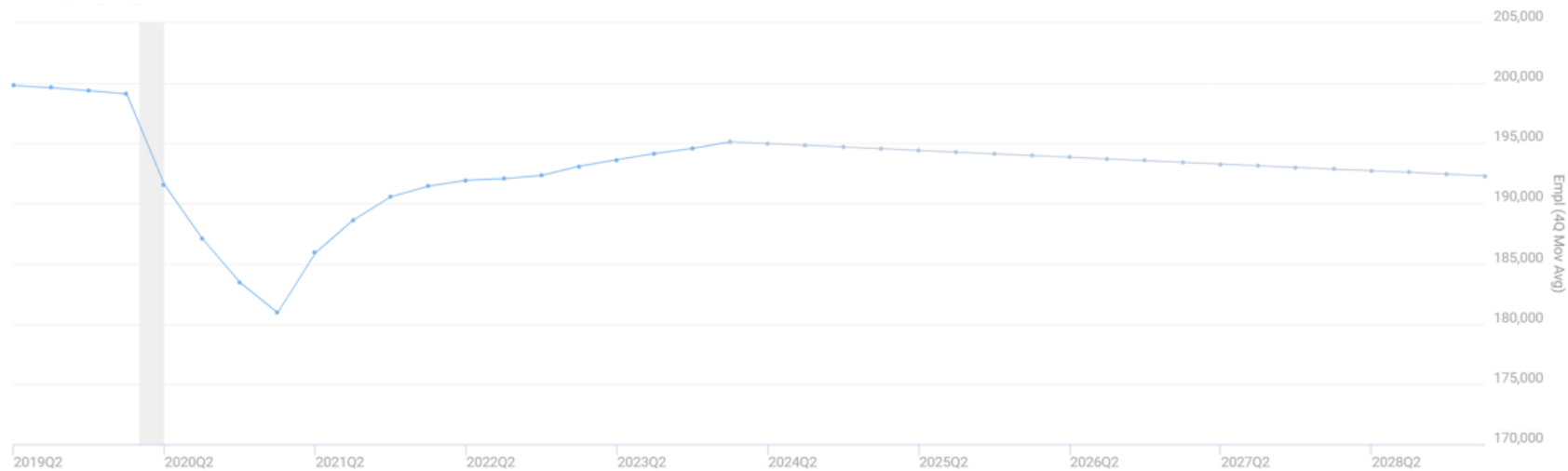


Average annual  
forecast of **-0.2%**  
change in  
employment cross all  
positions

# Labor Market *Forecast: Workforce*

Northeast

### 5-Year Employment Forecast in Northeast Minnesota



Average annual  
forecast of **-0.3%**  
change in  
employment cross all  
positions



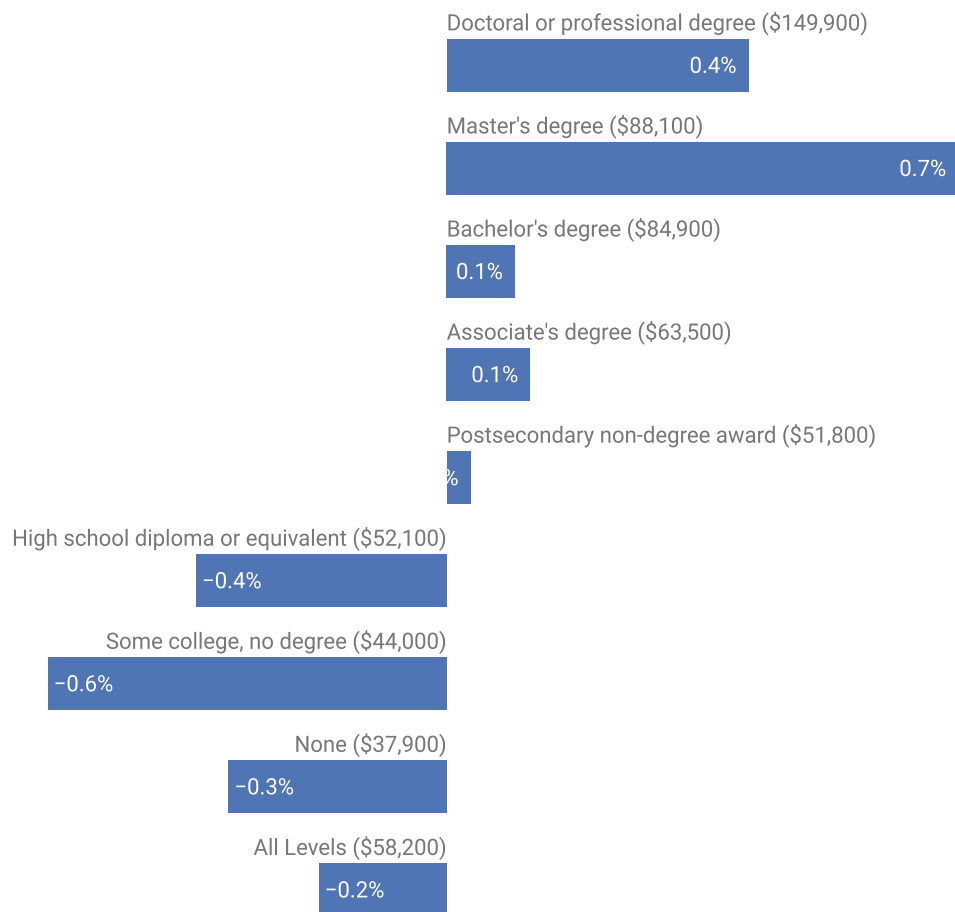
# Quantifying Talent Shortages

## Forecast: The Role of Education

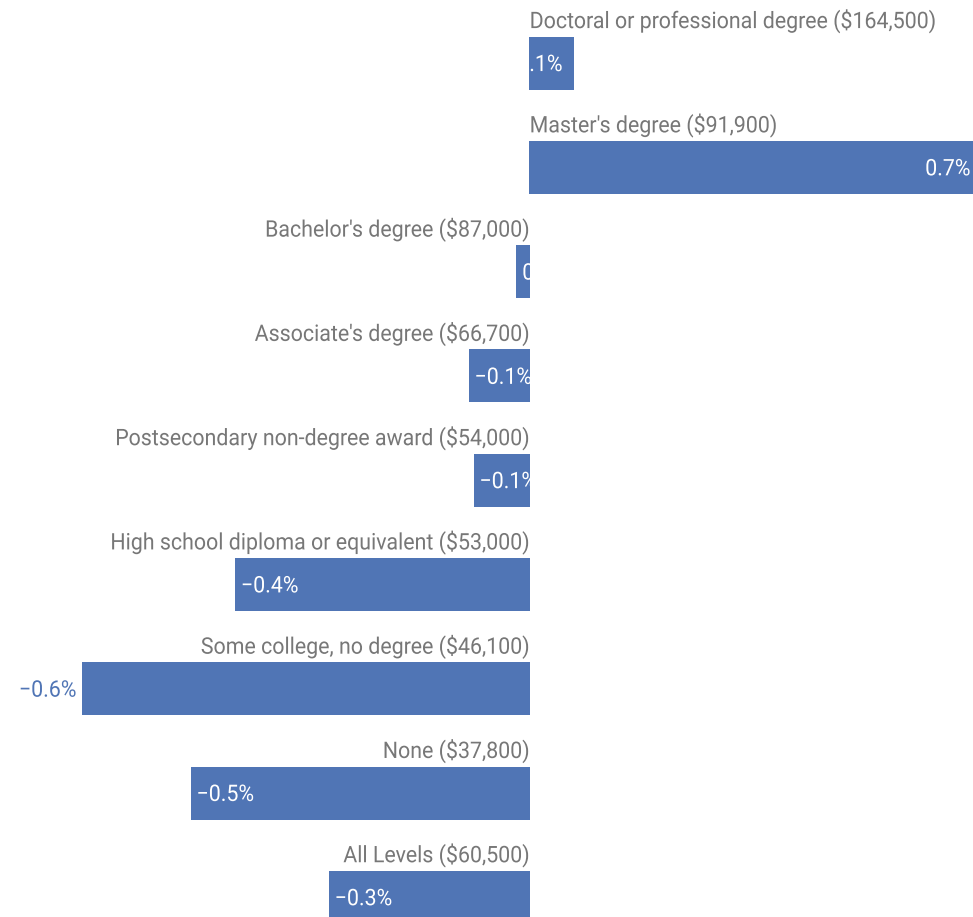


Annual Average Projected Job Growth by Education Required

### Northwest



### Northeast



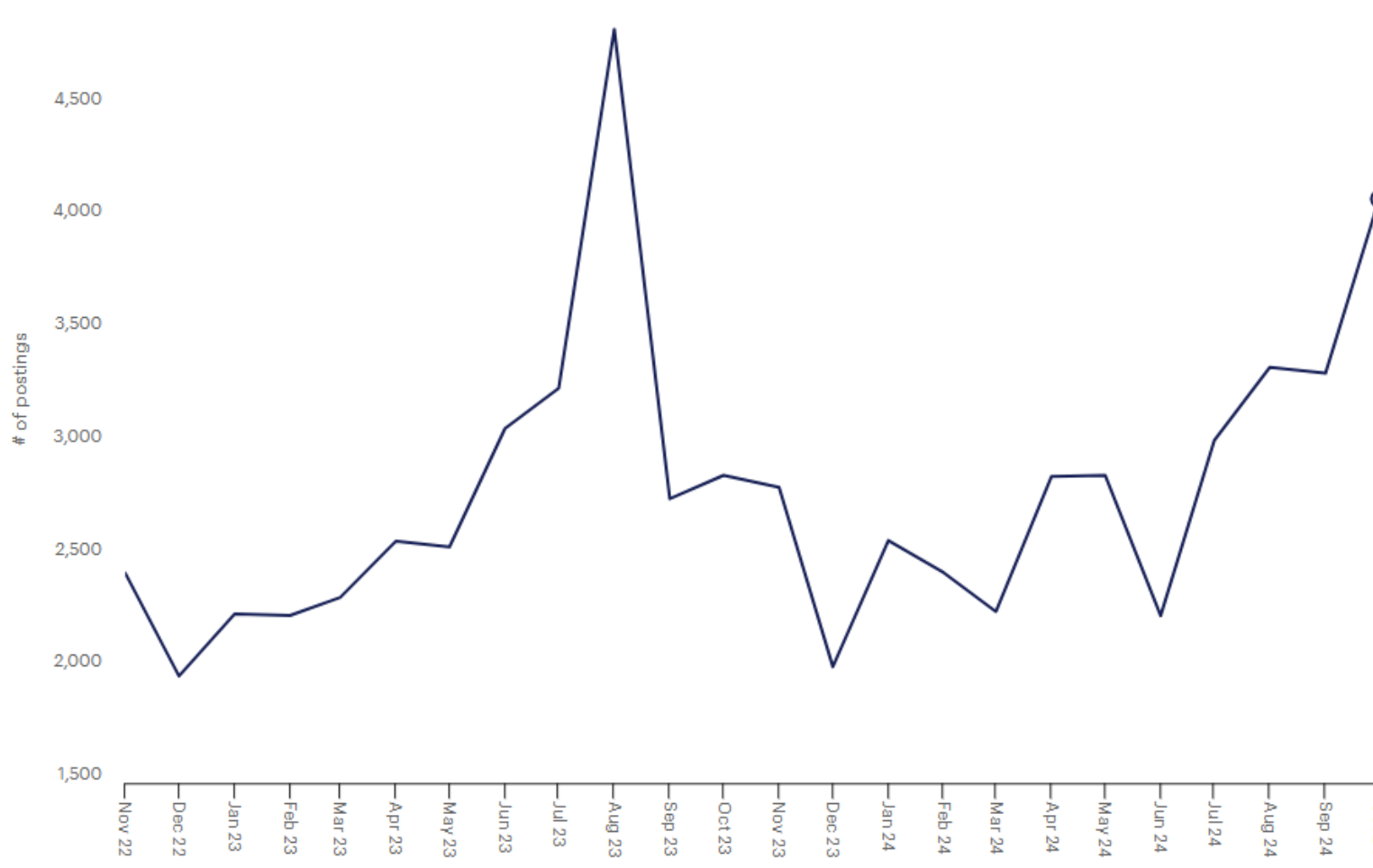
Employment by occupation data are estimates as of 2024Q1. Education levels of occupations are based on BLS assignments. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.



# Job Posting Trends in Northeast MN

Northeast

Total Jobs Advertised Monthly in Northeast Minnesota,  
October 2023-2024



Peak posting Month:  
**August 2023**

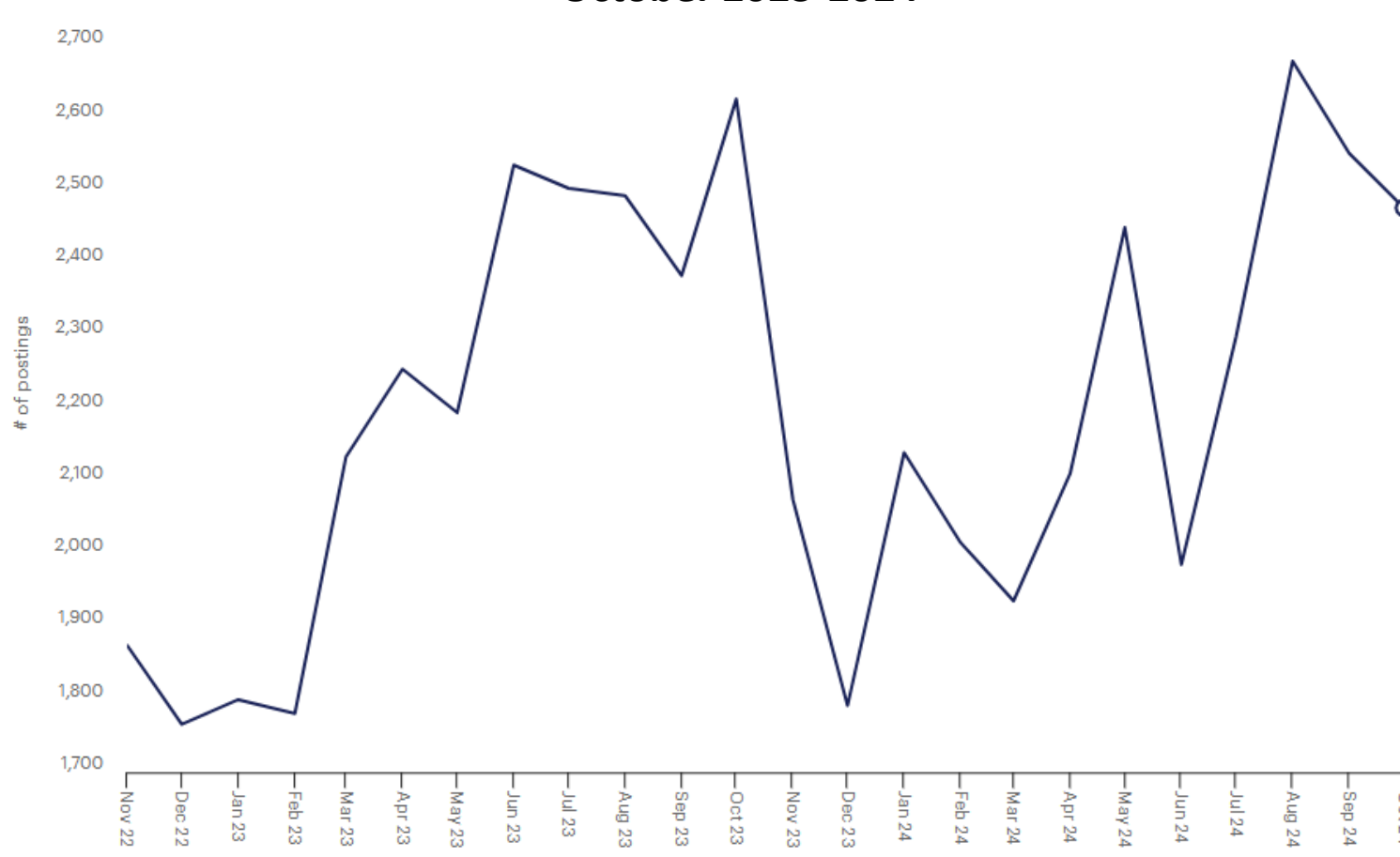


# Job Posting Trends in Northwest MN



Northwest

**Total Jobs Advertised Monthly in Northwest Minnesota,  
October 2023-2024**



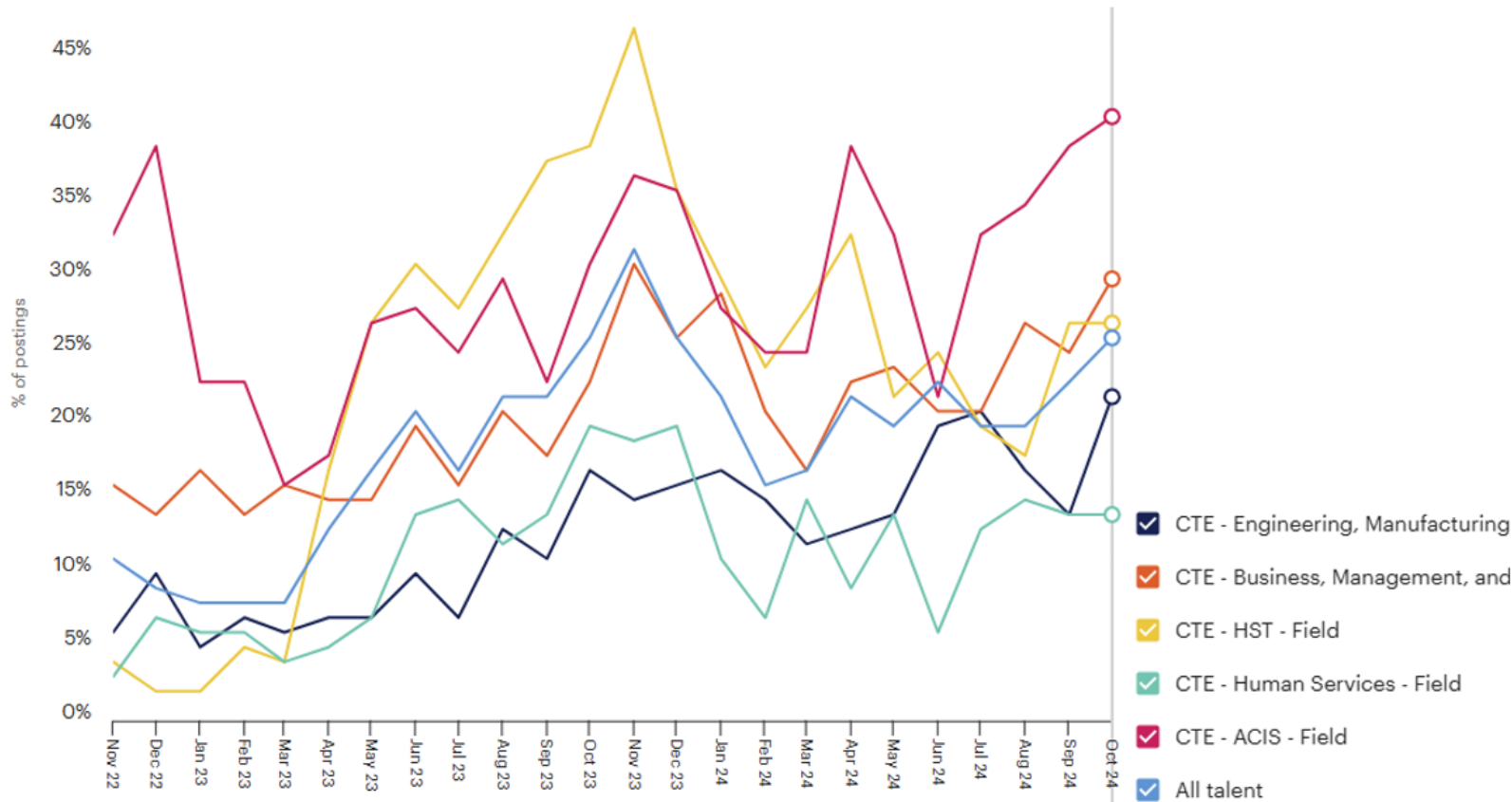
Peak posting Month:  
**August 2024**



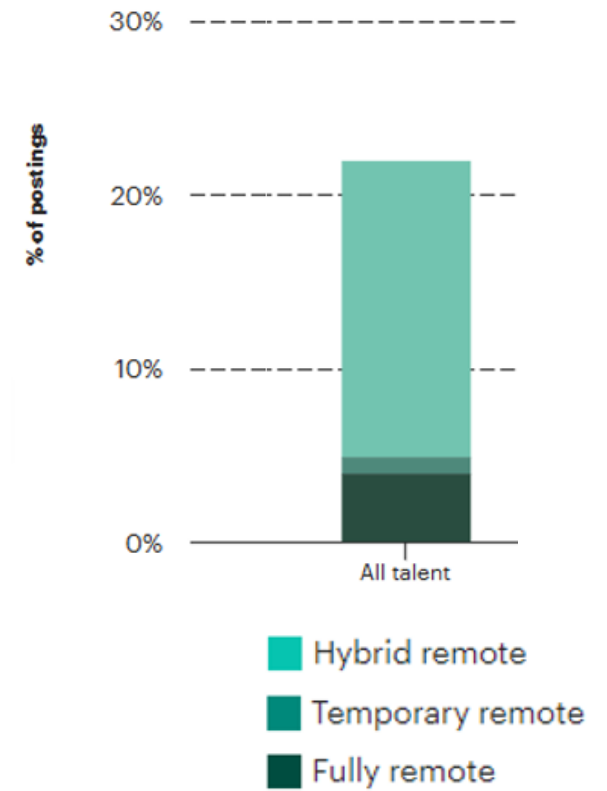
# Job Posting Trends in Minnesota

Northeast

Total Remote Job Postings Advertised Monthly in Northeast Minnesota, October 2023-2024



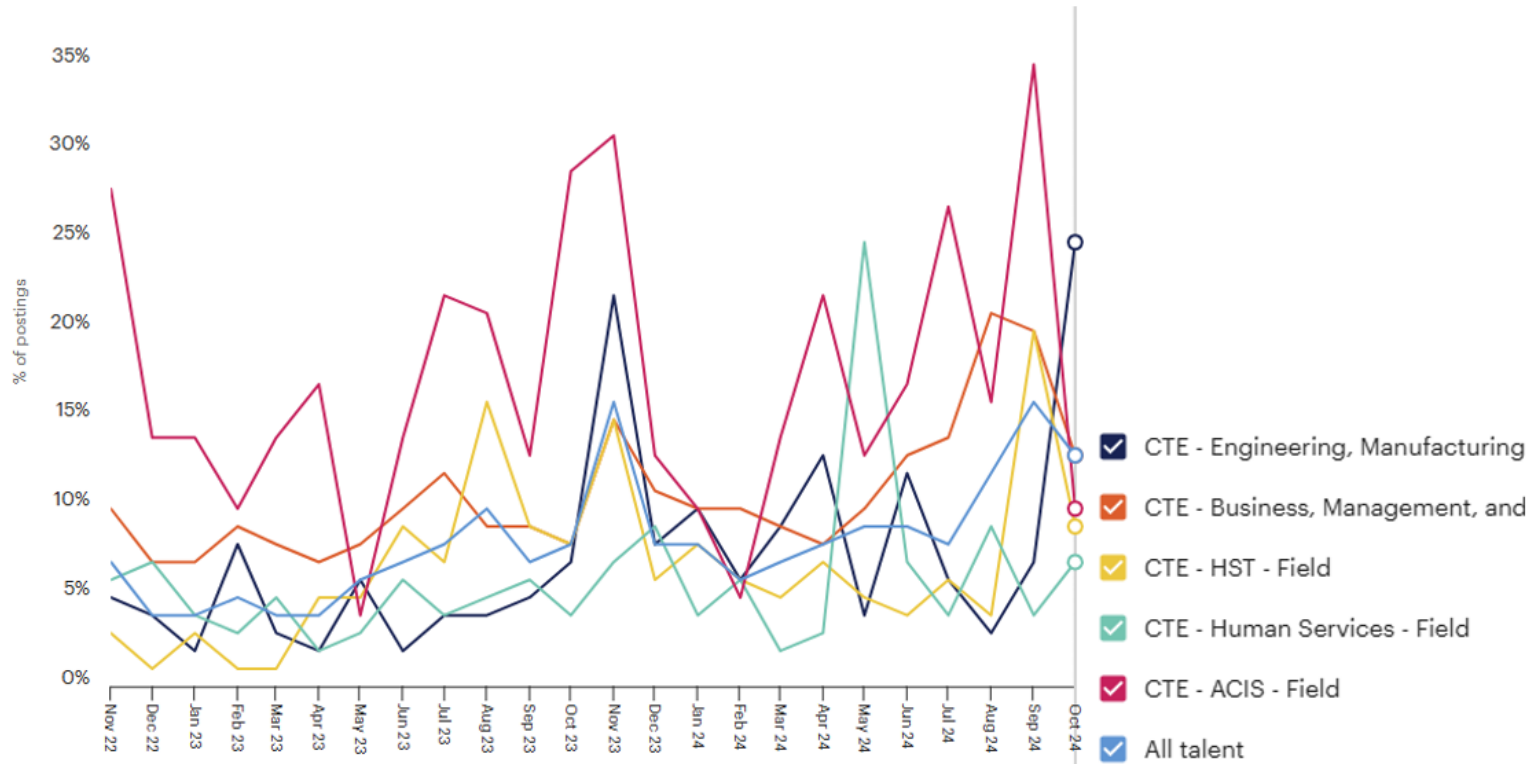
SOURCE: TalentNeuron accessed 11/1/2024



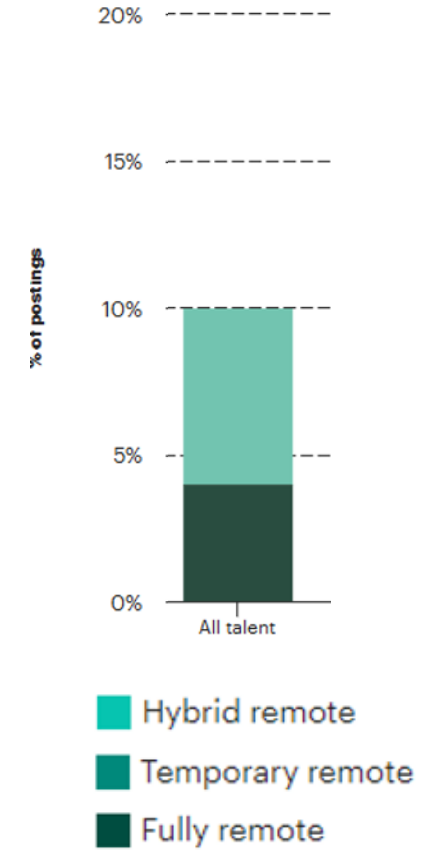
# Job Posting Trends in Minnesota

## Northwest

Total Remote Job Postings Advertised Monthly in Northwest Minnesota, October 2023-2024



SOURCE: TalentNeuron accessed 11/1/2024

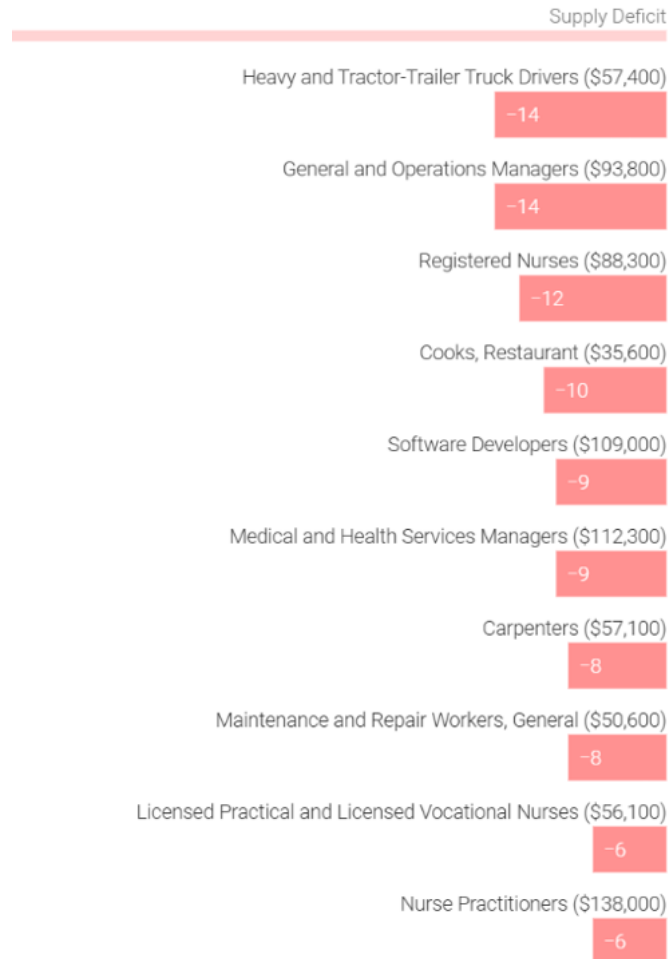


# Talent Shortage Occupation Gaps

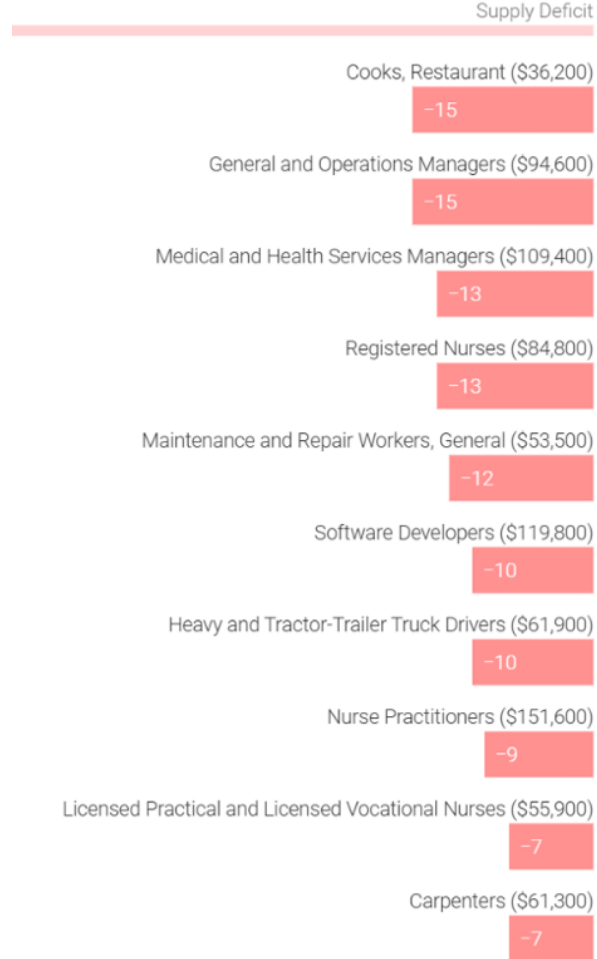


## Annual Average Talent Shortage Forecast

### Northwest



### Northeast



### Highlights

- Reductions in shortages in Northwest for most occupations
- Similar volumes of shortages in Northeast





# Zero Unemployment

## Northwest

### Occupations with No Unemployed Workforce and Employing over 75 Workers

#### Northeast

#### Northwest

1. Architectural and Engineering Managers
2. Excavating and Loading Machine and Dragline Operators, Surface Mining
3. Power Plant Operators
4. Occupational Health and Safety Specialists
5. Massage Therapists
6. Railroad Conductors and Yardmasters
7. Construction and Building Inspectors
8. Veterinarians
9. Electrical and Electronic Engineering Technologists and Technicians
10. Dietitians and Nutritionists
11. Psychologists, All Other
12. Legislators
13. Interior Designers
14. School Psychologists

1. Architectural and Engineering Managers
2. Occupational Health and Safety Specialists
3. School Psychologists
4. Massage Therapists
5. Construction and Building Inspectors
6. Family Medicine Physicians
7. Electrical and Electronic Engineering Technologists and Technicians
8. Locomotive Engineers
9. Veterinarians
10. General Internal Medicine Physicians
11. Dietitians and Nutritionists
12. Excavating and Loading Machine and Dragline Operators, Surface Mining



# Career Field Summary

Minnesota

## Health Science Technology

- Highest employment concentration
- Second highest median wages

## Human Services

- Highest growth in the past five years
- Lowest median wages

## Business, Management, and Administration

- Largest total volume of employment
- Highest unemployment rate

## Arts, Communications, and Information Systems

- Smallest employment volume
- Second-highest unemployment rate

## Engineering, Manufacturing and Technology

- Second highest employment volume
- Highest unemployment rate

## Agriculture, Food, and Natural Resources

- Second smallest share of employment
- Second lowest entry-level wages

# Career Fields: Historical Trends

## Northwest

### CTE Field Employment and Wages in Northwest Minnesota, 2024Q1

CTE Field (occupation overlap exists, will not sum)	Current 2024Q1 Estimates							5-Year History	
	Empl	Avg Entry-Level Wages	Median Wages	LQ	Unempl	Unempl Rate	Online Job Ads <sup>3</sup>	Empl Change	Ann %
Health Science Technology	17,002	\$39,400	\$65,200	1.03	365	1.8%	4,660	-496	-0.6%
Human Services	30,072	\$42,700	\$55,400	1.07	810	2.4%	2,040	421	0.3%
Arts, Communications, and Information Systems	4,830	\$50,800	\$69,300	0.59	141	2.3%	260	-27	-0.1%
Business, Management, and Administration	70,220	\$37,300	\$50,300	0.89	3,116	3.5%	4,432	70	0.0%
Engineering, Manufacturing, and Technology	48,009	\$42,600	\$54,200	1.10	2,327	3.7%	2,383	1,158	0.5%
Agriculture, Food, and Natural Resources*	15,538	\$36,600	\$54,300	1.67	528	2.9%	549	-104	-0.1%
<b>Total - All Occupations</b>	<b>178,838</b>			<b>1.00</b>	<b>7,002</b>	<b>3.2%</b>	<b>13,952</b>	<b>469</b>	<b>0.1%</b>

Data as of 2024Q1 unless noted otherwise

Note: Figures may not sum due to rounding and overlap in occupations between career fields. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters. 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 10/1/2024-11/1/2024 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.

# Career Fields: Historical Trends

Northeast

## CTE Field Employment and Wages in Northeast Minnesota, 2024Q1

CTE Field (occupation overlap exists, will not sum)	Current 2024Q1 Estimates							5-Year History	
	Empl	Avg Entry-Level Wages	Median Wages	LQ	Unempl	Unempl Rate	Online Job Ads <sup>3</sup>	Empl Change	Ann %
Health Science Technology	22,971	\$40,300	\$67,900	1.27	429	1.9%	5,333	-1,409	-1.2%
Human Services	34,643	\$42,300	\$55,100	1.13	950	2.7%	2,165	-314	-0.2%
Arts, Communications, and Information Systems	5,419	\$54,300	\$76,200	0.61	159	2.6%	385	-384	-1.4%
Business, Management, and Administration	84,011	\$36,600	\$48,700	0.97	3,683	4.1%	5,665	-2,067	-0.5%
Engineering, Manufacturing, and Technology	45,047	\$46,300	\$62,000	0.95	2,067	4.2%	2,362	-268	-0.1%
Agriculture, Food, and Natural Resources*	9,435	\$43,400	\$59,600	0.93	341	3.4%	578	10	0.0%
<b>Total - All Occupations</b>	<b>195,125</b>			<b>1.00</b>	<b>7,377</b>	<b>3.6%</b>	<b>16,074</b>	<b>-4,658</b>	<b>-0.5%</b>

Data as of 2024Q1 unless noted otherwise

Note: Figures may not sum due to rounding and overlap in occupations between career fields. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters. Employment by place of work.

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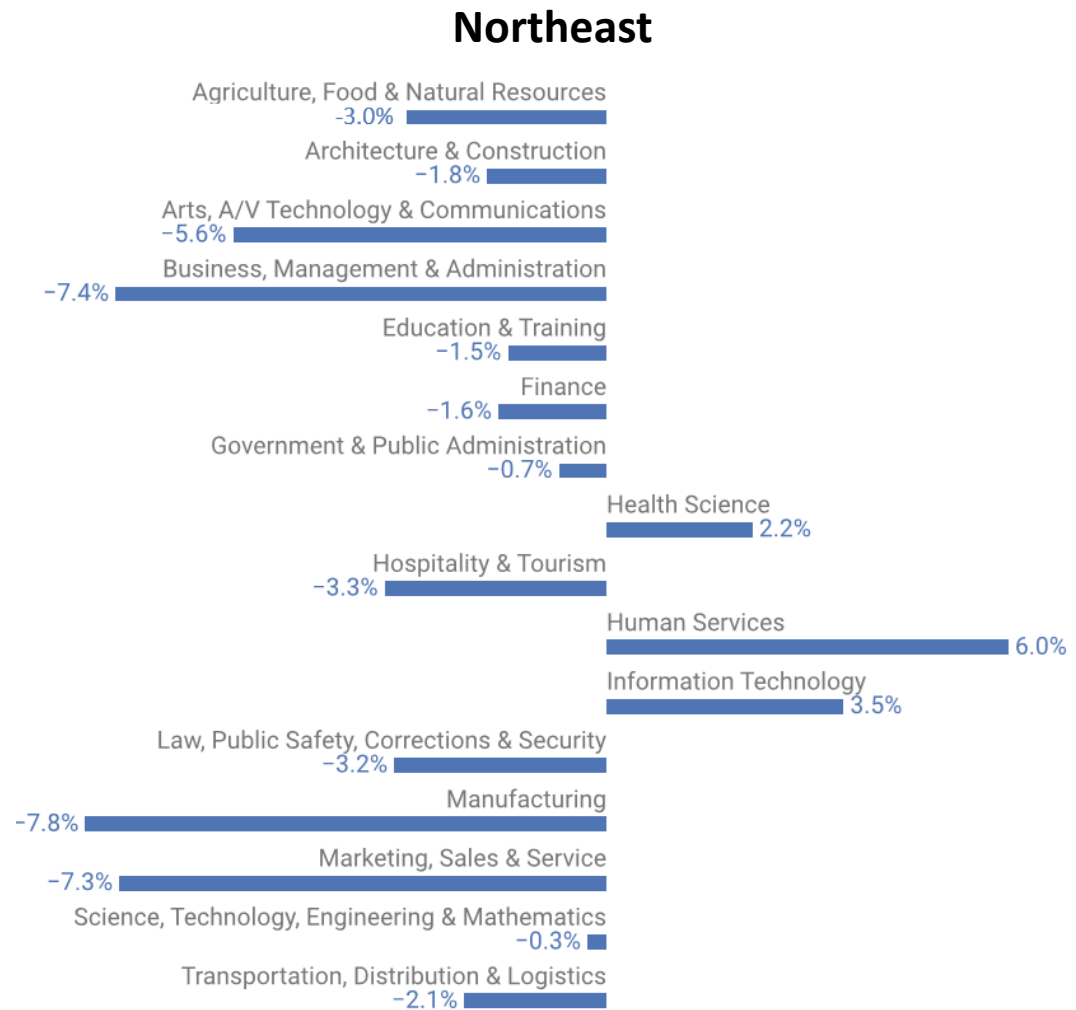
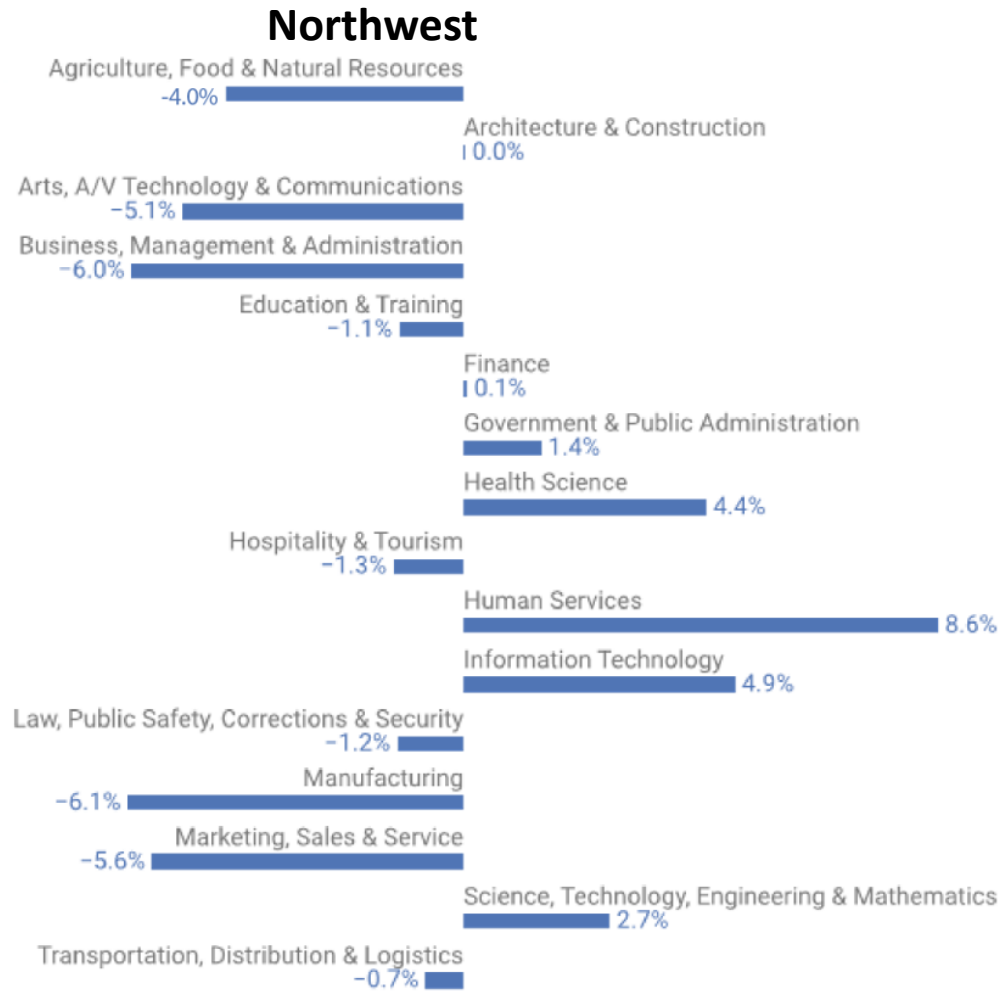
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# Career Cluster Detail



Northeast  
Northwest

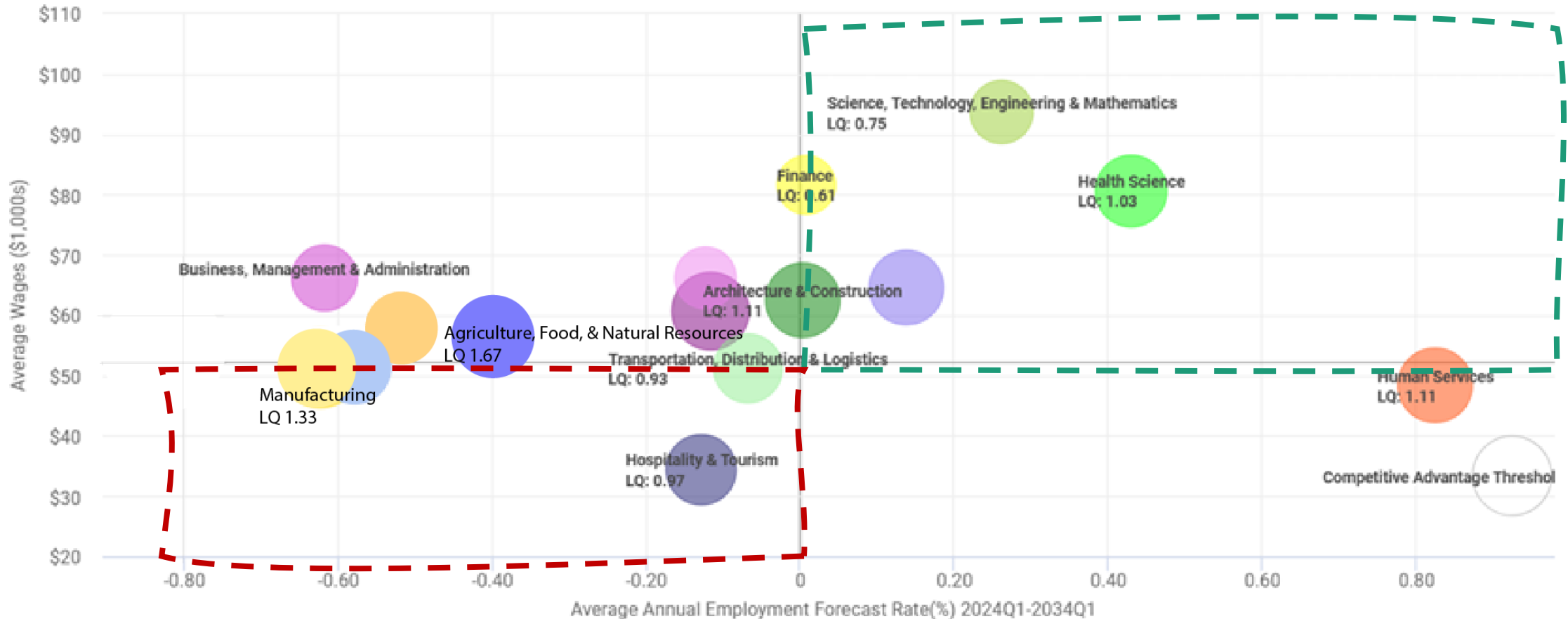
## Baseline 10-Year Forecasts by Career Cluster, 2024Q1



Chmura JobsEQ, 2024Q1 Dataset. Cluster forecasts estimated using Chmura, JobsEQ, based on 2024Q1 employment data. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters.



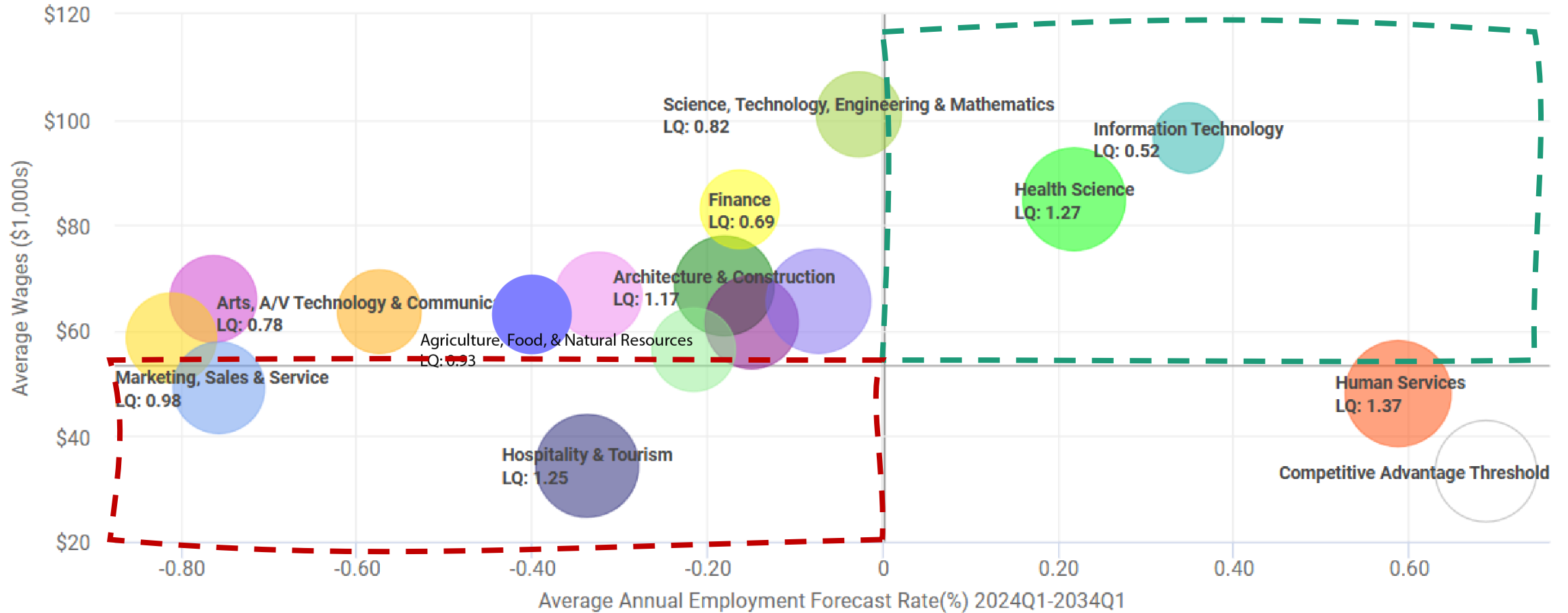
# Career Clusters Workforce Forecast



- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, AV Technology & Communications
- Business, Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Information Technology
- Law, Public Safety, Corrections & Security
- Human Services
- Marketing, Sales & Service
- Science, Technology, Engineering & Mathematics
- Manufacturing
- Transportation, Distribution & Logistics
- Competitive Advantage Threshold

# Career Clusters Workforce Forecast

Northeast



- Agriculture, Food & Natural Resources
- Business, Management & Administration
- Government & Public Administration
- Human Services
- Manufacturing
- Transportation, Distribution & Logistics
- Architecture & Construction
- Education & Training
- Health Science
- Information Technology
- Marketing, Sales & Service
- Hospitality & Tourism
- Law, Public Safety, Corrections & Security
- Science, Technology, Engineering & Mathematics
- Competitive Advantage Threshold



# Career Field Analysis

## Target Occupations

*High wage* (above regional median)

*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 median)

*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)

*Varied demand* (may have over 5% unemployment, low growth, low replacement demand, and/or low job postings)



# Health Science Technology Summary Statistics

Northeast

Northwest

## Northeast

- **2024Q1 Employment:** 22,971 (12% of NE employment)
- **Median Wage:** \$67,900
- **Location Quotient:** 1.27
- **2024Q1 Unemployment:** 429 (1.9% rate)
- **30-Day Job Ads:** 5,333\*
- **5-Year Ann Avg Employment Change:** -1.2%
- **Forecast 5-Year Ann Employment Change:** 0.2%
- **Total 5-Year Demand:** 9,252

## Northwest

- **2024Q1 Employment:** 17,002 (10% of NW employment)
- **Median Wage:** \$65,200
- **Location Quotient:** 1.03
- **2024Q1 Unemployment:** 365 (1.8% rate)
- **30-Day Job Ads:** 4,660\*
- **5-Year Ann Avg Employment Change:** -0.6%
- **Forecast 5-Year Ann Employment Change:** 0.4%
- **Total 5-Year Demand:** 7,375



# Health Science Technology

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

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

#### Top Award Gaps

- Medical Assistants
- Medical Secretaries & Administrative Assistants
- Pharmacists
- Healthcare Support Workers, All Other
- Licensed Practical & Licensed Vocational Nurses

### Northwest

#### Top Occupation Gaps

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

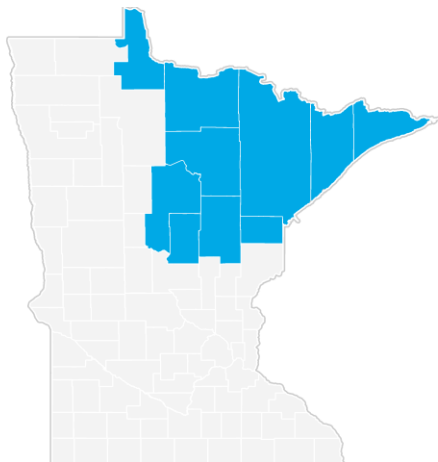
#### Top Award Gaps

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



# Health Science Technology

## Northeast



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

Registered Nurses

Licensed Practical & Licensed Vocational Nurses (AG)

Medical & Health Services Managers

Pharmacists (AG)

Dental Assistants

### Gateway Occupations

Medical Secretaries (HD, OG, AG)

Medical Assistants (HS, HD, OG, AG)

Psychiatric Technicians (HS, HD, OG, AG)

Medical Equipment Preparers (HD, AG)

Medical Transcriptionists (HS)

### Origin Occupations

Nursing Assistants (HS, HD, OG)

Home Health Aides (HD)

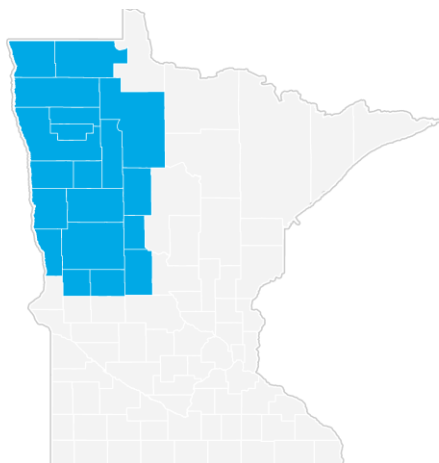
Pharmacy Technicians (OG, AG)

Healthcare Support Workers (HD, AG)

Veterinary Technologists & Technicians (HS, HD, OG, AG)

# Health Science Technology

## Northwest



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

Registered Nurses  
Licensed Practical & Licensed Vocational Nurses  
Medical & Health Services Managers  
Dental Assistants  
Dental Hygienists

### Gateway Occupations

Pharmacy Technicians (HD, OG)  
Medical Assistants (HS, HD, OG, AG)  
Ophthalmic Medical Technicians (HS, HD, OG)  
Psychiatric Aides (HD)  
Medical Transcriptionists (HS)

### Origin Occupations

Nursing Assistants (HS, HD, OG, AG)  
Home Health Aides (HD)  
Medical Secretaries & Administrative Assistants (HD, OG, AG)  
Healthcare Support Workers (HD)  
Veterinary Technologists & Technicians (HS, HD, OG, AG)

# Health Science Technology

Northeast  
Northwest

## Northeast Region Featured Pathway

Origin

Target



**Nursing Assistants**  
(HS, HD, OG)

**Licensed Practical &  
Licensed Vocational  
Nurses (HW, HS, HD,  
OG, AG)**

**Registered Nurses**  
(HW, HS, HD, OG)

## Northwest Region Featured Pathway

Origin

Gateway

Target



**Healthcare  
Support Worker**  
(HD)

**Medical  
Assistants (HS,  
HD, AG, OG)**

**Dental Hygienist**  
(HW, HS, HD, OG)  
**Dental Assistants**  
(HW, HS, HD, OG)

# Human Services

## Summary Statistics

Northeast

Northwest

### Northeast

- **2024Q1 Employment:** 34,643 (18% of NE employment)
- **Median Wage:** \$55,100
- **Location Quotient:** 1.13
- **2024Q1 Unemployment:** 950 (2.7% rate)
- **30-Day Job Ads:** 2,165\*
- **5-Year Ann Avg Employment Change:** -0.2%
- **Forecast 5-Year Ann Employment Change:** 0.1%
- **Total 5-Year Demand:** 17,973

### Northwest

- **2024Q1 Employment:** 30,072 (17% of NW employment)
- **Median Wage:** \$55,400
- **Location Quotient:** 1.07
- **2024Q1 Unemployment:** 810 (2.4% rate)
- **30-Day Job Ads:** 2,040\*
- **5-Year Ann Avg Employment Change:** 0.3%
- **Forecast 5-Year Ann Employment Change:** 0.2%
- **Total 5-Year Demand:** 15,423



# Human Services

## *Top Occupation & Award Gaps*

Northeast

Northwest

### Northeast

#### Top Occupation Gaps

- Substance, Behavioral, Mental Health Counselors
- Social & Community Service Managers
- Police & Sheriff's Patrol Officers
- Firefighters
- Court, Municipal, & License Clerks

#### Top Award Gaps

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

### Northwest

#### Top Occupation Gaps

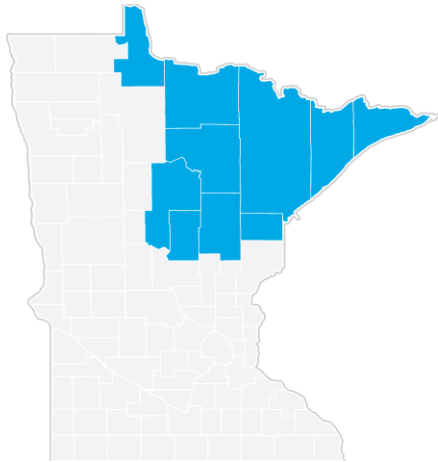
- Substance, Behavioral, Mental Health Counselors
- Police & Sheriff's Patrol Officers
- Lawyers
- Child, Family, & School Social Workers
- Social & Community Service Managers

#### Top Award Gaps

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

# Human Services

## Northeast



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

Elementary School Teachers

Secondary School Teachers (OG)

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

Child, Family, & School Social Workers (OG)

Middle School Teachers

### Gateway Occupations

Residential Advisors (HD, AG)

Supervisors of Entertainment & Recreation Workers (HD, OG)

Community Health Workers (HD)

Skincare Specialists (HS, HD, AG)

Transportation Security Screeners

### Origin Occupations

Personal Care Aides (HD, AG)

Teaching Assistants (HS, HD, AG)

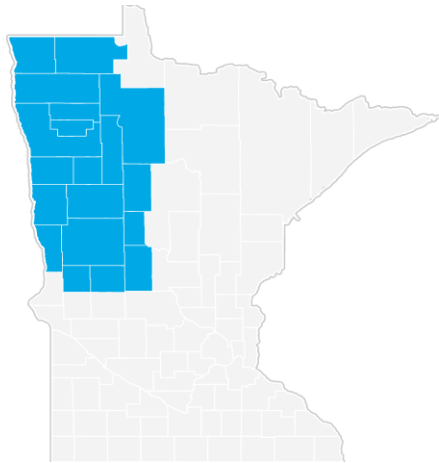
Childcare Workers (AG)

Social & Human Service Assistants (HD, AG)

Preschool Teachers (HS, HD)

# Human Services

## Northwest



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

Child, Family, & School Social Workers (OG)

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

Lawyers (OG, AG)

Social & Community Service Manager (OG)

Educational, Guidance, & Career Counselors and  
Advisors

### Gateway Occupations

Social and Human Services Assistants (HD, AG)

Substitute Teachers, Short-Term (HS, HD, AG)

Self-Enrichment Teachers (HD, AG)

Residential Advisors (HD, AG)

Rehabilitation Counselors (HS)

### Origin Occupations (All AG)

Personal Care Aides (HD)

Teaching Assistants, Except Postsecondary (HS)

Childcare Workers

Preschool Teachers, Except Special Education (HS, HD)

Firefighters (HS, HS, OG, AG)



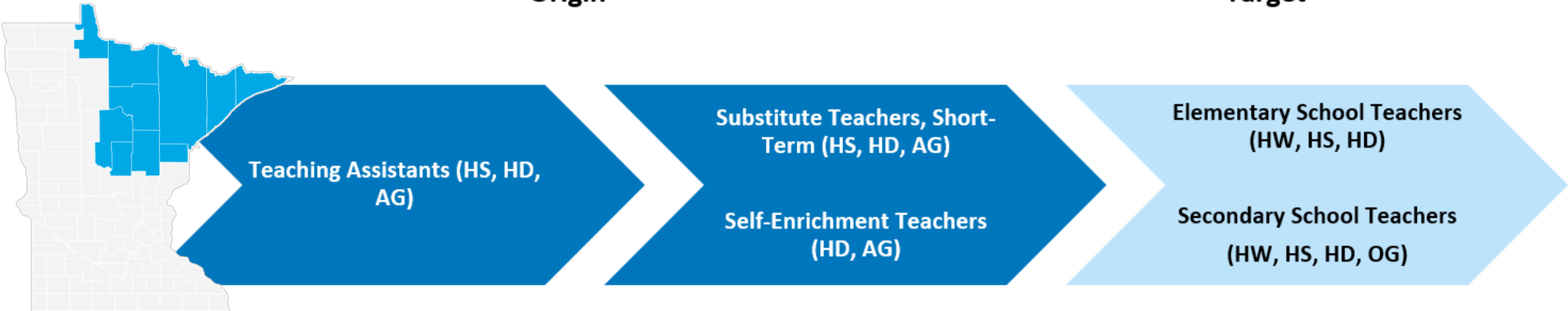
# Human Services



## Northeast Region Featured Pathway

Origin

Target

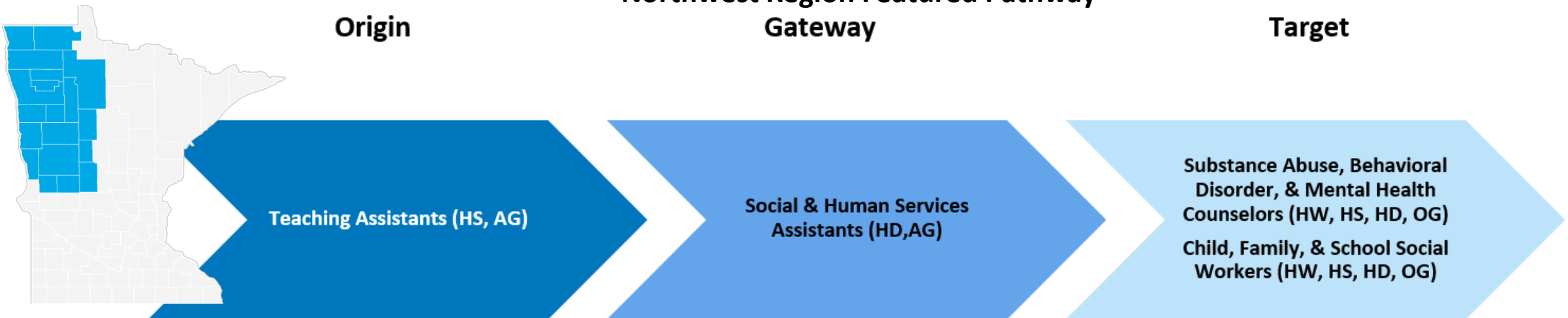


## Northwest Region Featured Pathway

Origin

Gateway

Target



# Arts, Communications, & Information Systems *Summary Statistics*

Northeast

Northwest

## Northeast

- **2024Q1 Employment:** 5,419 (3% of NE employment)
- **Median Wage:** \$76,200
- **Location Quotient:** 0.61
- **2024Q1 Unemployment:** 159 (2.6% rate)
- **30-Day Job Ads:** 385\*
- **5-Year Ann Avg Employment Change:** -1.4%
- **Forecast 5-Year Ann Employment Change:** -0.1%
- **Total 5-Year Demand:** 2,010

## Northwest

- **2024Q1 Employment:** 4,830 (3% of NW employment)
- **Median Wage:** \$69,300
- **Location Quotient:** 0.59
- **2024Q1 Unemployment:** 141 (2.3% rate)
- **30-Day Job Ads:** 260\*
- **5-Year Ann Avg Employment Change:** -0.1%
- **Forecast 5-Year Ann Employment Change:** 0.0%
- **Total 5-Year Demand:** 1,867



# Arts, Communications, & Information Systems

## ***Top Occupation & Award Gaps***

Northeast

Northwest

### Northeast

#### **Top Occupation Gaps**

- Software Developers
- Computer Systems Analysts
- Art Directors
- Telecommunications Line Installers & Repairers
- Telecommunications Equipment Installers

#### **Top Award Gaps**

- Photographers
- Art Directors
- Musicians & Singers
- Computer User Support Specialists
- Dancers

### Northwest

#### **Top Occupation Gaps**

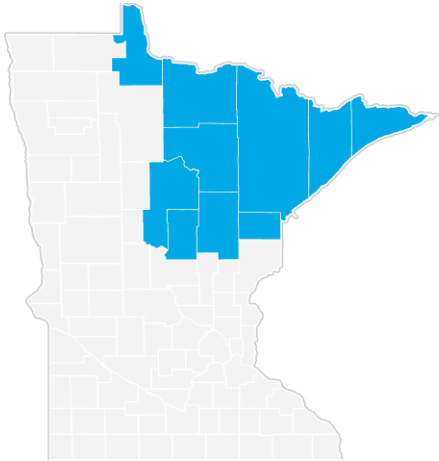
- Software Developers
- Musicians & Singers
- Computer User Support Specialists
- Photographers
- Computer Network Support Specialists

#### **Top Award Gaps**

- Computer User Support Specialists
- Musicians & Singers
- Telecommunications Equipment Installers
- Prepress Technicians & Workers
- Dancers

# Arts, Communications, & Information Systems

## Northeast



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

Software Developers

Computer Systems Analysts

Computer Network Support Specialists

Computer Occupations, All Other

Telecommunications Equipment Installers

### Gateway Occupations

Printing Press Operators

Producers & Directors (HS)

News Analysts, Reporters, & Journalists (HS)

Print Binding & Finishing Workers

Camera Operators, Television, Video, & Film (HS)

### Origin Occupations

Photographers (HD, AG)

Audio & Video Technicians (HS, AG)

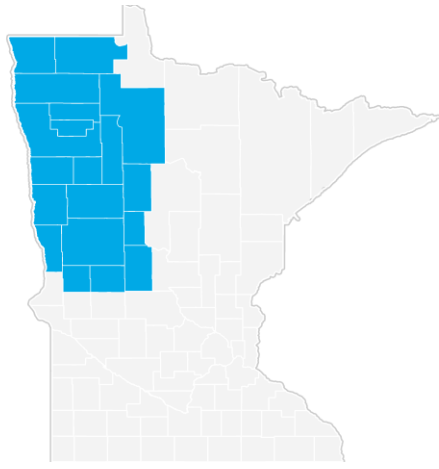
Floral Designers

Broadcast Announcers & Radio Disc Jockeys (HS)

Prepress Technicians & Workers (HS)

# Arts, Communications, & Information Systems

## Northwest



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

Software Developers (OG)

Computer Systems Analysts (OG)

Telecommunications Equipment Installers & Repairers  
(OG, AG)

Computer Occupations, All Other (OG)

Web & Digital Interface Designers

### Gateway Occupations (All HS)

Editors

Broadcast Technicians

Proofreaders & Copy Markers

### Origin Occupations

Printing Press Operators (AG)

Photographers (HD, OG)

Floral Designers

Prepress Technicians & Workers (HS, AG)

Print Binding & Finishing Workers

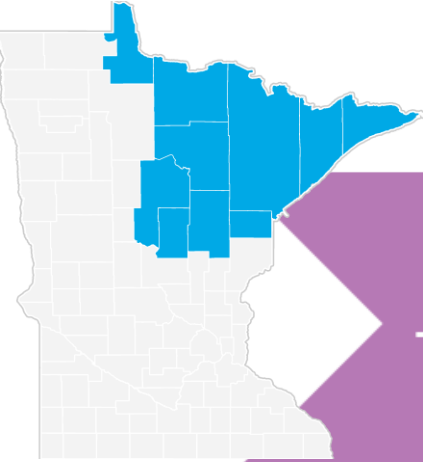
# Arts, Communications, & Information Systems

Northeast  
Northwest

## Northeast Region Featured Pathway

Origin

Target



Audio & Visual  
Technicians (HS, AG)

Telecommunications  
Equipment Installers  
(HW, HS, HD, OG)

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

## Northwest Region Featured Pathway

Gateway

Other Aligned Occupation

Target



Broadcast Technicians  
(HS)

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

Telecommunications  
Equipment Installers  
& Repairers  
(HW, HS, HD, OG, AG)

# Business, Management, & Administration *Summary Statistics*

Northeast  
Northwest

## Northeast

## Northwest

- **2024Q1 Employment:** 84,011 (43% of NE employment)
- **Median Wage:** \$48,700
- **Location Quotient:** 0.97
- **2024Q1 Unemployment:** 3,683 (4.1% rate)
- **30-Day Job Ads:** 5,665\*
- **5-Year Ann Avg Employment Change:** -0.5%
- **Forecast 5-Year Ann Employment Change:** -0.6%
- **Total 5-Year Demand:** 52,278

- **2024Q1 Employment:** 70,220 (39% of NW employment)
- **Median Wage:** \$50,300
- **Location Quotient:** 0.89
- **2024Q1 Unemployment:** 3,116 (3.5% rate)
- **30-Day Job Ads:** 4,432\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.4%
- **Total 5-Year Demand:** 43,484





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

Northeast  
Northwest

## Northeast

### Top Occupation Gaps

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

### Top Award Gaps

- General & Operations Managers
- Business Operations Specialists
- Management Analysts
- Project Management Specialists
- Human Resources Specialists

## Northwest

### Top Occupation Gaps

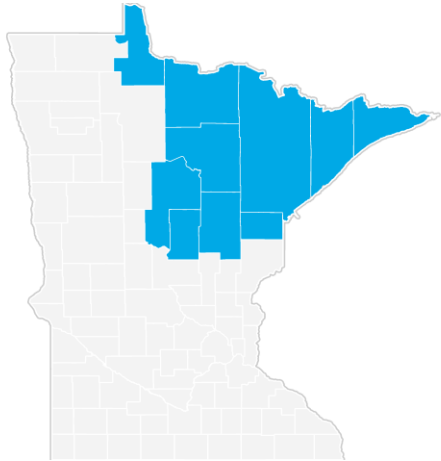
- General & Operations Managers
- Restaurant Cooks
- Financial Managers
- Managers, All Other
- Market Research Analysts & Specialists

### Top Award Gaps

- Supervisors of Food Prep & Serving Workers
- Market Research Analysts & Specialists
- Restaurant Cooks
- Food Service Managers
- Recreation Workers

# Business, Management, & Administration

## Northeast



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

General & Operations Managers (AG)

Accountants & Auditors

Managers, All Other

Business Operations Specialists (AG)

Management Analysts (AG)

### Gateway Occupations

Secretaries & Administrative Assistants (AG)

Supervisors of Retail Workers (HD)

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

Billing & Posting Clerks

Supervisors of Housekeeping & Janitorial Workers (HD, OG)

### Origin Occupations

Retail Salespersons (HD)

Cashiers

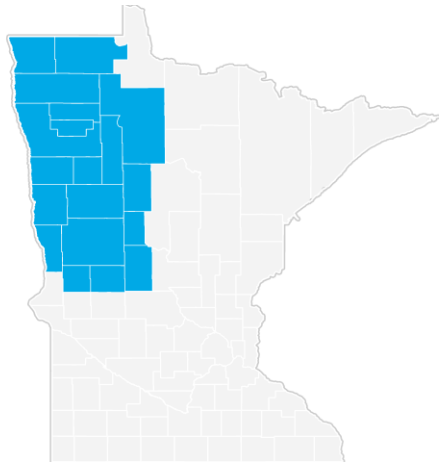
Fast Food & Counter Workers (HD)

Waiters & Waitresses

Office Clerks, General

# Business, Management, & Administration

## Northwest



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

Financial Managers (OG)

Management Analysts (OG)

Securities, Commodities, & Financial Services Sales

Agents (OG, AG)

Public Relations Specialists

Computer & Information Systems Managers (OG)

### Gateway Occupations

Secretaries & Administrative Assistants

First-Line Supervisors of Retail Sales Workers (HD)

Bookkeeping, Accounting, & Auditing Clerks (HS)

Shipping, Receiving, & Inventory Clerks (AG)

Office & Administrative Support Workers, All Other

### Origin Occupations

Cashiers

Retail Salespersons (HD)

Fast Food & Counter Workers (HD)

Office Clerks, General (HD, AG)

Stockers & Order Fillers (HD)

# Business, Management, & Administration

Northeast  
Northwest

## Northeast Region Featured Pathway

Origin

Gateway

Target

Retail Salespersons (HD)

Fast Food & Counter  
Workers (HD)

Supervisors of Retail  
Workers (HD)

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

## Northwest Region Featured Pathway

Origin

Gateway

Target

Office Clerks, General  
(HD, AG)

Bookkeeping,  
Accounting, & Auditing  
Clerks (HS)

Financial Managers  
(HW, HS, HD, OG)

# Engineering, Manufacturing, & Technology

## Summary Statistics

Northeast  
Northwest

### Northeast

### Northwest

- **2024Q1 Employment:** 45,047 (23% of NE employment)
- **Median Wage:** \$62,000
- **Location Quotient:** 0.95
- **2024Q1 Unemployment:** 2,067 (4.2% rate)
- **30-Day Job Ads:** 2,362\*
- **5-Year Ann Avg Employment Change:** -0.1%
- **Forecast 5-Year Ann Employment Change:** -0.4%
- **Total 5-Year Demand:** 20,418

- **2024Q1 Employment:** 48,009 (27% of NW employment)
- **Median Wage:** \$54,200
- **Location Quotient:** 1.10
- **2024Q1 Unemployment:** 2,327 (3.7% rate)
- **30-Day Job Ads:** 2,383\*
- **5-Year Ann Avg Employment Change:** 0.5%
- **Forecast 5-Year Ann Employment Change:** -0.3%
- **Total 5-Year Demand:** 23,090



# Engineering, Manufacturing, & Technology

## *Top Occupation & Award Gaps*

Northeast  
Northwest

### Northeast

### Northwest

#### Top Occupation Gaps

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

#### Top Award Gaps

- Automotive Service Technicians & Mechanics
- Industrial Engineers
- Heavy & Tractor Trailer Truck Drivers
- Construction Managers
- Architectural & Civil Drafters

#### Top Occupation Gaps

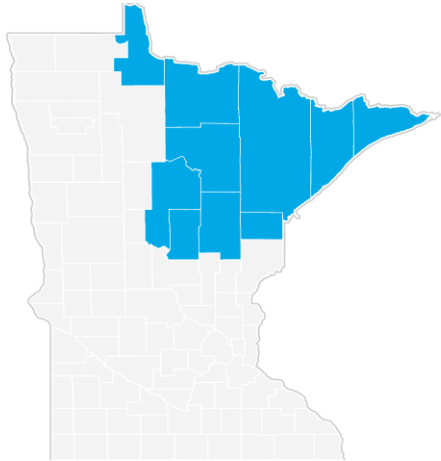
- Heavy & Tractor Trailer Truck Drivers
- Carpenters
- Maintenance & Repair Workers
- Industrial Machinery Mechanics
- Supervisors of Construction Trades Workers

#### Top Award Gaps

- Welders, Cutters, Solderers, & Brazers
- Industrial Engineers
- Mechanical Engineers
- Civil Engineers
- Electrical Engineers

# Engineering, Manufacturing, & Tech

## Northeast



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

Heavy & Tractor-Trailer Truck Drivers (AG)

Construction Managers (AG)

Industrial Engineers (AG)

HVAC Mechanics (AG)

Civil Engineers

### Gateway Occupations

Light Truck Drivers (HD, AG)

School Bus Drivers (HD, AG)

Industrial Truck & Tractor Operators

Computer Numerically Controlled Tool Operators

Automotive Body & Related Repairers (OG)

### Origin Occupations

Laborers & Freight, Stock Movers

Landscaping & Groundskeeping Workers (HD)

Team Assemblers

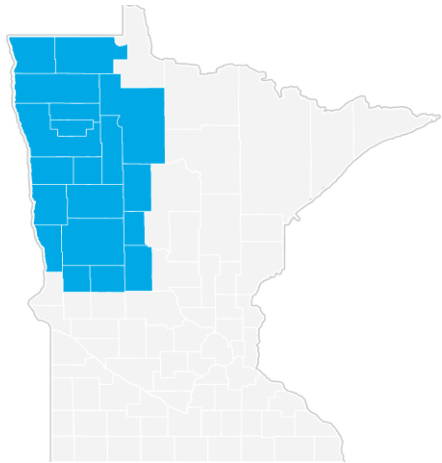
Packers & Packagers, Hand

Shuttle Drivers & Chauffeurs (HD, AG)



# Engineering, Manufacturing, & Tech

## Northwest



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

Heavy & Tractor-Trailer Truck Drivers

Industrial Engineers (AG)

Construction Managers

HVAC Mechanics & Installers

Mechanical Engineers (AG)

### Gateway Occupations

Light Truck Drivers (HD)

Automotive Service Technicians & Mechanics (HS, OG)

School Bus Drivers (HD)

Industrial Truck & Tractor Operators

Painters, Construction & Maintenance (OG)

### Origin Occupations

Laborers & Freight, Stock, & Material Movers, Hand

Team Assemblers

Landscaping & Groundskeeping Workers (HD, AG)

Food Batchmakers (HD, OG, AG)

Packaging & Filling Machine Operators & Tenders (HD, OG)

# Engineering, Manufacturing, & Technology

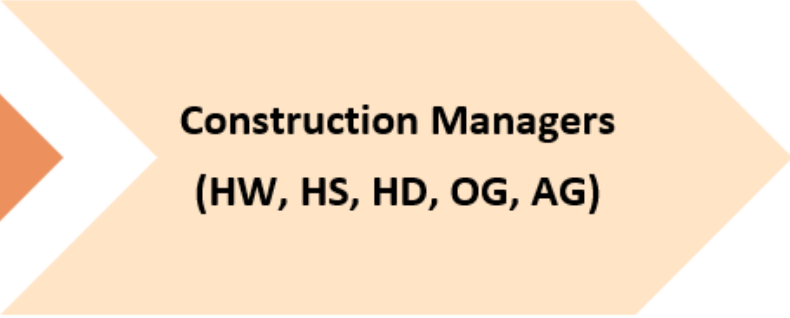
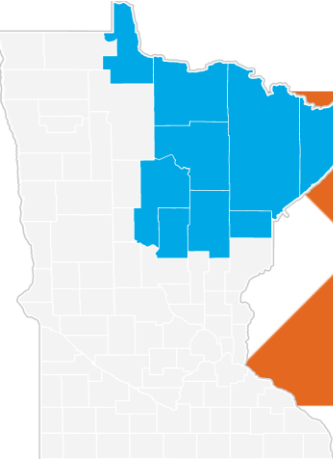


## Northeast Region Featured Pathway

**Origin**

**Gateway**

**Target**

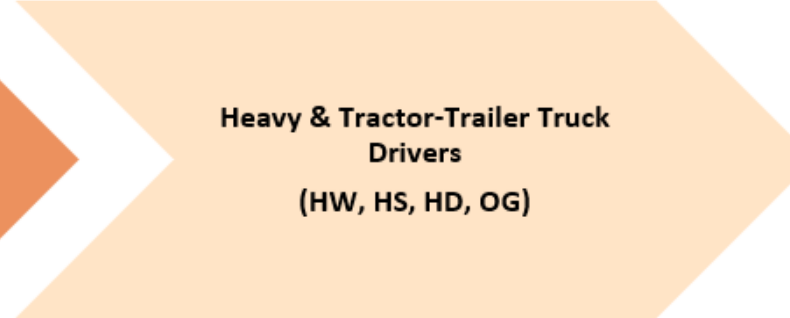
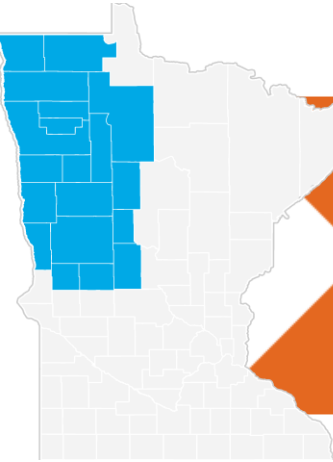


## Northwest Region Featured Pathway

**Origin**

**Gateway**

**Target**



# Agriculture, Food, & Natural Resources

Northeast

Northwest

## Summary Statistics

### Northeast

- **2024Q1 Employment:** 9,435 (5% of NE employment)
- **Median Wage:** \$59,600
- **Location Quotient:** 0.93
- **2024Q1 Unemployment:** 341 (3.4% rate)
- **30-Day Job Ads:** 578\*
- **5-Year Ann Avg Employment Change:** 0.0%
- **Forecast 5-Year Ann Employment Change:** -0.3%
- **Total 5-Year Demand:** 4,911

### Northwest

- **2024Q1 Employment:** 15,538 (9% of NW employment)
- **Median Wage:** \$54,300
- **Location Quotient:** 1.67
- **2024Q1 Unemployment:** 528 (2.9% rate)
- **30-Day Job Ads:** 549\*
- **5-Year Ann Avg Employment Change:** -0.1%
- **Forecast 5-Year Ann Employment Change:** -0.4%
- **Total 5-Year Demand:** 8,461



# Agriculture, Food, & Natural Resources

Northeast

Northwest

## *Top Occupation & Award Gaps*

### Northeast

#### Top Occupation Gaps

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

#### Top Award Gaps

- Mining & Geological Engineers
- Veterinarians
- HVAC Mechanics
- Urban and Regional Planners
- Environmental Engineers

### Northwest

#### Top Occupation Gaps

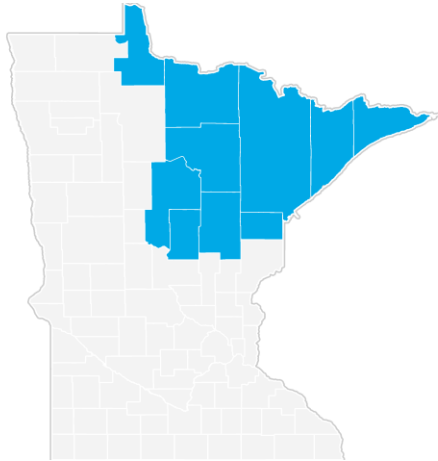
- Plumbers, Pipefitters, & Steamfitters
- Veterinary Technologists & Technicians
- Farm Equipment Mechanics & Service Techs
- HVAC Mechanics
- Food Batchmakers

#### Top Award Gaps

- Farmers, Ranchers, & Agricultural Managers
- Urban & Regional Planners
- Veterinarians
- Veterinary Technologists & Technicians
- Telecommunications Equipment Installers

# Agriculture, Food, & Natural Resources

## Northeast



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

HVAC Mechanics (OG, AG)

Telecommunications Equipment Installers (OG)

Environmental Scientists & Specialists

Chemical Technicians (AG)

Surveyors (AG)

### Gateway Occupations

Logging Equipment Operators

Butchers & Meat Cutters

Biological Technicians (HS, HD)

Outdoor Power Equipment Mechanics (HD)

Pesticide Handlers, Sprayers, & Applicators, Vegetation (HD)

### Origin Occupations

Landscaping & Groundskeeping Workers (HD)

Animal Caretakers (HD)

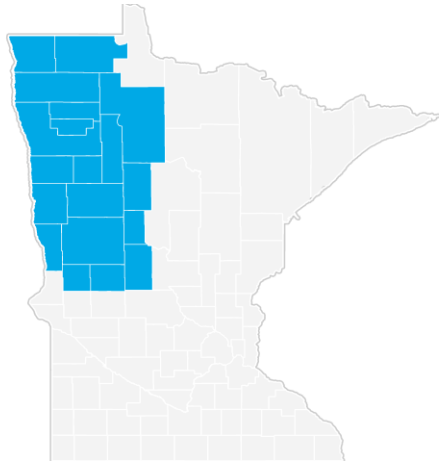
Veterinary Technologists & Technicians (HS, HD, OG, AG)

Bakers (HD)

Farmworkers & Laborers, Crop, Nursery, & Greenhouse

# Agriculture, Food, & Natural Resources

## Northwest



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

HVAC Mechanics & Installers (OG)

Telecommunications Equipment Installers & Repairers  
(OG, AG)

Environmental Scientists & Specialists

Urban & Regional Planners (AG)

Biological Science Teachers, Postsecondary

### Gateway Occupations

Agricultural Equipment Operators (HD, AG)

Food Cooking Machine Operators & Tenders (HD)

Logging Equipment Operators

Pesticide Handlers, Sprayers, & Applicators, Vegetation

Outdoor Power Equipment & Other Small Engine Mechanics

### Origin Occupations

Landscaping & Groundskeeping Workers (HD, AG)

Farmworkers & Laborers, Crop, Nursery, & Greenhouse

Food Batchmakers (HD, OG, AG)

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

Farmworkers, Farm, Ranch, & Aquacultural Animals

# Agriculture, Food, & Natural Resources

Northeast

Northwest

## Northeast Region Featured Pathway

Origin

Lower-Wage Target Occupation

Target



**Forest &  
Conservation  
Workers**

**Forest &  
Conservation  
Technicians**  
(HS, HD, OG)

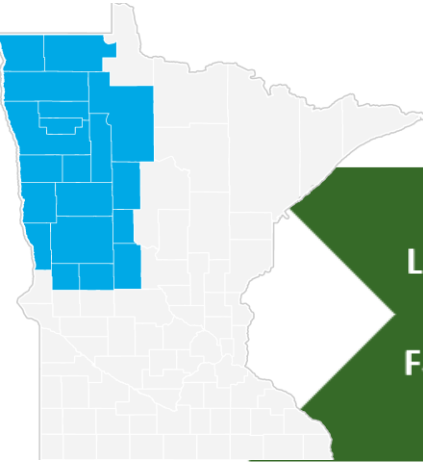
**Environmental  
Scientists &  
Specialists**  
(HW, HS, HD)

## Northwest Region Featured Pathway

Origin

Gateway Occupation

Other Aligned Occupation



**Farmworkers and  
Laborers, Crop, Nursery, &  
Greenhouse**  
**Farmworkers Farm, Ranch,  
& Aquacultural Animals**

**Agricultural Equipment  
Operators**  
(HD, AG)

**Farm Equipment  
Mechanics & Service  
Technicians**  
(HW, HD, OG)



# Summary and Discussion

# Thank you!

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# Appendix

# The National Career Clusters<sup>®</sup> Framework

The Career Clusters Framework serves as the foundation for designing consistent, high-quality Career Technical Education (CTE) and career pathway programs.

- Released in October 2024
- 5 Cluster Groupings
  - 14 Clusters (11 aligned to groupings, 3 cross-cutting)
    - 72 Sub-Clusters

