

MARINE & POWERSPORTS

2023 Supply & Demand Analysis Overview

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MINNESOTA STATE
Transportation Center of Excellence

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Introduction and Sector Overview

This report highlights key opportunities in the Marine and Power Sports career pathway for Minnesota’s Transportation Industry. Professionals in Marine and Power Sports work in diverse roles including industrial equipment maintenance, outdoor power equipment maintenance, and small engine, motorboat, and motorcycle mechanics, serving a variety of industries. In all, about 4,284 people work in Marine and Power Sports roles in Minnesota as of the second quarter of 2023—a 3.6% increase (148 workers) from a year prior (2022Q2).

Overall employment in Minnesota grew by nearly 60,301 workers (2.0%) between the second quarter of 2022 and the second quarter of 2023. Over the past five years, employment grew by about 11,603 workers, or an 0.1% average annual growth in total employment⁰. Over the next five years, overall employment is forecast to remain flat (0.0% average annual growth), while all Transportation Occupations together forecast moderate growth of 0.1% average annual growth. During this time frame, Marine and Power Sports employment is anticipated to decline slightly, declining by about 25 jobs (-0.1% annually). Total baseline demand for Marine and Power Sports talent is anticipated to be around 2,574 professionals needed to fill positions due to job exits and transfers, such as retirements and job changes.

Occupation	Current					5-Year History		5-Year Baseline Forecast				
	Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate	Empl Change	Ann % Change	Total Demand	Exits	Transfers	Empl Change	Ann % Change
Automotive Technology Pathway	20,884	\$68,300	0.97	236	1.1%	-586	-0.6%	9,072	3,184	5,828	60	0.1%
Aviation and Drone Technology Pathway	9,370	\$125,500	0.87	135	1.5%	69	0.1%	4,559	1,602	2,976	-19	0.0%
Collision Repair Pathway	7,307	\$52,800	1.10	227	3.1%	188	0.5%	3,442	1,213	2,305	-77	-0.2%
Diesel Equipment and Truck Pathway	12,161	\$64,200	1.01	153	1.3%	152	0.3%	5,635	1,954	3,724	-43	-0.1%
Marine and Power Sports Pathway	4,284	\$48,700	0.84	159	3.7%	68	0.3%	2,574	926	1,673	-25	-0.1%
Truck Driving Pathway*	97,603	\$51,800	0.95	3,280	3.3%	2,561	0.5%	61,265	26,466	33,538	1,261	0.3%
Transportation Occupations	133,108	\$60,700	0.93	3,418	2.6%	3,212	0.5%	73,669	27,527	45,162	981	0.1%
Total - All Occupations	3,075,767	\$66,100	1.00	87,730	2.9%	11,603	0.1%	1,746,576	727,900	1,016,920	1,756	0.0%

*This pathway includes School Bus Driver careers as of 2022, which were not included in the 2020 or 2021 estimates of career pathway employment or demand.

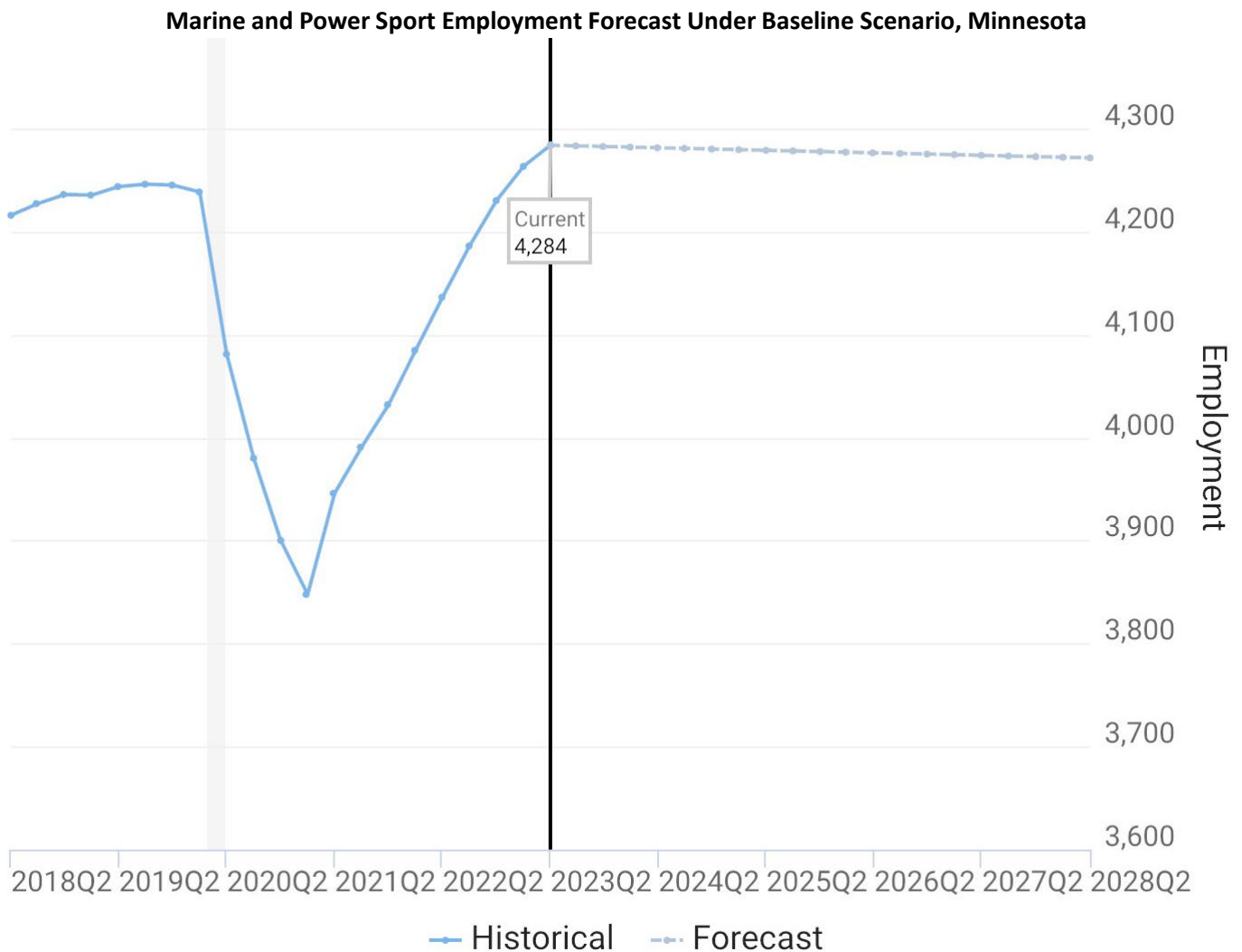
Source: [JobsEQ®](#)

Data as of 2023Q2 unless noted otherwise

Note: Figures may not sum due to rounding.

1. Data based on a four-quarter moving average unless noted otherwise.
2. Wage data represent the average for all Covered Employment
3. Data represent found online ads active within the last thirty days in the selected region; data represents a sampling rather than the complete universe of postings. Ads lacking zip code information but designating a place (city, town, etc.) may be assigned to the zip code with greatest employment in that place for queries in this analytic. 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).

Minnesota’s job market cooled somewhat in 2023 from 2021 and 2022’s strong recoveries. Unemployment rates have begun to rise again as the market stabilizes and shifts in response to new realities. Marine and Power Sports employment rose rapidly and steadily from 2021Q2 through 2023Q2, surpassing employment levels pre-pandemic in late 2022. Forecasting future needs under current conditions with an eye to anticipated talent pipelines into Marine and Power Sports suggest that there may be shortages of talent across a large share of occupations that will stifle ongoing growth in this career pathway unless more talent decides to enter the field. While there was 3.6% growth since 2022Q2, the pathway forecast is declining with a forecasted decline of -0.1% by the second quarter of 2028.



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

Industry/Occupation Mix

Marine and Power Sports talent is primarily concentrated in the Other Motor Vehicle Dealers industry (18.5%), increasing in its concentration from estimates in 2022 by another 2.1 percentage points. The next highest industry of employment concentration is Personal and Household Goods Repair and Maintenance (7.9%). Top industries in terms of greatest amount of total demand over the next ten years are Other Motor Vehicle Dealers and Support Activities for Air Transportation.

Top Industry Distribution for Marine and Power Sports Pathway Occupations in Minnesota

NAICS Code	Industry Title	CURRENT		10-YEAR DEMAND				
		% of Occ Empl	Empl	Avg Ann Wages	Exits	Transfers	Empl Growth	Total Demand
4412	Other Motor Vehicle Dealers	18.5%	794	\$46,400	321	514	16	851
8114	Personal and Household Goods Repair and Maintenance	7.9%	338	\$49,600	136	218	7	361
4881	Support Activities for Air Transportation	7.3%	312	\$43,400	165	321	4	490
4571	Gasoline Stations	7.2%	308	\$33,900	155	301	-30	427
8111	Automotive Repair and Maintenance	7.1%	302	\$34,400	157	304	-4	458
7139	Other Amusement and Recreation Industries	5.6%	238	\$53,400	100	167	16	282
4411	Automobile Dealers	4.7%	201	\$37,100	107	208	5	321
4442	Lawn and Garden Equipment and Supplies Retailers	3.6%	152	\$45,200	59	94	-9	145
4811	Scheduled Air Transportation	3.3%	140	\$46,500	73	143	-1	215
4552	Warehouse Clubs, Supercenters, and Other General Merchandise Retailers	2.7%	115	\$36,600	58	111	-7	161
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	2.4%	103	\$67,500	31	61	-6	86
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	2.0%	86	\$52,300	32	52	-8	77
4441	Building Material and Supplies Dealers	2.0%	86	\$44,300	34	55	0	89
5617	Services to Buildings and Dwellings	1.7%	73	\$48,300	29	46	0	75
9211	Executive, Legislative, and Other General Government Support	1.4%	61	\$58,300	24	46	-1	69
4451	Grocery and Convenience Retailers	1.4%	59	\$35,100	30	59	-3	86
4551	Department Stores	1.2%	52	\$36,600	26	50	-3	74
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.7%	30	\$65,300	10	19	0	30
2211	Electric Power Generation, Transmission and Distribution	0.6%	27	\$76,000	7	14	-8	14
5613	Employment Services	0.6%	26	\$48,900	10	19	0	29
-	All Others	18.2%	781	-	286	542	-17	811

Source: JobsEQ®
 Data as of 2023Q2. Note that occupation-by-industry wages represent adjusted national data and may not be consistent with regional, all-industry occupation wages shown elsewhere in JobsEQ.
 Note: Figures may not sum due to rounding.

Talent Demand Detail

Employment and Wage Overview

Of all occupations found in the Marine and Power Sports pathway, Aircraft Service Attendants, Motorcycle Mechanics and Outdoor Power Equipment and Other Small Engine Mechanics are uniquely concentrated in Minnesota to a higher degree than seen in the nation overall. On average, Marine and Power Sports careers pay about \$48,700 per year (up from \$46,200 last year)—well below the average wage statewide across all positions. Demand was relatively high over the past year, seeing employment growth of 3.6% since the second quarter of 2022.

Marine and Power Sports Pathway in Minnesota - Baseline, 2023Q2¹

SOC	Occupation	Current					5-Year Forecast				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate	Total Demand	Exits	Transfers	Empl Change	Ann % Change
53-6031	Automotive and Watercraft Service Attendants	1,122	\$35,100	0.58	87	7.3%	841	292	568	-19	-0.3%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	788	\$48,300	1.01	8	1.1%	398	156	250	-7	-0.2%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	670	\$51,400	1.19	7	1.1%	370	136	218	15	0.4%
49-3051	Motorboat Mechanics and Service Technicians	667	\$76,400	0.68	8	1.2%	286	101	199	-14	-0.4%
49-3052	Motorcycle Mechanics	531	\$44,400	1.29	42	7.5%	416	141	273	2	0.1%
53-6032	Aircraft Service Attendants	464	\$43,500	1.43	5	1.1%	239	92	148	-1	-0.1%
53-5022	Motorboat Operators	41	\$52,700	0.60	2	4.0%	23	7	16	0	0.2%
16420	Marine and Power Sports Pathway	4,284	\$48,700	0.84	159	3.7%	2,574	926	1,673	-25	-0.1%
	Total - All Occupations	3,075,767	\$66,100	1.00	87,730	2.9%	1,746,576	727,900	1,016,920	1,756	0.0%

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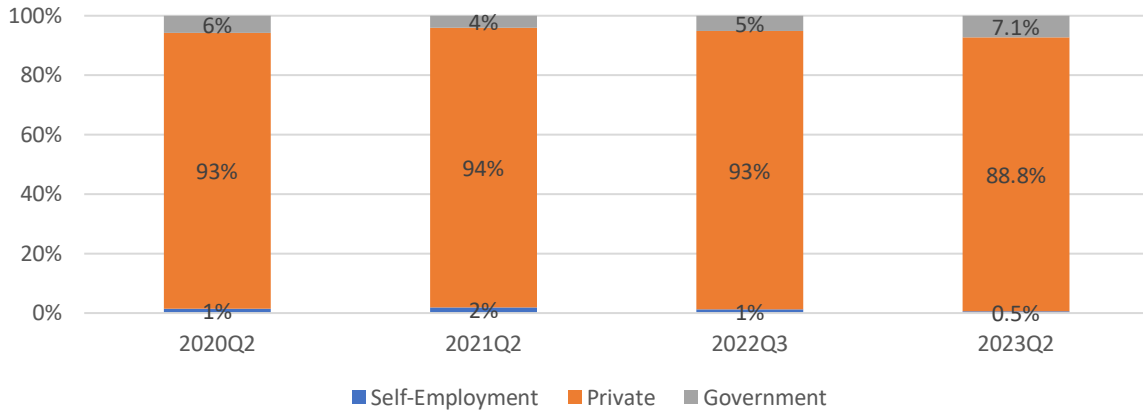
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Employment Types

About 89% of people employed in Marine and Power Sports careers in Minnesota work for private employers (a slight decrease from 2022), while an estimated 0.5% are self-employed (also a slight decrease from 2022). The remaining 7% work for state, federal, or local government entities – a share that has grown moderately over the past three years.

Employment Types, Minnesota 2020-2022



Wage Analysis

Marine and Power Sports saw some significant wage gains across the pathway, with average wages rising by \$2,500 from prior estimates.¹ Entry-level wages in the pathways exceed the average entry-level wages observed across all occupations statewide by over \$5,000, paying an average of \$37,900 annually for entry-level talent. Education and training requirements vary slightly across the different occupations in this pathway, with most occupations requiring either a certificate or high school diploma or equivalent. Only one of these occupations require previous work experience (Motorboat Operators) and every occupation except Motorboat Operators require some level of on-the-job training.

Marine and Power Sports Pathway Wages and Experience Level Requirements, MN, 2023Q2

SOC	Occupation	Empl Count	Mean	Entry Level	Experienced	Percentiles					Education and Training		
						10%	25%	50% (Median)	75%	90%	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	667	\$76,400	\$61,500	\$83,900	\$59,500	\$65,900	\$74,300	\$83,700	\$98,500	Certificate	None	Long-term OJT
49-3051	Motorboat Mechanics and Service Technicians	670	\$51,400	\$38,500	\$57,800	\$36,300	\$43,100	\$49,800	\$60,700	\$69,200	HS/GED	None	Long-term OJT
49-3052	Motorcycle Mechanics	464	\$43,500	\$26,900	\$51,800	\$24,000	\$29,900	\$42,100	\$54,500	\$63,500	Certificate	None	Short-term OJT
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	788	\$48,300	\$39,400	\$52,700	\$37,800	\$42,700	\$47,600	\$52,300	\$59,700	HS/GED	None	Moderate-term OJT
53-5022	Motorboat Operators	41	\$52,700	\$35,500	\$61,300	\$33,600	\$39,600	\$48,200	\$65,000	\$80,600	Certificate	<5 years	None
53-6031	Automotive and Watercraft Service Attendants	1,122	\$35,100	\$28,900	\$38,100	\$27,500	\$31,400	\$34,200	\$37,400	\$43,200	None	None	Short-term OJT
53-6032	Aircraft Service Attendants	531	\$44,400	\$33,800	\$49,800	\$32,700	\$36,400	\$42,200	\$49,300	\$57,600	HS/GED	None	Short-term OJT
16420	Marine and Power Sports Pathway	4,284	\$48,700	\$37,900	\$54,200	\$36,100	\$41,200	\$47,300	\$54,600	\$63,300			
	Total - All Occupations	3,075,767	\$66,100	\$32,800	\$82,700	\$30,300	\$37,500	\$51,700	\$77,900	\$113,000			

Wages in the Marine and Power Sports pathway vary across the three regions of Rural Greater Minnesota, Urban Greater Minnesota, and the 7-county MSP Metro. The MSP Metro region has the highest wages across experience levels and percentiles and contains 55% of the pathway's total statewide employment. The Rural Greater Minnesota region and the Urban Greater Minnesota region have close average and very close median wage rates. Average Marine and Power Sports Pathway wages in the Greater Minnesota regions are about \$7,800 below the average pathway wages in the MSP Metro.

¹ Methodology for estimating wages changed between the 2022 and 2023 reports and are new as of the 2023Q2 dataset used here. They are estimated for the most current quarter of data available (2023Q2) using a combination of data from the Bureau of Labor Statistics and Chmura RTI wages, and no longer lag by a calendar year.

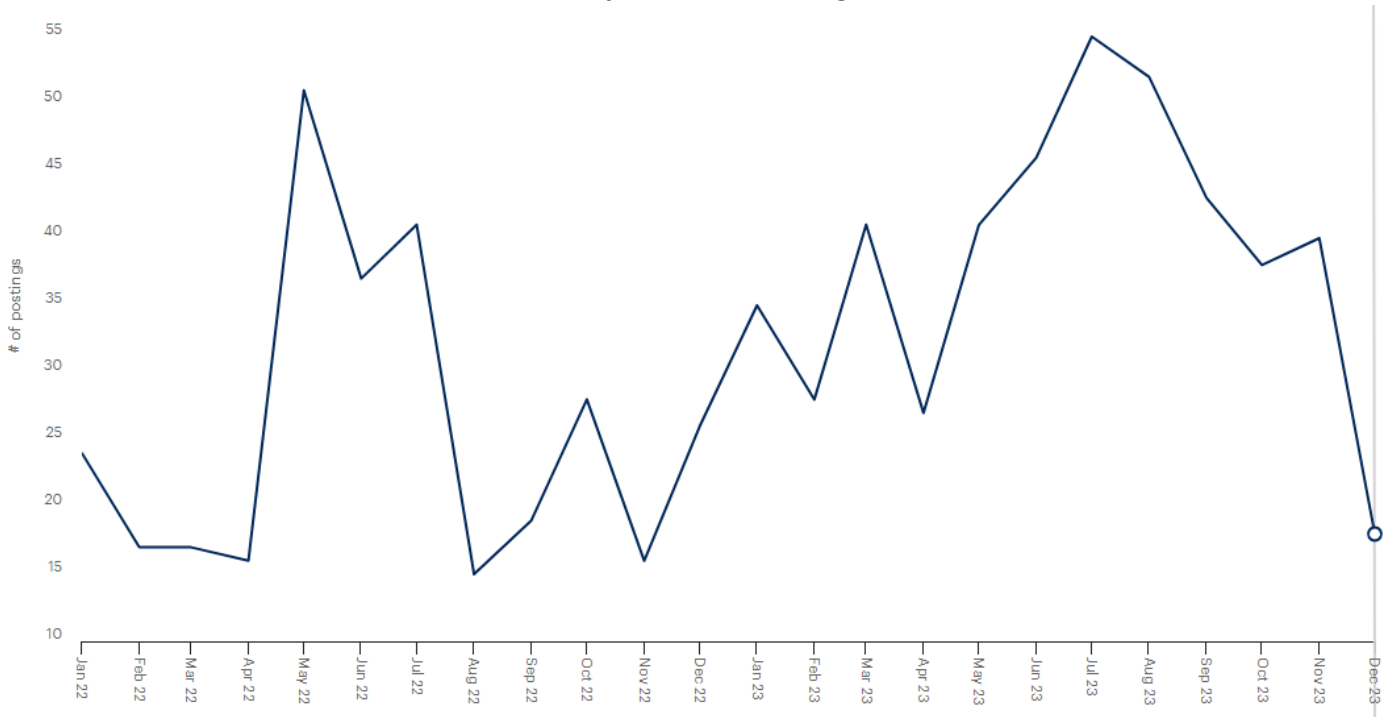
Marine and Power Sports Pathway Wages, 2023Q2

Region	Empl Count	Mean	Entry Level	Experienced	Percentiles				
					10%	25%	50% (Median)	75%	90%
Rural Greater Minnesota	1,191	\$43,900	\$34,900	\$48,400	\$33,000	\$38,000	\$43,000	\$49,000	\$56,900
Urban Greater Minnesota	629	\$45,600	\$35,700	\$50,500	\$33,700	\$39,100	\$44,300	\$50,300	\$59,600
MSP Metro	2,373	\$51,700	\$40,700	\$57,200	\$38,900	\$44,100	\$50,100	\$57,200	\$68,300
Minnesota	4,284	\$48,700	\$37,900	\$54,200	\$36,100	\$41,200	\$47,300	\$54,600	\$63,300

Job Posting Trends

Data in this section focuses on jobs newly advertised between January 1 and December 31, 2023 in Marine and Power Sports roles across Minnesota. Volume of total job postings, employer types (direct versus staffing), and top employers by unique job posting volumes comes from Gartner TalentNeuron; industry detail, skill and certification analysis, wage trends, and posting to hire analysis are from the Lightcast 2023Q4 dataset. Overall, there were 473 new jobs advertised in Marine and Power Sports during this time frame, an increase of 55% from the prior 12-month period (2022). The total share of posted positions advertised by staffing and temp agencies in the Marine and Power Sports pathway increased to 21% in 2023 compared to 16% in 2022 and 5% in 2021. Posted wages remained the same from 2022 with an average of \$20.00 per hour as of 2023, and there were an average of six hires per every one unique job posting advertised based on Lightcast estimates.

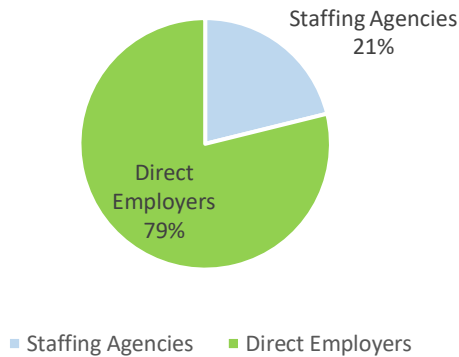
Volume of Career Pathway Online Job Postings in 2022 and 2023



Top Employers by Volume of New Job Postings, With Change from Prior Year

	Employer	Percent Change between 2022 and 2023
1.	Army	137%
2.	PENSKE	118%
3.	Walmart	New Entrant
4.	John Deere	-50%
5.	Ryder	-50%
6.	Elk River Harley Davidson	New Entrant
7.	General Mills	25%
8.	Northern Tool and Equipment	New Entrant
9.	PREMIER MARINE	New Entrant
10.	Cabela's Inc.	300%

New Job Postings Advertised in Minnesota by Employer Type

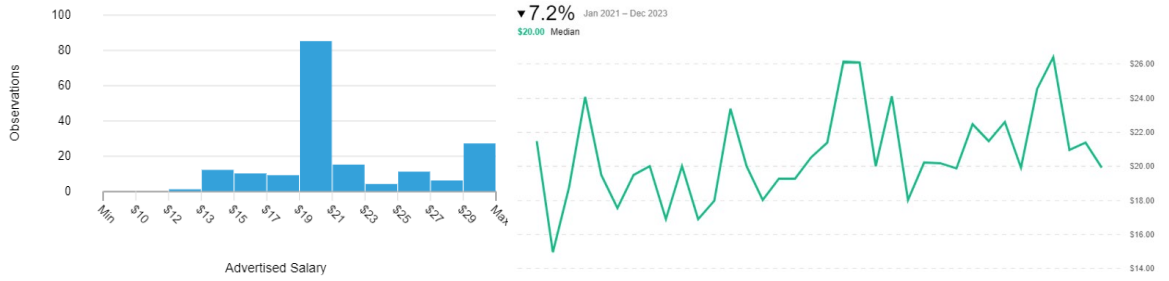


New Job Postings by Industry or Employer Type

Industry	Total/Unique (Jan 2023 - Dec 2023)	Posting Intensity	Median Posting Duration
Warehouse Clubs and Supercenters	455 / 230	2 : 1	12 days
Employment Placement Agencies	22 / 18	1 : 1	21 days
Convenience Retailers	66 / 14	5 : 1	29 days
Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	27 / 12	2 : 1	22 days
Other General Government Support	18 / 8	2 : 1	23 days
Landscaping Services	47 / 7	7 : 1	40 days
Passenger Car Leasing	7 / 5	1 : 1	15 days
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	111 / 5	22 : 1	14 days
Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	6 / 4	2 : 1	20 days
Hardware Retailers	4 / 4	1 : 1	18 days

Pathway Advertised Salary Range

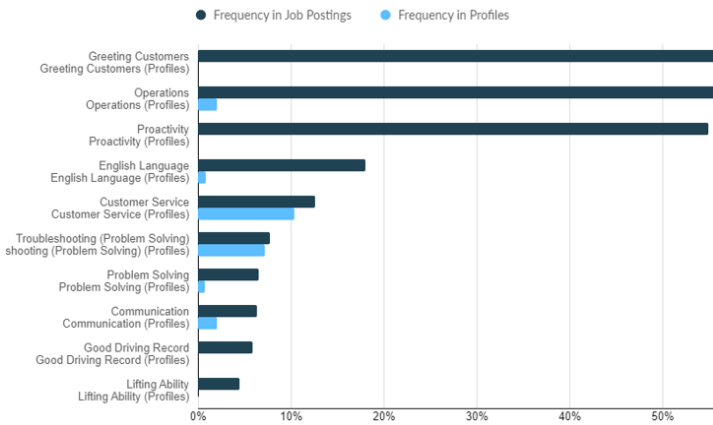
\$20.00/hr
Median Advertised Salary



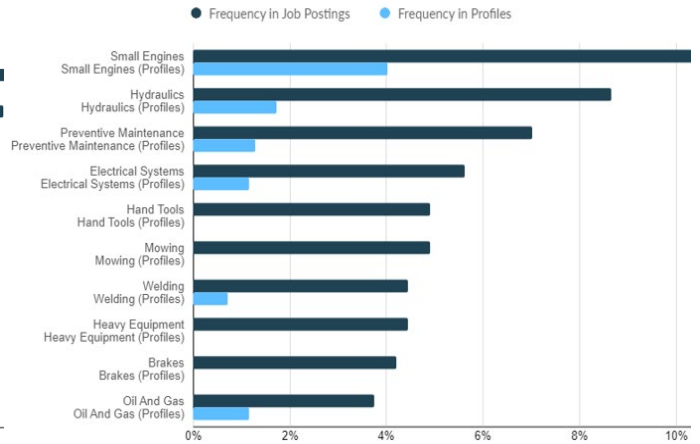
Monthly Ratio of Unique Job Postings to Estimated Hires



Top Common Skills



Top Specialized Skills



Top Certifications and Qualifications

Qualification	Postings with Qualification
Valid Driver's License	47
Commercial Driver's License (CDL)	19
CDL Class A License	13
Automotive Service Excellence (ASE) Certification	13
CDL Class B License	5
Tanker Endorsement	5
Automated External Defibrillator (AED) Certification	1
Cardiopulmonary Resuscitation (CPR) Certification	1
First Aid Certification	1
Forklift Certification	1

Talent Supply Detail

Talent Unemployment, Underemployment, and Educational Attainment

At an overall pathway unemployment rate of 3.7% (decreasing slightly from 2022Q3 4.2%), there are about 159 unemployed Marine and Power Sports professionals statewide. However, unemployment rates for Automotive and Watercraft Service Attendants and Aircraft Service Attendants increased dramatically (from 3.7% to 7.3% and from 0.5% to 7.5%) since 2022Q3 while unemployment rates for other occupations in the pathway decreased substantially. An additional 485 (also decreasing slightly from 524 in 2022Q3) Marine and Power Sports professionals are underemployed—meaning they are working in roles for which they are overqualified by education or experience.²

Marine and Power Sports Pathway in Minnesota

SOC	Occupation	Empl (Place of Residence)							Total Empl	Overall Occupation ¹		
		< High School	High School	Some College	2-Year	4-Year	Master's	PhD		Underemployed	Unemployed	Unempl Rate
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	4.0%	23.8%	22.6%	27.2%	21.1%	1.0%	0.3%	642	146	8	1.2%
49-3051	Motorboat Mechanics and Service Technicians	7.4%	41.7%	23.0%	18.4%	6.9%	0.9%	1.7%	653	56	7	1.1%
49-3052	Motorcycle Mechanics	7.2%	42.3%	23.0%	18.6%	6.5%	0.9%	1.5%	459	34	5	1.1%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	7.6%	41.5%	22.8%	18.2%	7.1%	1.0%	1.8%	765	71	8	1.1%
53-5022	Motorboat Operators	5.1%	26.4%	21.8%	10.5%	27.1%	7.2%	1.9%	39	14	2	4.0%
53-6031	Automotive and Watercraft Service Attendants	8.0%	44.2%	21.1%	16.4%	8.8%	1.5%	0.0%	1,101	95	87	7.3%
53-6032	Aircraft Service Attendants	8.9%	40.7%	21.5%	15.4%	11.4%	2.1%	0.0%	514	69	42	7.5%
Marine and Power Sports Pathway		7.2%	39.4%	22.2%	18.8%	10.3%	1.3%	0.8%	4,172	485	159	3.7%
Total - All Occupations		4.8%	20.9%	15.2%	14.1%	30.7%	10.4%	3.9%	2,976,622	526,677	87,730	2.9%

Source: JobsEQ®

Data as of 2023Q2 unless noted otherwise

Note: Figures may not sum due to rounding.

1. "Overall occupation" characteristics refer to attributes across all individuals in those occupations, not just those limited to the demographic categories shown in this table.

² Chmura adopts the New York Fed methodology of counting as underemployed only those who have acquired at least a Bachelor's degree and yet are working in an occupation that does not typically require a Bachelor's degree. In Occupation Diversity, the only occupations shown in the Underemployment table are "non-college jobs", as designated by the New York Fed. Per the New York Fed, "a job is classified as a college job if 50 percent or more of the people working in that job indicate that at least a bachelor's degree is necessary; otherwise, the job is classified as a non-college job."

Workforce Demographics

Talent currently employed in this career pathway in Minnesota are relatively young overall, consistent with observations over the past three years. About 19.8% (an increase of 3.5 percentage points from 2022Q3) of the Marine and Power Sports workforce is under the age of 25, and 6.8% are over 64 years old (an increase of 2.2 percentage points). The largest demographic group by race are White, representing 83.5% (decreased by 1.5 percentage points) of the total pathway’s workforce, with the next largest cohort being Black talent representing 5.5% of the workforce. Just over 3% of the pathway’s workforce are Hispanic or Latinx, and 9.8% are female.

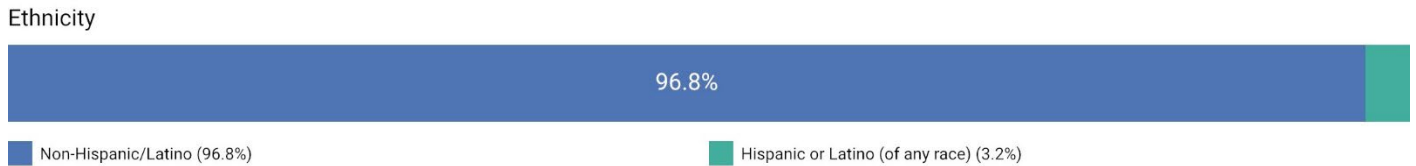
Marine and Power Sports Workforce Age Demographics, 2023Q2



Marine and Power Sports Workforce Race Demographics, 2023Q2



Marine and Power Sports Workforce Ethnicity Demographics, 2023Q2



Marine and Power Sports Workforce Gender Demographics, 2023Q2

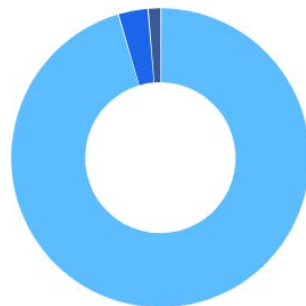


Aligned Postsecondary Programs

There were about 216 awards conferred at 11 different Minnesota postsecondary institutions in programs aligned to Marine and Power Sports careers in SY2022. In SY2022, there was one less postsecondary institution with completions in Marine and Power Sports aligned programs and 67 less completions compared to SY2021. Among, these 85 were at the Associate level, and 82 were certificates that could be earned in less than two years. The average school had about 19 completions but range from two to 47 completions. No institutions delivered programs remotely in SY2022. The most closely-aligned programs fall in the center of this table, including Marine Maintenance, Small Engine Mechanics, and Motorcycle Maintenance programs which in total conferred 58 certificate and Associate degree awards statewide in SY2022.

Marine and Power Sports Postsecondary Program Awards by Level, SY2022

CIP Code	Title	Certificate < 1 Yr	Certificate 1+ but < 2 Yr	Associate's	Certificate 2+ but < 4 Yr	Bachelor's	Master's	Doctorate	Total Awards
47.0605	Diesel Mechanics Technology/Technician	0	33	35	22	0	0	0	90
15.0303	Electrical, Electronic, and Communications Engineering Technology/Technician	12	6	42	4	3	0	0	67
47.0616	Marine Maintenance/Fitter and Ship Repair Technology/Technician	1	20	8	17	0	0	0	46
47.0611	Motorcycle Maintenance and Repair Technology/Technician	0	6	0	0	0	0	0	6
47.0606	Small Engine Mechanics and Repair Technology/Technician	0	3	0	3	0	0	0	6
47.0104	Computer Installation and Repair Technology/Technician	0	1	0	0	0	0	0	1
47.0103	Communications Systems Installation and Repair Technology/Technician	0	0	0	0	0	0	0	0
	Total	13 (6.0%)	69 (32.4%)	85 (39.4%)	46 (21.3%)	3 (1.4%)	0 (0%)	0 (0%)	216



Institution Type	Completions (2022)	Market Share
Public, 2-year	206	95.4%
Private not-for-profit, 4-year or above	7	3.2%
Public, 4-year or above	3	1.4%

Source: RealTime Talent analysis of Chmura Economics JobsEQ®, <http://www.chmuraecon.com/jobseq/>. Job Posting Trends section uses data from Gartner TalentNeuron Plan, accessed 1/10/2024 at talentneuronplan.gartner.com. Industry detail, skill and certification analysis, wage trends, and posting to hire analysis are from the Lightcast 2023Q4 dataset accessed at analyst.lightcast.io

Over 95% of related pathway awards were conferred by public 2-year institutions and Alexandria Technical and Community College and Hennepin Technical College had the largest number of completions in SY2022, each comprising 21.8% of related awards conferred. Completions are down overall by 37.6% from 2012.

Marine and Power Sports Postsecondary Program Awards by Institution, SY2022

Institution	Completions (2022)	Growth % YOY (2022)	Market Share (2022)	IPEDS Tuition & Fees (2022)	Completions Trend (2018-2022)
Alexandria Technical & Community College	47	-17.5%	21.8%	\$6,107	
Hennepin Technical College	47	-19.0%	21.8%	\$5,881	
Central Lakes College-Brainerd	40	-4.8%	18.5%	\$6,140	
Minnesota State Community and Technical College	17	54.5%	7.9%	\$5,900	
Minnesota West Community and Technical College	17	-48.5%	7.9%	\$6,484	
Anoka Technical College	14	7.7%	6.5%	\$6,075	
Lake Superior College	12	-55.6%	5.6%	\$6,404	
Riverland Community College	10	0.0%	4.6%	\$6,249	
Dunwoody College of Technology	7	-30.0%	3.2%	\$24,611	
Minnesota State University-Mankato	3	-70.0%	1.4%	\$9,444	
Minnesota State College Southeast	2	-81.8%	0.9%	\$7,490	

Graduate Demographics

Postsecondary program diversity varies by program across the Marine and Power Sports pathway. There were no international student completions in SY2021, but for SY2022, there were two completions for international students. While there was an increase in the number of female students in SY2022, all programs continue to have an overrepresentation of male students. Electrical, Electronic, and Communication Engineering Technology/Technician continues to have the most diverse graduates.³

Race and Gender of Graduates Receiving Postsecondary Awards in SY2022, Minnesota

CIP Code	Description	All 2022 Graduates	International Student*	Black or African American, non-Hispanic	American Indian or Alaska Native	Asian, Native Hawaiian or Other Pacific Islander	Hispanic or Latino	White, non-Hispanic	Multiple or unknown race/ethnicity	Gender - Males	Gender - Females
15.0303	Electrical, Electronic, and Communications Engineering Technology/Technician	67	1	6	1	17	3	35	4	53	14
47.0103	Communications Systems Installation and Repair Technology/Technician	0	0	0	0	0	0	0	0	0	0
47.0104	Computer Installation and Repair Technology/Technician	1	0	0	0	0	0	1	0	0	1
47.0605	Diesel Mechanics Technology/Technician	90	1	0	3	0	5	76	5	87	3
47.0606	Small Engine Mechanics and Repair Technology/Technician	6	0	0	0	0	1	5	0	6	0
47.0611	Motorcycle Maintenance and Repair Technology/Technician	6	0	0	0	1	1	4	0	5	1
47.0616	Marine Maintenance/Fitter and Ship Repair Technology/Technician	46	0	0	0	1	3	40	2	45	1
All Marine and Power Sports Postsecondary Programs		216	2	6	4	19	13	161	11	196	20

IPEDS SY2022 demographics by award conferred. Count of awards may double count individuals who obtained multiple credentials in the same calendar year. *[NCES IPEDS](https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-definitions) refers to international students that do not have resident status in the United States as “nonresident aliens.” This title aligns to Federal tax definitions and according to NCES IPEDS refers to “a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely. Note: Nonresident aliens are reported separately, rather than in any of the racial/ethnic categories.” They are not included in calculations of BIPOC talent in this report as race and ethnicity information is not provided for these international students. The terminology of “international student” has been used in this report as it is more familiar to a common audience. <https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-definitions>. For more information, view this article from Berkeley on tax filing status of international students. <https://internationaloffice.berkeley.edu/taxes/tax-filing-status>

Nearly half of the postsecondary programs aligned to all Marine and Power Sport pathway occupations are underproducing graduates in comparison to national benchmarks, shown in pink in the table below. The seven aligned programs for the Marine and Power Sport pathway all have a low share of BIPOC graduates, and a low share of female graduates. The share of BIPOC graduates decreased by one percentage point from the 2021 school year and the share of female graduates decreased by 0.1 percentage points from the 2021 school year.

³ [NCES IPEDS](https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-definitions) refers to international students that do not have resident status in the United States as “nonresident aliens.” This title aligns to Federal tax definitions and according to NCES IPEDS refers to “a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely. Note: Nonresident aliens are reported separately, rather than in any of the racial/ethnic categories.” They are not included in calculations of BIPOC talent in this report as race and ethnicity information is not provided for these international students. The terminology of “international student” has been used in this report as it is more familiar to a common audience. <https://nces.ed.gov/ipeds/report-your-data/race-ethnicity-definitions>. For more information, view this article from Berkeley on tax filing status of international students. <https://internationaloffice.berkeley.edu/taxes/tax-filing-status>

Postsecondary Strategy Summary Table, Minnesota 2023

Occupation	Related Programs*	2023Q2 Empl	Workforce BIPOC by Race	Workforce Hispanic/Latinx	Workforce Female	Workforce Under 45	SY2022 Graduates (Certificate and AA/AS only)	Award Gap (All Award Levels)**	Graduates BIPOC by Race or Ethnicity (All Award Levels)	Graduates Female (All Award Levels)
Automotive and Watercraft Service Attendants	<ul style="list-style-type: none"> Personal Watercraft/Boating Education (not offered in Minnesota) 	1,122	25.1%	3.8%	20.3%	60.7%	N/A	N	N/A	N/A
Electrical and Electronics Repairers, Commercial and Industrial Equipment	<ul style="list-style-type: none"> Electrical, Electronic, and Communications Engineering Technology/Technician Computer Installation and Repair Technology/Technician Communications Systems Installation and Repair Technology/Technician 	667	11.0%	5.3%	4.4%	53.2%	65	Y	14.4%	6.9%
Outdoor Power Equipment and Other Small Engine Mechanics	<ul style="list-style-type: none"> Small Engine Mechanics and Repair Technology/Technician 	788	9.1%	1.5%	2.6%	40.3%	6	N	0.5%	0%
Motorboat Mechanics and Service Technicians	<ul style="list-style-type: none"> Diesel Mechanics Technology/Technician Marine Maintenance/Fitter and Ship Repair Technology/Technician Small Engine Mechanics and Repair Technology/Technician 	670	8.0%	1.4%	4.4%	40.2%	142	N	9.3%	1.9%
Motorcycle Mechanics	<ul style="list-style-type: none"> Small Engine Mechanics and Repair Technology/Technician Motorcycle Maintenance and Repair Technology/Technician 	464	6.7%	1.2%	2.6%	39.5%	12	Y	1.4%	0.5%
Aircraft Service Attendants	N/A	531	34.3%	5.4%	19.1%	64.2%	N/A	N	N/A	N/A
Motorboat Operators	<ul style="list-style-type: none"> Personal Watercraft/Boating Education (not offered in Minnesota) 	41	21.8%	7.4%	23.3%	56.7%	N/A	Y	N/A	N/A
Marine and Power Sports Pathway	All seven aligned programs	4,284	16.5%	5.4%	9.8%	50.7%	216	Y	24.5%	9.3%
Total - All Occupations		3,075,767	16.0%	5.4%	48.1%	56.7%	30,032		34.1%	66.0%

NOTE: Red highlighting indicates lower than overall share of workforce or graduate pool, or existence of occupation or award gap. *Related programs may overlap among occupations within the pathway or across other Transportation career pathways. Only those programs most tightly aligned to the occupation in question are listed in this column. **Award gaps are estimated based on a wider alignment of programs than what is illustrated in this table.

Conclusion

Despite strong growth in employment over the past two years, the employment forecast for the Marine and Power Sports pathway soured slightly from 2022Q3 estimates, now forecasting a -0.1% over the next five years. Of the seven occupations included within this pathway, Motorcycle Mechanics, Aircraft Service Attendants, and Motorboat Mechanics are uniquely concentrated in Minnesota to a higher degree than seen in the nation overall, with location quotients of 1.43, 1.29, and 1.19 respectively. The percentage of Marine and Power Sports talent employed by the government has increased over the past three years, now representing over 7% of all employment in this pathway. Average wages have increased considerably across the pathway statewide, by \$2,500 from estimates in 2022.

The overall unemployment rate for the Marine and Power Sports pathway improved slightly from the previous year, estimated at about 3.7% as of 2023Q2. However, unemployment rates for Automotive and Watercraft Service Attendants and Aircraft Service Attendants increased dramatically (from 3.7% to 7.3% and from 0.5% to 7.5% respectively) since 2022Q3. About 11.6% of workers employed in this pathway in Minnesota are underemployed, increasing slightly from the previous year. Each of the seven programs aligned with the Marine and Power Sports pathway have a low share of BIPOC graduates and a low share of female graduates, showcasing the opportunity to diversify student enrollment into these programs. There is also an opportunity to consider offering the Personal Watercraft/Boating Education program in Minnesota as it is not offered currently.

FAQ

How is employment forecast determined?

Forecast employment growth uses national projections from the Bureau of Labor Statistics, forecasts for 2022-2032, adapted for regional growth patterns by Chmura. Employment data are based on [occupation forecasts](#) and event-based forecasts if applicable. Forecasts are developed at the county level; therefore, for detailed (6-digit NAICS) ownership-specific industries, the forecast employment growth for a zip code or place (city, town, etc.) is taken from the forecast of the county to which it belongs.

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.

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.

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.

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 or visit the RealTime Talent website at www.realtimetalent.org