



# Washington County Labor Demand Study

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**Washington County CDA**

Developed by RealTime Talent

March 7, 2023



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# 01. Introduction

## The talent shortage is here, and likely to become more severe

Significant talent shortages have been on the horizon for years, and the effects of the COVID-19 Pandemic accelerated many of the workforce transitions and talent misalignments seen on our horizon in 2018. In 2022, demographic trends and the complex economic environment nationwide collided to create the tightest job market in history, and the impacts of that tightness are still being felt. We still see a “great reshuffle” playing out as talent seeks higher wage opportunities more closely aligned to areas of interest and skill, and early retirements, lack of access to childcare and other dependent care, illness, entrepreneurship and new business starts are cited as the top influencing factors limiting our available talent pool.<sup>1</sup> Minnesota has one of the most severe talent shortages in the nation, with about 50 available workers for every 100 open jobs—not even taking into account skill misalignments.<sup>2</sup> In short, we don’t have workers to spare.

## The needs of industry are changing

Just as the COVID-19 Pandemic accelerated talent shortages and misalignments, it also served as a catalyst for shifting business models and talent needs. One outcome was the rapid proliferation of remote and hybrid work environments, which has changed expectations of talent and business, and led to shifts in commute patterns that have remained with our communities even after stabilization. This report focuses on the unique needs of Washington County’s Healthcare, Manufacturing, and Construction industries, which are essential to the prospering of the local economy.



## 02. Labor Market Overview

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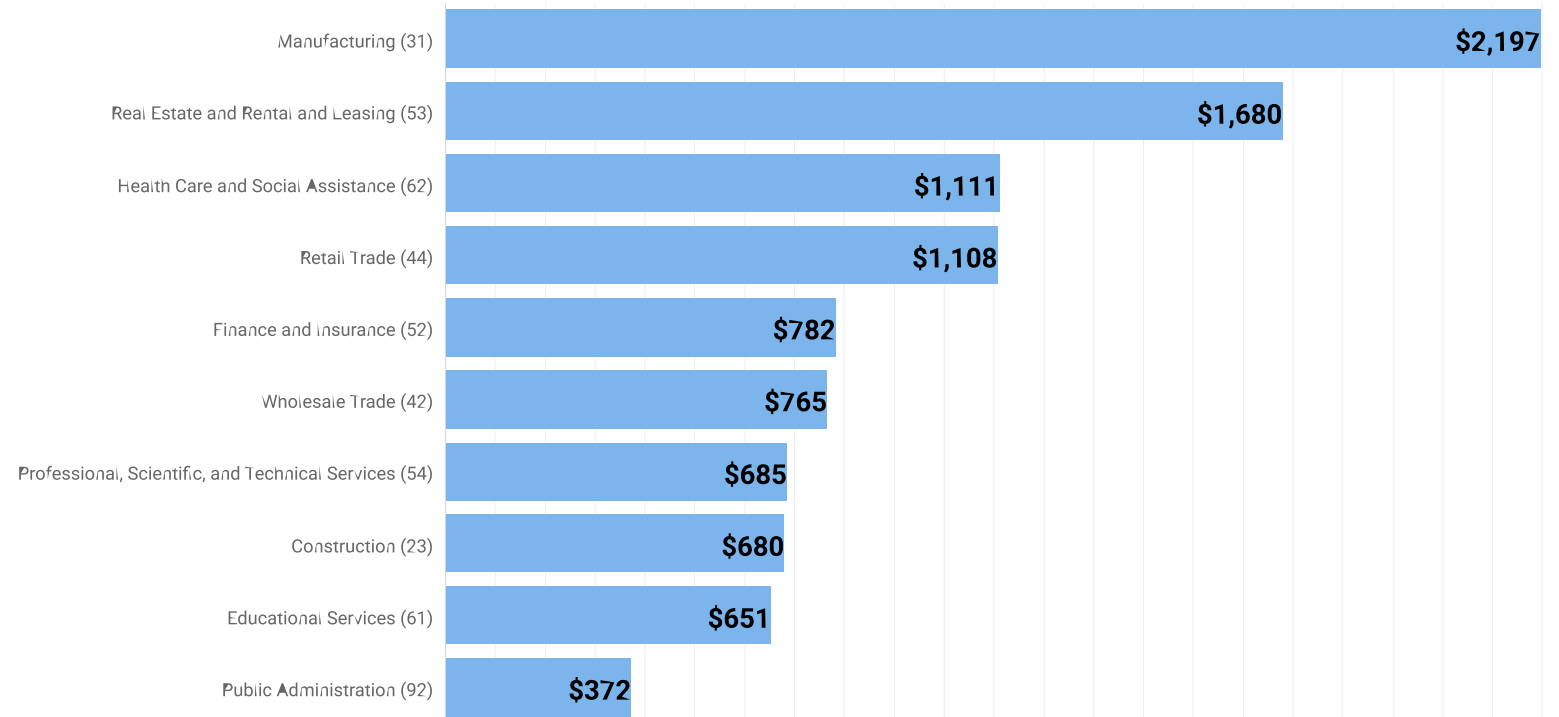
# State of the County's Economy

Washington County fared relatively well economically during the COVID-19 pandemic, seeing a contraction of GDP of only -1.3% in 2020.

In 2021, nominal GDP in Washington County expanded 12.2% to a total GDP of nearly twelve billion, one hundred and twenty million dollars (\$12,119,877,000).

Of the industry sectors in Washington County, Manufacturing contributed the largest portion of GDP in 2021, followed by Real Estate, Health Care and Social Assistance, and Retail Trade.

GDP (in \$ Millions)  
Washington County, Minnesota, 2021



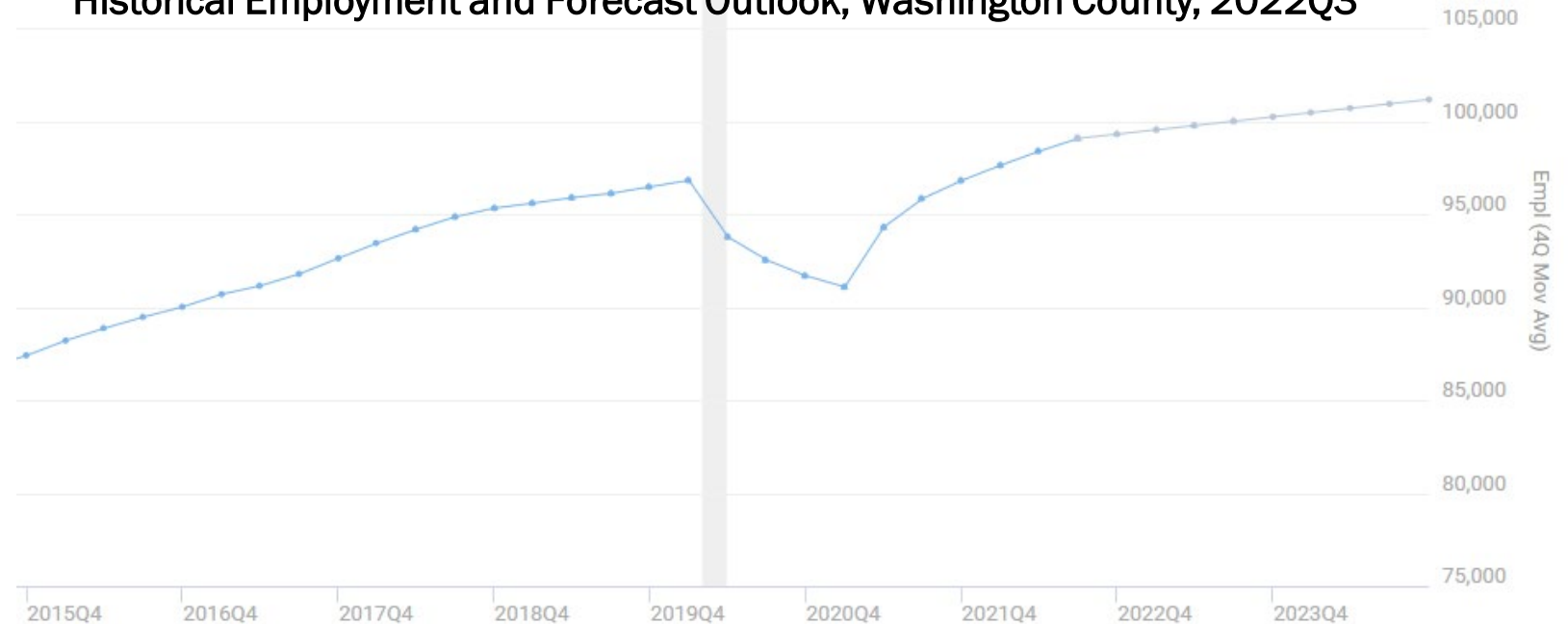
# Employment Trends

Washington County employment has followed the trends observed at the MSP Metro and statewide levels, with employment increasing 2.8% between 2021Q3 and 2022Q3.

A total of 99,098 workers are employed in Washington County, representing 5% of the total MSP Metro workforce.

The employment outlook for the county is strong, with an estimated average annual growth of 0.9% over the next five years.

Historical Employment and Forecast Outlook, Washington County, 2022Q3



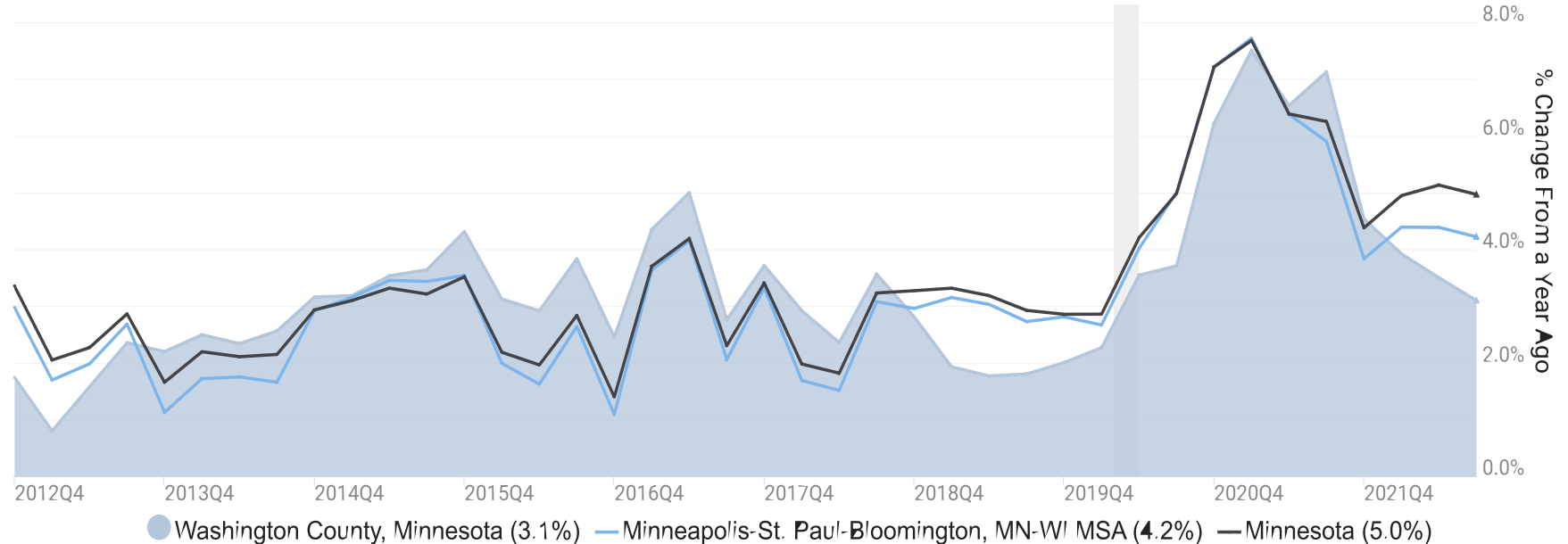
**Total Employment:** 99,098  
**Unemployment Rate:** 1.9% (2,728 people)  
**Historical 5-Year Average Annual Growth:** 1.5%  
**Forecast 5-Year Average Annual Growth:** 0.9%

# Wage Trends

The average worker earned annual wages of \$54,920 as of 2022Q3. Average annual wages increased 3.1% over the preceding four quarters.

Washington County's average annual wages and growth both lag the MSP Metro (\$72,457) and nation (\$68,132). The county also has a slightly higher local cost of living than the average community.

Average Annual Wages of Talent Employed in Washington County, 2022Q3



Source: JobsEQ®. Data as of 2022Q3. The shaded areas of the graph represent national recessions.

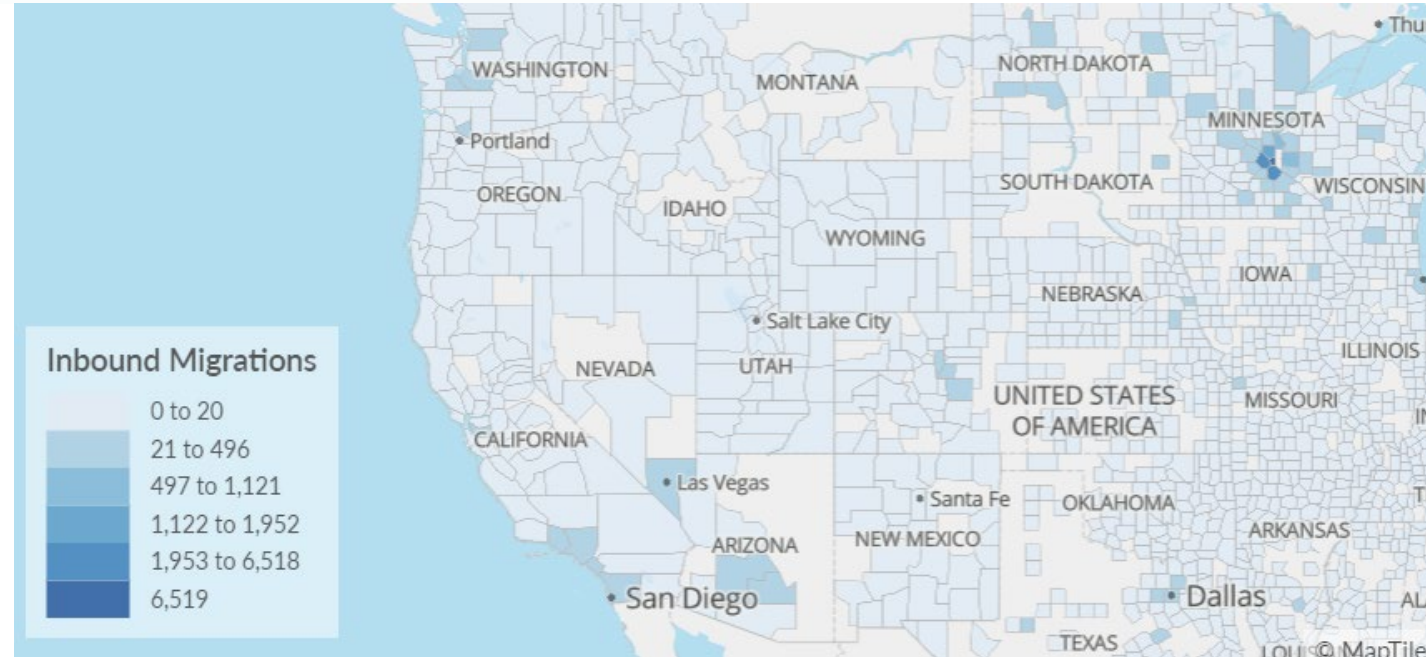
## Cost of Living Information

	Annual Average Salary	Cost of Living Index (Base US)	US Purchasing Power
Washington County, Minnesota	\$54,920	101.4	\$54,166
Minneapolis-St. Paul-Bloomington, MN-WI MSA	\$72,457	99.4	\$72,875
Minnesota	\$67,747	97.6	\$69,405
USA	\$68,132	100.0	\$68,132

# Talent Migration

Top Counties by Resident Migration	Inbound Migrations	Outbound Migrations	Net Migrations
Ramsey County, MN	6,519	3,207	3,312
Hennepin County, MN	2,022	1,318	704
Dakota County, MN	1,953	1,520	433
Anoka County, MN	1,122	991	131
Chisago County, MN	536	737	-200
St. Croix County, WI	497	999	-501
Scott County, MN	130	118	12
Pierce County, WI	121	201	-80
St. Louis County, MN	108	83	26
Cook County, IL	98	48	50
Isanti County, MN	84	142	-58
Maricopa County, AZ	79	193	-114
Total Migrations	17,219	14,296	2,923

Regional Migration Patterns, 2020

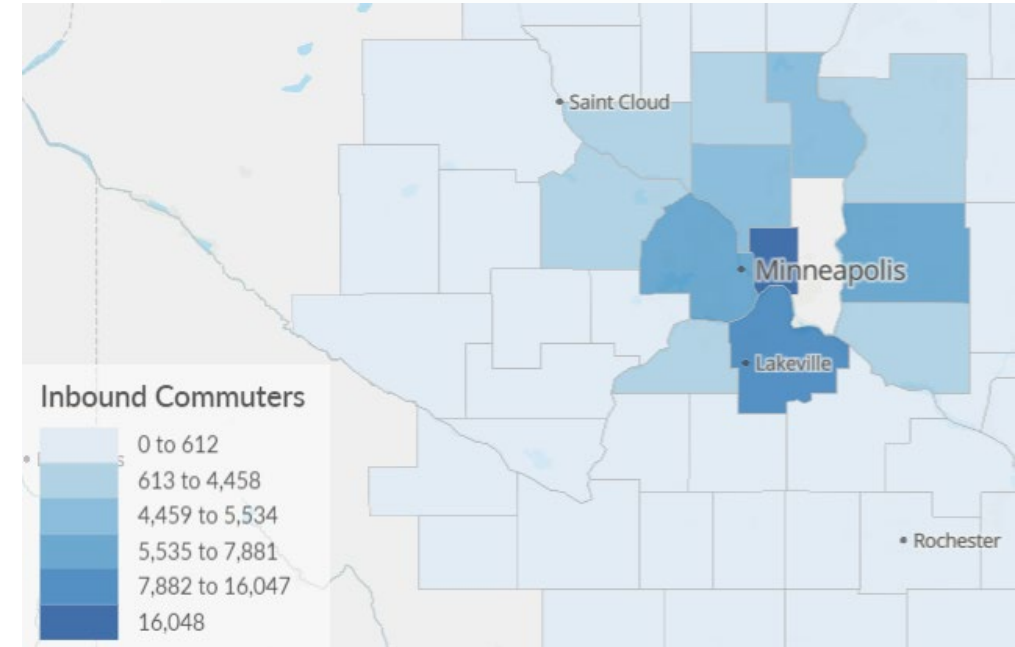


This dataset shows the amount of domestic taxpayer migration among all states, MSAs, and counties in the United States. The source and design of this taxpayer-based dataset excludes certain groups of people and thus does not represent the entire population, but rather is a good indicator of migrating workers within the labor force.

# Talent Commute

Top Counties by Resident Migration	Inbound Commuters	Outbound Commuters	Net Commuters
Ramsey County, MN	16,048	40,941	-24,893
Dakota County, MN	7,882	12,414	-4,532
Hennepin County, MN	6,387	36,361	-29,974
St. Croix County, WI	5,535	2,040	3,494
Anoka County, MN	4,858	5,977	-1,119
Chisago County, MN	4,459	1,552	2,907
Polk County, WI	1,443	382	1,061
Pierce County, WI	1,143	466	677
Wright County, MN	703	309	394
Sherburne County, MN	662	286	376
Isanti County, MN	640	176	463
Scott County, MN	613	889	-276
Goodhue County, MN	437	397	40
	55,316	106,058	-50,742

Regional Commute Patterns, 2022



This dataset shows the number of inbound, outbound, and net commuters for Washington County. Approximately 55,316 workers commute into Washington County from surrounding counties, while approximately 106,058 residents of Washington County commute out from the county to others.



# Regional Trends

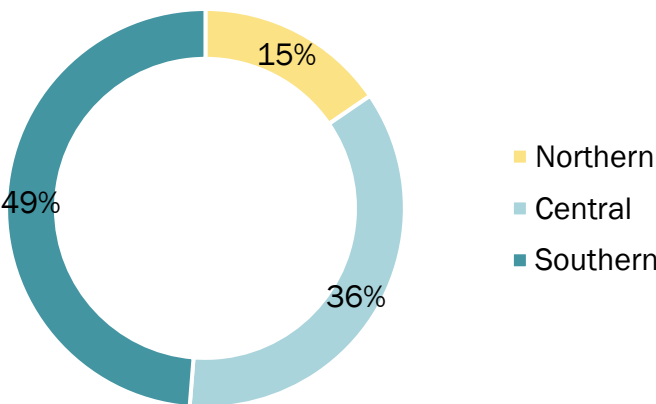
Washington County is home to an estimated 277,283 residents of all ages, with the largest share of population residing in the Southern portion of the county (49%).

The Southern and Central regions have the highest overall labor force participation rates.

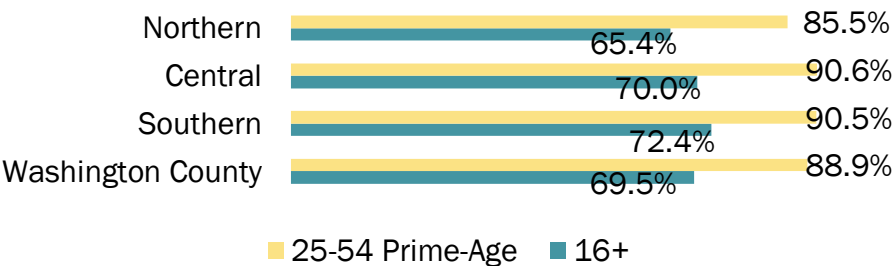
Average annual salary is highest in the Central region of the county (\$57,259).

Average Annual Salary by Region	
Northern Washington County	\$50,478
Central Washington County	\$57,259
Southern Washington County	\$52,950
Washington County, MN	\$54,920

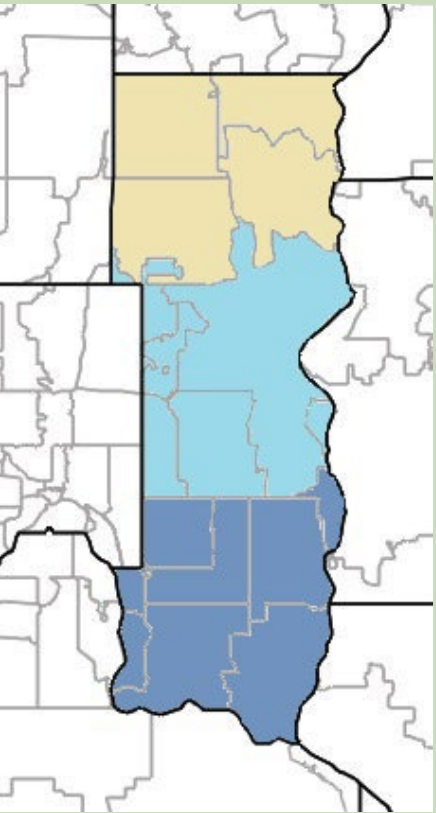
Share of Population by Washington County Region



Civilian Labor Force Participation Rate by Region



Map of Washington County



# Industry and Career Pathway Selection

## Approach for Selection of Industries and Pathways of Focus

- 1) Strong demand indicators in at least two of the following five areas (high historical employment, high job posting volumes, low unemployment rate, high forecast growth, high total demand, labeled by HD)
- 2) Higher than average local concentration of roles (LQ-Location Quotient above 1.0)
- 3) Significant impact on local or regional economy by GDP contribution, high average wage offerings, or high employment of county residents (HW)

## Prioritized Industries of Focus

- 1) **Healthcare\***—Offices of Physicians, Mental Health, Older Adult Services
- 2) **Manufacturing**—Wood, Paper, Chemical, Pharmaceutical, Printed Circuit and Industrial Control Manufacturing
- 3) **Construction**—Nonresidential Drywall Contractors, Nonresidential Structural Steel Contractors, Power Line Construction

## Prioritized Career Fields and Pathways of Focus

- 1) **Health Science**—Therapeutic Services
- 2) **Manufacturing**—STEM, Production, Maintenance and Machining
- 3) **Architecture and Construction**—Carpentry, Insulation, Drywall Installation

# A Profile of Local Industry

Washington County, Minnesota, 2022Q3 <sup>1</sup>											
NAICS	Industry	Current			5-Year History		5-Year Forecast				
		Empl	Avg Ann Wages	LQ	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
44	Retail Trade	15,232	\$32,426	1.52	1,141	1.6%	10,943	4,654	6,155	134	0.2%
62	Health Care and Social Assistance	14,614	\$57,666	1.03	2,264	3.4%	8,999	3,589	4,206	1,204	1.6%
31	Manufacturing	11,108	\$75,300	1.39	1,467	2.9%	6,318	2,257	3,839	222	0.4%
72	Accommodation and Food Services	9,544	\$23,444	1.14	-79	-0.2%	9,557	3,925	4,753	879	1.8%
61	Educational Services	7,469	\$52,834	0.95	-60	-0.2%	4,088	1,783	1,971	334	0.9%
23	Construction	5,747	\$68,943	0.98	1,131	4.5%	3,058	1,024	1,830	203	0.7%
81	Other Services (except Public Administration)	5,316	\$31,268	1.25	1	0.0%	3,729	1,397	1,927	405	1.5%
54	Professional, Scientific, and Technical Services	4,951	\$77,655	0.68	567	2.5%	2,601	841	1,444	316	1.2%
48	Transportation and Warehousing	3,681	\$48,582	0.75	610	3.7%	2,462	919	1,343	200	1.1%
92	Public Administration	3,618	\$68,277	0.79	-104	-0.6%	1,869	748	1,063	58	0.3%
52	Finance and Insurance	3,446	\$96,437	0.86	131	0.8%	1,764	622	1,021	121	0.7%
56	Administrative and Support and Waste Management and Remediation Services	3,399	\$48,464	0.53	-82	-0.5%	2,197	848	1,241	108	0.6%
42	Wholesale Trade	3,094	\$94,353	0.83	393	2.8%	1,829	643	1,097	89	0.6%
71	Arts, Entertainment, and Recreation	2,628	\$22,800	1.39	6	0.0%	2,204	844	1,168	191	1.4%
55	Management of Companies and Enterprises	1,624	\$119,371	1.08	-16	-0.2%	831	288	490	54	0.7%
53	Real Estate and Rental and Leasing	1,367	\$54,265	0.78	152	2.4%	743	320	394	29	0.4%
11	Agriculture, Forestry, Fishing and Hunting	1,108	\$45,217	0.84	84	1.6%	772	317	403	51	0.9%
51	Information	851	\$59,886	0.42	-258	-5.2%	525	154	281	90	2.0%
22	Utilities	245	\$141,309	0.49	-59	-4.2%	88	41	72	-24	-2.1%
<b>Total - All Industries</b>		<b>99,098</b>	<b>\$54,920</b>	<b>1.00</b>	<b>7,295</b>	<b>1.5%</b>	<b>63,051</b>	<b>24,377</b>	<b>33,963</b>	<b>4,711</b>	<b>0.9%</b>

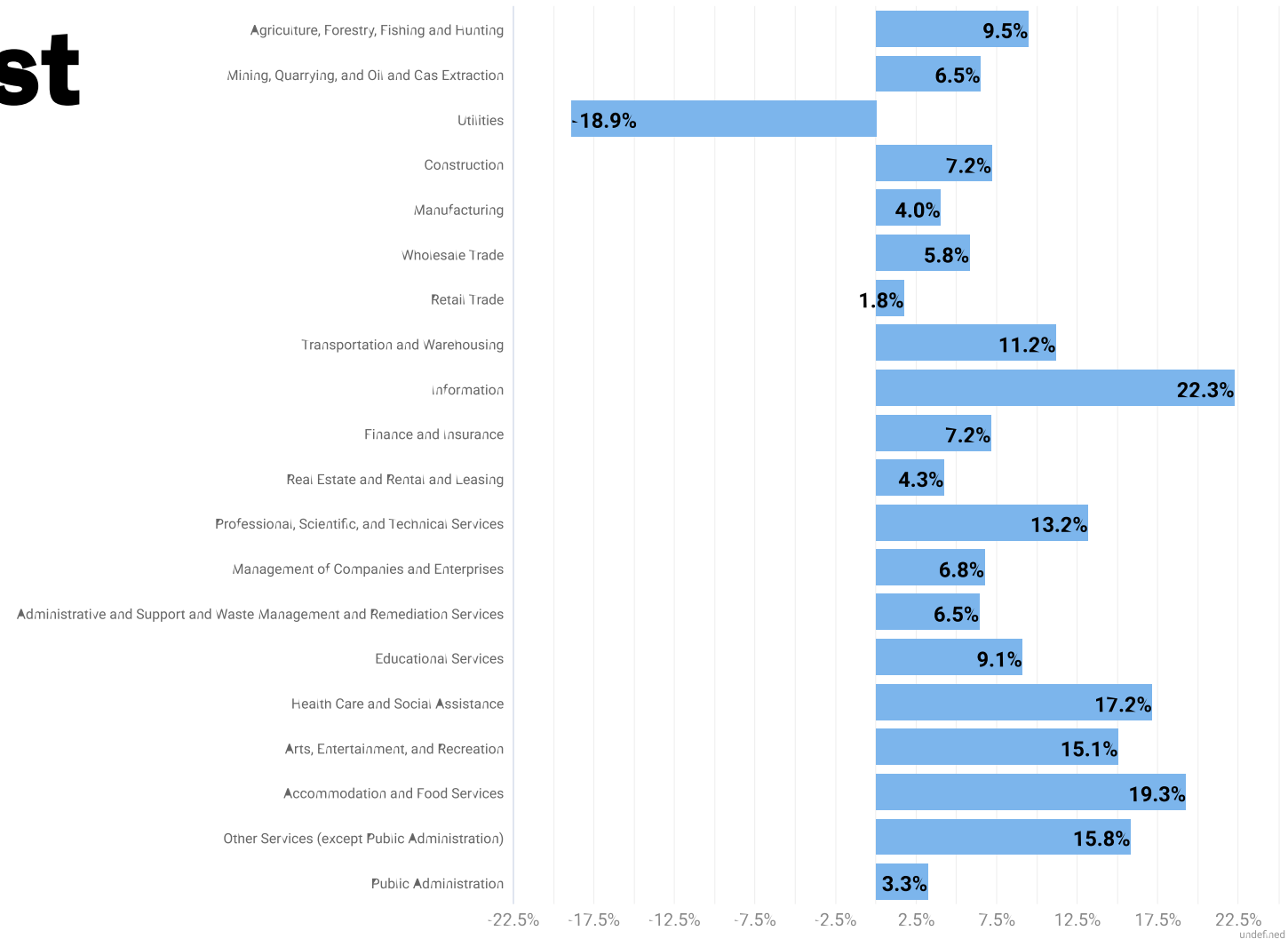


# Industry Forecast

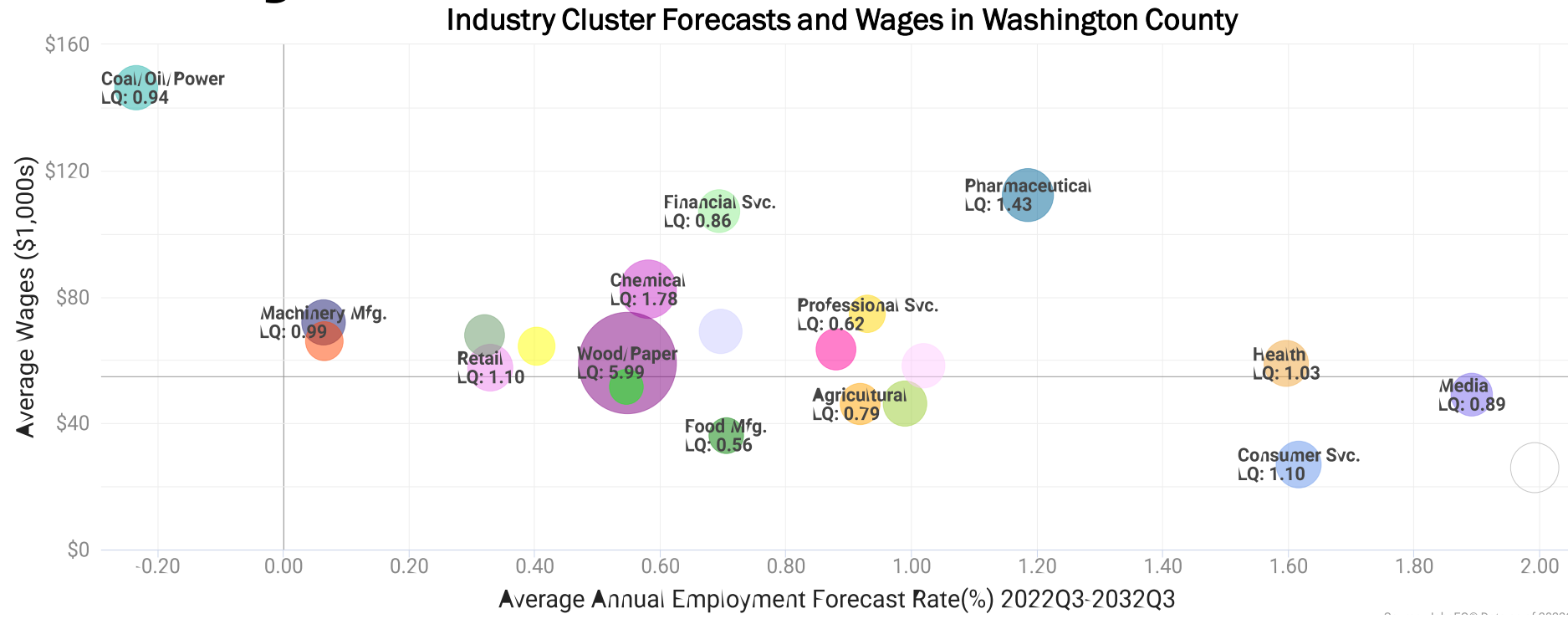
The 2-digit Industry with the highest forecast growth rate over the next ten years in Washington County is the **Information Industry** (22.3%), followed by **Accommodation and Food Services** (19.3%) which is in recovery following the impacts of the COVID-19 pandemic.

The **Utilities Industry** is the only broad industry cluster forecast to decline in overall employment over the next five years, but at only 245 people employed in the County in this industry as of 2022Q3, numbers of decline in local jobs are minimal (around 24 jobs lost per year). Replacement demand remains high across most industries in the region.

10 Year Forecast Growth Rate



# Industry Cluster Trends



The industry cluster in Washington County with the highest relative concentration is **Wood/Paper Manufacturing** with a location quotient of 5.99. This cluster employs 4,723 workers in the region with an average wage of \$59,222. Employment in this industry is projected to expand by about 0.5% per year over the next ten years. Only the **Coal/Oil/Power** industry cluster is forecast to decline in employment.

# Local Industry at a Glance

## Top Industries by 5-Year Average Annual Historical Employment Growth

- 1) Construction (+4.5%)
- 2) Transportation and Warehousing (3.7%)
- 3) Health Care and Social Assistance (+3.4%)
- 4) Manufacturing (+2.9%)
- 5) Wholesale Trade (+2.8%)

## Top Industries by Employment Volume

- 1) Retail Trade (15,232)
- 2) Health Care and Social Assistance (14,614)
- 3) Manufacturing (11,108)
- 4) Accommodation and Food Services (9,544)
- 5) Educational Services (7,469)

## Top Industries by 5-Year Average Annual Forecasted Employment Growth

- 1) Information (+2.0%)
- 2) Accommodation and Food Services (+1.8%)
- 3) Health Care and Social Assistance (+1.6%)
- 4) Other Services (+1.5%)
- 5) Arts, Entertainment, and Recreation (+1.4%)

## Top Industries by Location Quotient (LQ)

- 1) Retail Trade (1.52)
- 2) Manufacturing (1.39)
- 3) Arts, Entertainment, and Recreation (1.39)
- 4) Other Services (1.25)
- 5) Accommodation and Food Services (1.14)

## Top Industries by Average Wage

- 1) Utilities (\$141,309)
- 2) Management of Companies and Enterprises (\$119,371)
- 3) Finance and Insurance (\$96,437)
- 4) Wholesale Trade (\$94,353)
- 5) Professional, Scientific, and Technical Services (\$77,655)

## Prioritized Industries of Focus

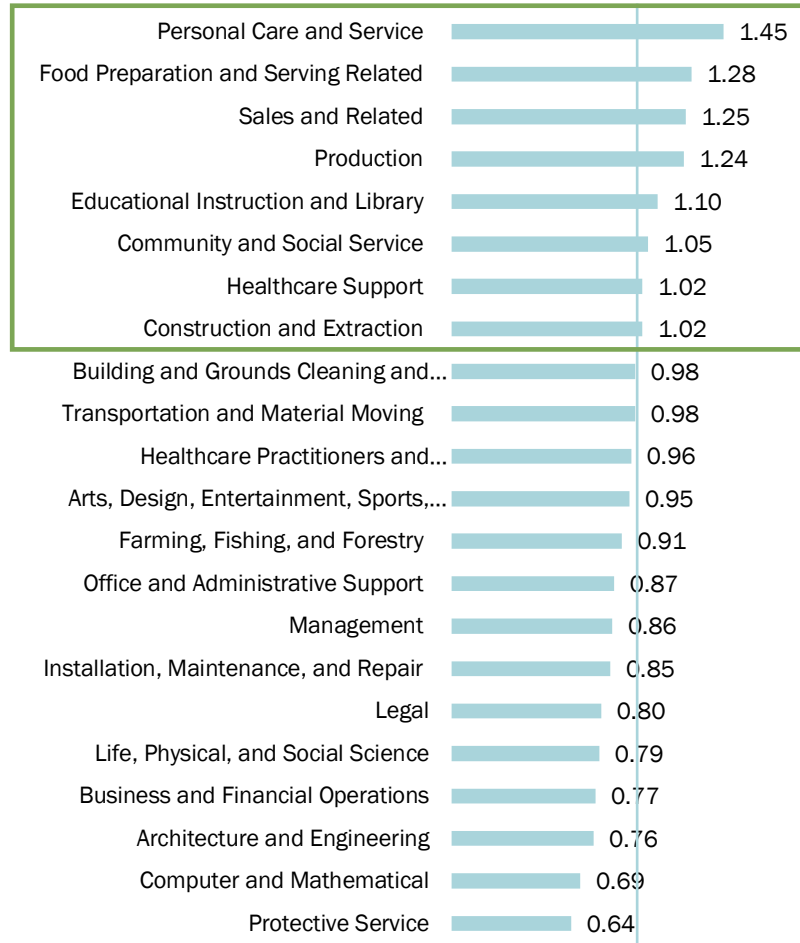
- 1) Healthcare\*
- 2) Manufacturing
- 3) Construction

# A Profile of Occupational Employment

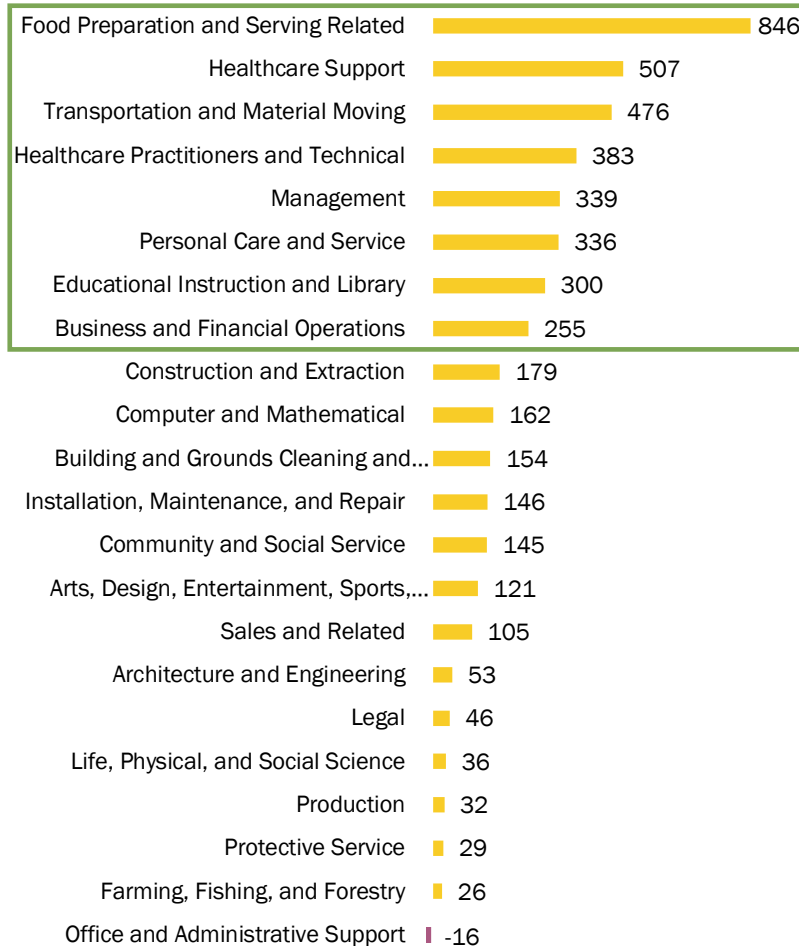
Washington County, Minnesota, 2022Q3 <sup>1</sup>														
SOC	Occupation	Empl	Mean Ann Wages <sup>2</sup>	Current				5-Year History		5-Year Forecast				
				LQ	Unempl	Unempl Rate	Online Job Ads <sup>3</sup>	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
41-0000	Sales and Related Occupations	11,633	\$46,000	1.25	349	2.4%	748	420	0.7%	8,379	3,690	4,584	105	0.2%
43-0000	Office and Administrative Support Occupations	10,591	\$47,200	0.87	304	1.7%	326	-327	-0.6%	6,433	2,909	3,541	-16	0.0%
35-0000	Food Preparation and Serving Related Occupations	10,041	\$33,200	1.28	393	3.6%	649	-101	-0.2%	10,865	4,566	5,453	846	1.6%
53-0000	Transportation and Material Moving Occupations	8,499	\$45,200	0.98	287	2.9%	394	1,296	3.4%	6,684	2,437	3,770	476	1.1%
51-0000	Production Occupations	6,938	\$46,900	1.24	167	2.4%	216	627	1.9%	3,999	1,471	2,496	32	0.1%
25-0000	Educational Instruction and Library Occupations	5,822	\$56,200	1.10	115	1.3%	230	-33	-0.1%	3,156	1,402	1,453	300	1.0%
11-0000	Management Occupations	5,805	\$117,000	0.86	115	1.1%	380	646	2.4%	2,911	863	1,709	339	1.1%
29-0000	Healthcare Practitioners and Technical Occupations	5,519	\$102,600	0.96	53	0.6%	660	958	3.9%	2,100	874	842	383	1.4%
13-0000	Business and Financial Operations Occupations	4,919	\$83,700	0.77	123	1.1%	241	800	3.6%	2,528	772	1,501	255	1.0%
47-0000	Construction and Extraction Occupations	4,580	\$65,200	1.02	124	2.8%	47	583	2.8%	2,454	810	1,465	179	0.8%
31-0000	Healthcare Support Occupations	4,422	\$36,700	1.02	143	2.1%	316	1,166	6.3%	3,870	1,556	1,807	507	2.2%
39-0000	Personal Care and Service Occupations	3,491	\$36,600	1.45	148	3.6%	159	3	0.0%	3,590	1,341	1,913	336	1.9%
49-0000	Installation, Maintenance, and Repair Occupations	3,260	\$58,600	0.85	54	1.3%	213	273	1.8%	1,786	621	1,019	146	0.9%
37-0000	Building and Grounds Cleaning and Maintenance Occupations	3,219	\$39,800	0.98	97	2.7%	158	226	1.5%	2,403	1,017	1,232	154	0.9%
15-0000	Computer and Mathematical Occupations	2,340	\$96,300	0.69	44	0.8%	151	498	4.9%	1,026	267	597	162	1.3%
21-0000	Community and Social Service Occupations	1,836	\$56,000	1.05	37	0.9%	158	43	0.5%	1,102	398	558	145	1.5%
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	1,656	\$64,100	0.95	78	2.5%	94	54	0.7%	1,056	394	541	121	1.4%
33-0000	Protective Service Occupations	1,357	\$60,800	0.64	33	1.5%	74	-71	-1.0%	804	355	421	29	0.4%
17-0000	Architecture and Engineering Occupations	1,227	\$88,700	0.76	25	0.9%	95	74	1.2%	526	179	294	53	0.8%
19-0000	Life, Physical, and Social Science Occupations	684	\$81,800	0.79	18	1.2%	68	60	1.9%	355	80	238	36	1.0%
23-0000	Legal Occupations	680	\$111,400	0.80	10	0.8%	11	34	1.0%	282	110	126	46	1.3%
45-0000	Farming, Fishing, and Forestry Occupations	580	\$42,400	0.91	10	2.7%	5	64	2.4%	506	155	325	26	0.9%
00-0000	Total - All Occupations	99,098	\$58,000	1.00	2,728	1.9%	5,393	7,295	1.5%	66,865	26,268	35,886	4,711	0.9%

# Employment Outlook by 2-Digit Occupation

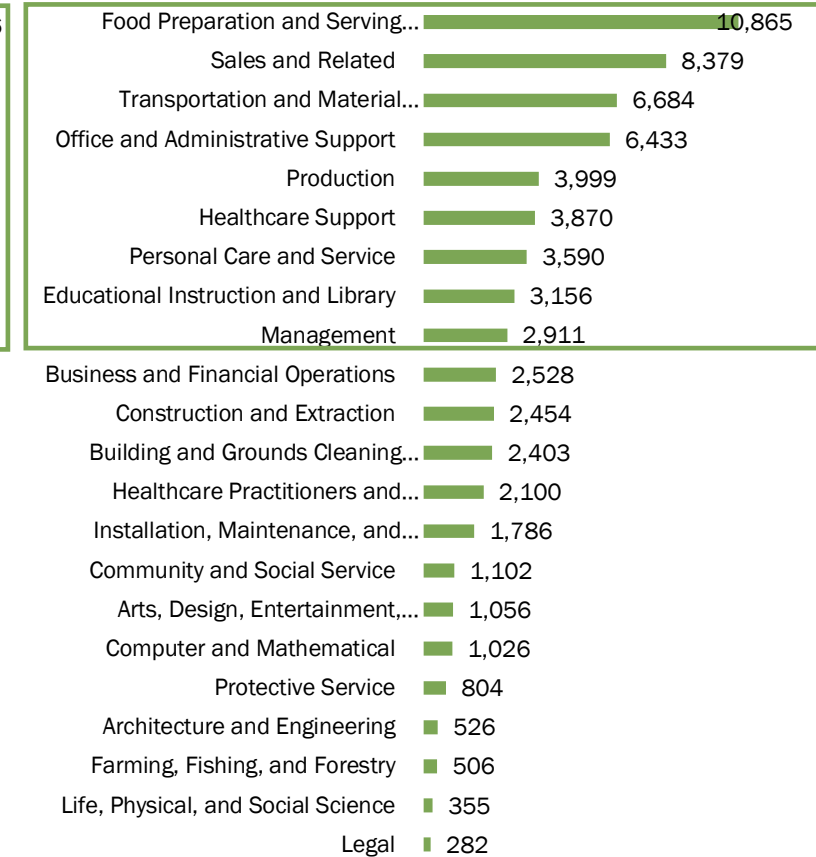
Location Quotient



5-Year Employment Change Forecast



5-Year Total Employment Demand Forecast



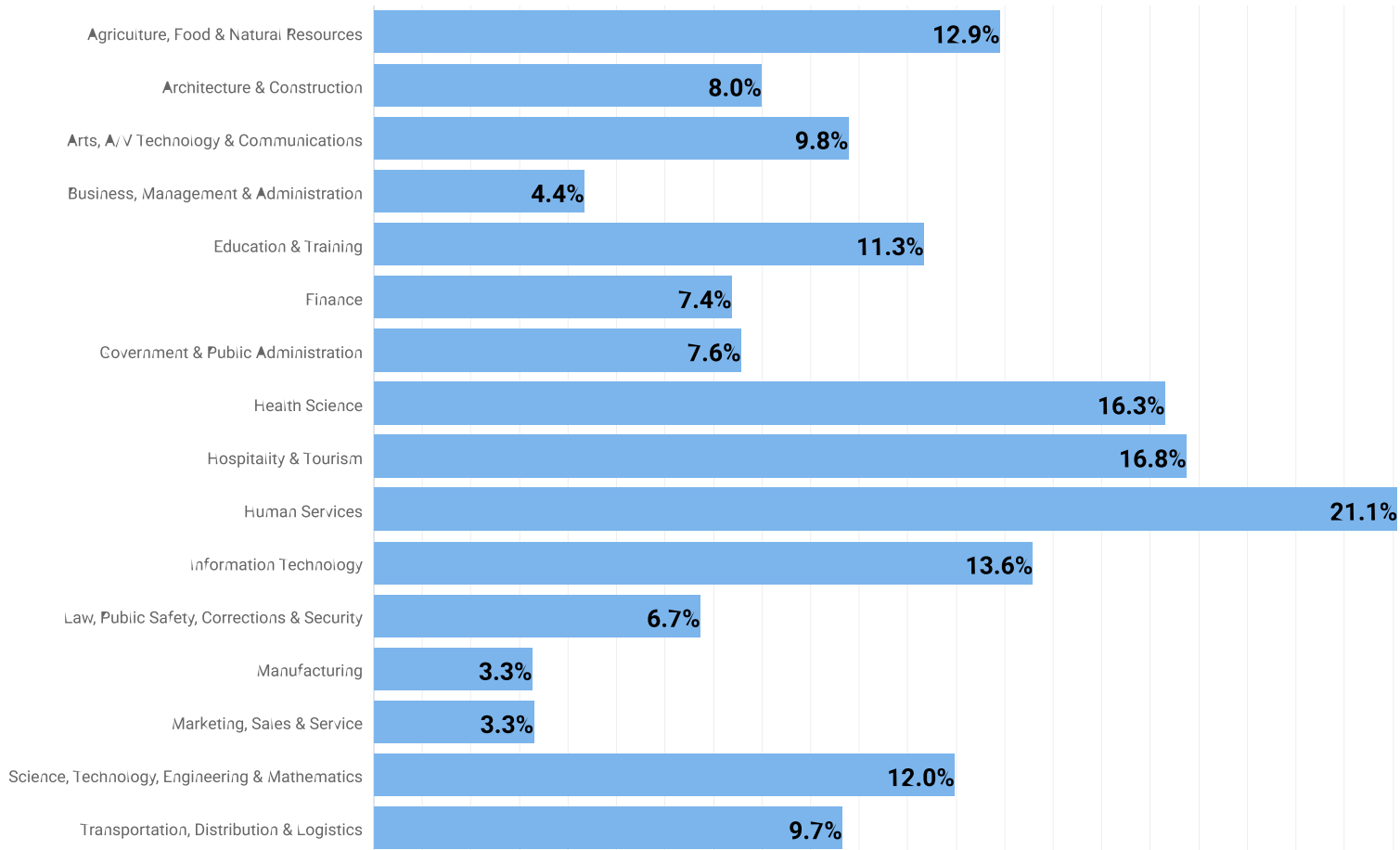
# Employment Trends by Career Field

Health Science (CTE Cluster) in Washington County, Minnesota, 2022Q3 <sup>1</sup>													
Career Field	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 % Change	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
Business, Management, & Administration	45,104	\$53,300	1.03	1,447	2.2%	2,515	1,716	0.8%	34,252	14,068	18,476	1,708	0.7%
Engineering, Manufacturing, & Technology	24,077	\$56,700	0.99	619	2.2%	820	2,768	2.5%	14,371	5,061	8,503	806	0.7%
Human Services	15,996	\$54,800	1.04	386	1.5%	822	921	1.2%	10,437	4,337	4,993	1,107	1.3%
Health Science	8,731	\$82,500	0.98	133	1.0%	1,054	1,320	3.3%	4,641	1,800	2,156	685	1.5%
Arts, Communications, & Information Systems	3,571	\$83,800	0.75	111	1.4%	172	436	2.6%	1,756	549	999	207	1.1%
Agriculture, Food & Natural Resources	1,620	\$55,000	0.84	32	2.0%	65	134	1.7%	1,313	452	759	101	1.2%
<b>Total - All Occupations</b>	<b>99,098</b>	<b>\$58,000</b>	<b>1.00</b>	<b>2,728</b>	<b>1.9%</b>	<b>5,447</b>	<b>7,295</b>	<b>1.5%</b>	<b>66,865</b>	<b>26,268</b>	<b>35,886</b>	<b>4,711</b>	<b>0.9%</b>

Occupations can be grouped into six distinct Career Fields (above), which are useful in planning career and technical education pathways. These six fields have sixteen corresponding career clusters (on the following page), which further detail unique roles that are related by skillset and content knowledge domains. Within the clusters are career pathways which represent the most detailed look at how skillsets relate and how individuals may move along a trajectory of learning and career growth from Origin to Gateway to Target occupations.

# Career Cluster Forecast

10 Year Forecast Growth Rate  
Total Employment, Latest Available Data



Analysis of the sixteen Career and Technical Education Career Clusters provides an entryway into understanding the most critical career pathways for a community.

All sixteen career clusters are forecasting growth in Washington County over the next ten years, with **Human Services, Hospitality and Tourism, and Health Science** careers likely to see the greatest overall positive change in employment volume.



# Career Cluster Wages and Demand

Career Cluster	Employment	Avg Ann Wages	Job Ads	Ann Empl Growth	Ann Total Demand
Science, Technology, Engineering & Mathematics	999	\$104,400	107	11	83
Information Technology	2,237	\$96,200	134	29	192
Finance	2,929	\$86,800	202	21	279
Health Science	8,731	\$82,500	1,054	133	912
Law, Public Safety, Corrections & Security	2,276	\$75,900	92	15	238
Government & Public Administration	665	\$73,200	37	5	71
Business, Management & Administration	15,808	\$66,000	616	67	1,934
Architecture & Construction	6,818	\$64,400	107	53	749
Arts, A/V Technology & Communications	1,334	\$63,100	38	13	156
Education & Training	6,526	\$58,000	303	71	707
Agriculture, Food & Natural Resources	1,620	\$55,000	65	20	259
Manufacturing	8,855	\$50,600	343	29	1,006
Transportation, Distribution & Logistics	7,405	\$50,400	264	69	1,018
Marketing, Sales & Service	12,925	\$49,500	824	42	1,830
Human Services	6,529	\$42,300	390	126	1,038
Hospitality & Tourism	13,442	\$34,700	873	210	2,753
Total - All Occupations	99,098	\$58,000	5,447	925	13,239

As is the case statewide, careers in **Science, Technology, Engineering, and Mathematics** offer the highest average annual wages in Washington County of all sixteen career clusters.

**Hospitality and Tourism** has the highest annual estimated total demand, which includes growth and replacement demands due to job changes, retirements, and other career exits.



# Detailed Occupation Forecast

Occupations of Highest Forecast Growth	Employment	Avg Ann Wages	Job Ads	Hist 10yr Change	Proj 10yr Growth
General and Operations Managers	1,989	\$110,900	27	805	219
Software Developers	875	\$110,500	28	831	187
Registered Nurses	1,439	\$85,300	209	390	165
Nurse Practitioners	171	\$124,200	17	92	107
Market Research Analysts and Marketing Specialists	465	\$81,900	13	199	103
Heavy and Tractor-Trailer Truck Drivers	1,179	\$59,500	70	232	101
Construction Laborers	885	\$53,400	13	297	98
Maintenance and Repair Workers, General	871	\$51,200	102	168	90
Medical and Health Services Managers	248	\$111,500	88	91	89

Occupations of Most Significant Forecast Decline	Employment	Avg Ann Wages	Job Ads	Hist 10yr Change	Proj 10yr Decline
Executive Secretaries and Executive Administrative Assistants	237	\$67,600	2	-319	-39
Correctional Officers and Jailers	336	\$59,800	4	5	-24
Legal Secretaries and Administrative Assistants	81	\$61,000	0	-19	-13
First-Line Supervisors of Non-Retail Sales Workers	225	\$93,800	0	-40	-13
Payroll and Timekeeping Clerks	77	\$54,700	3	-12	-9
Computer Numerically Controlled Tool Operators	143	\$53,900	8	46	-8
Power Plant Operators	32	\$93,700	0	2	-7
Chief Executives	180	\$222,600	5	-97	-7

There are over 800 defined occupations at the detailed level (6-digit SOC). Among those occupations that support a living wage, **General and Operations Managers** and **Software Developers** are expected to add the most jobs over the next ten years in Washington County.

Among occupations supporting a living wage locally, **Executive Secretaries and Executive Administrative Assistants** and **Correctional Officers and Jailers** are projected to have the largest decline in employment over the next ten years, due in part to the extensive regional talent shortage as well as the shifting needs of business that now offer alternatives to secretarial supports.

# Local Occupational Employment at a Glance

## Top Occupations by 5-Year Average Annual Historical Employment Growth

- 1) Healthcare Support (+6.3%)
- 2) Computer and Mathematical (+4.9%)
- 3) Healthcare Practitioners and Technical (+3.9%)
- 4) Business and Financial Operations (+3.6%)
- 5) Transportation and Material Moving (+3.4%)

## Top Occupations by Employment Volume

- 1) Sales and Related (11,633)
- 2) Office and Administrative Support (10,591)
- 3) Food Preparation and Serving (10,041)
- 4) Transportation and Material Moving (8,499)
- 5) Production (6,938)

## Top Occupations by 5-Year Average Annual Forecasted Employment Growth

- 1) Healthcare Support (+2.2%)
- 2) Personal Care and Service (+1.9%)
- 3) Food Preparation and Serving (+1.6%)
- 4) Community and Social Service (+1.5%)
- 5) Healthcare Practitioners and Technical (+1.4%)

## Top Occupations by Location Quotient (LQ)

- 1) Personal Care and Service (1.45)
- 2) Food Preparation and Serving (1.28)
- 3) Sales and Related (1.25)
- 4) Production (1.24)
- 5) Educational Instruction and Library (1.10)

## Top Occupations by Average Wage

- 1) Management (\$117,000)
- 2) Legal (\$111,400)
- 3) Healthcare Practitioners (\$102,600)
- 4) Computer and Mathematical (\$96,300)
- 5) Architecture and Engineering (\$88,700)

## Lowest Unemployment Rate Occupations

- 1) Healthcare Practitioners (0.6%, 53)
- 2) Legal (0.8%, 10)
- 3) Computer and Mathematical (0.8%, 44)
- 4) Architecture and Engineering (0.9%, 25)
- 5) Community and Social Service (0.9%, 37)

# Regional Industry and Career Highlights

## Northern

### Top Industries

- 1) Retail Trade (HD, LQ, HW)
- 2) Manufacturing (HD, LQ, HW)
- 3) Other Services (HD, LQ)
- 4) Construction (HD, LQ, HW)
- 5) Educational Services (HD, LQ)

### Top Detailed Industries

- 1) Custom Architectural Woodwork and Millwork Manufacturing
- 2) Die and Tool Manufacturing
- 3) Industrial Mold Manufacturing

### Top Career Clusters

- 1) Manufacturing
- 2) Architecture and Construction
- 3) Marketing, Sales, and Service
- 4) Business, Management, and Admin
- 5) Human Services

## Central

### Top Industries

- 1) Manufacturing (HD, LQ, HW)
- 2) Management\* (HD, LQ, HW)
- 3) Arts and Entertainment (HD, LQ)
- 4) Retail Trade (HD, LQ)
- 5) Public Admin. (HD, LQ HW)

### Top Detailed Industries

- 1) Wood Window and Door Manufacturing
- 2) Chemical Product Manufacturing
- 3) In-Vitro Diagnostic Substance Manufacturing

### Top Career Clusters

- 1) Manufacturing
- 2) Health Science
- 3) Human Services
- 4) Hospitality and Tourism
- 5) Marketing, Sales, and Service

## Southern

### Top Industries

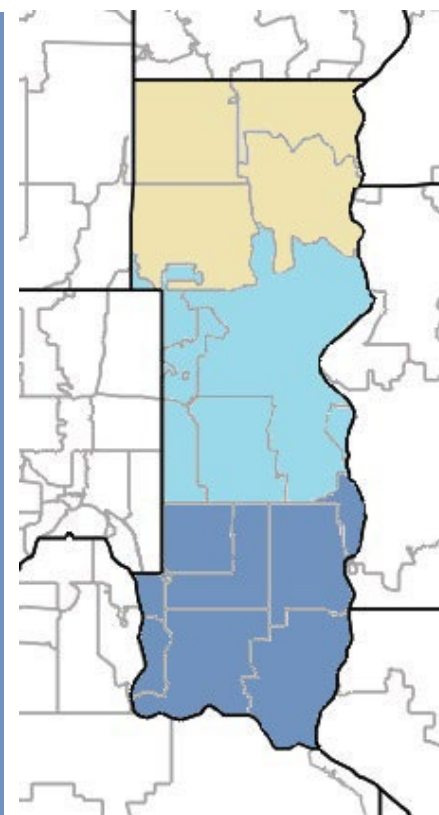
- 1) Retail Trade (HD, LQ)
- 2) Arts and Entertainment (HD, LQ)
- 3) Other Services (HD, LQ)
- 4) Accommodations and Food (HD, LQ)
- 5) Agriculture (HD, LQ)

### Top Detailed Industries

- 1) Wood Window and Door Manufacturing
- 2) Unlaminated Plastics Manufacturing
- 3) Petroleum Refineries

### Top Career Clusters

- 1) Health Science
- 2) Human Services
- 3) Marketing, Sales, and Service
- 4) Hospitality and Tourism
- 5) Education and Training





## **03. Industry Analysis**

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# Industry Analysis



Based on an analysis of local concentration of industry employment, importance to local economy, and future employment demand, three critical industries are the topic of focus for workforce and economic development opportunity.

## Approach

- Detail the unique concentration of sub-industries within each of the three critical industries
- Outline the economic contributions of each industry to the county and regional economy
- Perform a spatial evaluation of industry importance by region across the county's north, central, and southern areas
- Identify the top occupations for employment by industry and assessed their unique workforce challenges and opportunities, including necessary skillsets and training
- Feature industry-specific commute patterns, remote work trends, and postsecondary program graduate demographics

## Critical Industries

Healthcare  
Manufacturing  
Construction

“

The Washington County CDA's mission is

**To improve the lives of Washington County residents by providing access to affordable housing and supporting community and economic development in local municipalities.**

”



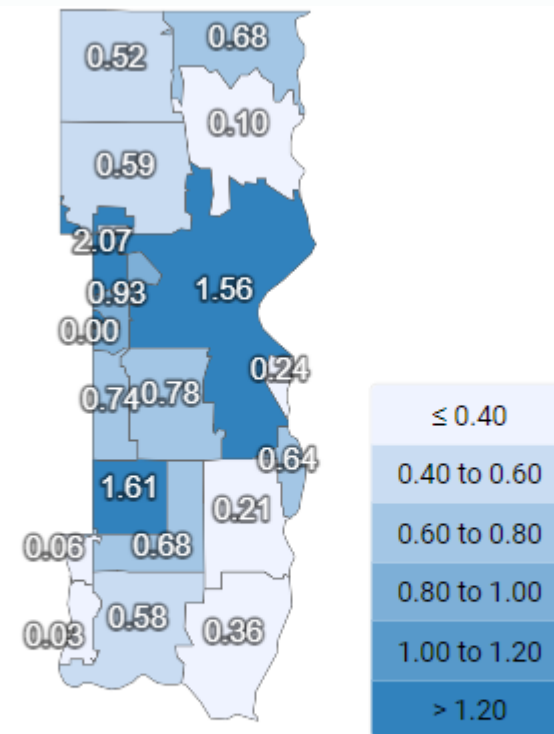
# Healthcare Industry

The Healthcare Industry is an important foundation to Washington County's economy in its local economic contributions and social stability offerings. Southern and Central Washington County have uniquely high concentrations of Ambulatory Health Care Services and Nursing and Residential Care Facilities compared to the concentration of these industries at the national level. Demand has been strong and is forecast to continue to grow in the county and surrounding region.

## Key Findings

- Zip codes in Central and Southern Washington County have particularly high concentration of Healthcare firms (Southern LQ 1.11 and Central LQ 1.05), particularly Ambulatory Health Care Services and Nursing and Residential Care Facilities
- Dangerously low local unemployment rates in Health Science pathways may fuel ongoing talent shortages
- The county has strong local postsecondary program offerings serving the Healthcare Industry, positioning it well for increasing graduate volumes and meeting talent demand

Location Quotient of Healthcare Industry  
Employment by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI.  
Data a four-quarter average ending in 2022Q3

# Healthcare Industry Firms

## The Healthcare Industry's Contribution to GDP

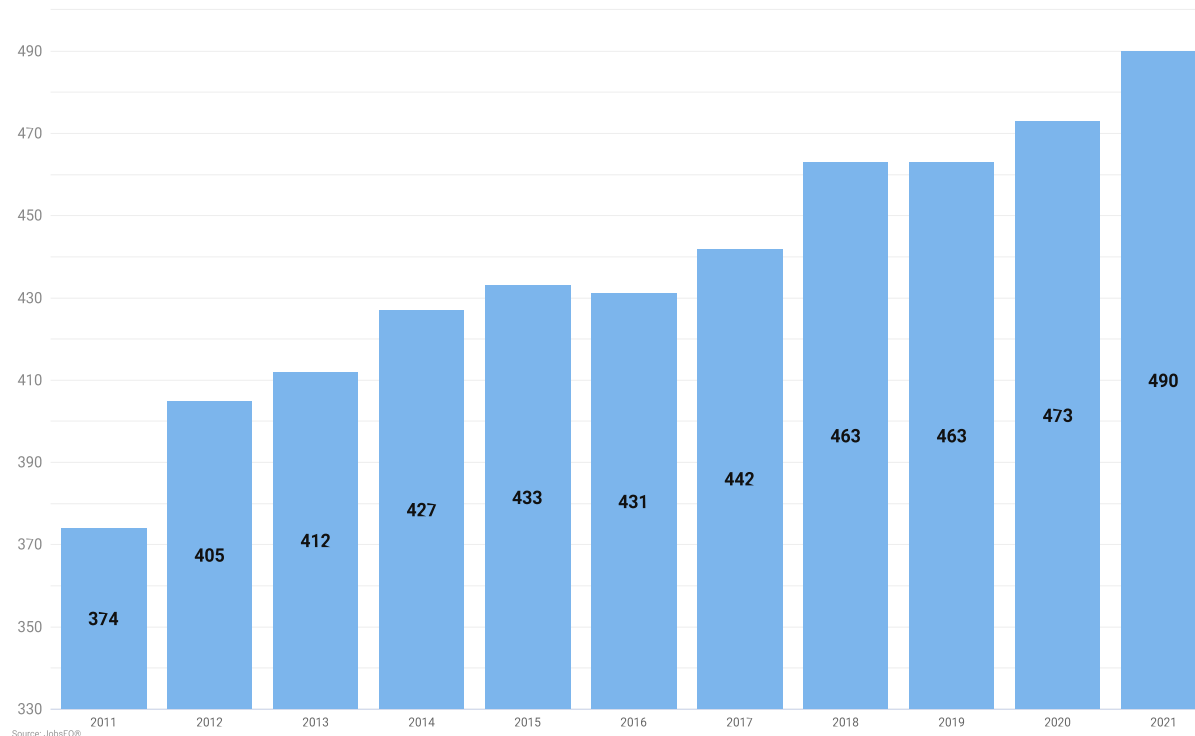
8.2% Industry Share of Total GDP (7.6 % in the nation)

+5.7% Average Annual GDP growth (+3.8% in the nation)

\$148K Output per Worker (\$162K in the nation)

3-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Professional, Scientific, and Technical Services	\$44.4	\$43.5
Real Estate	\$48.5	\$38.9
Chemical Manufacturing	\$5.2	\$54.3
Insurance Carriers and Related Activities	\$22.2	\$31.6
Administrative and Support Services	\$22.0	\$28.7
Remaining Supplier Industries	\$132.5	\$182.5
<b>Total</b>	<b>\$274.8</b>	<b>\$379.5</b>

## Healthcare Firms in Washington County by Year



## Healthcare Employers by Type

	Empl	%
Private	11,156	97.3%
Self-Employment	304	2.7%

Source: Chmura JobsEQ 2022Q3 Dataset. Names of Industry NAICS or Occupation SOC may be abbreviated.





# Healthcare Industry Detail

3-Digit Industry	Empl	Avg Ann Wages	LQ	North LQ	Central LQ	South LQ	5yr History	Annual Demand	Forecast Ann Growth
Ambulatory Health Care Services	6,835	\$72,607	1.27	0.82	1.27	1.41		766	1.6%
Nursing and Residential Care Facilities	2,576	\$35,725	1.32	0.80	1.43	1.35		353	1.2%
Hospitals	2,049	\$78,994	0.51	0.02	0.56	0.60		196	0.9%
Healthcare Industry	11,460	\$65,458	1.01	0.53	1.05	1.11		1,316	1.4%

Industry Staffing Pattern



## Jobs in the Healthcare Industry

11,460 Total Employment

+2.8% average annual growth over the past ten years compared to -0.1% statewide and +1.2% nationally

11.6% of Total Employment compared to 11.4% nationally

1.01 Location Quotient

\$65,458 average wages compared to \$69,454 nationally

# Healthcare Industry Occupational Employment

Occupation Distribution for Healthcare in Washington County, Minnesota, Baseline							
SOC	Occupation	Current		5-Year Demand			Total Demand
		Empl	Avg Ann Wages	Exits	Transfers	Empl Growth	
29-1141	Registered Nurses	1,270	\$80,600	213	167	70	450
31-1122	Personal Care Aides	901	\$28,300	360	317	87	764
31-1131	Nursing Assistants	540	\$36,600	184	240	28	452
43-6013	Medical Secretaries and Administrative Assistants	520	\$42,000	156	159	31	346
31-9092	Medical Assistants	440	\$42,600	110	221	45	376
43-4171	Receptionists and Information Clerks	362	\$34,400	119	141	22	281
29-2061	Licensed Practical and Licensed Vocational Nurses	337	\$49,500	71	73	20	163
31-1121	Home Health Aides	320	\$28,300	93	100	31	224
31-9091	Dental Assistants	318	\$52,300	92	148	19	260
29-1292	Dental Hygienists	242	\$77,400	54	29	15	98
43-9061	Office Clerks, General	219	\$40,800	70	70	2	142
11-9111	Medical and Health Services Managers	214	\$103,000	35	62	36	133
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	204	\$50,700	41	63	24	128
35-3041	Food Servers, Nonrestaurant	200	\$30,400	87	81	13	181
29-1171	Nurse Practitioners	163	\$117,500	24	29	50	104
	Other Occupations	5,185		1,075	1,340	297	2,713
	<b>Total</b>	<b>11,434</b>		<b>2,784</b>	<b>3,239</b>	<b>789</b>	<b>6,814</b>

## Jobs in the Health Science Cluster

8,731 Total Employment

+3.3% average annual growth over the past ten years compared to +0.3% statewide

1.0% unemployment rate (133 people) compared to 1.2% statewide (3,416 people)

0.98 Location Quotient

\$82,500 average wages compared to \$83,700 statewide

# Regional Healthcare Highlights

## Northern

### Top Detailed Industries

- 1) Offices of Chiropractors (LQ 2.70)
- 2) Offices of Mental Health Practitioners (LQ 1.79)
- 3) Offices of Physicians, Mental Health Specialists (LQ 1.61)
- 4) Offices of Dentists (LQ 1.51)
- 5) Offices of Optometrists (LQ 1.22)

### Talent Shortages

- 1) Registered Nurses
- 2) Nursing Assistants
- 3) Medical Secretaries

## Central

### Top Detailed Industries

- 1) Offices of Physicians, Mental Health Specialists (LQ 7.39)
- 2) Continuing Care Retirement Communities (LQ 5.27)
- 3) Offices of Chiropractors (LQ 2.05)
- 4) Outpatient Mental Health and Substance Abuse Centers (LQ 1.98)
- 5) Offices of Mental Health Practitioners (LQ 1.88)

### Talent Shortages

- 1) Registered Nurses
- 2) Nursing Assistants
- 3) Medical Assistants
- 4) Medical and Health Services Managers
- 5) Nurse Practitioners
- 6) Licensed Practical Nurses
- 7) Physical Therapists
- 8) Speech-Language Pathologists
- 9) Dental Hygienists
- 10) Veterinarians

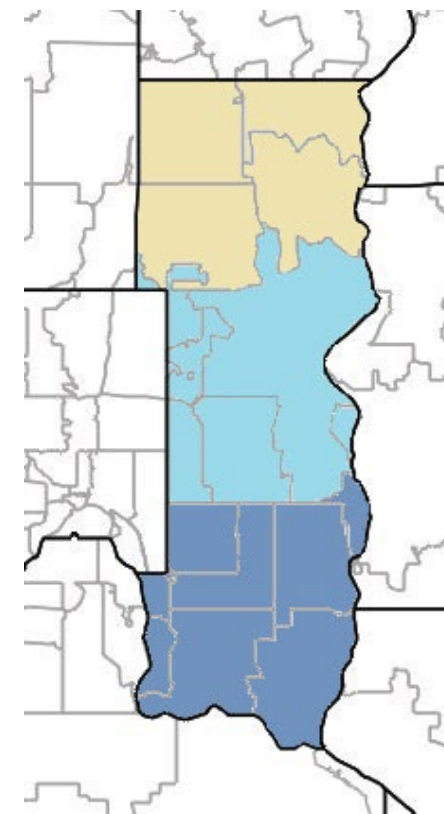
## Southern

### Top Detailed Industries

- 1) Offices of Physicians, Mental Health Specialists (LQ 13.93)
- 2) Continuing Care Retirement Communities (LQ 3.14)
- 3) Offices of Chiropractors (LQ 2.71)
- 4) HMO Medical Centers (LQ 2.45)
- 5) Residential Intellectual and Developmental Disability Facilities (LQ 2.34)

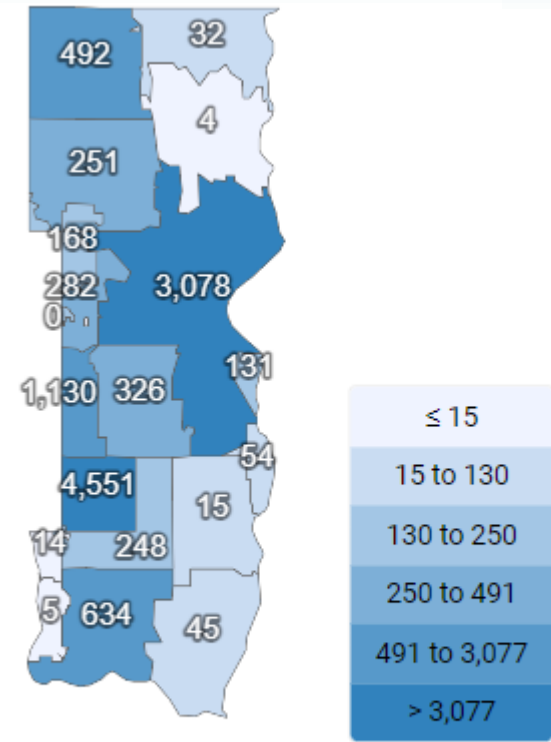
### Talent Shortages

- 1) Registered Nurses
- 2) Nurse Practitioners
- 3) Medical and Health Services Managers
- 4) Licensed Practical Nurses
- 5) Medical Assistants
- 6) Radiologic Techs
- 7) Veterinarians
- 8) Dental Assistants
- 9) Speech-Language Pathologists
- 10) Pharmacy Technicians



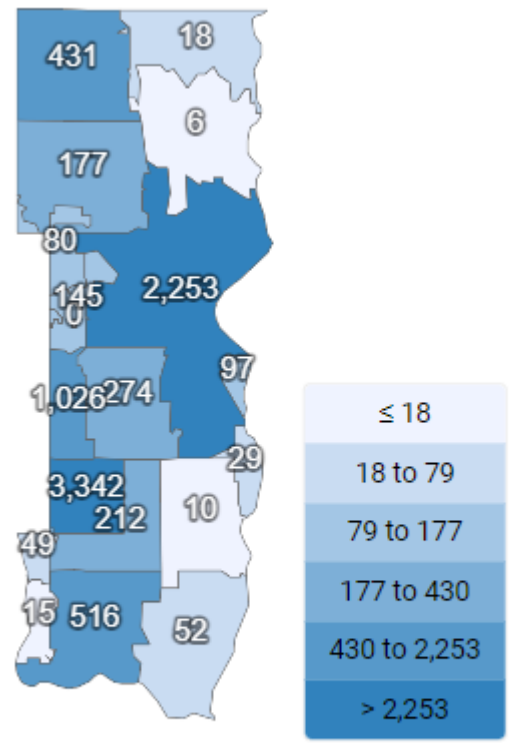
# Healthcare Industry Workforce by Location

Healthcare Industry Employment by Washington County Zip Code



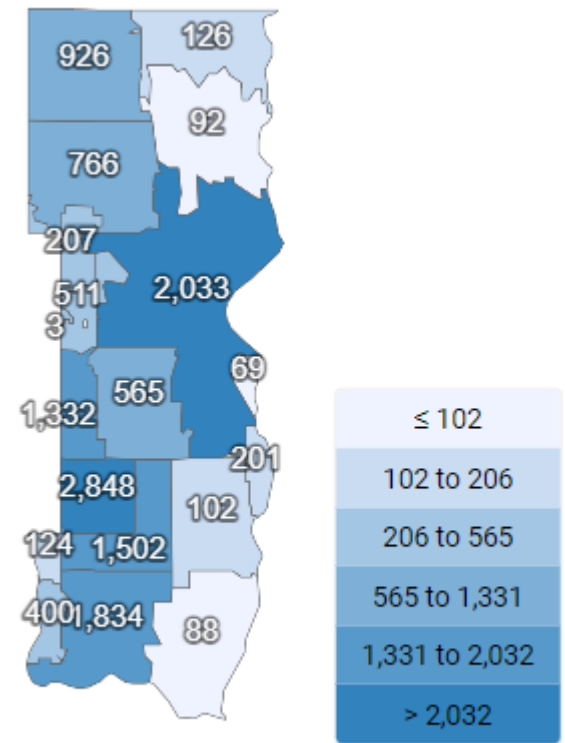
Source: JobsEQ®, Powered by ESRI.  
Data a four-quarter average ending in 2022Q3

Health Science Occupational Employment by Washington County Zip Code Place of Work



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

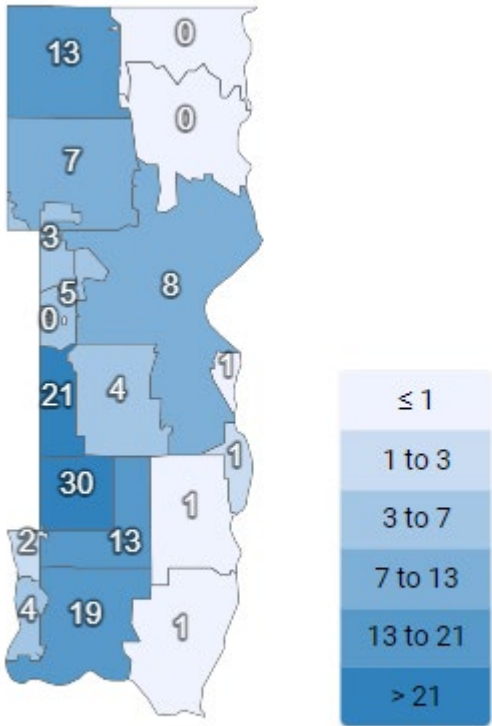
Health Science Occupational Employment by Washington County Zip Code Residence



JobsEQ®, Powered by ESRI.

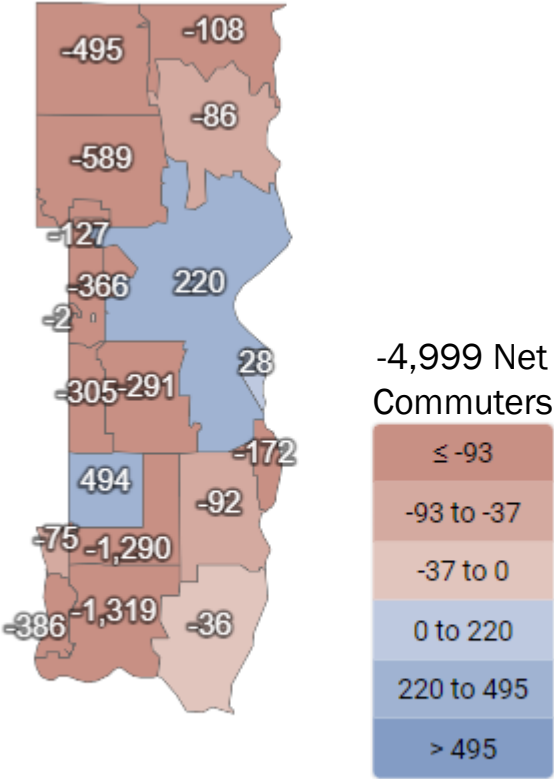
# Health Science Cluster by Location

Health Science Unemployment by Washington County Zip Code



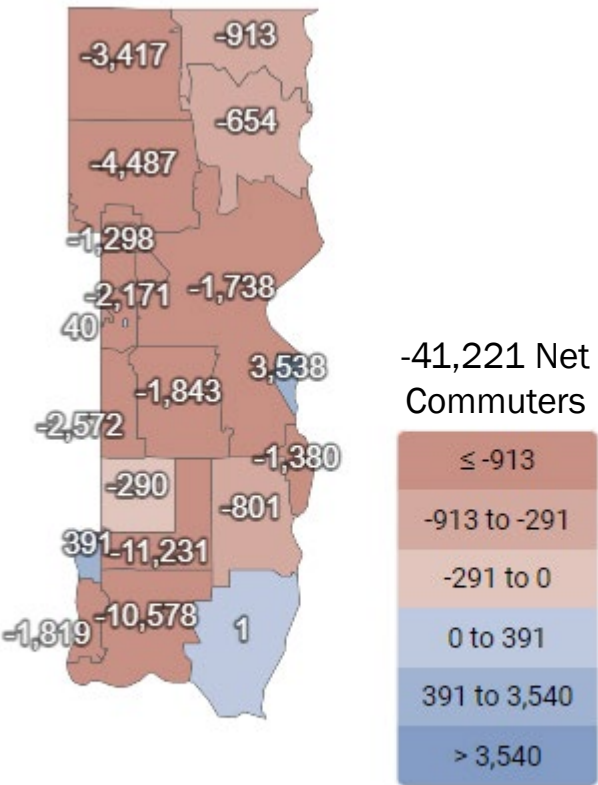
Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q4

Health Science Occupational Net Commuting Pattern by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI  
Data as of 2022Q3

All Occupational Net Commuting Pattern by Washington County Zip Code



-4,999 Net Commuters

-41,221 Net Commuters



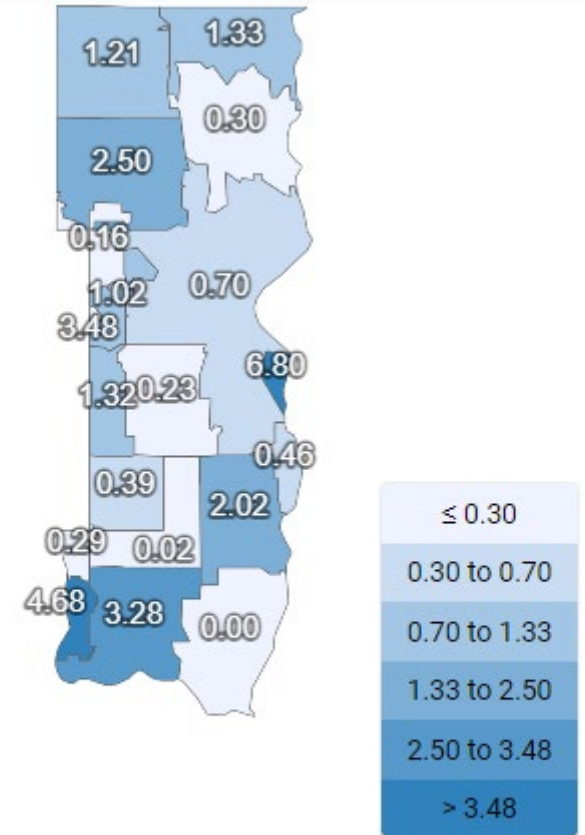
# Manufacturing Industry

It is difficult to overstate the importance of Manufacturing to the MSP Metro's economy, and Washington County has a unique concentration of jobs in this critical sector (LQ 1.39). Over 11,100 people work in the Manufacturing Industry in Washington County, making average wages of about \$75,300—well above the overall local average wage. The 219 Manufacturing firms located in Washington County contributed about \$2.2 billion in GDP for the county in 2021, representing about 18.1% of the total local GDP (compared to 10.6% that Manufacturing contributes nationwide). Demand has been strong and is forecast to continue to grow in the county at a rate of about 0.4% on average annually through 2027.

## Key Findings

- Several zip codes in the southwest corner of Washington County have particularly high concentration of Manufacturing firms, but Northern Washington County has the highest overall concentration of employment (LQ 1.56)
- High replacement demand needs and an older than average workforce signal the importance of talent pipeline planning
- Over half of the workforce currently employed in the industry will need to be replaced over the next five years

Location Quotient of Manufacturing Industry Employment by Washington County Zip Code



# Manufacturing Industry Firms

The Manufacturing Industry's Contribution to GDP

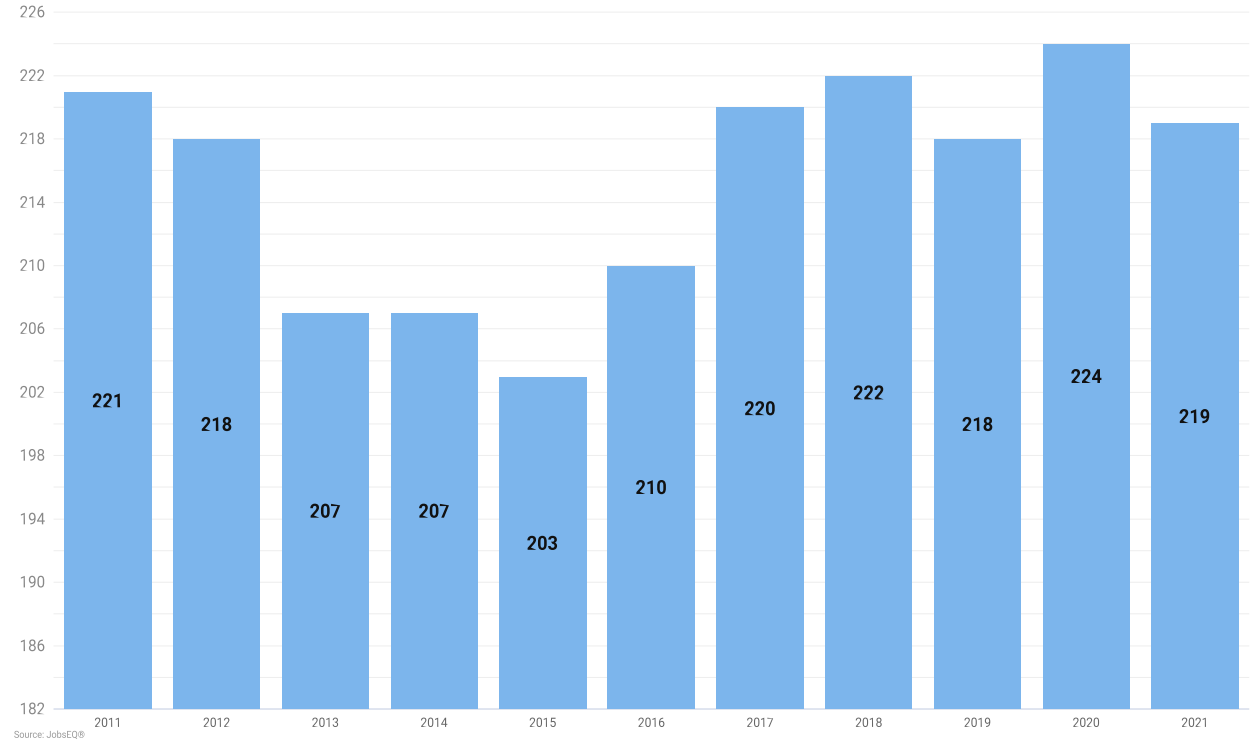
18.1% Industry Share of Total GDP (10.6 % in the nation)

+2.0% Average Annual GDP growth (+2.6% in the nation)

\$680K Output per Worker (\$600K in the nation)

3-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Crude Petroleum Extraction	<\$0.1	\$930.7
Natural Gas Extraction	\$19.5	\$309.1
Petroleum Refineries	\$115.4	\$63.5
Corporate, Subsidiary, and Regional Managing Offices	\$45.7	\$90.9
Offices of Lawyers	\$8.1	\$64.5
Remaining Supplier Industries	\$305.1	\$2,533.6
<b>Total</b>	<b>\$493.7</b>	<b>\$3,992.3</b>

Manufacturing Firms in Washington County by Year



Manufacturing Employers by Type

	Empl	%
Private	10,871	97.9%
Self-Employment	237	2.1%

Source: Chmura JobsEQ 2022Q3 Dataset. Names of Industry NAICS or Occupation SOC may be abbreviated.



# Manufacturing Industry Detail

3-Digit Industry	Empl	Avg Ann Wages	LQ	North LQ	Central LQ	South LQ	5yr History	Annual Demand	Forecast Ann Growth
Wood Product Manufacturing	4,329	\$99,520	15.75	7.60	21.06	12.95		515	0.6%
Chemical Manufacturing	1,155	\$104,890	2.07	1.60	3.23	1.08		126	0.6%
Machinery Manufacturing	835	\$85,509	1.23	4.71	0.85	0.58		79	-0.8%
Fabricated Metal Product Manufacturing	808	\$65,298	0.90	2.49	0.52	0.81		88	0.2%
Plastics and Rubber Products Manufacturing	781	\$60,721	1.69	1.18	1.38	2.14		91	0.8%
Miscellaneous Manufacturing	765	\$64,297	1.84	1.15	2.29	1.62		88	0.7%
Food Manufacturing	601	\$38,116	0.57	0.30	0.56	0.65		80	0.7%
Petroleum and Coal Products Manufacturing	415	\$159,611	6.37	0.29	0.14	14.23		44	0.5%
Computer and Electronic Product Manufacturing	352	\$58,759	0.53	0.48	0.97	0.11		35	0.6%
Printing and Related Support Activities	254	\$64,047	1.03	3.02	1.36	0.13		22	-2.4%
Remaining Component Industries	814	\$49,374	0.43	0.28	0.36	0.34		92	-0.5%
<b>Manufacturing</b>	<b>11,108</b>	<b>\$75,300</b>	<b>1.39</b>	<b>1.56</b>	<b>1.56</b>	<b>1.16</b>		<b>1,255</b>	<b>0.4%</b>

## Jobs in the Manufacturing Industry

11,108 Total Employment

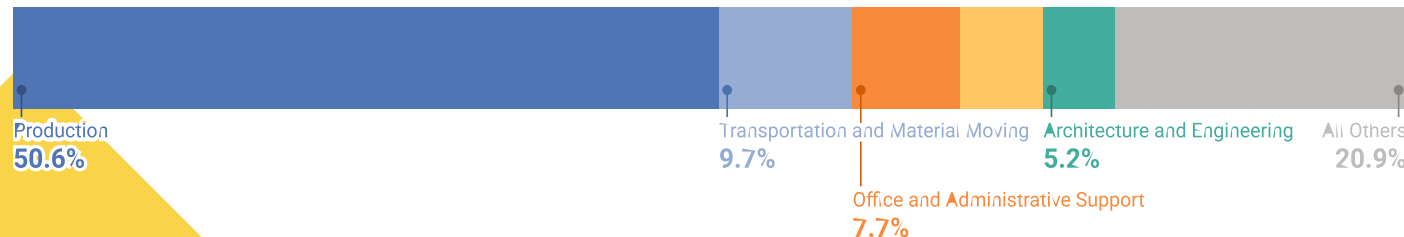
+3.9% average annual growth over the past ten years compared to +0.5% statewide and +0.6% nationally

11.2% of Total Employment compared to 8.1% nationally

1.39 Location Quotient

\$75,300 average wages compared to \$79,193 nationally

## Industry Staffing Pattern





# Manufacturing Industry Occupational Employment

Occupation Distribution for Manufacturing in Washington County, Minnesota, Baseline							
SOC	Occupation	Current		5-Year Demand			
		Empl	Avg Ann Wages	Exits	Transfers	Empl Growth	Total Demand
51-2092	Team Assemblers	1,131	\$37,500	221	410	-62	569
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	547	\$41,900	101	187	31	320
51-1011	Supervisors of Production/Operating Workers	425	\$66,400	79	147	15	241
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	385	\$37,500	97	185	19	300
11-1021	General and Operations Managers	264	\$117,800	31	87	10	129
41-4012	Sales Representatives, Wholesale and Manufacturing	261	\$75,000	46	89	9	144
47-2031	Carpenters	252	\$43,200	45	78	14	138
51-9061	Inspectors, Testers, Sorters, and Weighers	232	\$44,600	47	88	-13	123
17-2112	Industrial Engineers	224	\$93,800	28	46	17	91
51-4041	Machinists	221	\$52,000	43	76	3	122
51-7011	Cabinetmakers and Bench Carpenters	206	\$42,000	48	68	11	127
53-7051	Industrial Truck and Tractor Operators	189	\$46,200	33	79	10	121
43-9061	Office Clerks, General	186	\$41,400	58	58	-2	114
53-3032	Heavy and Tractor-Trailer Truck Drivers	175	\$51,500	42	65	9	116
49-9071	Maintenance and Repair Workers, General	173	\$51,900	37	50	8	95
	Other Occupations	6,214		1,283	2,151	134	3,570
	<b>Total</b>	<b>11,084</b>		<b>2,237</b>	<b>3,865</b>	<b>214</b>	<b>6,318</b>

## Jobs in the Manufacturing Cluster

8,855 Total Employment

+2.8% average annual growth over the past ten years compared to -0.1% statewide

2.0% unemployment rate (194 people) compared to 2.3% statewide (6,242 people)

1.12 Location Quotient

\$50,600 average wages compared to \$52,400 statewide

# Regional Manufacturing Highlights

## Northern

### Top Detailed Industries

- 1) Custom Architectural Woodwork and Millwork (LQ 58.79)
- 2) Spring (LQ 56.55)
- 3) Special Die and Tool, Die Set, Jig, and Fixture (LQ 48.78)
- 4) Industrial Mold (LQ 48.21)
- 5) Wood Window and Door (LQ 30.22)

### Talent Shortages

- 1) Maintenance and Repair Workers

## Central

### Top Detailed Industries

- 1) Wood Window and Door (LQ 154.02)
- 2) Chemical Product and Preparation (LQ 39.07)
- 3) In-Vitro Diagnostic Substance (LQ 33.43)
- 4) Photographic Film, Paper, Plate, Chemical, and Copy Toner (LQ 13.67)
- 5) Printed Circuit Assembly (LQ 13.22)

### Talent Shortages

- 1) Woodworking Machine Operators
- 2) Maintenance and Repair Workers
- 3) Industrial Machinery Mechanics
- 4) Machinists
- 5) Welders
- 6) Packaging Machine Operators
- 7) Cabinetmakers and Bench Carpenters
- 8) Mechanics Supervisors
- 9) Production Supervisors
- 10) Chemical Equipment Operators

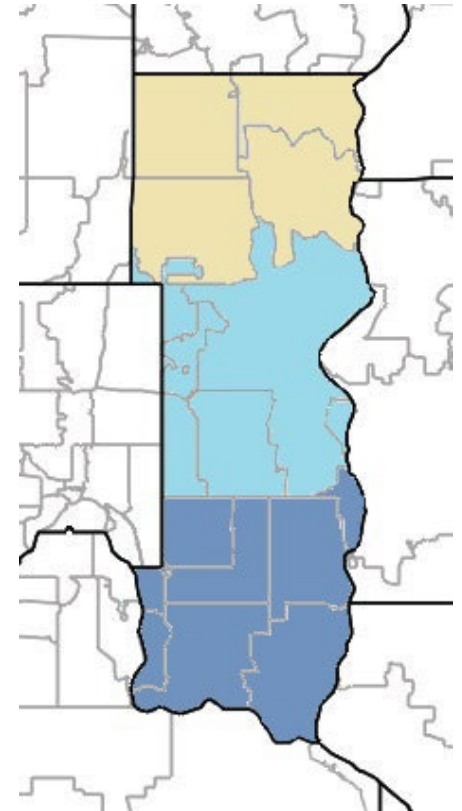
## Southern

### Top Detailed Industries

- 1) Wood Window and Door (LQ 95.67)
- 2) Unlaminated Plastics Film and Sheet (LQ 35.84)
- 3) Petroleum Refineries (LQ 25.07)
- 4) Stationery Product (LQ 23.20)
- 5) Chemical Product and Preparation (LQ 18.65)

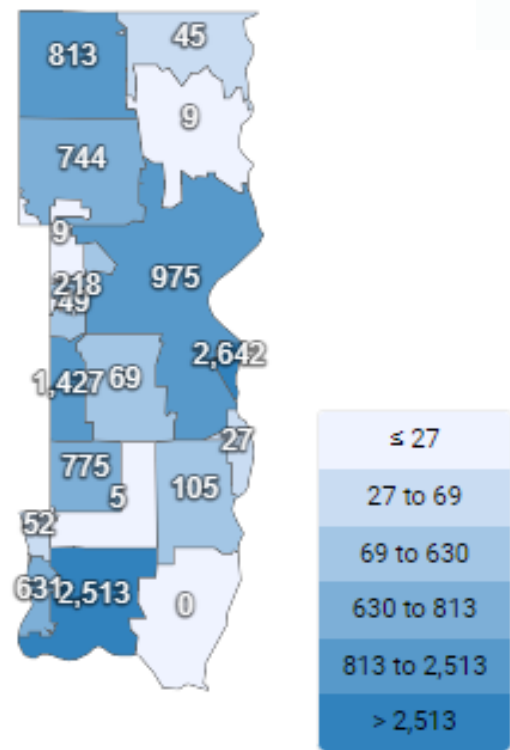
### Talent Shortages

- 1) Maintenance and Repair Workers
- 2) Woodworking Machine Operators
- 3) Industrial Machinery Mechanics
- 4) Mechanics Supervisors
- 5) Production Supervisors



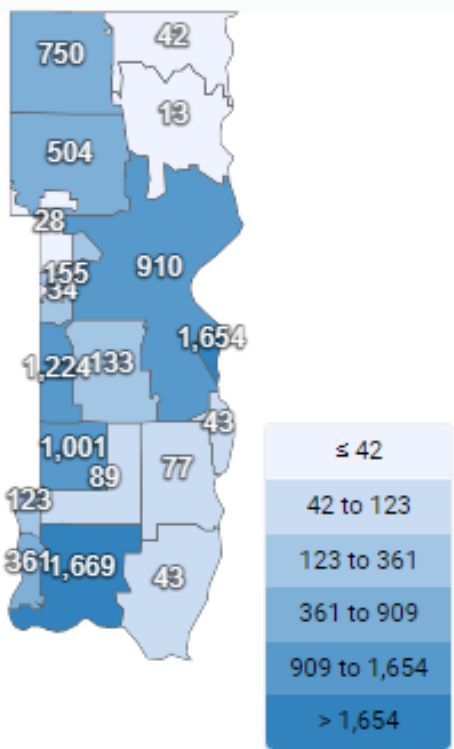
# Manufacturing Industry Workforce by Location

Manufacturing Industry Employment by Washington County Zip Code



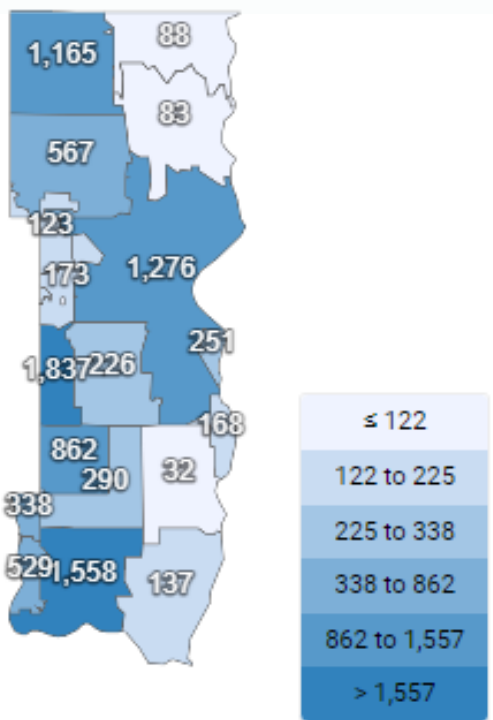
Source: JobsEQ®, Powered by ESRI.  
Data a four-quarter average ending in 2022Q3

Manufacturing Cluster Occupational Employment by Washington County Zip Code Place of Work



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

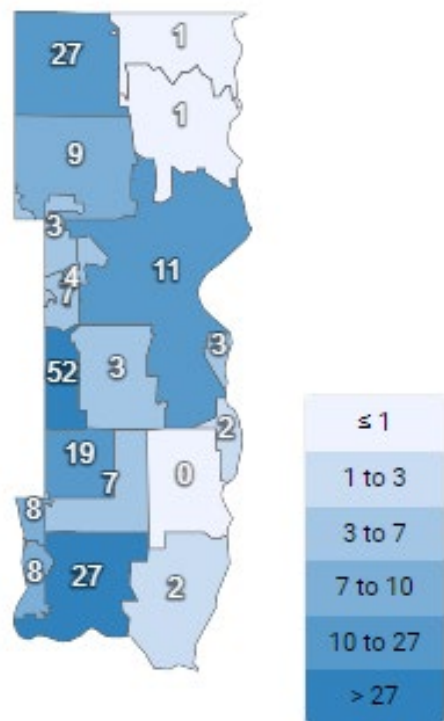
Manufacturing Cluster Occupational Employment by Washington County Zip Code Residence



Source: Chmura JobsEQ 2022Q3 Dataset. Names of Industry NAICS or Occupation SOC may be abbreviated.

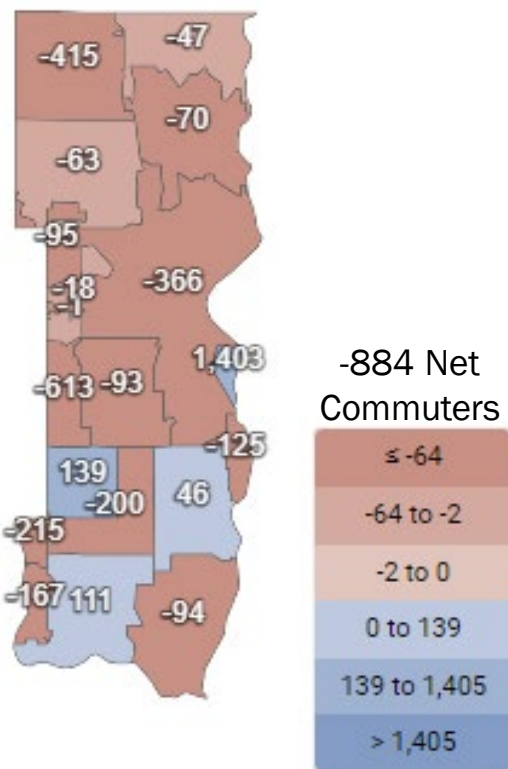
# Manufacturing Cluster by Location

Manufacturing Unemployment by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q4

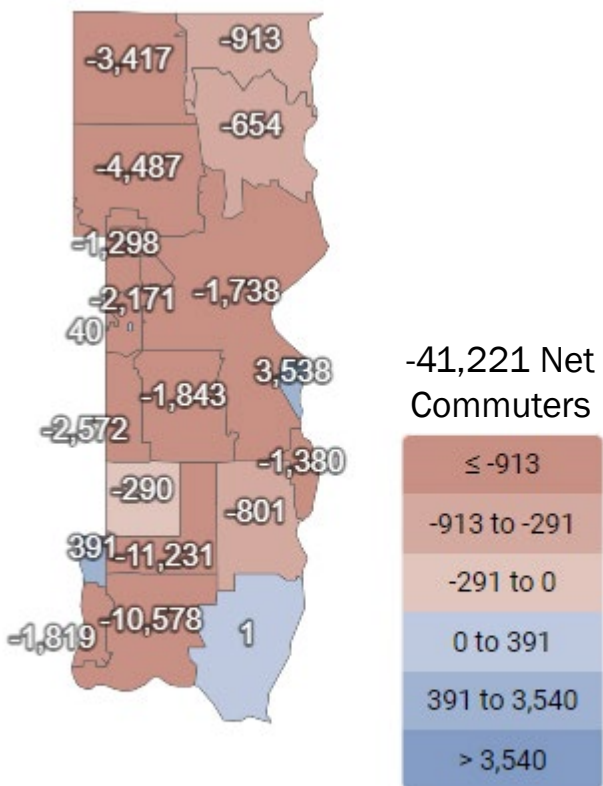
Manufacturing Occupational Net Commuting Pattern by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

-884 Net Commuters

All Occupational Net Commuting Pattern by Washington County Zip Code



-41,221 Net Commuters

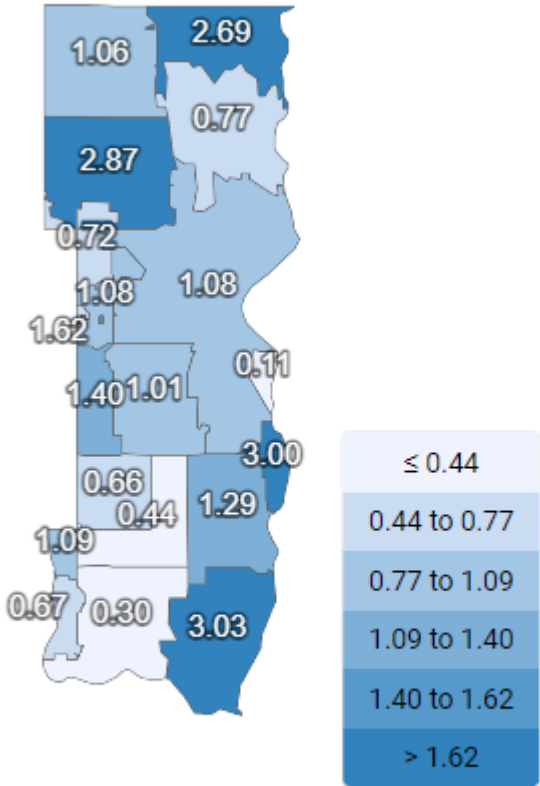
# Construction Industry

Nearly 6,000 people work in the Construction Industry in Washington County, rising 4.5% on average annually over the past five years and forecasting 0.7% average annual growth over the coming five years under a baseline forecast. Construction roles are about as concentrated in Washington County as a typical community nationally, (LQ 0.98), but prefabricated construction components including drywall and structural steel contractors are uniquely found in high number in Washington County. The Industry pays average wages of \$68,943 annually, well above the county's average overall wage.

## Key Findings

- Nonresidential Drywall Contractors (LQ 6.43); Power and Communication Line Construction (LQ 3.39); Nonresidential Structural Steel Contractors (LQ 2.80) are the most uniquely concentrated sub-industries in Washington County's Construction Industry
- Residential Roofing Contractors, Nonresidential Plumbing and HVAC Contractors, and Power Line Construction sub-industries all saw significant growth over the past five years, averaging annually 29.9%, 29.2%, and 20.0% growth in the county respectively
- The county's local postsecondary programming is likely underproducing Cost Estimators, Construction Managers, and Civil Engineers needed in the local talent pipeline

Location Quotient of the Construction Industry Employment by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI.  
Data a four-quarter average ending in 2022Q3



# Construction Industry Firms

## The Construction Industry's Contribution to GDP

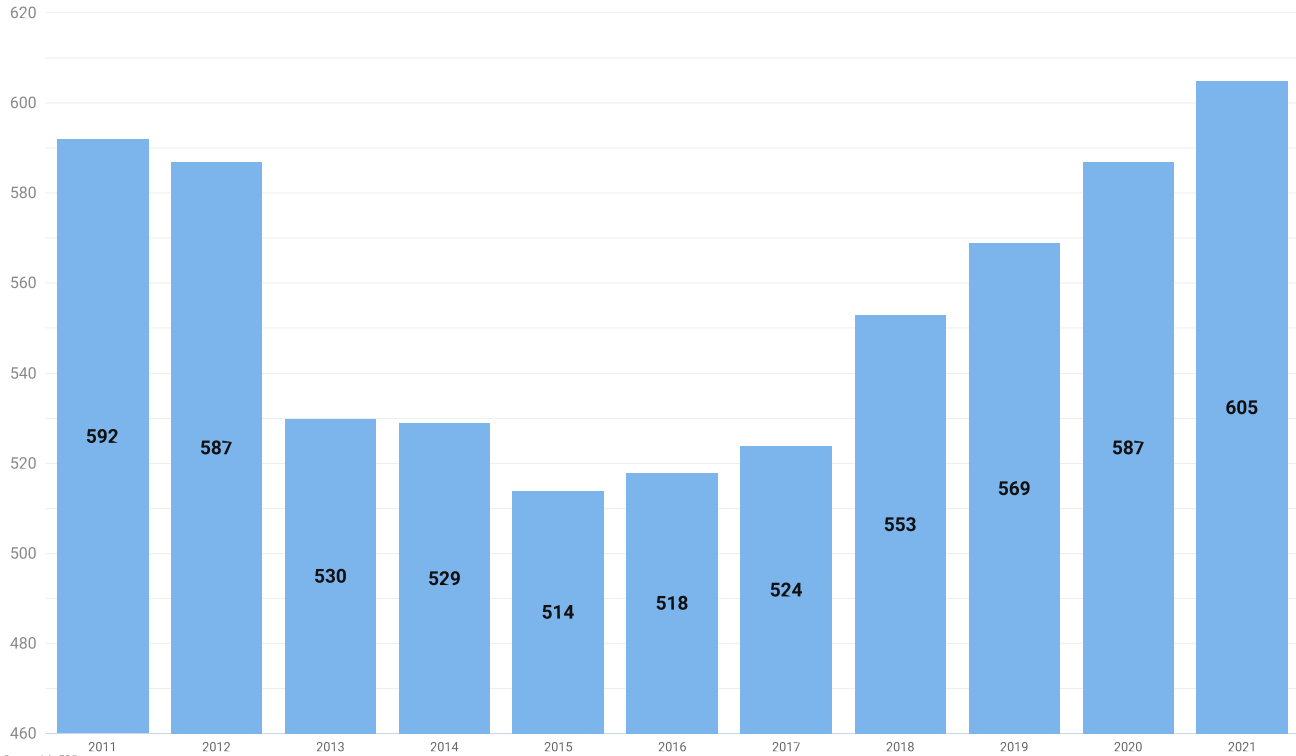
5.6% Industry Share of Total GDP (4.3% in the nation)

+8.7% Average Annual GDP growth (+6.3% in the nation)

\$251K Output per Worker (\$232K in the nation)

3-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Petroleum Refineries	\$31.0	\$6.8
Engineering Services	\$10.9	\$13.4
All Other Plastics Product Manufacturing	\$13.9	\$1.0
Ready-Mix Concrete Manufacturing	\$8.1	\$6.8
Wood Kitchen Cabinet and Countertop Manufacturing	\$4.2	\$8.9
Remaining Supplier Industries	\$108.7	\$393.2
<b>Total</b>	<b>\$176.9</b>	<b>\$430.1</b>

## Construction Firms in Washington County by Year



Source: JobsEQ®

## Construction Employers by Type

	Empl	%
Private	4,398	76.5%
Self-Employment	965	16.8%
Government	385	6.7%

Source: Chmura JobsEQ 2022Q3 Dataset.

# Construction Industry Detail

6-Digit Industry	Empl	Avg Ann Wages	LQ	North LQ	Central LQ	South LQ	5yr History	Annual Demand	Forecast Ann Growth
Nonresidential drywall contractors	534	\$80,296	6.43	9.72	6.78	5.12		52	0.7%
Residential Remodelers	487	\$57,175	1.11	0.91	1.18	1.09		49	0.6%
Power and Communication Line and Related Structures Construction	481	\$74,480	3.39	17.37	1.01	1.63		52	1.2%
Highway, Street, and Bridge Construction	424	\$73,697	1.33	0.97	2.61	0.17		47	1.0%
Commercial and Institutional Building	400	\$106,011	0.88	1.18	1.29	0.40		40	0.6%
Residential plumbing and HVAC contractors	345	\$71,685	0.77	1.28	2.29	0.62		37	0.5%
Nonresidential plumbing and HVAC contractors	304	\$103,599	0.85	1.15	0.82	0.67		32	0.5%
New Single-Family Housing Construction (except For-Sale Builders)	293	\$70,867	0.91	1.34	0.90	0.81		30	0.6%
Residential site preparation contractors	229	\$51,153	1.30	1.96	1.37	1.04		24	0.6%
All other residential trade contractors	220	\$48,666	1.05	1.04	1.11	0.85		24	0.6%
Remaining Component Industries	2,031	\$59,972	0.71	1.02	0.73	0.59		210	0.6%
<b>Construction</b>	<b>5,747</b>	<b>\$68,943</b>	<b>0.98</b>	<b>1.63</b>	<b>1.07</b>	<b>0.70</b>		<b>603</b>	<b>0.7%</b>

Industry Staffing Pattern



## Jobs in the Construction Industry

5,747 Total Employment

+3.8% average annual growth over the past ten years compared to +2.4% statewide and +2.7% nationally

5.8% of Total Employment compared to 5.9% nationally

0.98 Location Quotient

\$68,943 average wages compared to \$65,968 nationally



# Construction Industry Occupational Employment

Occupation Distribution for Manufacturing in Washington County, Minnesota, Baseline							
SOC	Occupation	Current		5-Year Demand			
		Empl	Avg Ann Wages	Exits	Transfers	Empl Growth	Total Demand
47-2061	Construction Laborers	772	\$51,800	146	252	43	440
47-2031	Carpenters	732	\$65,200	127	220	17	364
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	348	\$84,100	60	108	14	182
11-9021	Construction Managers	238	\$100,900	29	67	18	114
47-2152	Plumbers, Pipefitters, and Steamfitters	221	\$80,200	38	78	8	123
47-2073	Operating Engineers and Other Construction Equipment Operators	193	\$72,200	36	66	8	110
47-2111	Electricians	177	\$69,800	32	64	11	106
43-9061	Office Clerks, General	176	\$44,800	55	55	-3	107
47-2141	Painters, Construction and Maintenance	169	\$53,700	30	45	6	81
11-1021	General and Operations Managers	153	\$113,300	18	51	6	74
47-2081	Drywall and Ceiling Tile Installers	153	\$63,600	21	42	6	70
13-1082	Project Management Specialists	147	\$83,000	17	43	5	66
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	128	\$63,000	20	42	4	66
47-2051	Cement Masons and Concrete Finishers	117	\$62,400	15	36	0	52
53-3032	Heavy and Tractor-Trailer Truck Drivers	98	\$55,600	23	36	4	63
	Other Occupations	1,899		358	628	54	1,041
	<b>Total</b>	<b>5,720</b>		<b>1,026</b>	<b>1,833</b>	<b>201</b>	<b>3,060</b>

## Jobs in the Architecture and Construction Cluster

6,818 Total Employment

+2.3% average annual growth over the past ten years compared to +1.1% statewide

2.3% unemployment rate (164 people) compared to 2.9% statewide (5,425 people)

1.01 Location Quotient

\$64,400 average wages compared to \$66,600 statewide

# Regional Construction Highlights

## Northern

### Top Detailed Industries

- 1) Power and Communication Line and Related Structures Construction (LQ 17.37)
- 2) Nonresidential Drywall Contractors (LQ 9.72)
- 3) Nonresidential Structural Steel Contractors (LQ 4.12)
- 4) Other Heavy and Civil Engineering Construction (LQ 2.89)
- 5) Residential Finish Carpentry Contractors (LQ 2.21)

### Talent Shortages

- 1) Construction Supervisors
- 2) Carpenters

## Central

### Top Detailed Industries

- 1) Nonresidential Drywall Contractors (LQ 6.78)
- 2) Nonresidential Structural Steel Contractors (LQ 2.95)
- 3) Highway, Street, and Bridge Construction (LQ 2.61)
- 4) New Multifamily Housing Construction (except For-Sale Builders) (LQ 1.63)
- 5) Residential Finish Carpentry Contractors (LQ 1.57)

### Talent Shortages

- 1) Carpenters
- 2) Plumbers and Pipefitters
- 3) Painters, Construction and Maint.
- 4) Electricians
- 5) Operating Engineers
- 6) Drywall and Ceiling Tile Installers
- 7) Construction Managers
- 8) Construction Supervisors

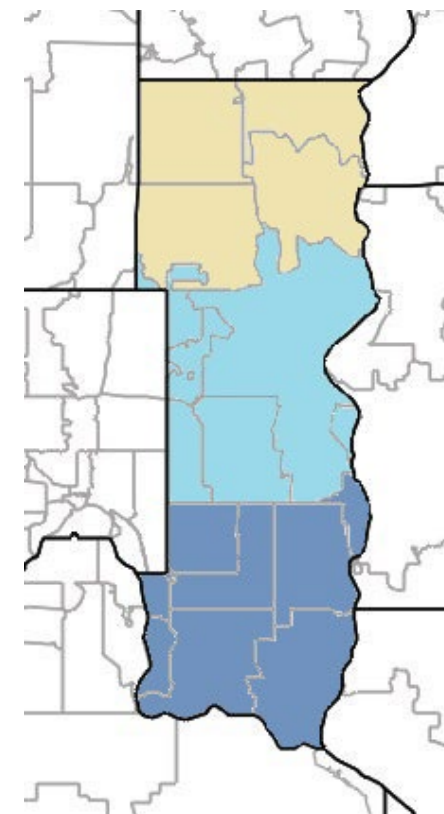
## Southern

### Top Detailed Industries

- 1) Nonresidential Drywall Contractors (LQ 5.12)
- 2) New Multifamily Housing Construction (except For-Sale Builders) (LQ 4.35)
- 3) Nonresidential Structural Steel Contractors (LQ 2.26)
- 4) Power and Communication Line and Related Structures Construction (LQ 1.63)
- 5) Residential Finish Carpentry Contractors (LQ 1.20)

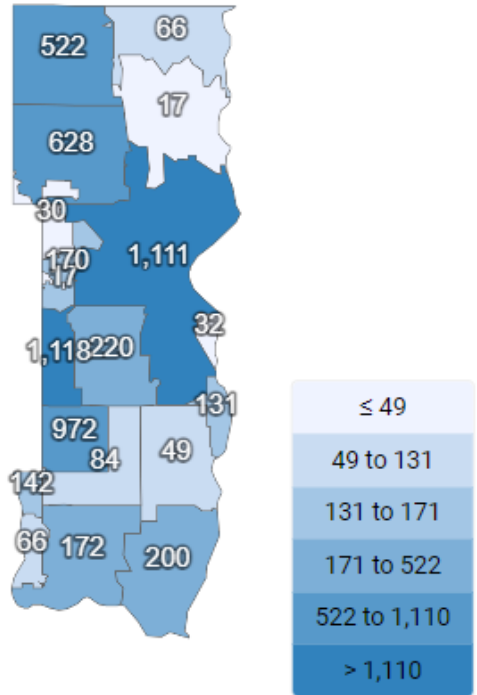
### Talent Shortages

- 1) Carpenters
- 2) Painters, Construction and Maint.
- 3) Drywall and Ceiling Tile Installers
- 4) Construction Managers
- 5) Construction Supervisors



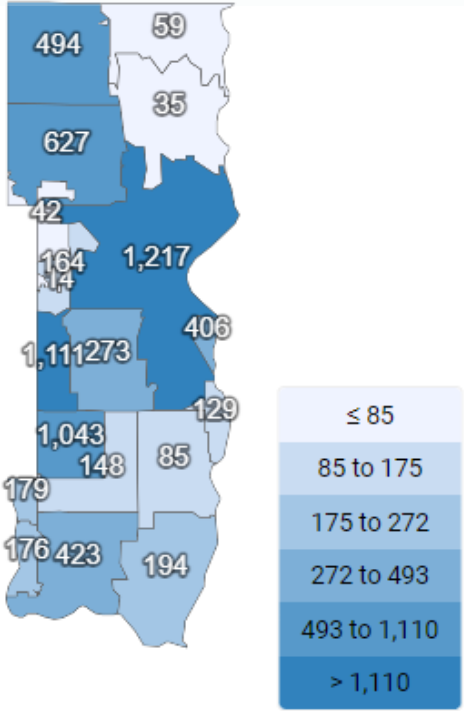
# Construction Industry Workforce by Location

Construction Industry Employment by Washington County Zip Code



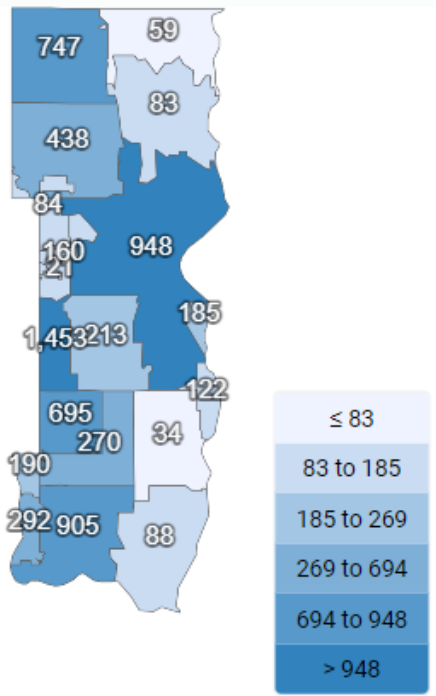
Source: JobsEQ®, Powered by ESRI.  
Data a four-quarter average ending in 2022Q3

Architecture and Construction Cluster Occupational Employment by Washington County Zip Code Place of Work



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

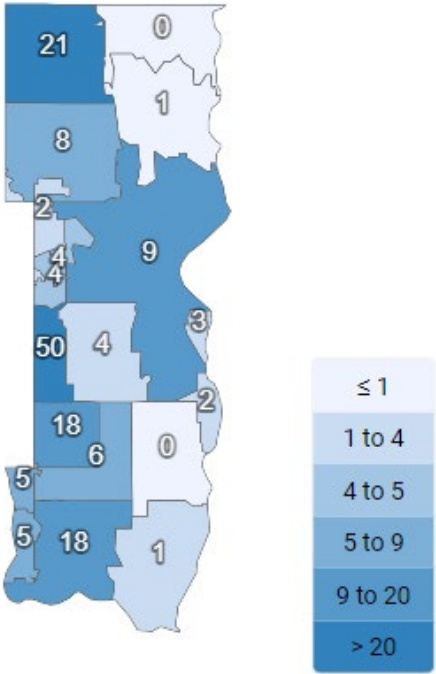
Architecture and Construction Cluster Occupational Employment by Washington County Zip Code Residence



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

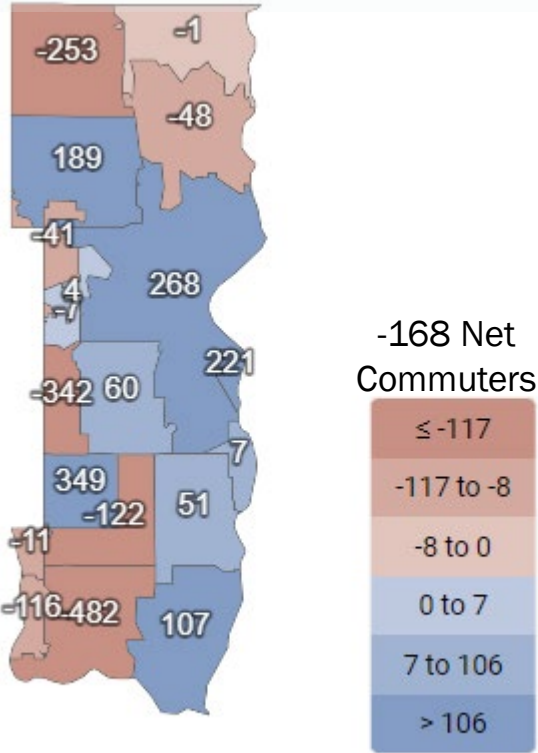
# Architecture and Construction Cluster by Location

Architecture and Construction Unemployment by Washington County Zip Code



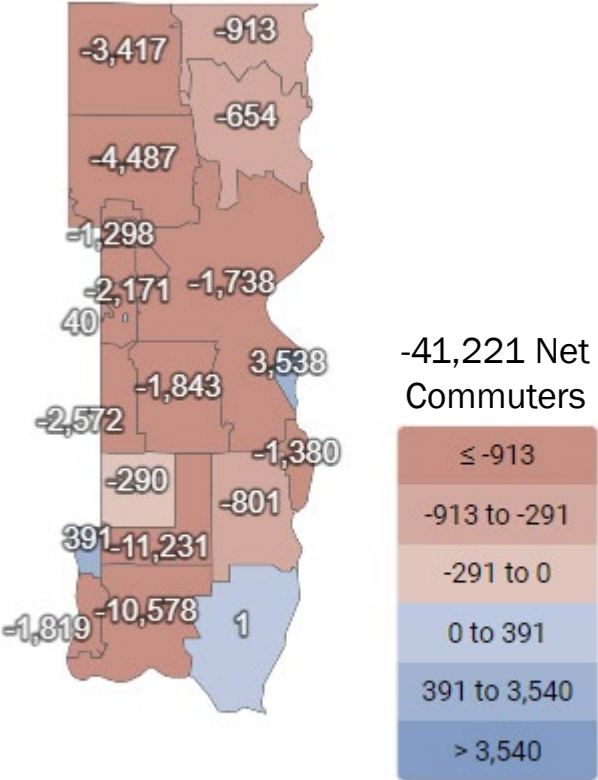
Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q4

Architecture and Construction Occupational Net Commuting Pattern by Washington County Zip Code



Source: JobsEQ®, Powered by ESRI.  
Data as of 2022Q3

All Occupational Net Commuting Pattern by Washington County Zip Code



-41,221 Net Commuters



## 04. Pathway Priorities

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# Pathway Priorities

Utilizing an Origin-Gateway-Target Model for career pathway evaluation, this report highlights the most important areas of investment in local training and education programming to prepare the talent needed for today and tomorrow's future workforce.

## Origin-Gateway-Target Model

### 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)

## Approach

- Classify all occupations in the critical career clusters into three tiers: Origin, Gateway, and Target occupations
- Analyze all occupations in the model by wage, skill-level, and demand
- Evaluate the prominent career pathways for development and investment for equitable economic growth, with attention to average wages and trends in job posting requirements

**Critical Pathways**  
Health Science (Therapeutic Services)  
Manufacturing  
Architecture and Construction





# An Origin-Gateway-Target Model for Health Science (Therapeutic Services)

Washington County, 2022Q3

**Target Occupations** (all HW, HD, HS)  
Registered Nurses (OG, AG)  
Medical and Health Services Managers (OG, AG)  
Pharmacists (OG, AG)  
Nurse Practitioners (OG, AG)  
Physical Therapists (OG, AG)

**Gateway Occupations**  
Medical Assistants (HS, HD, OG, AG)  
Licensed Practical Nurses (HS, HD, OG, AG)  
Dental Assistants (HS, HD, OG)  
Medical Secretaries & Administrative Assistants (HD, OG)  
Dental Hygienists (HS, HD, OG)

**Origin Occupations**  
Home Health Aides (HD, AG)  
Nursing Assistants (HS, HD, OG)  
Pharmacy Technicians (HS, HD)  
Veterinary Technologists & Technicians (HS, HD, OG, AG)  
Opticians, Dispensing (HD, AG)

# Health Science Cluster Wages

	SOC	Occupation	County Empl	Mean	Entry Level	Experienced	10%	25%	50% (Median)	75%	90%	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Target	29-1141	Registered Nurses	1,439	\$85,300	\$66,500	\$94,800	\$61,400	\$74,600	\$78,700	\$98,500	\$99,500	BA	None	None
	11-9111	Medical and Health Services Managers	248	\$111,500	\$69,800	\$132,300	\$66,700	\$78,200	\$97,700	\$124,200	\$158,100	BA	Less than 5 years	None
	29-1051	Pharmacists	207	\$127,600	\$99,700	\$141,600	\$82,100	\$126,000	\$130,200	\$151,300	\$164,100	PhD	None	None
	29-1171	Nurse Practitioners	171	\$124,200	\$86,300	\$143,200	\$79,200	\$101,400	\$126,100	\$129,900	\$160,200	MA	None	None
	29-1123	Physical Therapists	150	\$86,300	\$75,900	\$91,400	\$75,300	\$77,300	\$79,500	\$98,600	\$100,500	PhD	None	None
	29-1229	Physicians, All Other	140	\$264,500	\$87,500	\$353,000	\$73,500	\$115,100	\$235,600	\$287,000	\$349,400	PhD	None	Residency
Gateway	31-9092	Medical Assistants	449	\$45,400	\$37,500	\$49,400	\$37,800	\$38,700	\$47,600	\$48,300	\$48,500	Certificate	None	None
	29-2061	Licensed Practical and Licensed Vocational Nurses	371	\$52,400	\$46,700	\$55,300	\$46,700	\$47,100	\$49,300	\$59,000	\$60,400	AS	None	None
	31-9091	Dental Assistants	320	\$55,700	\$47,300	\$60,000	\$48,100	\$48,400	\$60,600	\$61,100	\$61,900	Certificate	None	None
	43-6013	Medical Secretaries and Administrative Assistants	546	\$45,000	\$36,800	\$49,100	\$37,200	\$37,900	\$46,900	\$48,000	\$58,700	HS/GED	None	Mod-term OJT
Origin	29-1292	Dental Hygienists	244	\$81,800	\$77,800	\$83,800	\$77,800	\$78,000	\$78,700	\$82,600	\$98,400	AS	None	None
	31-1121	Home Health Aides	664	\$30,500	\$26,300	\$32,600	\$24,400	\$29,000	\$29,400	\$30,800	\$36,400	HS/GED	None	Short-term OJT
	31-1131	Nursing Assistants	597	\$39,000	\$33,200	\$41,800	\$30,900	\$36,800	\$37,900	\$43,100	\$47,400	Certificate	None	None
	29-2052	Pharmacy Technicians	291	\$43,800	\$33,400	\$49,000	\$31,400	\$37,500	\$45,900	\$47,800	\$58,500	HS/GED	None	Mod-term OJT
	31-9096	Veterinary Assistants and Laboratory Animal Caretakers	113	\$37,000	\$29,400	\$40,700	\$29,400	\$30,700	\$37,500	\$38,400	\$47,900	HS/GED	None	Short-term OJT
	29-2081	Opticians, Dispensing	86	\$44,400	\$34,700	\$49,200	\$33,500	\$38,100	\$46,200	\$46,700	\$58,400	HS/GED	None	Long-term OJT

Source: Chmura JobsEQ 2022Q3 Dataset. Names of Industry NAICS or Occupation SOC may be abbreviated. Wage thresholds for Origin and Gateway Occupations adjusted moderately for this pathway (Opticians and Pharmacy Technicians have average wages above the \$42,500 threshold into Gateway careers but are shown as Origin Occupations as they typically do not require a credential or experience.

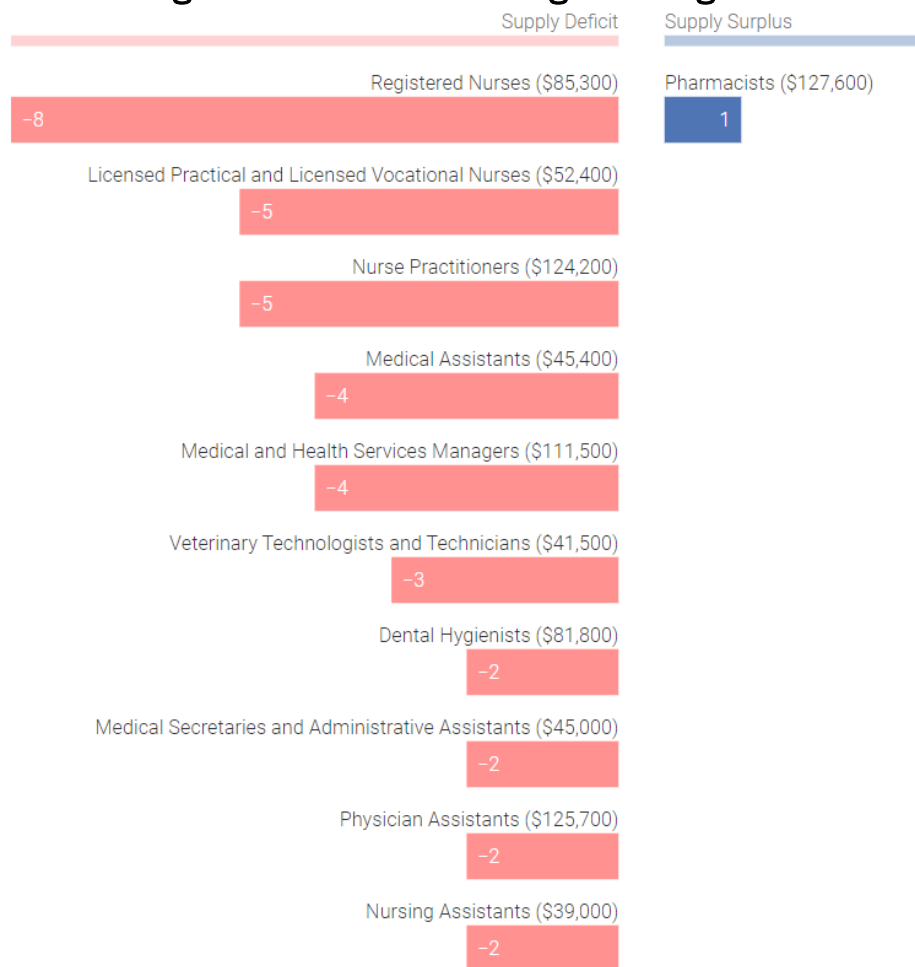
# Health Science Cluster Job Vacancies

Statewide and MSP 7-County Metro Regional Job Vacancy Estimates, 2021Q4

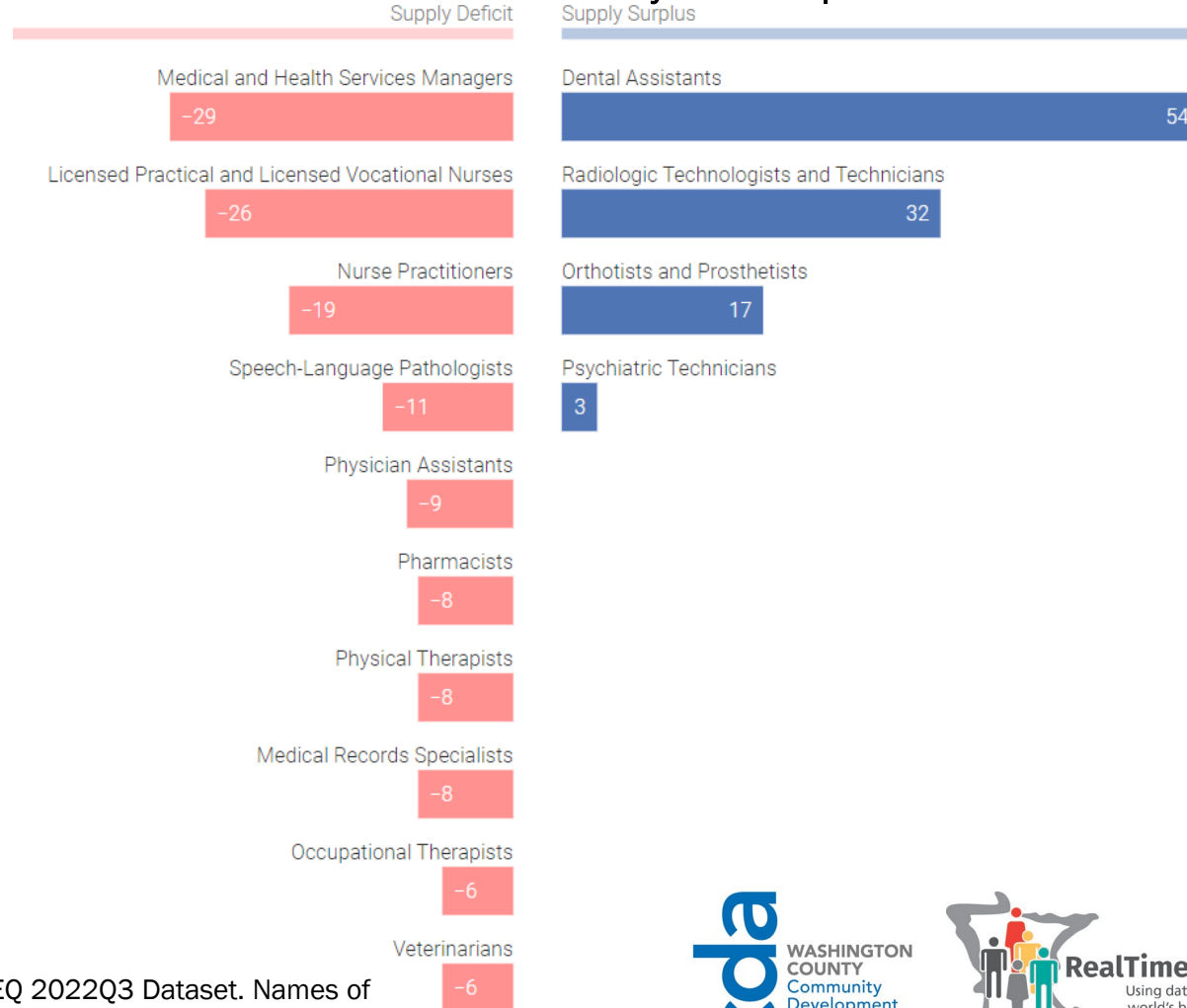
SOC	Occupation	Minnesota		MSP Metro					
		Job Vacancies	Job Vacancy Rate	Job Vacancies	Job Vacancy Rate	Part Time	Temp/Seasonal	Requiring Postsecondary	Requiring Certificate or License
<b>29-0000</b>	<b>Healthcare Practitioners and Technical Occupations</b>	<b>19,758</b>	<b>10.5%</b>	<b>12,178</b>	<b>11.8%</b>	<b>30%</b>	<b>2%</b>	<b>87%</b>	<b>71%</b>
29-1000	Healthcare Diagnosing or Treating Practitioners	11,941	9.5%	7,390		27%	2%	98%	78%
29-2000	Health Technologists and Technicians	7,691	13.0%	4,719		36%	3%	69%	61%
29-9000	Other Healthcare Practitioners and Technical Occupations	125	4.4%	67		39%	2%	91%	91%
<b>31-0000</b>	<b>Healthcare Support Occupations</b>	<b>18,212</b>	<b>11.3%</b>	<b>11,428</b>	<b>11.9%</b>	<b>41%</b>	<b>5%</b>	<b>31%</b>	<b>57%</b>
31-1100	Home Health and Personal Care Aides; Nursing Assistants and Orderlies	15,110		9,044			5%	21%	55%
31-1121	Home Health Aides	1,829		1,411		47%	10%	16%	23%
31-1122	Personal Care Aides	7,281		4,044		56%	2%	3%	45%
31-1131	Nursing Assistants	5,878	23.2%	3,537	31.2%	32%	6%	45%	80%
31-1132	Orderlies	51	15.1%	32	15.1%	50%	0%	0%	4%
31-1133	Psychiatric Aides	69	7.7%	18	3.4%	77%	6%	0%	23%
31-2000	Occupational Therapy and Physical Therapist Assistants	803	44.3%	689		5%	5%	100%	98%
31-9000	Other Healthcare Support Occupations	2,299	9.6%	1,693		34%	5%	53%	54%
	<b>Total – All Occupations</b>	<b>214,071</b>	<b>8.2%</b>	<b>126,916</b>	<b>7.9%</b>	<b>27%</b>	<b>5%</b>	<b>38%</b>	<b>33%</b>

# Health Science Shortages

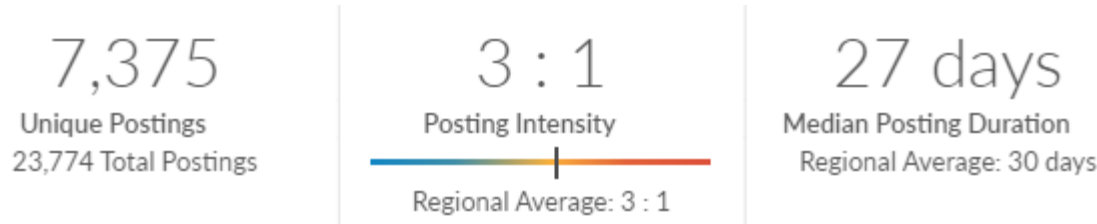
## Average Annual Talent Shortages through 2027



## Local Talent Postsecondary Award Gaps



# Health Science Job Posting Trends



Top Occupations Advertised

Registered Nurse

Caregiver/Personal Care Aide

Home Health Aide

LPN

Nursing Assistant

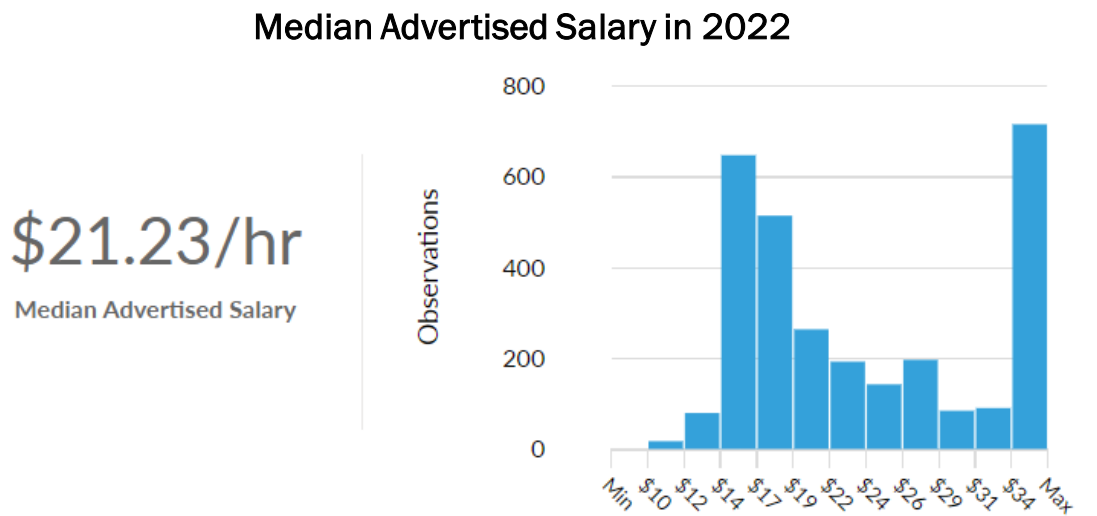
Pharmacy Technician

Laboratory Technician

Nursing Manager/Supervisor

Medical Assistant

Physician



# Health Science Job Posting Trends

1,646

Avg. Monthly Postings (Jan 2022 - Dec 2022)

683

Avg. Monthly Hires (Jan 2022 - Dec 2022)

## Top Employers Posting

Lakeview Hospital

CareInHomes

Fairview Health Services

Sevita

Presbyterian Homes

Allina Health

Regions Hospital

Interim HealthCare

Good Samaritan Society

Stillwater Medical

## Comparison of Monthly Job Postings Volume to Hires

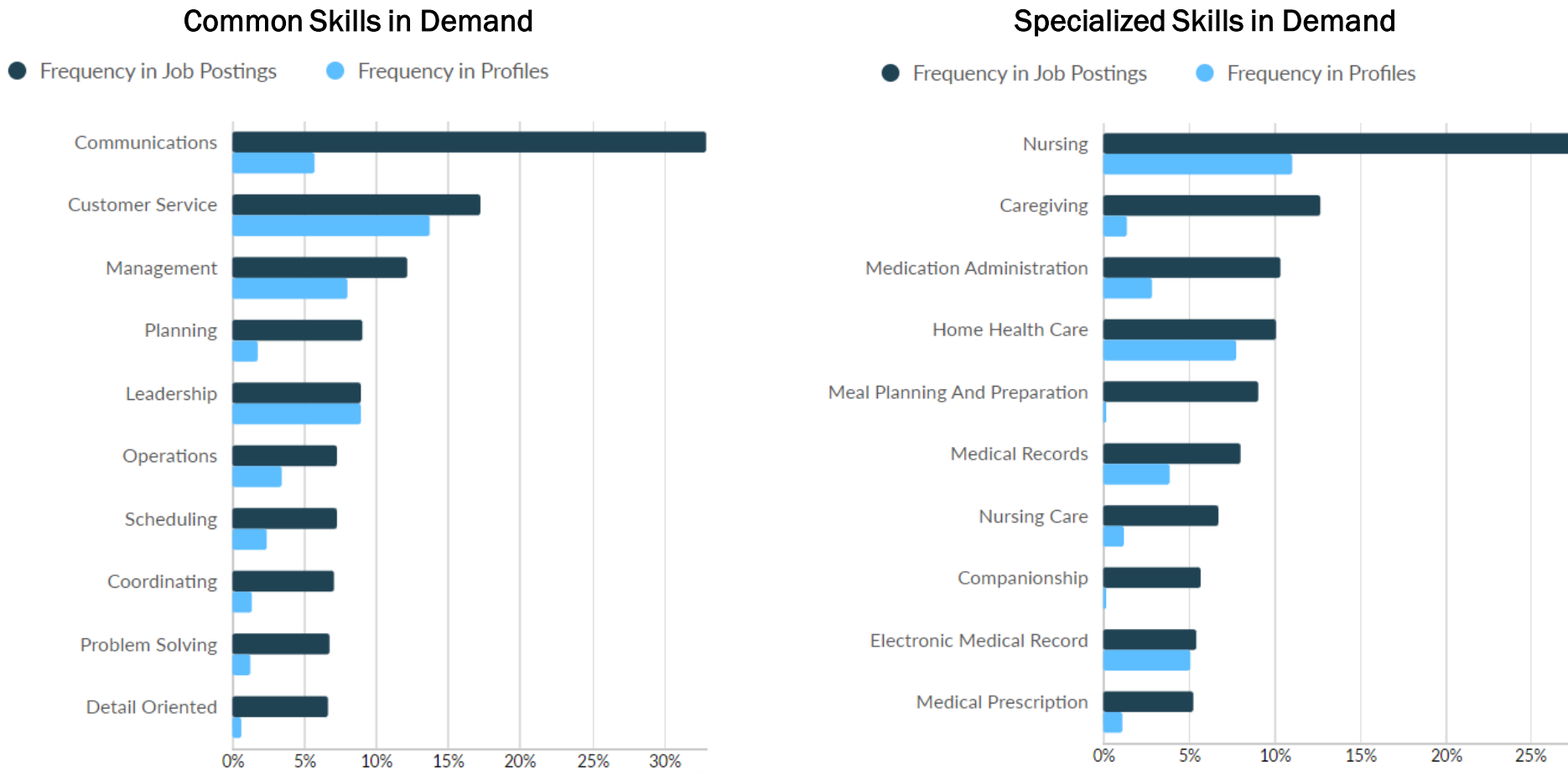


+20.7%  
in posting volumes  
between 2021 and 2022

1 hire  
For every 2 unique job postings



# Health Science Skill Demand



# An Origin-Gateway-Target Model for Manufacturing

Washington County, 2022Q3

## Target Occupations (all HW, HD)

Supervisors of Production and Operating Workers (OG, AG)  
Supervisors of Mechanics, Installers, and Repairers (OG, AG)  
Purchasing Agents, Except Wholesale, Retail (HS, OG, AG)  
Petroleum Pump System Operators  
Power Plant Operators (OG)

## Gateway Occupations

Maintenance & Repair Workers, General (OG, AG)  
Woodworking Machine Setters, Operators, and Tenders, Except Sawing (OG, AG)  
Inspectors, Testers, Sorters, Samplers, and Weighers  
Machinists (OG, AG)  
Industrial Machinery Mechanics (HW, OG, AG)

## Origin Occupations

Team Assemblers  
Production Workers, Other (OG)  
Assemblers and Fabricators, Other  
Packaging & Filling Machine Operators & Tenders (OG)  
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic

# Manufacturing Cluster Wages

	SOC	Occupation	County Empl	Mean	Entry Level	Experienced	10%	25%	50% (Median)	75%	90%	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Target	51-1011	Supervisors of Production and Operating Workers	507	\$72,000	\$51,900	\$82,100	\$48,600	\$58,100	\$65,100	\$80,600	\$100,600	HS/GED	Less than 5 years	None
	49-1011	Supervisors of Mechanics, Installers, and Repairers	256	\$80,100	\$55,400	\$92,400	\$51,500	\$63,900	\$78,200	\$96,400	\$103,300	HS/GED	Less than 5 years	None
	13-1023	Purchasing Agents	164	\$77,400	\$51,900	\$90,100	\$48,100	\$60,300	\$75,100	\$95,300	\$118,600	BA	None	Mod-term OJT
	51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	41	\$93,400	\$78,100	\$101,100	\$75,600	\$84,100	\$95,700	\$101,400	\$103,600	HS/GED	None	Mod-term OJT
	51-8013	Power Plant Operators	32	\$93,700	\$62,900	\$109,100	\$52,800	\$80,400	\$104,700	\$108,900	\$113,700	HS/GED	None	Mod-term OJT
Gateway	49-9071	Maintenance and Repair Workers	871	\$51,200	\$36,800	\$58,400	\$35,600	\$40,000	\$48,100	\$60,000	\$65,200	HS/GED	None	Mod-term OJT
	51-7042	Woodworking Machine Setters, Operators, and Tenders	552	\$44,800	\$35,800	\$49,300	\$34,700	\$39,000	\$46,500	\$48,500	\$51,600	HS/GED	None	Mod-term OJT
	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	310	\$48,100	\$33,900	\$55,100	\$31,500	\$38,700	\$48,300	\$53,700	\$61,400	HS/GED	None	Mod-term OJT
	51-4041	Machinists	243	\$55,400	\$40,700	\$62,800	\$38,900	\$44,800	\$52,600	\$62,500	\$76,600	HS/GED	None	Long-term OJT
Origin	49-9041	Industrial Machinery Mechanics	219	\$66,800	\$50,900	\$74,800	\$48,700	\$55,600	\$63,100	\$77,500	\$81,400	HS/GED	None	Long-term OJT
	51-2092	Team Assemblers	1,228	\$39,900	\$29,800	\$45,000	\$29,700	\$31,300	\$38,100	\$46,500	\$50,100	HS/GED	None	Mod-term OJT
	51-9199	Production Workers, Other	199	\$41,100	\$29,500	\$46,900	\$29,800	\$30,400	\$37,500	\$47,000	\$58,500	HS/GED	None	Mod-term OJT
	51-2099	Assemblers and Fabricators, Other	197	\$39,600	\$29,700	\$44,600	\$29,600	\$31,200	\$37,900	\$46,200	\$49,700	HS/GED	None	Mod-term OJT
	51-9111	Packaging and Filling Machine Operators and Tenders	196	\$40,100	\$30,500	\$44,900	\$30,200	\$32,300	\$39,300	\$47,000	\$49,400	HS/GED	None	Mod-term OJT
	51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	156	\$42,200	\$31,000	\$47,700	\$30,600	\$32,700	\$38,500	\$47,400	\$60,400	HS/GED	None	Mod-term OJT

# Manufacturing Cluster Job Vacancies

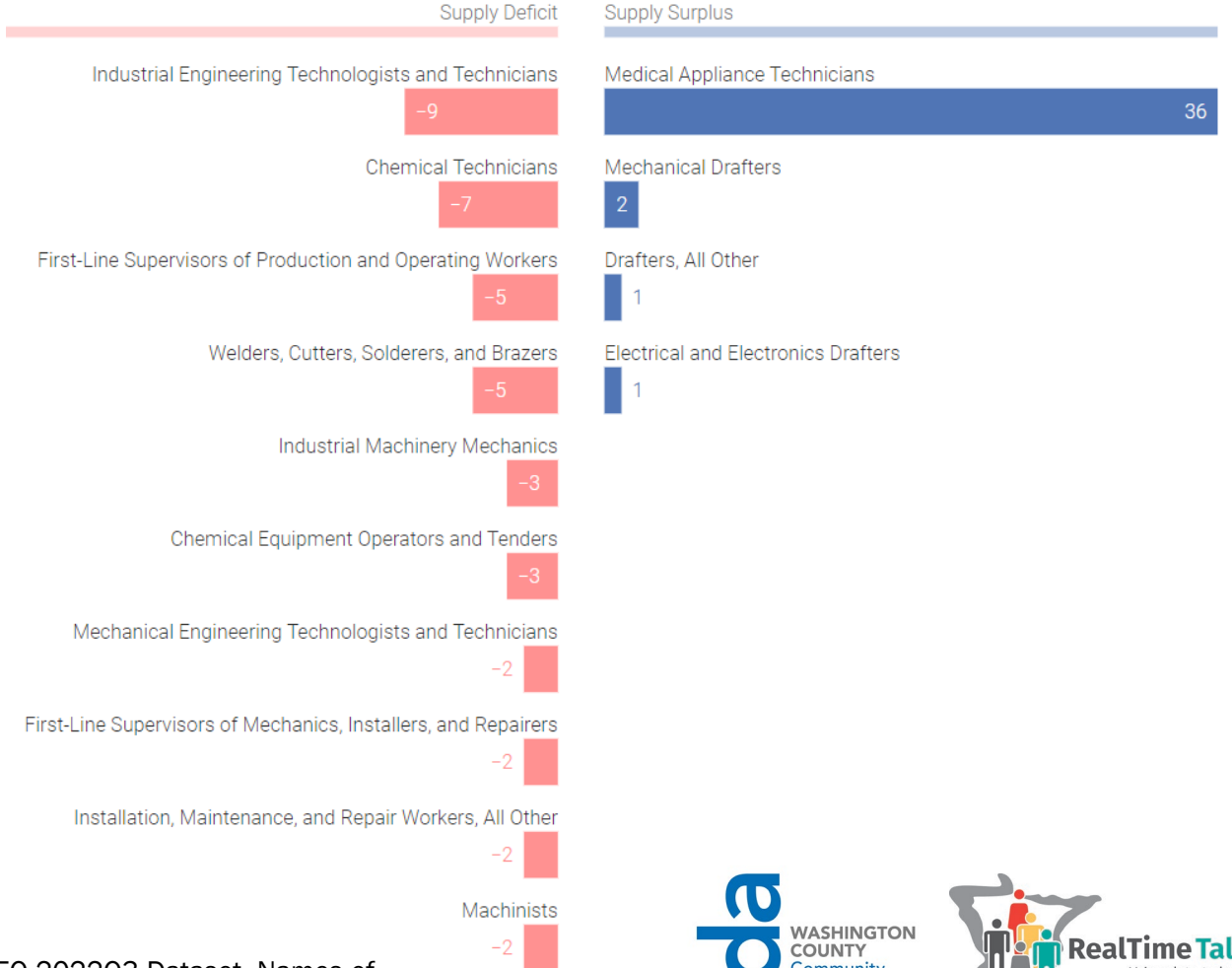
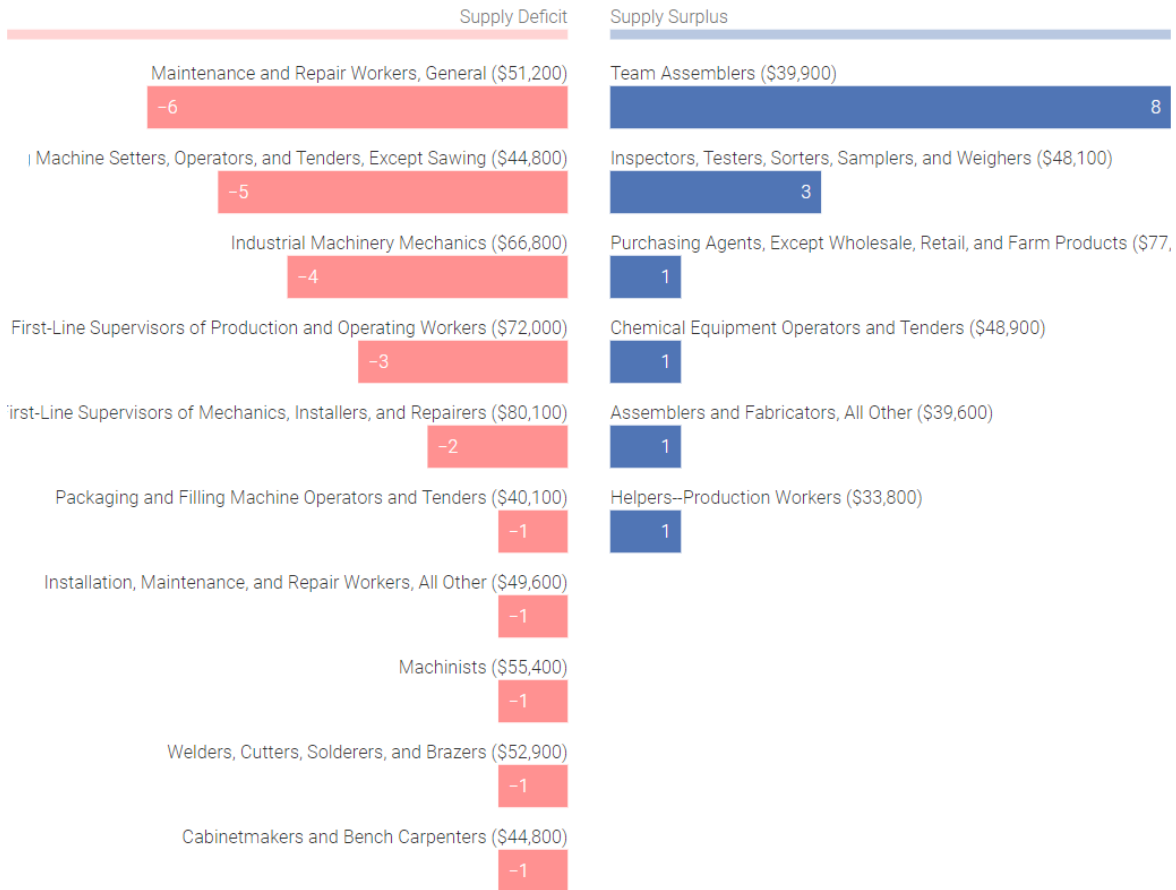
Statewide and MSP 7-County Metro Regional Job Vacancy Estimates, 2021Q4

SOC	Occupation	Minnesota		MSP Metro					
		Job Vacancies	Job Vacancy Rate	Job Vacancies	Job Vacancy Rate	Part Time	Temp/Seasonal	Req Post secondary	Req Cert/License
<b>17-0000</b>	<b>Architecture and Engineering Occupations</b>	<b>3,912</b>	<b>7.5%</b>	<b>2,523</b>	<b>7%</b>	<b>3%</b>	<b>2%</b>	<b>91%</b>	<b>56%</b>
17-2000	Engineers	2,779	8.4%	1,828		3%	2%	99%	60%
17-3000	Drafters, Engineering Technicians, and Mapping Tec	1,034	7.1%	609		2%	0%	66%	39%
<b>49-0000</b>	<b>Installation, Maintenance, and Repair Occupations</b>	<b>6,925</b>	<b>7.2%</b>	<b>3,298</b>	<b>6.7%</b>	<b>6%</b>	<b>1%</b>	<b>23%</b>	<b>73%</b>
49-1000	Supervisors of Installation, Maintenance, and Repair Workers	476	6.7%	78		8%	0%	32%	59%
49-2000	Electrical and Electronic Equipment Mechanics, Installers	531	7.3%	211		0%	4%	29%	81%
49-9000	Other Installation, Maintenance, and Repair Occupa	2,942	6.1%	1,475		7%	2%	34%	54%
<b>51-0000</b>	<b>Production Occupations</b>	<b>10,989</b>	<b>5.5%</b>	<b>5,041</b>	<b>4.9%</b>	<b>11%</b>	<b>0%</b>	<b>18%</b>	<b>7%</b>
51-1000	Supervisors of Production Workers	344	2.8%	145		2%	1%	41%	13%
51-2000	Assemblers and Fabricators	2,181	4.8%	1,121		1%	1%	51%	1%
51-3000	Food Processing Workers	1,197	5.3%	506		8%	0%	2%	3%
51-4000	Metal Workers and Plastic Workers	2,388	6%	936		6%	0%	13%	12%
51-5100	Printing Workers	453		276		0%	0%	0%	0%
51-6000	Textile, Apparel, and Furnishings Workers	256	4%	162		58%	0%	4%	0%
51-7000	Woodworkers	625	12.2%	503		0%	0%	0%	0%
51-8000	Plant and System Operators	514	8.4%	25		10%	10%	32%	81%
51-9000	Other Production Occupations	3,028	5.8%	1,365		24%	0%	7%	10%
	<b>Total – All Occupations</b>	<b>214,071</b>	<b>8.2%</b>	<b>126,916</b>	<b>7.9%</b>	<b>27%</b>	<b>5%</b>	<b>38%</b>	<b>33%</b>

# Manufacturing Shortages

Average Annual Talent Shortages through 2027

Local Talent Postsecondary Award Gaps



# Manufacturing Job Posting Trends

4,099  
Unique Postings  
11,485 Total Postings



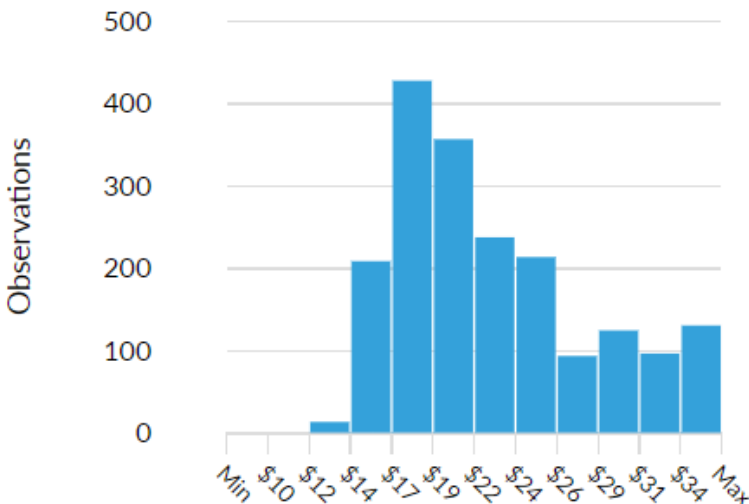
29 days  
Median Posting Duration  
Regional Average: 30 days

## Top Occupations Advertised

Maintenance and Repair Workers	Helpers—Production Workers
Production Workers	Production Supervisors
Industrial Engineering Techs	Mechanics Supervisors
Misc. Assemblers and Fabricators	Production and Planning Clerks
Inspectors, Testers, Sorters, Weighers	Aircraft Assemblers

## Median Advertised Salary in 2022

\$20.98/hr  
Median Advertised Salary



## Two Year Wage Trends





# Manufacturing Job Posting Trends

931

Avg. Monthly Postings (Jan 2022 - Dec 2022)

406

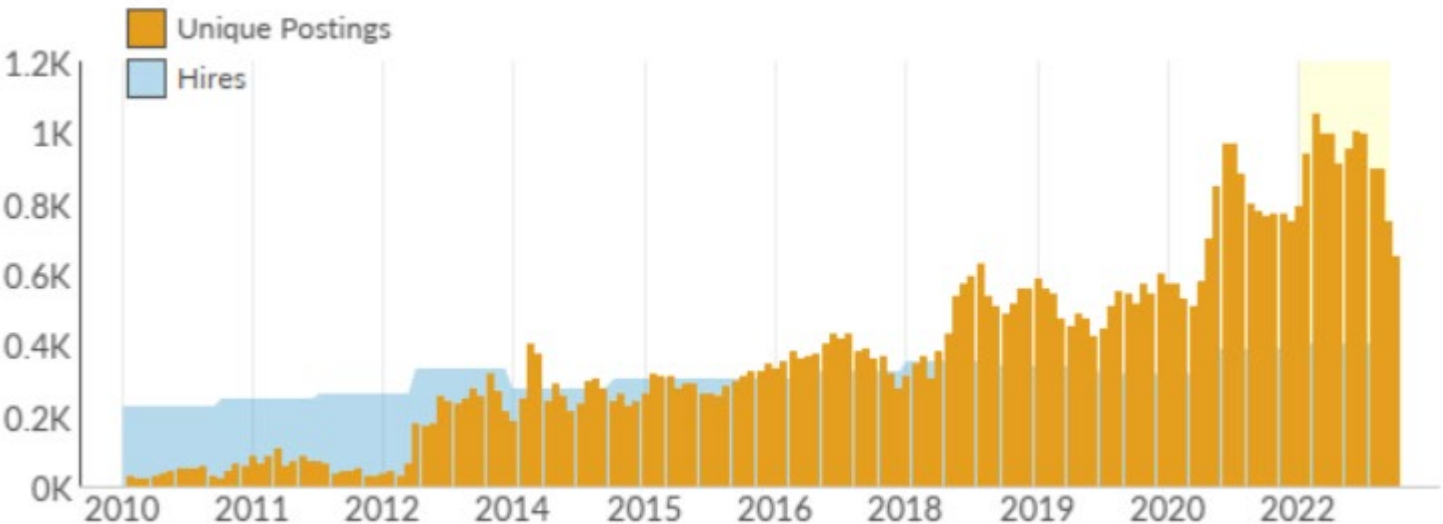
Avg. Monthly Hires (Jan 2022 - Dec 2022)

## Top Employers Posting

Andersen Windows  
Aerotek  
Up North Plastics  
Randstad  
3M

Supermom's Bakery  
Award Staffing  
JI Schwieters  
Adecco  
Lube-Tech

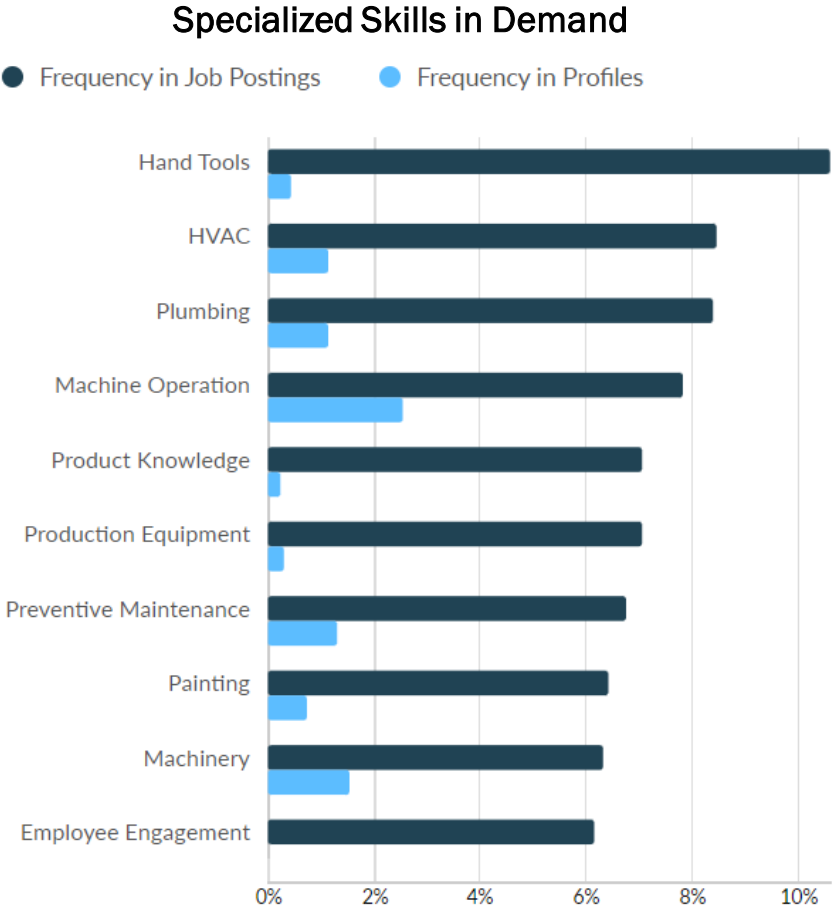
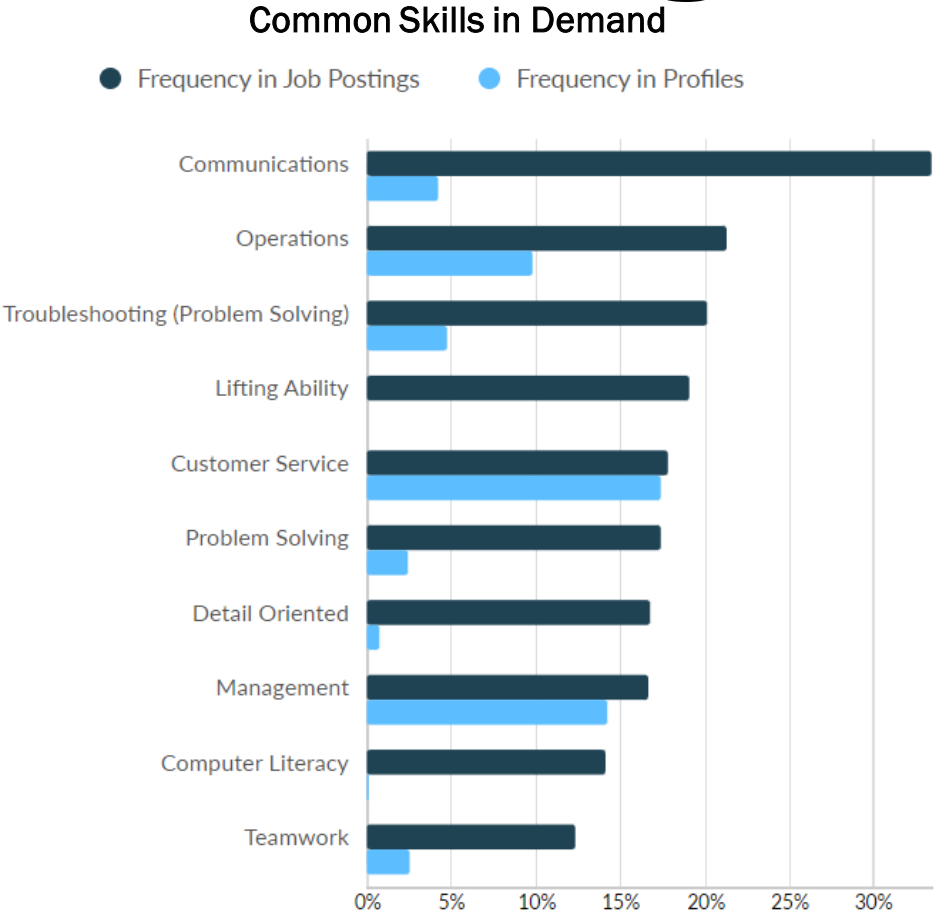
## Comparison of Monthly Job Postings Volume to Hires



-6.0%  
in posting volumes  
between 2021 and 2022

1 hire  
for every 2 unique job postings

# Manufacturing Skill Demand



# An Origin-Gateway-Target Model for Architecture and Construction

Washington County, 2022Q3

## Target Occupations (all HW, HD)

Carpenters (AG)

Supervisors of Construction Trades Workers (OG, AG)

Construction Managers (HS, AG)

Operating Engineers (OG)

Plumbers, Pipefitters, and Steamfitters (OG, AG)

## Gateway Occupations (all HD)

Construction Laborers

Painters, Construction and Maintenance (OG)

Supervisors of Landscaping, Lawn Service, and Groundskeepers (OG)

Highway Maintenance Workers (OG)

Insulation Workers, Floor, Ceiling, and Wall

## Origin Occupations

Landscaping and Groundskeeping Workers (HD)

Helpers—Installation, Maintenance, and Repair Workers (HD)

Helpers—Carpenters (HD)

Manufactured Building and Mobile Home Installers

Helpers—Construction Trades, All Other (HD)

# Architecture and Construction Cluster

## Wages

	SOC	Occupation	County Empl	Mean	Entry Level	Experienced	10%	25%	50% (Median)	75%	90%	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Target	47-2031	Carpenters	1,026	\$61,200	\$42,200	\$70,700	\$39,200	\$48,800	\$61,500	\$76,300	\$78,000	HS/GED	None	Apprenticeship
	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	414	\$89,500	\$68,000	\$100,200	\$62,400	\$77,100	\$82,800	\$101,900	\$117,700	HS/GED	5 years or more	None
	11-9021	Construction Managers	262	\$108,800	\$68,900	\$128,800	\$64,100	\$79,900	\$100,100	\$126,500	\$165,400	BA	None	Mod-term OJT
	47-2073	Operating Engineers and Other Construction Equipment Operators	262	\$74,400	\$54,000	\$84,600	\$50,300	\$62,600	\$78,600	\$81,200	\$96,100	HS/GED	None	Mod-term OJT
	47-2152	Plumbers, Pipefitters, and Steamfitters	254	\$83,800	\$53,500	\$99,000	\$49,700	\$62,900	\$85,000	\$101,000	\$103,400	HS/GED	None	Apprenticeship
Gateway	47-2061	Construction Laborers	885	\$53,400	\$33,400	\$63,400	\$30,400	\$38,600	\$48,300	\$66,800	\$78,400	None	None	Short-term OJT
	47-2141	Painters, Construction and Maintenance	191	\$55,500	\$36,900	\$64,800	\$36,400	\$39,700	\$50,100	\$65,000	\$77,200	None	None	Mod-term OJT
	37-1012	Supervisors of Landscaping, Lawn Service, and Groundskeepers	153	\$56,400	\$40,800	\$64,300	\$40,000	\$44,200	\$55,600	\$64,000	\$79,300	HS/GED	Less than 5 years	None
	47-4051	Highway Maintenance Workers	126	\$57,500	\$46,600	\$62,900	\$45,300	\$50,300	\$60,200	\$61,500	\$76,000	HS/GED	None	Mod-term OJT
	47-2131	Insulation Workers, Floor, Ceiling	74	\$53,500	\$40,100	\$60,100	\$39,000	\$42,900	\$48,100	\$59,100	\$75,100	None	None	Short-term OJT
Origin	37-3011	Landscaping and Groundskeeping Workers	923	\$41,800	\$30,600	\$47,400	\$30,600	\$32,100	\$39,400	\$49,000	\$60,300	None	None	Short-term OJT
	49-9098	Helpers--Installation, Maintenance, and Repair Workers	37	\$36,100	\$26,700	\$40,800	\$25,100	\$29,300	\$34,500	\$37,900	\$47,000	HS/GED	None	Short-term OJT
	47-3012	Helpers--Carpenters	23	\$37,900	\$29,600	\$42,000	\$22,100	\$36,800	\$38,400	\$38,400	\$48,400	None	None	Short-term OJT
	49-9095	Manufactured Building and Mobile Home Installers	17	\$41,100	\$30,300	\$46,600	\$28,900	\$33,400	\$41,300	\$43,800	\$52,600	HS/GED	None	Short-term OJT
	47-3019	Helpers, Construction Trades, Other	16	\$38,400	\$23,200	\$46,000	\$23,400	\$23,400	\$29,900	\$52,600	\$66,500	None	None	Short-term OJT

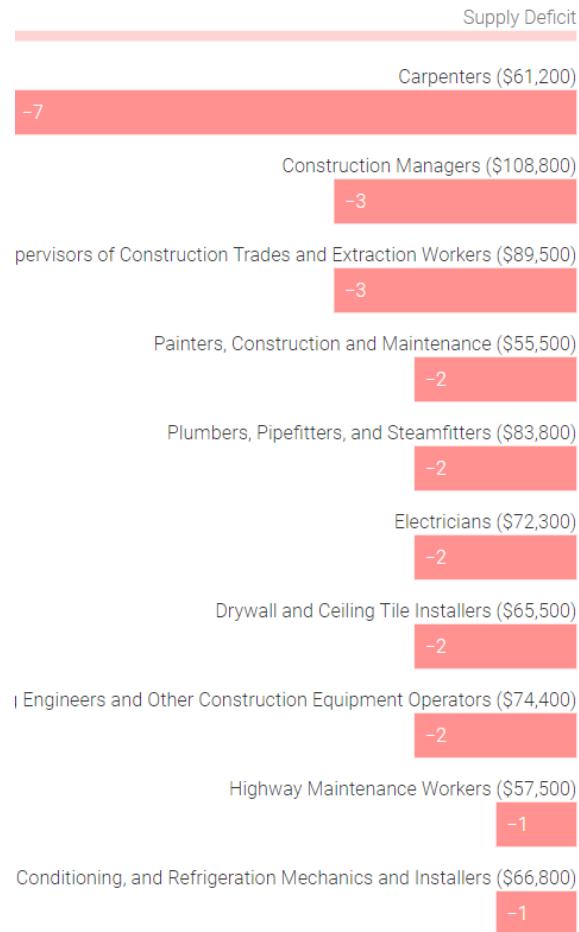
# Architecture and Construction Cluster Job Vacancies

Statewide and MSP 7-County Metro Regional Job Vacancy Estimates, 2021Q4									
SOC	Occupation	Minnesota		MSP Metro					
		Job Vacancies	Job Vacancy Rate	Job Vacancies	Job Vacancy Rate	Part Time	Temp/Seasonal	Req Post secondary	Req Cert/License
<b>17-0000</b>	<b>Architecture and Engineering Occupations</b>	<b>3,912</b>	<b>7.5%</b>	<b>2,523</b>	<b>7%</b>	<b>3%</b>	<b>2%</b>	<b>91%</b>	<b>56%</b>
17-2000	Engineers	2,779	8.4%	1,828		3%	2%	99%	60%
17-3000	Drafters, Engineering Technicians, and Mapping Tec	1,034	7.1%	609		2%	0%	66%	39%
<b>47-0000</b>	<b>Construction and Extraction Occupations</b>	<b>4,163</b>	<b>3.9%</b>	<b>1,146</b>	<b>2.2%</b>	<b>36%</b>	<b>21%</b>	<b>8%</b>	<b>69%</b>
47-1000	Supervisors of Construction and Extraction Workers	264	3.0%	119		0%	0%	26%	84%
47-2000	Construction Trades Workers	3,468	4.5%	645		24%	3%	7%	52%
47-4000	Other Construction and Related Workers	423	4.5%	379		66%	57%	3%	93%
<b>37-0000</b>	<b>Building and Grounds Cleaning and Occupations</b>	<b>5,285</b>	<b>7.0%</b>	<b>3,405</b>	<b>8.2%</b>	<b>27%</b>	<b>14%</b>	<b>6%</b>	<b>18%</b>
37-1000	Supervisors of Building and Grounds Cleaning and Maintenance Workers	282	7.8%	132		23%	2%	5%	57%
37-2000	Building Cleaning and Pest Control Workers	4,244	7.9%	2,621		28%	7%	7%	5%
37-3000	Grounds Maintenance Workers	758	5.4%	651		25%	42%	7%	61%
	<b>Total – All Occupations</b>	<b>214,071</b>	<b>8.2%</b>	<b>126,916</b>	<b>7.9%</b>	<b>27%</b>	<b>5%</b>	<b>38%</b>	<b>33%</b>

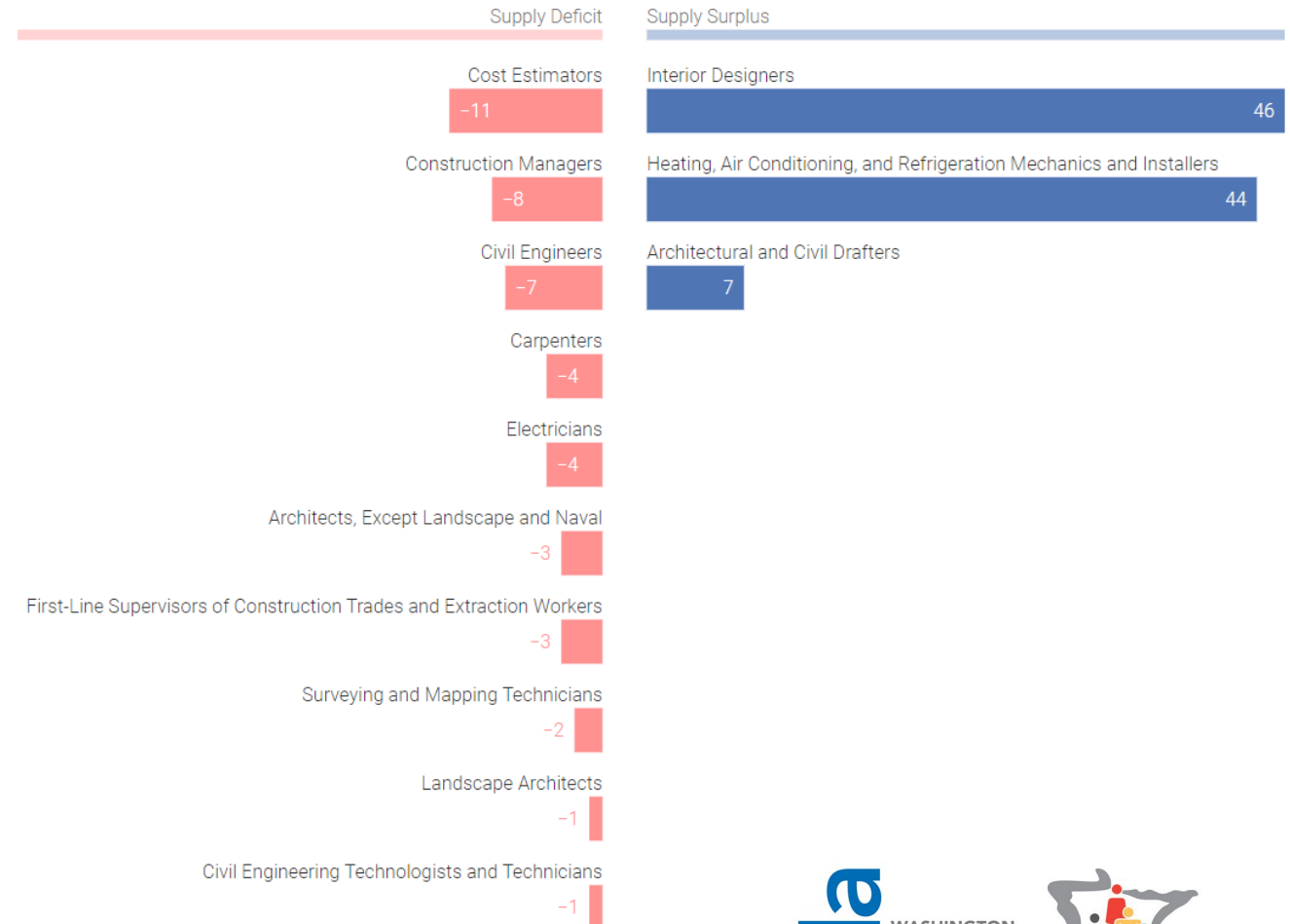


# Architecture and Construction Shortages

Average Annual Talent Shortages through 2027



Local Talent Postsecondary Award Gaps



# Architecture and Construction Job Posting Trends

1,319  
Unique Postings  
2,996 Total Postings

2 : 1  
Posting Intensity  
Regional Average: 3 : 1

35 days  
Median Posting Duration  
Regional Average: 30 days

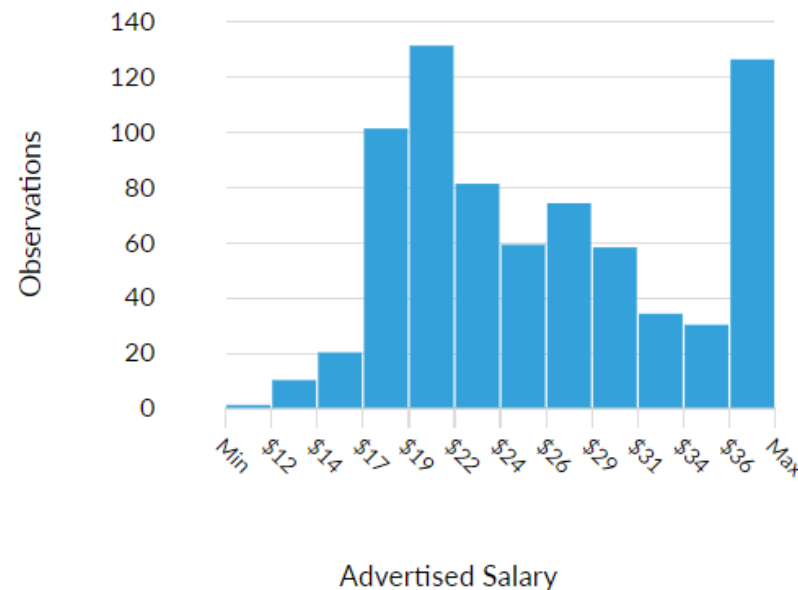
## Top Occupations Advertised

Landscaping Workers  
Construction Laborers  
Construction Managers  
Cost Estimators  
Carpenters

HVAC Mechanics and Installers  
Supervisors of Landscaping, Lawn  
Service, and Groundskeepers  
Civil Engineers  
Supervisors of Construction Workers  
Cement Masons and Concrete Finishers

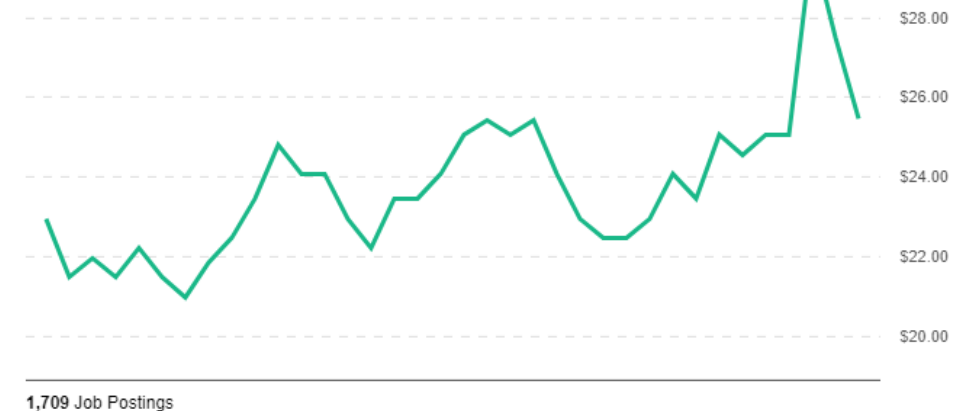
## Median Advertised Salary in 2022

\$25.05/hr  
Median Advertised Salary



## Two Year Wage Trends

▲ 11.0% Mar 2020 – Feb 2023  
\$24.06 Median



# Architecture and Construction Job Posting Trends

301

Avg. Monthly Postings (Jan 2022 - Dec 2022)

386

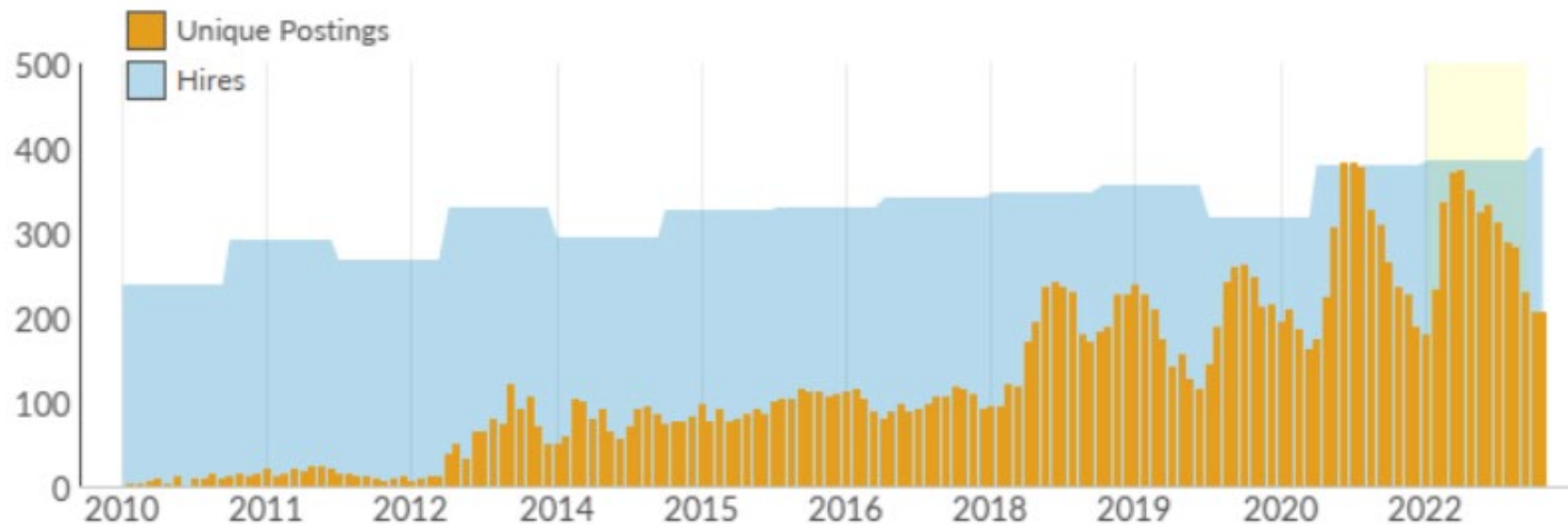
Avg. Monthly Hires (Jan 2022 - Dec 2022)

## Top Employers Posting

Norhart  
GPAC  
Horticulture Services  
Turner Construction Company  
Ryan

Rj's Property Maintenance  
Aerotek  
State of Minnesota  
Tradesmen International  
Bolton & Menk

## Comparison of Monthly Job Postings Volume to Hires

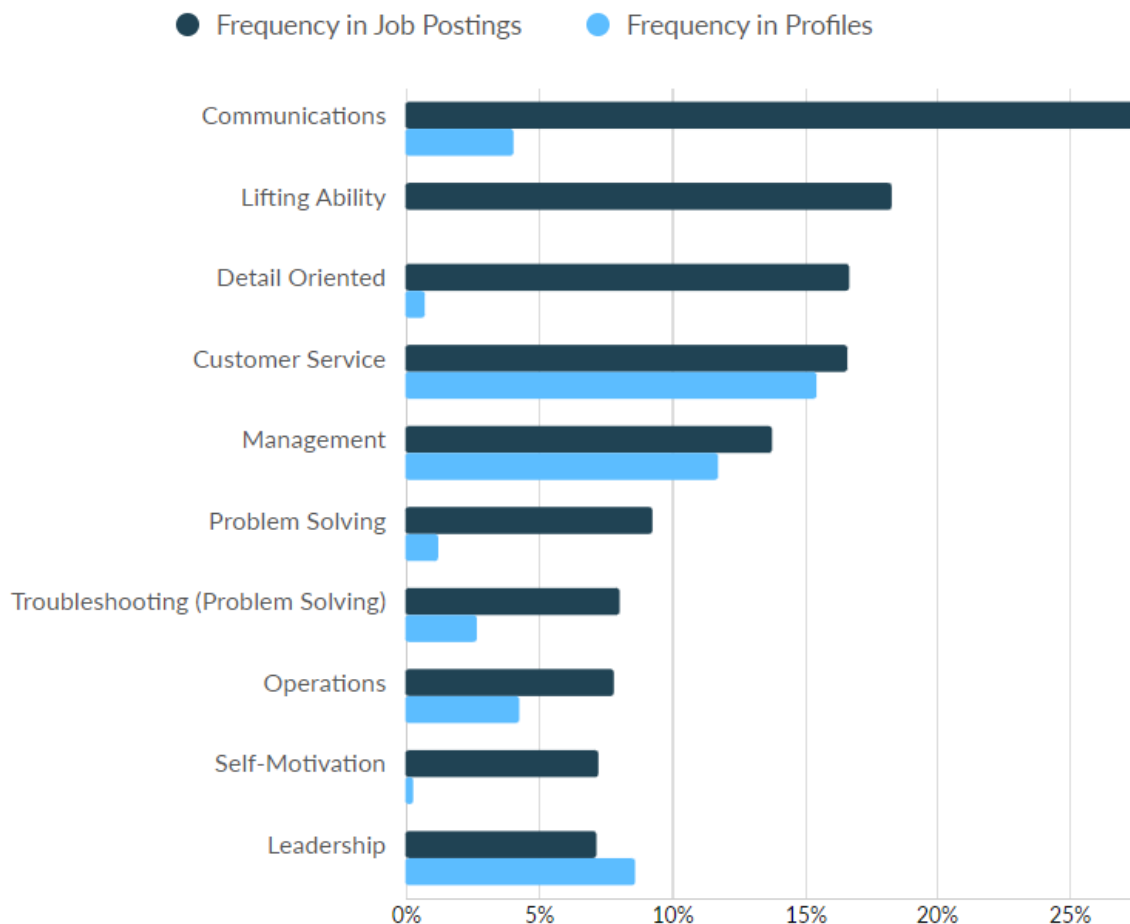


**+11.5%**  
in posting volumes  
between 2021 and 2022

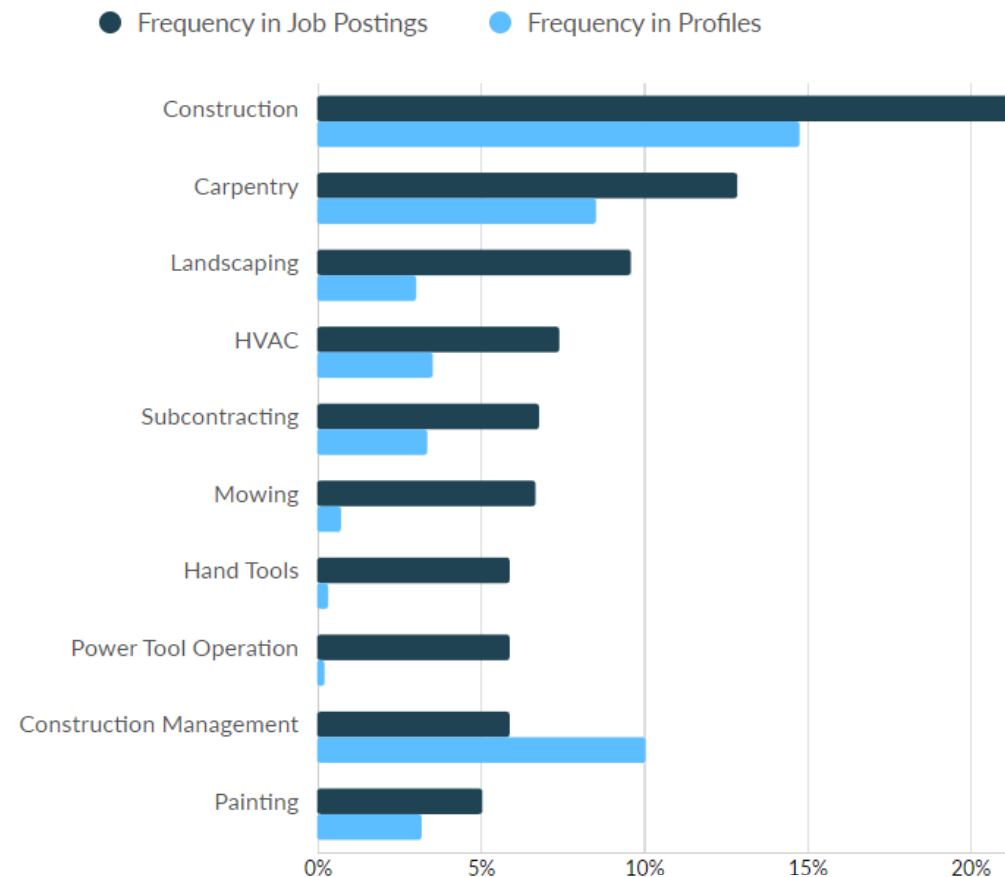
**1 hire**  
for every 1 unique job posting

# Architecture and Construction Skill Demand

Common Skills in Demand



Specialized Skills in Demand



# Priorities by Pathway

## Health Science

**CRITICAL ISSUE:** Address the growing local shortage of talent in key roles that provide direct care to aging and high-need populations.

- Ramp up volume of graduates coming through critical postsecondary programs that train:
  - Registered Nurses
  - Medical and Health Services Managers
  - Nurse Practitioners
- Support employers in talent retention efforts in origin and gateway occupations

## Manufacturing

**CRITICAL ISSUE:** Bolster the Wood Product and Chemical Manufacturing Industries by growing talent pipelines in occupations of high shortages.

- Grow the volume of graduates at the two-year level for critical roles including:
  - Industrial Engineering Techs
  - Chemical Techs
  - Welders and Solderers
  - Industrial Machinery Mechanics
  - Chemical Equipment Operators
- Build career advancement pathways into critical supervisory positions including:
  - Production Supervisors
  - Mechanics Supervisors

## Architecture and Construction

**CRITICAL ISSUE:** Grow the base of talent needed to support the important Drywall and Nonresidential Structural Steel Industries, as well as the Power Line Construction Industry.

- Accelerate talent attraction into origin and gateway occupations in high-demand in these core industries that are forecasting shortages, such as Drywall Installers.
- Address talent shortages through expanding career advancement pathways to ensure sufficient talent:
  - Construction Managers
  - Construction Supervisors

# 05. Summary

## We're at a turning point

The talent shortage poses challenges we have never encountered before, necessitating new solutions and collective action

## Our industry needs are clear

Washington County has strong local Manufacturing, Construction, and Healthcare industries whose future growth relies on the ability to attract, retain, and train local talent

## Our community is becoming more diverse

The county has welcomed nearly 30,000 new residents between 2010 and 2021, and has increased in racial diversity to about 20.3% of local residents being BIPOC by race or ethnicity as of 2021

## Workplaces are changing

Our talent has different expectations for the workplace, and employers are responding by offering more flexibility in place of work and scheduling

## We can lead by example

The Washington County CDA and its partners countywide have an opportunity to offer an impactful model of economic development support that features workforce development at the center of a healthy and thriving local economy





# Next Steps

---

Washington County is poised for growth, if it can leverage its available workforce effectively and attract talent to fill critical workforce needs. An accompanying labor market supply study will further analyze the depth of workforce needs and elevate gaps and opportunities in education and workforce development.

Working forward together,

**RealTime Talent**

[erin@realtimetalentmn.org](mailto:erin@realtimetalentmn.org)



# Author of this Report



**Erin Olson, MURP, MPH**

Senior Director of Strategic Research,  
RealTime Talent

# FAQ Regarding Data and Methodology

## What is a location quotient?

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

## What is a cluster?

A cluster is a geographic concentration of interrelated industries or occupations. If a regional cluster has a location quotient of 1.25 or greater, the region is considered to possess a competitive advantage in that cluster.

## What is separation demand?

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

## What is the difference between industry wages and occupation wages?

Industry wages and occupation wages are estimated via separate data sets, often the time periods being reported do not align, and wages are defined slightly differently in the two systems (for example, certain bonuses are included in the industry wages but not the occupation wages). It is therefore common that estimates of the average industry wages and average occupation wages in a region do not match exactly. Annual average wages per worker and 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 2022Q2 with preliminary estimates updated to 2022Q3.

## What is NAICS?

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the “all industry” level to the 6-digit level. The first two digits define the top-level category, known as the “sector,” which is the level examined in this report.

# FAQ Regarding Data and Methodology - Continued

## Where does the data on Gross Domestic Product (GDP) come from?

Gross Domestic Product data are provided by the Bureau of Economic Analysis, imputed by Chmura where necessary, updated through 2021.

## What is SOC?

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

## Where can I learn more about the sources that were used in this report?

**Lightcast** offers a suite of labor market data analysis tools that are used to analyze candidate profiles and educational data from NCES IPEDS to track program graduate data and estimate talent pool availability. These tools scrape millions of candidate profiles and model skills, credentials, and employment experience to link where talent is located to where talent is in demand.

**Chmura JobsEQ** is a labor market data analysis tool that provides employment, unemployment, and education data from sources like the Bureau of Labor Statistics, Census Bureau, and NCES IPEDS and models this data at detailed geographic levels. This tool is utilized by RealTime Talent to model alternate forecasts impacted by COVID-19 to show possible future-state talent gaps, award gaps, and optimistic employment growth.

## Who created this report?

This report was developed by RealTime Talent for the Transportation Center of Excellence. If you have questions about the data found in this report, or are interested in learning more, please contact the Senior Director of Strategic Research, Erin Olson at [erin@realtimetalentmn.org](mailto:erin@realtimetalentmn.org) or visit the RealTime Talent website at [www.realtimetalent.org](http://www.realtimetalent.org)

Labor Market title page graphic: Roger Spooner/Getty Images

Articles cited in the introduction: 1. US Chamber of Commerce. Understanding America's Labor Shortage. Feb 22, 2023. Accessed at <https://www.uschamber.com/workforce/understanding-americas-labor-shortage> 2. US Chamber of Commerce. Understanding America's Labor Shortage: The most Impacted States. Feb 1, 2023. Accessed at <https://www.uschamber.com/workforce/the-states-suffering-most-from-the-labor-shortage?state=mn>