

TRANSPORTATION PATHWAYS DEMAND ANALYSIS

February 2, 2022

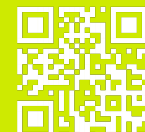


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DEMAND ANALYSIS

Transportation Pathways
2021



Deep-Dive into Six Pathways in Transportation

- Critical workforce trends and opportunities
- Future sector growth
- Updated Impacts of COVID-19
- Foundational and trending skills

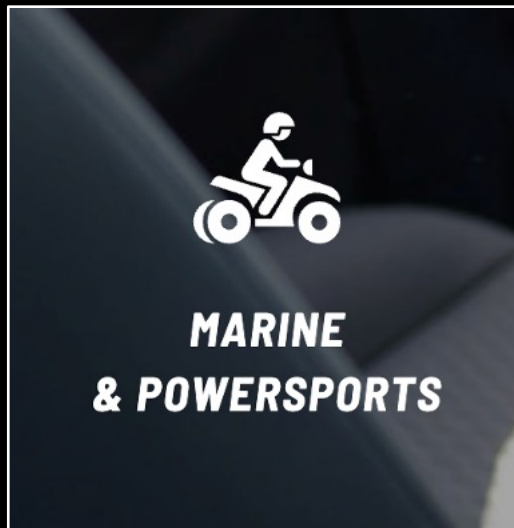
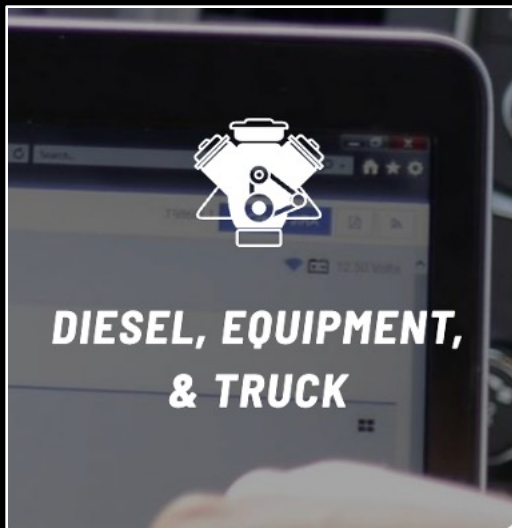
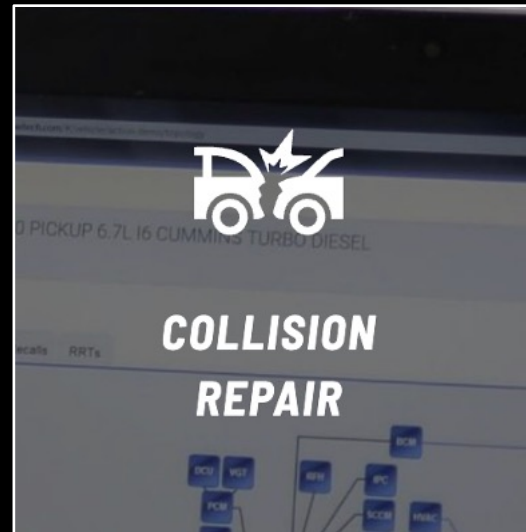
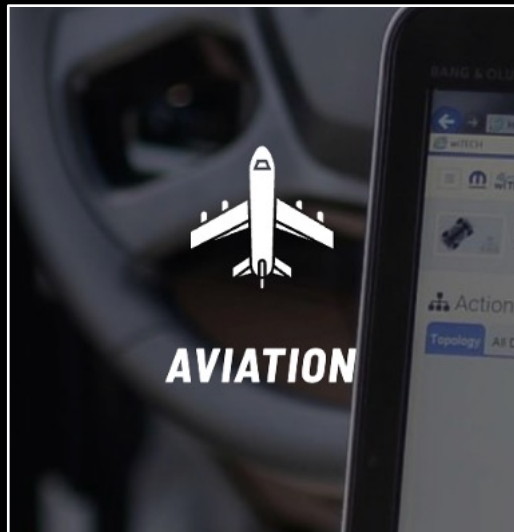
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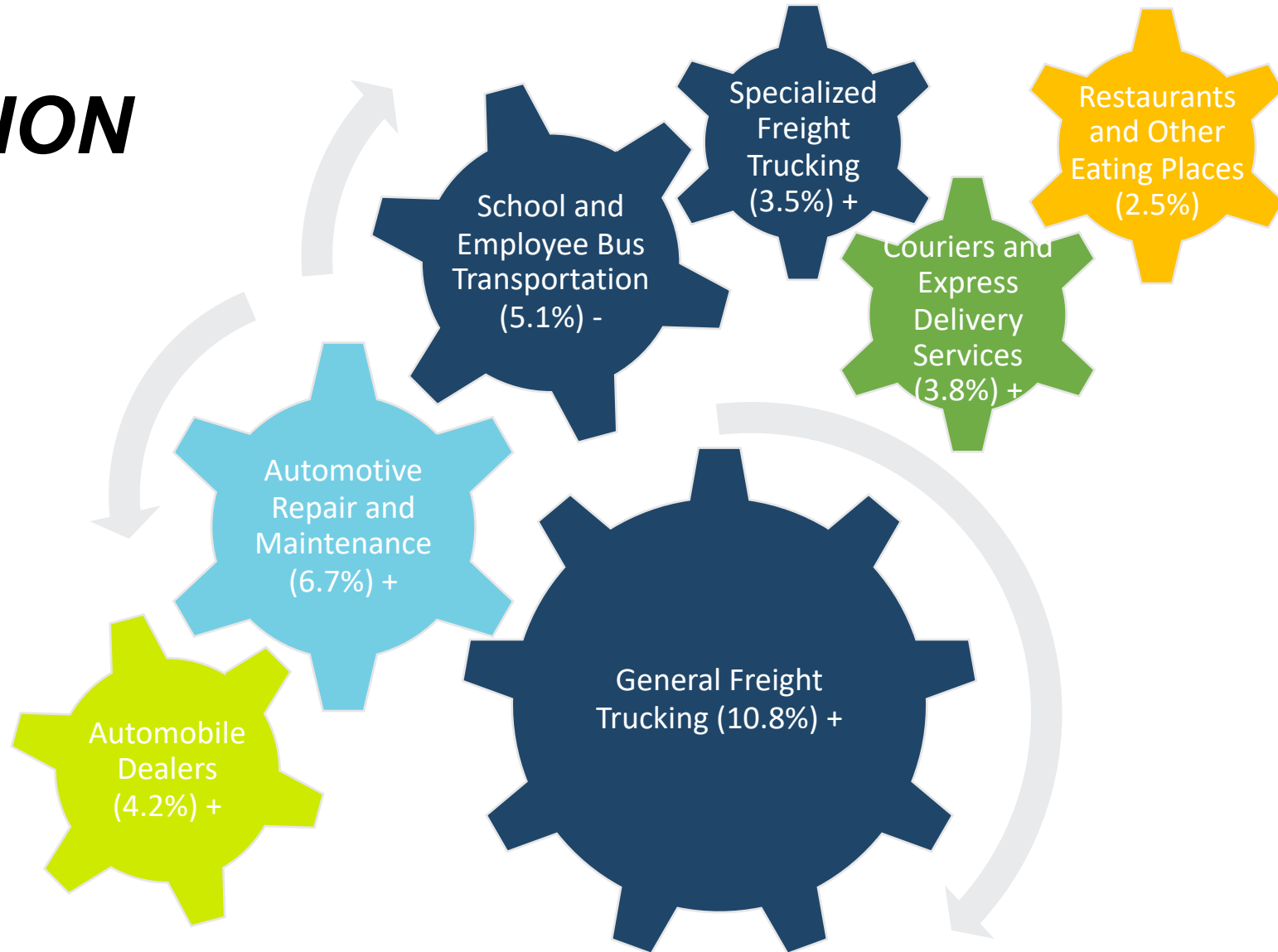
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TRANSPORTATION TALENT IMPORTANTCE BY INDUSTRY



48	Transportation and Warehousing	117,118	\$55,509	0.81	4,843	0.8%	63,725	26,589	35,981	1,155	0.2%
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THE TRANSPORTATION SECTOR

Transportation Pathways in Minnesota – Baseline Forecast, 2021Q2¹

Occupation	Current						5-Year History		5-Year Baseline Forecast				
	Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate	Online Job Ads ³	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
Automotive Technology Pathway	21,614	\$61,300	1.03	753	3.4%	1,263	163	0.2%	8,991	2,619	6,697	-324	-0.3%
Aviation Pathway*	8,773	\$122,300	0.88	346	3.9%	210	-674	-1.5%	3,844	1,121	2,688	35	0.1%
Collision Repair Pathway	6,864	\$46,900	1.14	324	4.6%	376	-307	-0.9%	3,524	1,042	2,480	2	0.0%
Diesel Equipment and Truck Pathway	12,889	\$56,000	1.20	344	2.7%	487	-451	-0.7%	6,292	1,919	4,383	-10	0.0%
Marine and Power Sports Pathway	5,181	\$41,900	1.07	373	6.8%	58	80	0.3%	3,109	963	2,131	15	0.1%
Truck Driving Pathway	95,261	\$44,600	0.96	6,493	6.60%	8,796	-843	-0.2%	57,082	22,543	33,247	1,293	0.3%
Transportation Occupations	147,533	\$51,600	0.99	8,573	5.6%	11,284	-1,891	-0.3%	81,732	29,859	50,858	1,015	0.1%
Total - All Occupations	2,920,850	\$58,900	1.00	145,886	4.9%	181,745	-83,089	-0.6%	1,672,986	625,772	1,016,164	31,051	0.2%

*This pathway includes Drone Technology careers as of 2021, which were not included in the 2020 estimates of career pathway employment or demand.

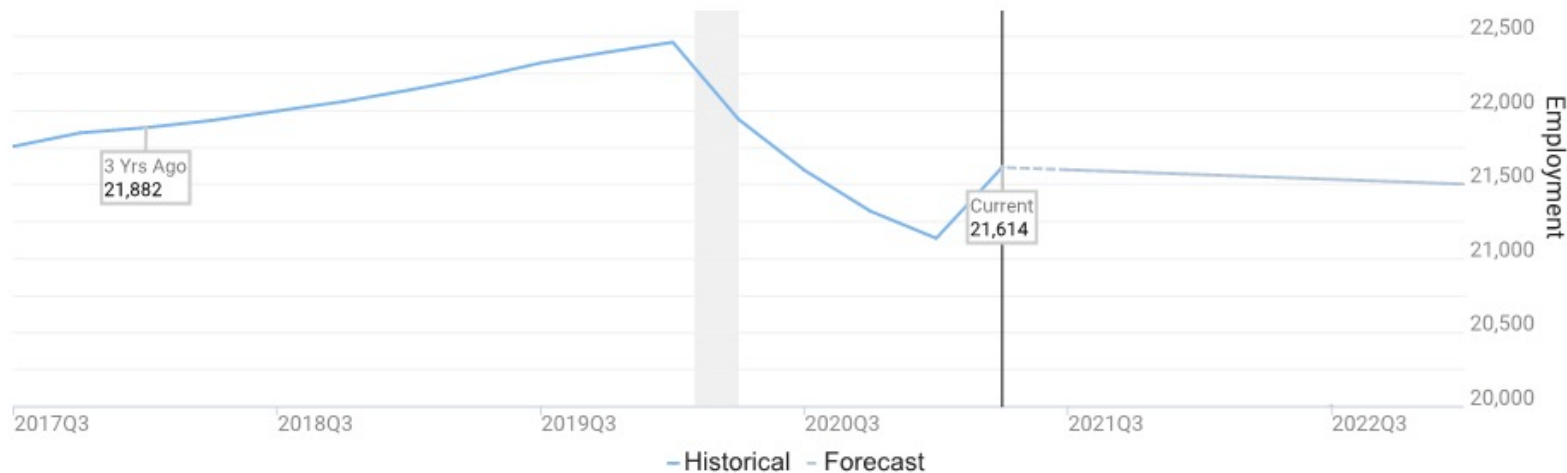


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AUTOMOTIVE TECHNOLOGY

Automotive Technology Employment Forecast Under Baseline Scenario, Minnesota



Takeaways

- Low unemployment (3.4%)
- Second highest total employment among transportation pathways
- Second highest average annual employment growth among transportation pathways over the past five years
- About **43% of positions** held today will need to be filled by new talent in the next five years



AUTOMOTIVE TECHNOLOGY

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
49-3023	Automotive Service Technicians and Mechanics	13,151	\$46,800	0.94	529	3.9%
17-2141	Mechanical Engineers	7,013	\$88,300	1.20	174	2.5%
17-3027	Mechanical Engineering Technologists and Technicians	1,122	\$63,400	1.36	35	3.2%
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	178	\$43,900	0.95	9	5.1%
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	150	\$70,100	0.80	6	3.6%
Automotive Technology Pathway		21,614	\$61,300	1.03	753	3.4%
Total - All Occupations		2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- Automotive Repair and Maintenance (24.0%)
- Automobile Dealers (20.1%)
- Architectural, Engineering, and Related Services (5.9%)
- Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (4.5%)
- Automotive Parts, Accessories, and Tire Stores (4.4%)

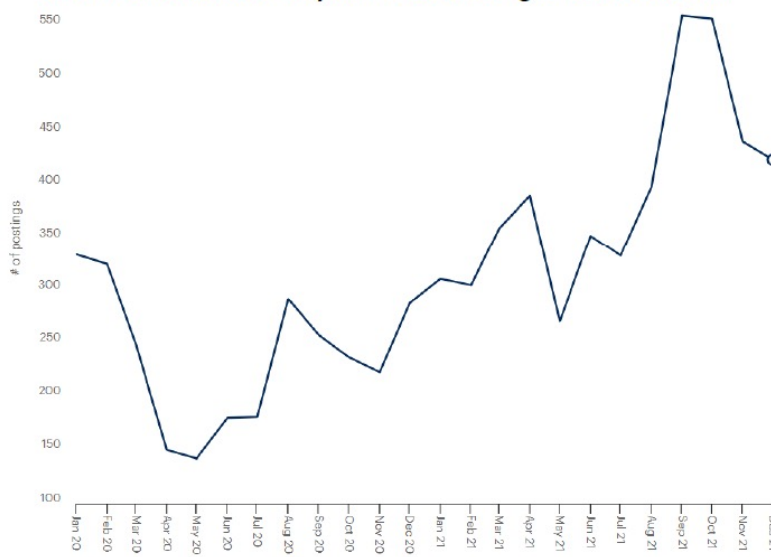


AUTOMOTIVE TECHNOLOGY

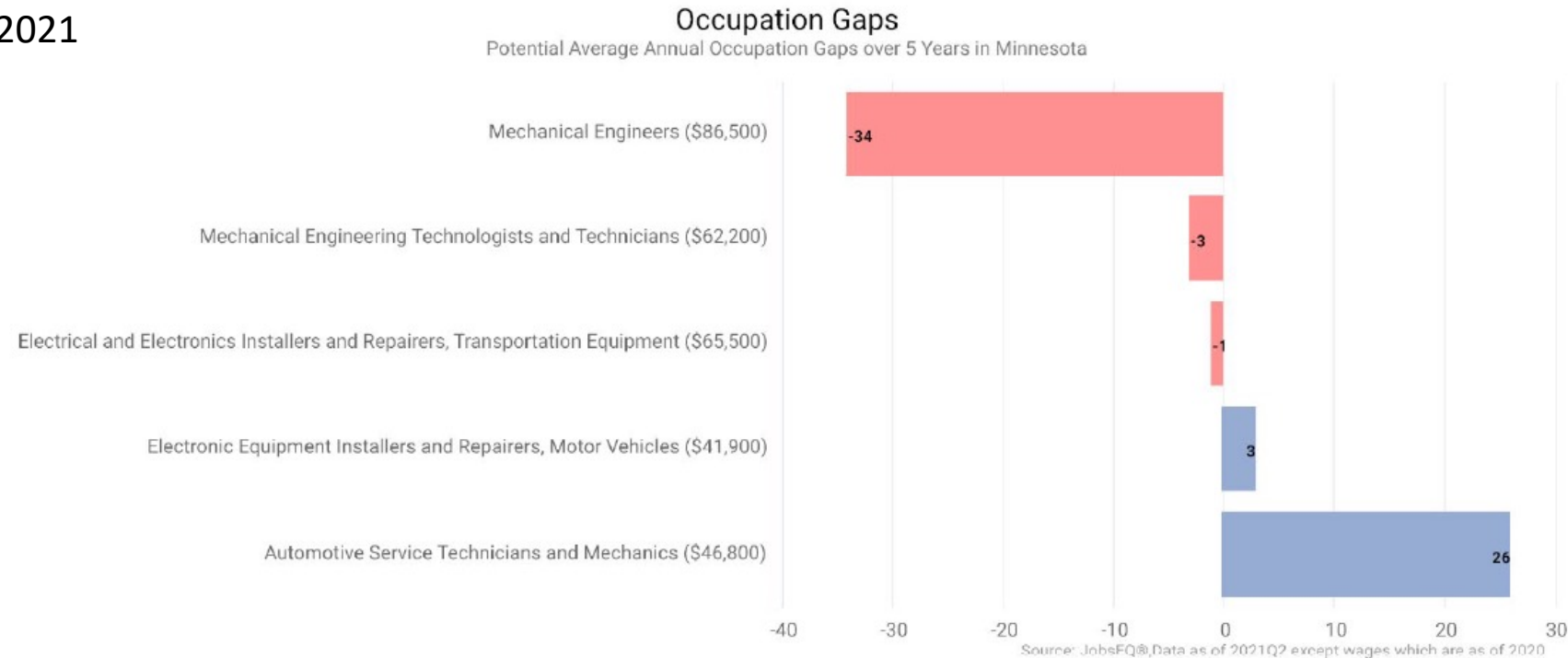
Job Postings

- Volume increased by 64% from 2020 to 2021 (declined 15% from 2019 to 2020)

Volume of Career Pathway Online Job Postings in 2020 and 2021



Estimated Occupation Gaps over Five Years in Minnesota



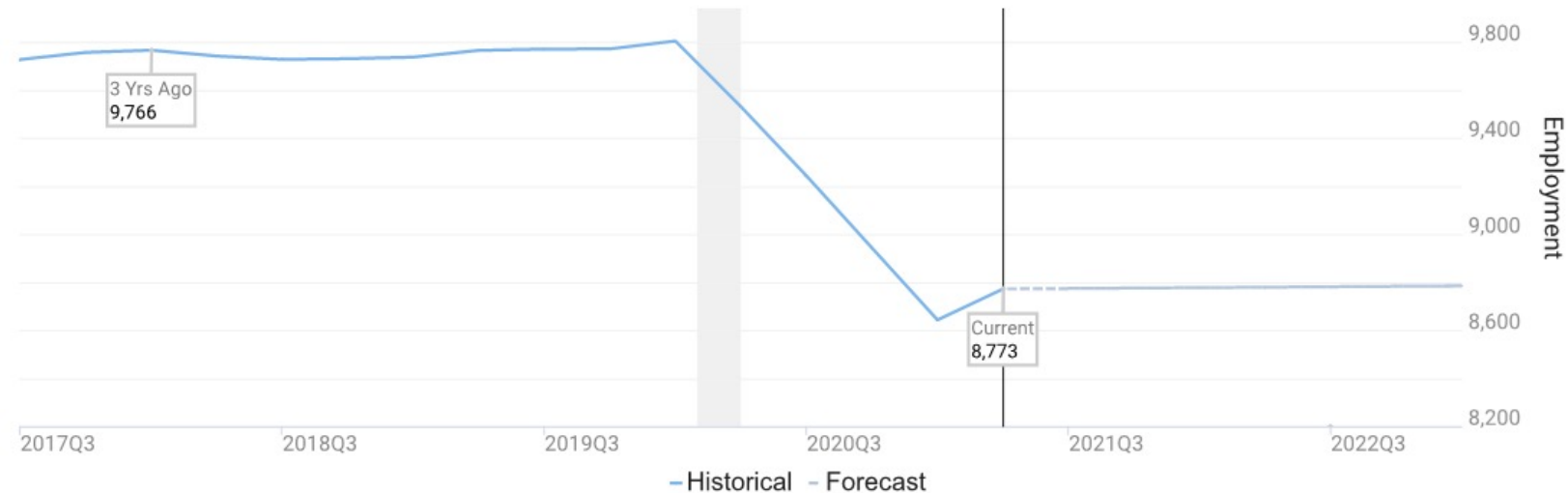
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AVIATION

Aviation Employment Forecast Under Baseline Scenario, Minnesota



Takeaways

- Unemployment increased to 3.9% from 2.5% one year prior
- Highest average annual wage among transportation pathways (now \$122,300 compared to \$94,000 one year prior)
- 0.1% forecasted baseline average annual employment growth over the next five years
- About **44% of positions** held today will need to be filled by new talent in the next five years



AVIATION

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
17-2199	Engineers, All Other	2,583	\$102,100	0.82	46	1.8%
53-2011	Airline Pilots, Copilots, and Flight Engineers	2,399	\$199,600	1.61	129	5.2%
49-3011	Aircraft Mechanics and Service Technicians	1,802	\$79,100	0.74	67	3.7%
53-2021	Air Traffic Controllers	567	\$141,400	1.45	21	3.6%
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	466	\$57,000	1.39	14	3.1%
53-2012	Commercial Pilots	447	\$111,700	0.58	25	5.6%
53-2022	Airfield Operations Specialists	178	\$62,300	0.99	6	3.3%
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	161	\$58,800	0.26	23	12.3%
49-2091	Avionics Technicians	117	\$66,400	0.28	14	10.9%
53-1041	Aircraft Cargo Handling Supervisors	54	\$55,100	0.29	1	2.5%
Aviation and Drone Technology Pathway		8,773	\$122,300	0.88	346	3.9%
Total - All Occupations		2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- Scheduled Air Transportation (35.3%)
- Support Activities for Air Transportation (8.5%)
- Architectural, Engineering, and related Services (5.5%)
- Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (4.8%)
- Administration of Economic Program (4.7%)

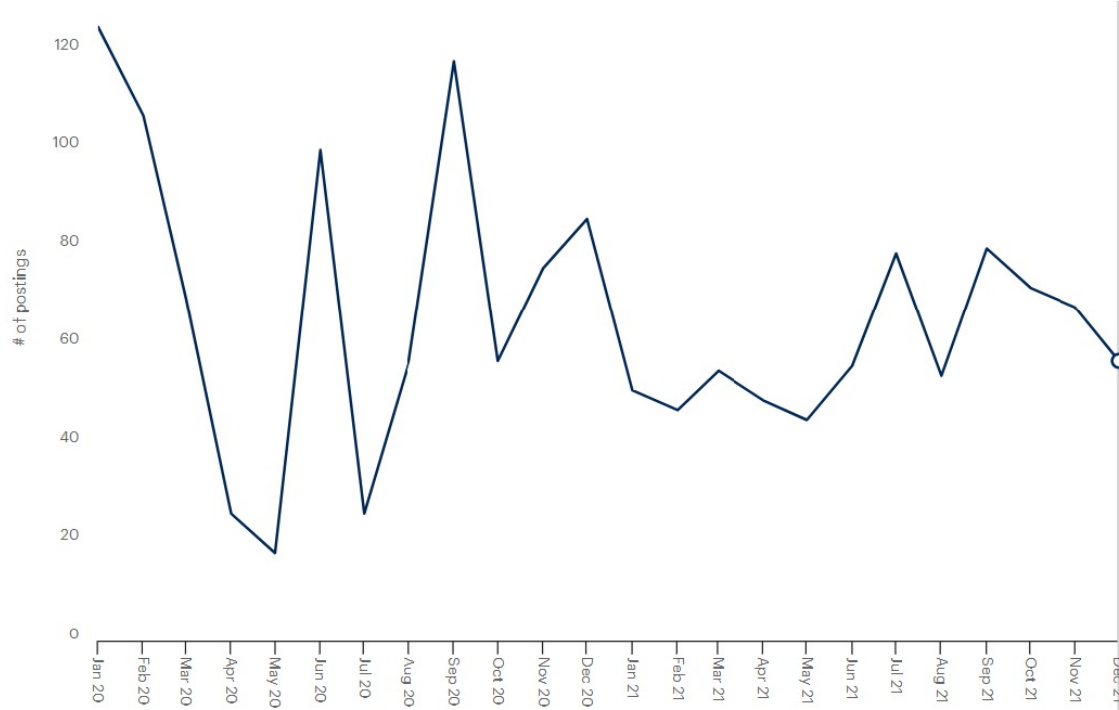


AVIATION

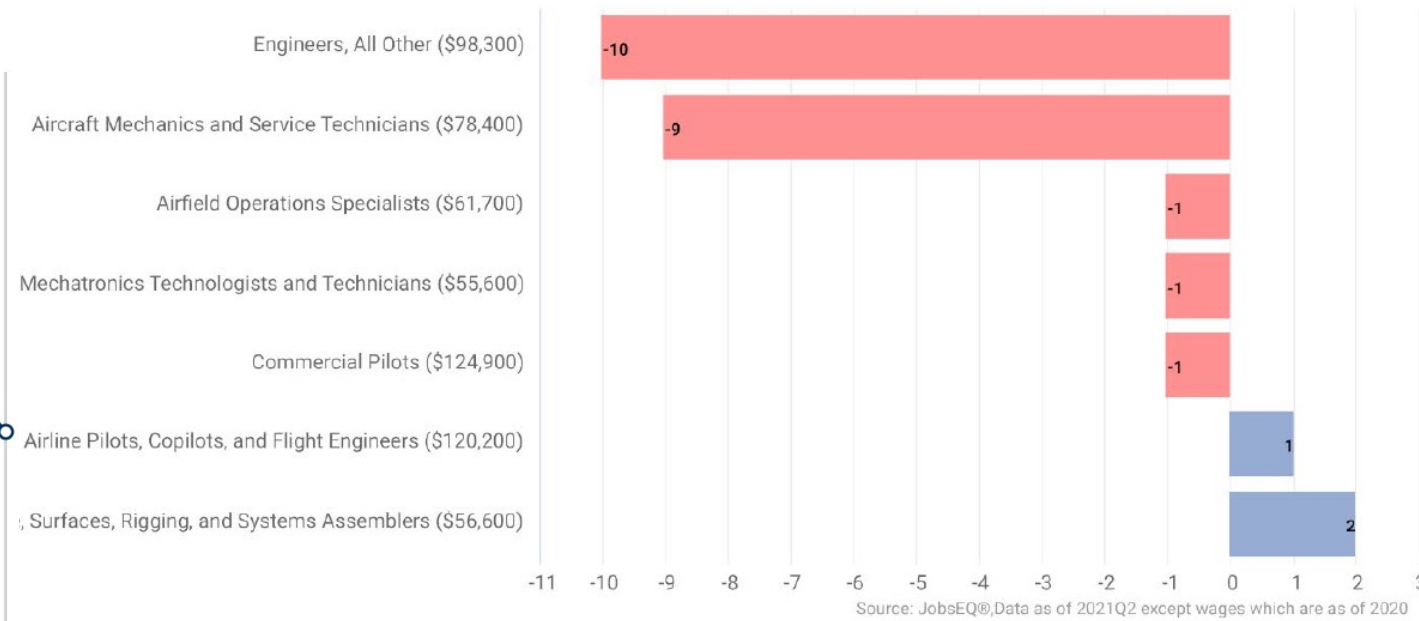
Job Postings

- Volume decreased by 18% from 2020 to 2021 (declined 6% from 2019 to 2020)

Volume of Career Pathway Online Job Postings in 2020 and 2021



Estimated Occupation Gaps over Five Years in Minnesota



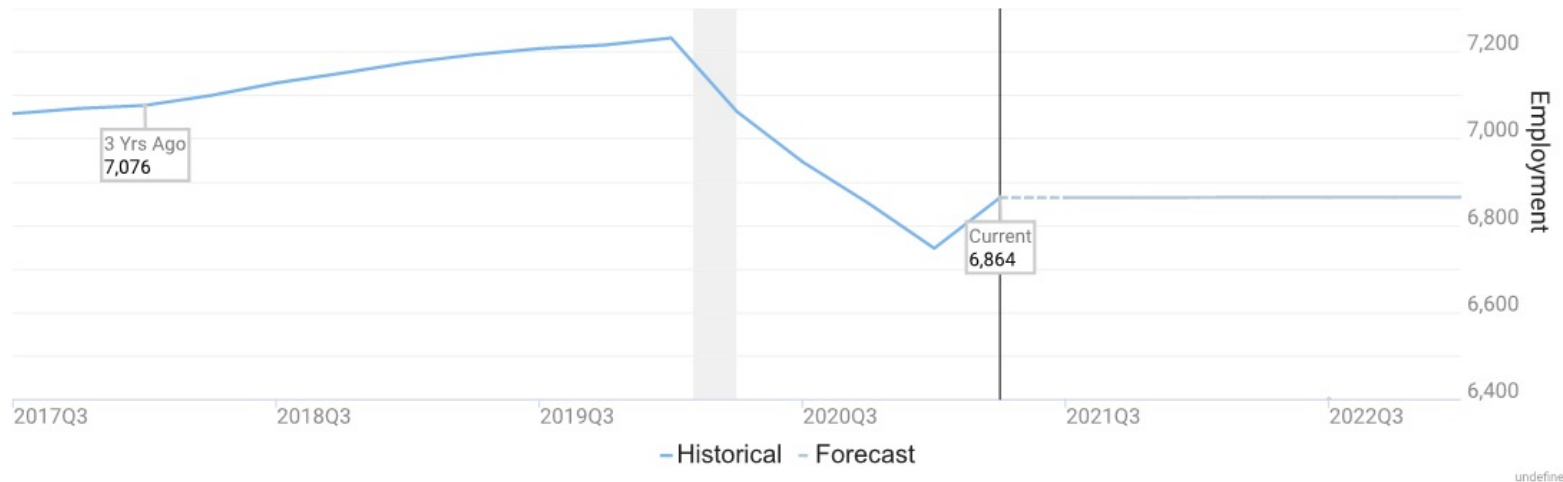
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COLLISION REPAIR

Collision Repair Employment Forecast Under Baseline Scenario, Minnesota



Takeaways

- Second highest Location Quotient, or concentration of roles among transportation pathways (1.14 LQ)
- Unemployment rate of 4.6% (324 people)
- Talent shortage may be affecting this industry most; declining employment deepened; 5-year average annual forecast dropped from 0.4% to 0%
- About **51% of positions** held today will need to be filled by new talent in the next five years



COLLISION REPAIR

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	3,557	\$43,700	1.30	162	4.4%
49-3021	Automotive Body and Related Repairers	2,816	\$51,400	0.99	131	4.5%
49-3022	Automotive Glass Installers and Repairers	490	\$44,400	1.08	31	5.9%
	Collision Repair Pathway	6,864	\$46,900	1.14	324	4.6%
	Total - All Occupations	2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- Automotive Repair and Maintenance (46.4%)
- Automobile Dealers (7.5%)
- Coating, Engraving, Heat Treating, and Allied Activities (5.9%)
- Architectural and Structural Metals Manufacturing (3.1%)
- Other General Purpose Machinery Manufacturing (2.6%)

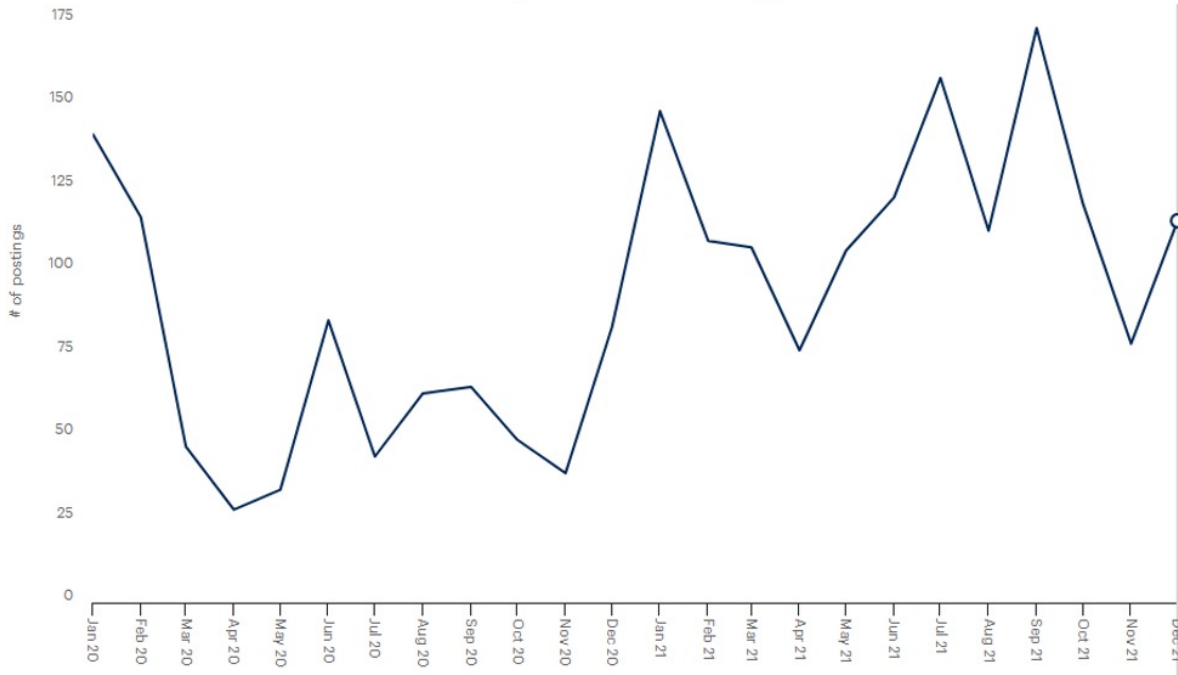


COLLISION REPAIR

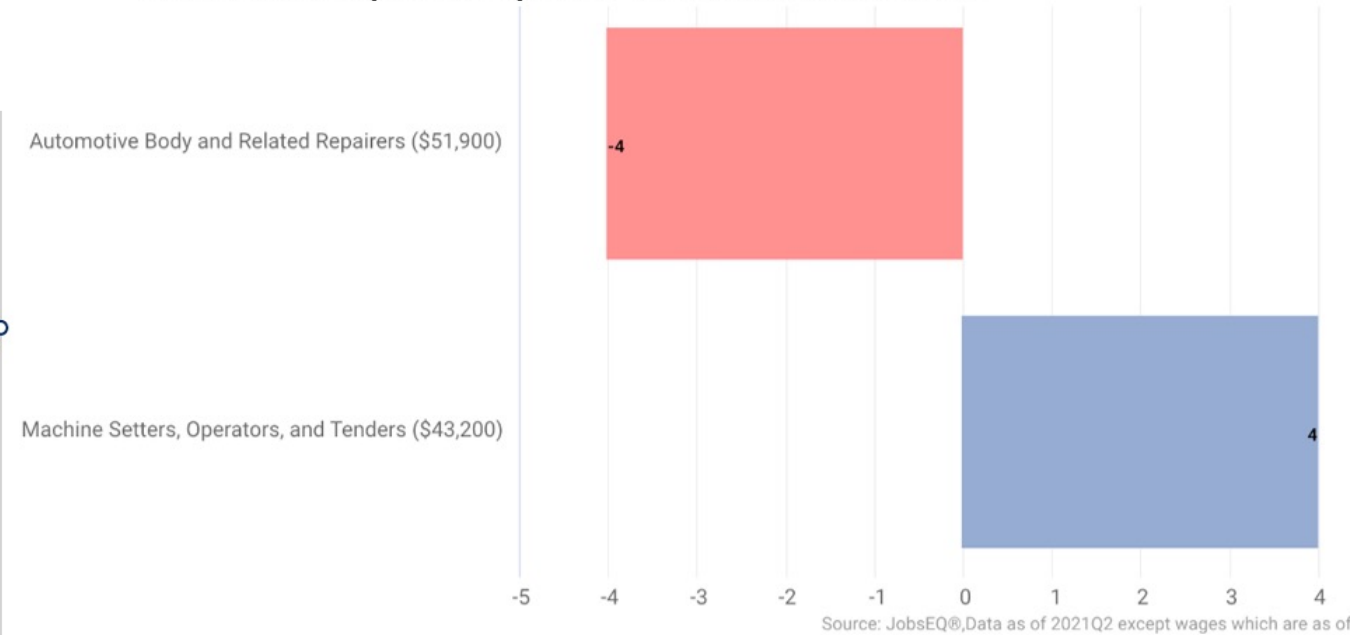
Job Postings

- Volume increased by 79% from 2020 to 2021 (declined by 25% from 2019)

Volume of Career Pathway Online Job Postings in 2020 and 2021



Estimated Occupation Gaps over Five Years in Minnesota

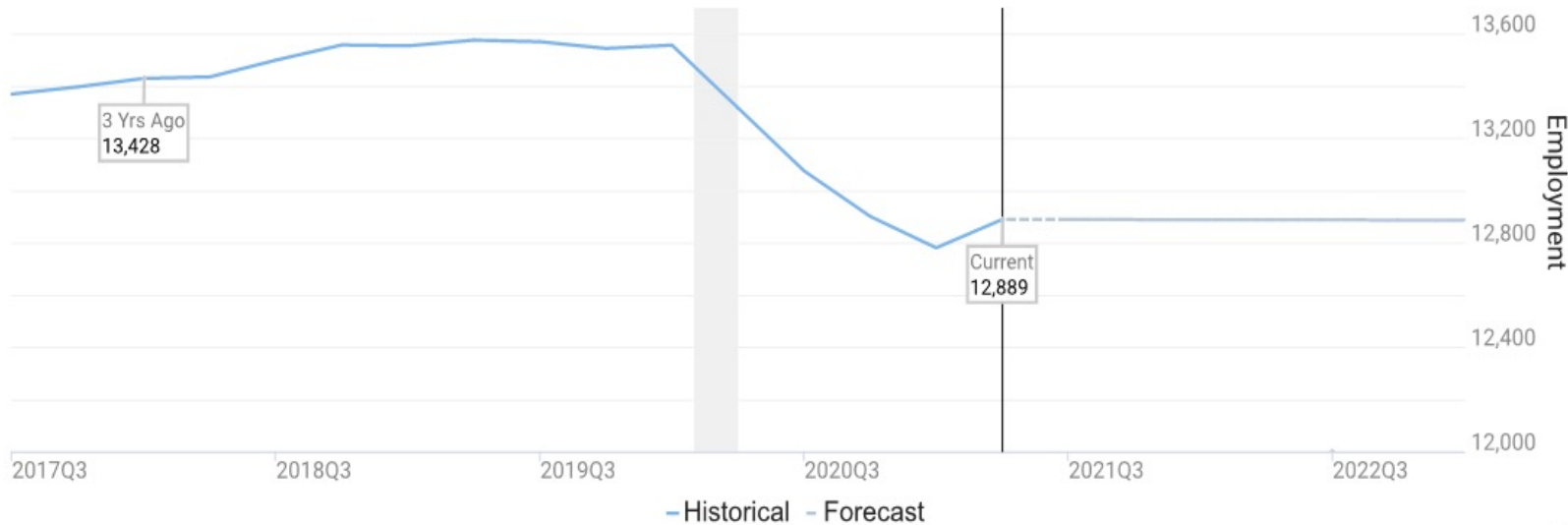


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DIESEL EQUIPMENT AND TRUCK

Diesel, Equipment, and Truck Employment Forecast Under Baseline Scenario, Minnesota



Takeaways

- Highest Location Quotient, or concentration of roles in Minnesota among transportation pathways (1.20 LQ)
- About **49% of positions** held today will need to be filled by new talent in the next five years



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DIESEL EQUIPMENT AND TRUCK

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	6,065	\$53,700	1.18	146	2.4%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	3,094	\$61,700	1.09	88	2.9%
49-3041	Farm Equipment Mechanics and Service Technicians	1,587	\$49,300	2.03	45	2.8%
49-3043	Rail Car Repairers	818	\$63,200	2.07	22	2.7%
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	690	\$56,400	0.87	13	1.9%
53-7021	Crane and Tower Operators	635	\$57,400	0.75	30	4.6%
	Diesel Equipment and Truck Pathway	12,889	\$56,000	1.20	344	2.7%
	Total - All Occupations	2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- Machinery, Equipment, and Supplies Merchant Wholesalers (18.5%)
- General Freight Trucking (7.8%)
- Other Specialty Trade Contractors (5.2%)
- Highway, Street, and Bridge Construction (5.1%)
- Automotive Repair and Maintenance (451%)

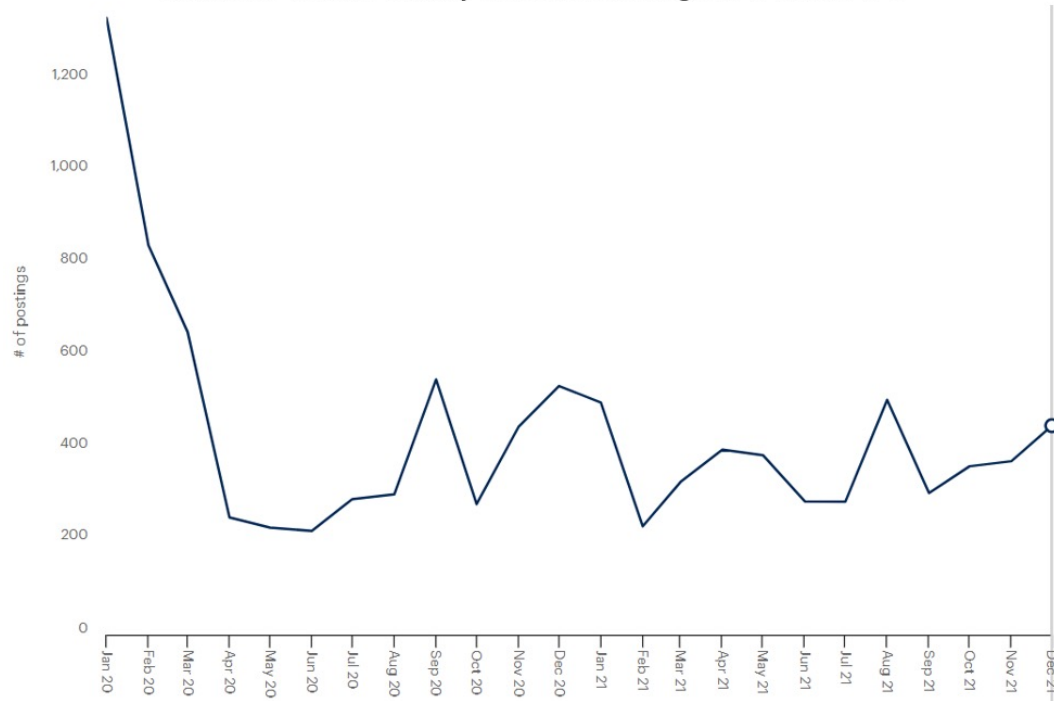


DIESEL EQUIPMENT AND TRUCK

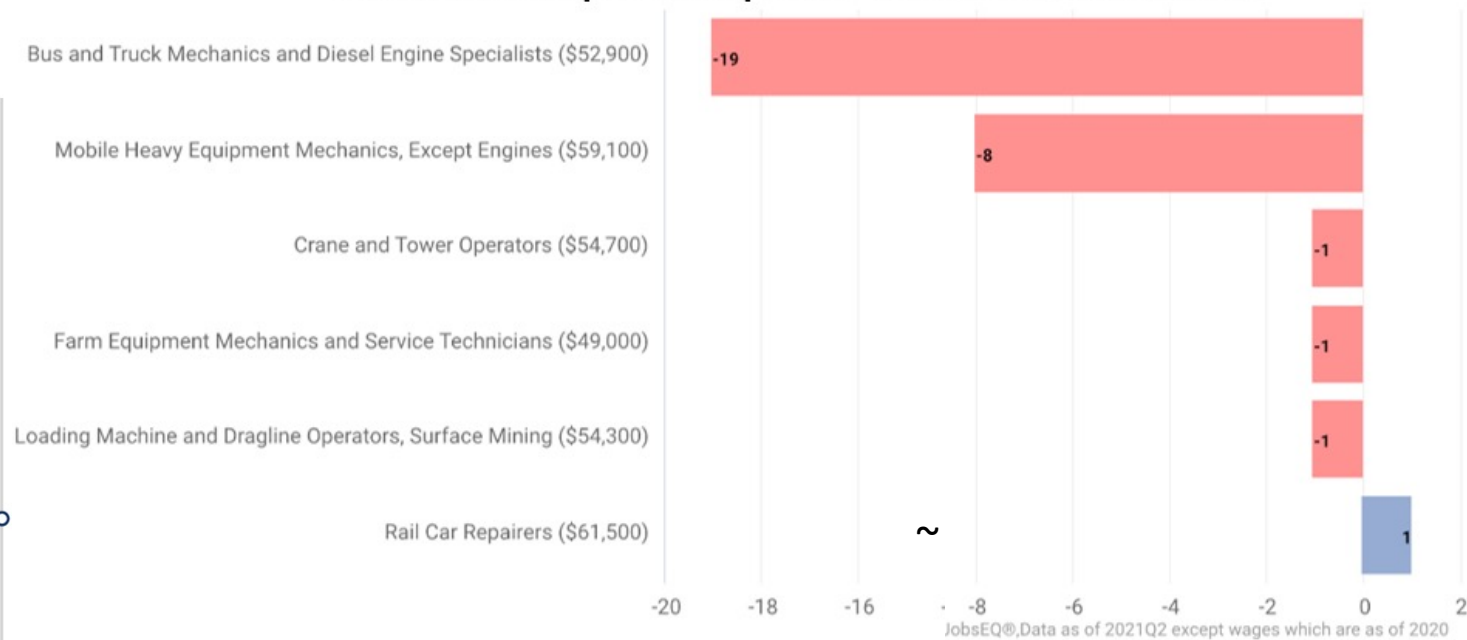
Job Postings

- Volume decreased by 26% from 2020 to 2021 (had increased by 22% from 2019)

Volume of Career Pathway Online Job Postings in 2020 and 2021

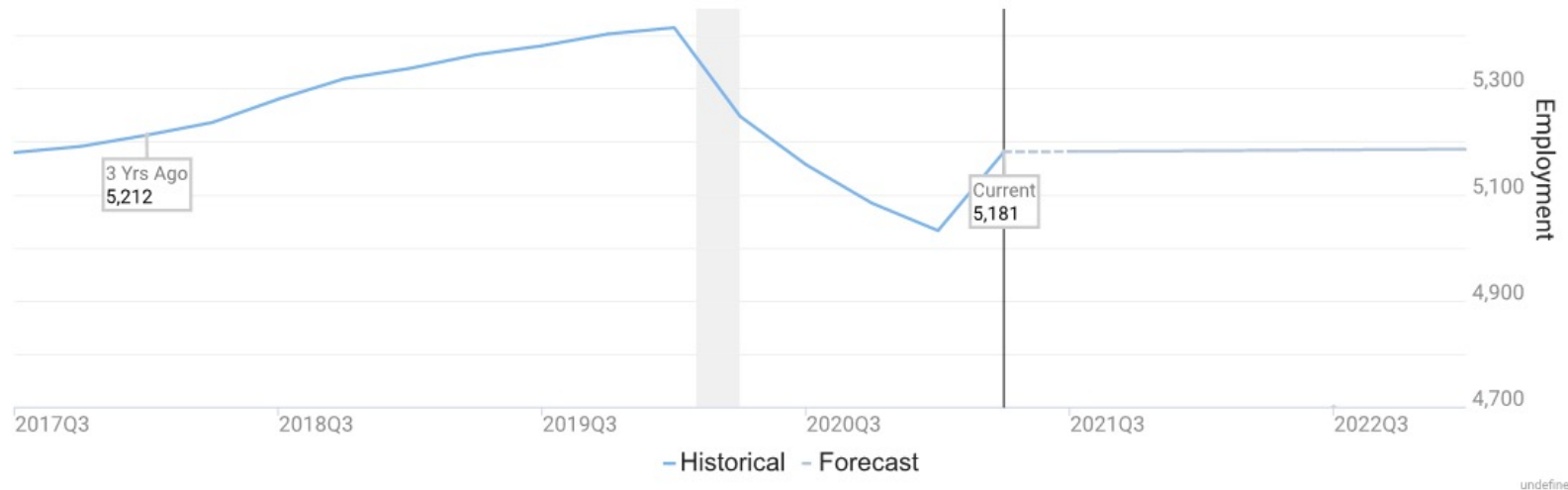


Estimated Occupation Gaps over Five Years in Minnesota



MARINE AND POWERSPORTS

Marine and Power Sport Employment Forecast Under Baseline Scenario, Minnesota



Takeaways

- Smallest total employment of all transportation pathways
- Highest percent growth over the past five years of all transportation pathways
- Hardest hit by COVID-19 Pandemic; Most volatile; 6.8% unemployment (373 people in 2021Q2, compared to 47 in 2020Q2)
- About **60% of positions** held today will need to be filled by new talent in the next five years



MARINE AND POWERSPORTS

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
53-6031	Automotive and Watercraft Service Attendants	2,441	\$30,000	1.07	155	6.1%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,054	\$66,800	1.02	61	5.7%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	781	\$42,000	1.13	75	8.9%
49-3051	Motorboat Mechanics and Service Technicians	501	\$44,000	1.06	46	8.4%
49-3052	Motorcycle Mechanics	381	\$45,300	1.23	35	8.5%
53-5022	Motorboat Operators	23	\$57,100	0.47	2	7.2%
Marine and Power Sports Pathway		5,181	\$41,900	1.07	373	6.8%
Total - All Occupations		2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- Other Motor Vehicle Dealers (13.4%)
- Gasoline Stations (12.2%)
- Automotive Repair and Maintenance (11.2%)
- Automobile Dealers (8.2%)
- General Merchandise Stores (5.4%)

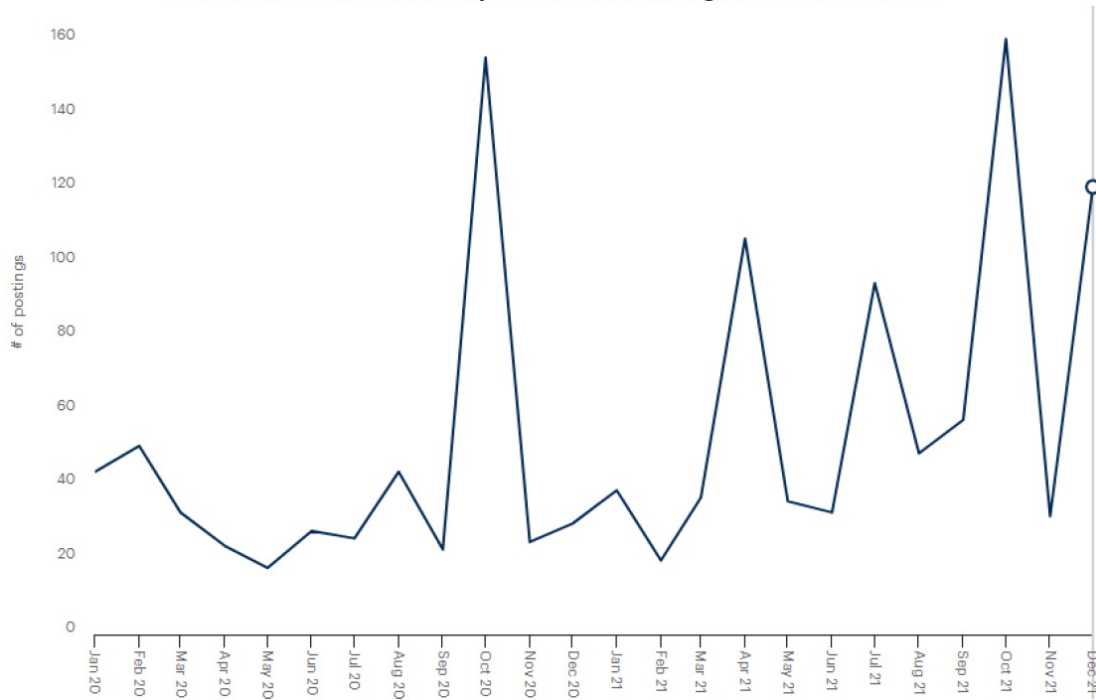


MARINE AND POWERSPORTS

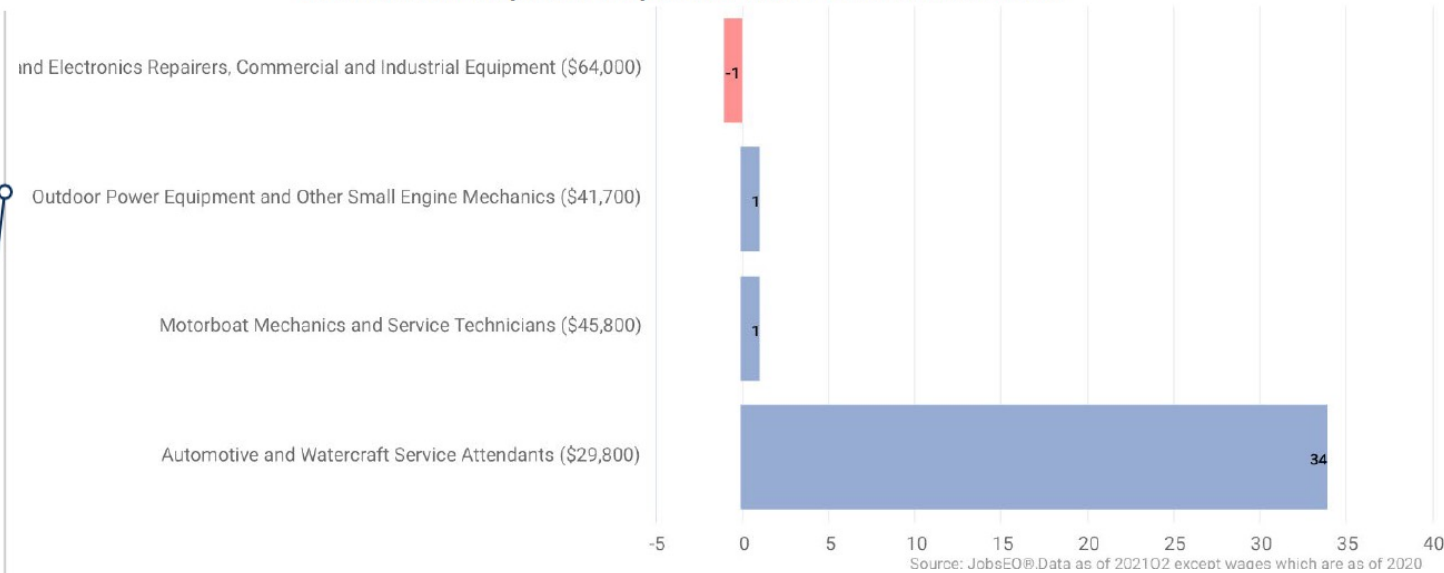
Job Postings

- Volume increased by 57% from 2020 to 2021 (increased 10% from 2019)

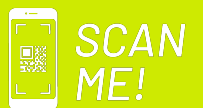
Volume of Career Pathway Online Job Postings in 2020 and 2021



Estimated Occupation Gaps over Five Years in Minnesota

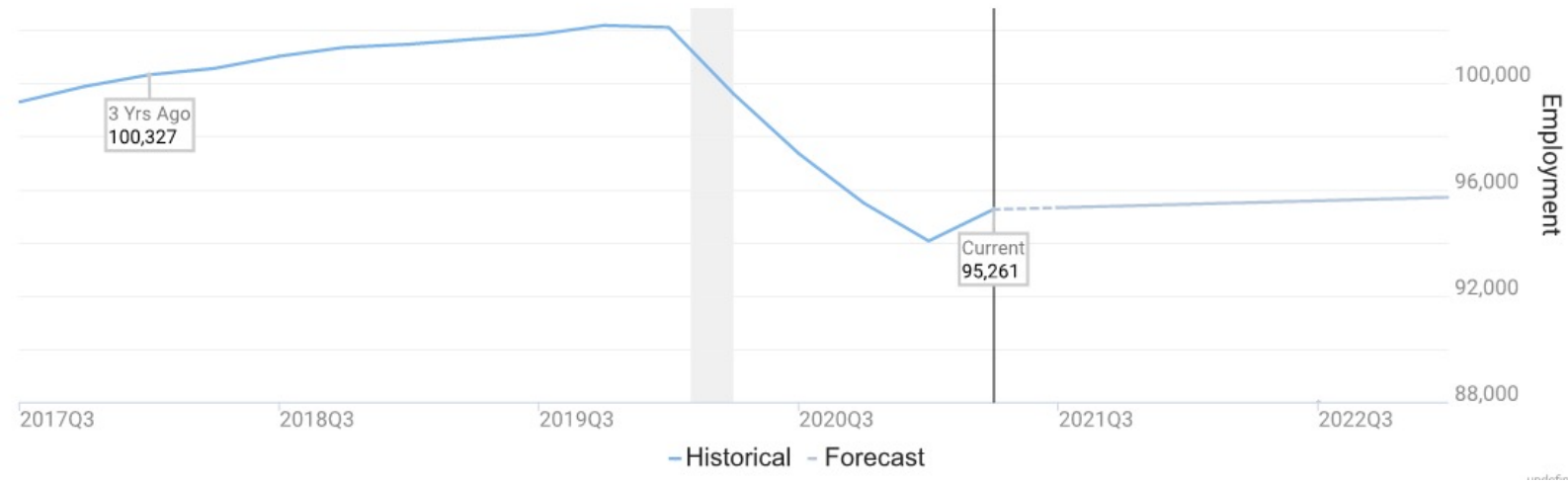


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TRUCK DRIVING

Truck Driving Employment Forecast Under Baseline Scenario, Minnesota

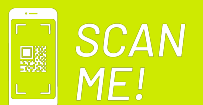


Takeaways

- Highest total employment of all transportation pathways by a factor of five (95,261 employed)
- Highest baseline average annual growth forecast (0.3%)
- Most vulnerable set of entry-level occupations to technology innovation in transportation
- About **60% of positions** held today will need to be filled by new talent in the next five years



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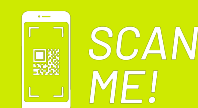


TRUCK DRIVING

SOC	Occupation	Current				
		Empl	Avg Ann Wages ²	LQ	Unempl	Unempl Rate
53-3032	Heavy and Tractor-Trailer Truck Drivers	37,222	\$51,000	0.98	1,579	4.2%
53-3033	Light Truck Drivers	17,922	\$42,800	0.87	743	4.1%
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	16,650	\$38,500	1.17	2,826	14.8%
53-7051	Industrial Truck and Tractor Operators	10,231	\$46,000	0.78	609	5.8%
53-3031	Driver/Sales Workers	8,930	\$31,300	1.00	385	4.3%
53-3052	Bus Drivers, Transit and Intercity	4,119	\$44,100	1.02	345	7.9%
53-7121	Tank Car, Truck, and Ship Loaders	188	\$45,100	0.72	6	3.0%
Truck Driving Pathway		95,261	\$44,600	0.96	6,493	6.6%
Total - All Occupations		2,920,850	\$58,900	1.00	145,886	4.9%

Top Industries of Employment

- General Freight Trucking (15.7%)
- School and Employee Bus Transportation (7.4%)
- Couriers and Express Delivery Services (5.6%)
- Specialized Freight Trucking (5.0%)
- Restaurants and Other Eating Places (3.9%)
- Grocery and Related Product Merchant Wholesalers (3.6%)

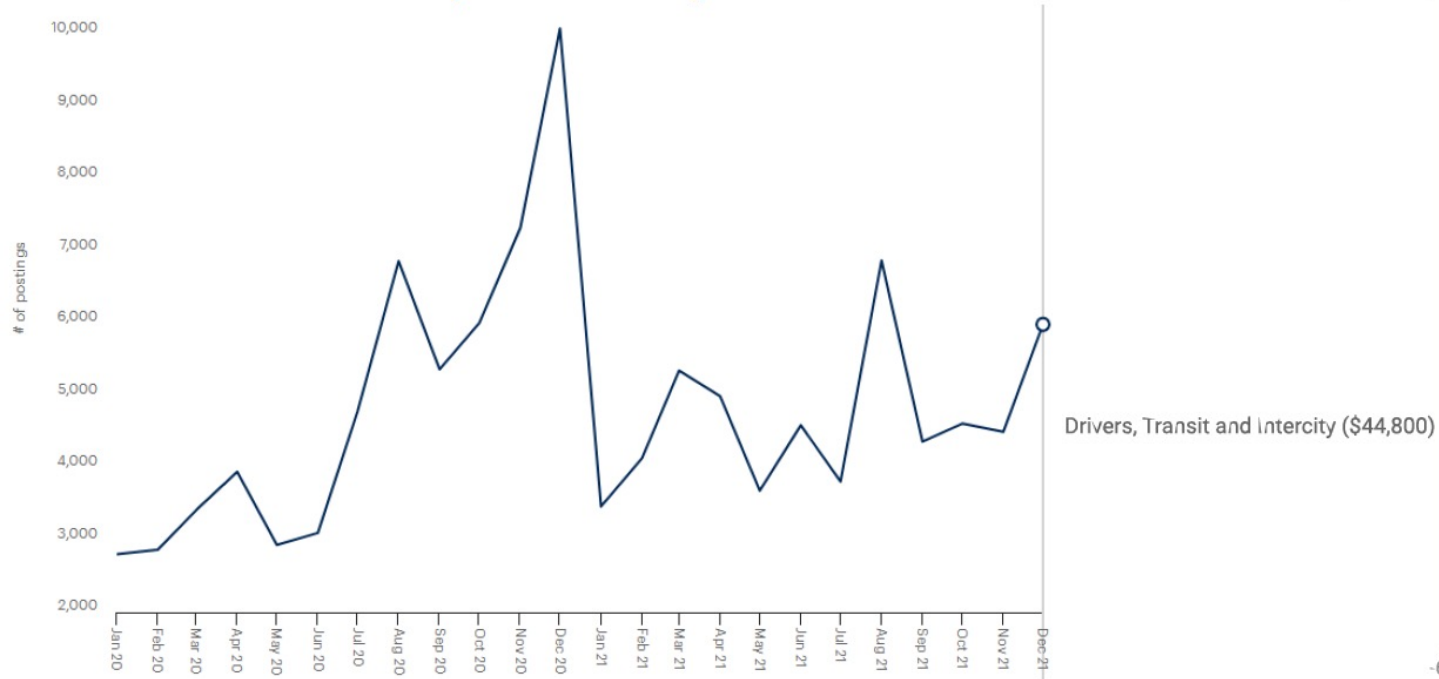


TRUCK DRIVING

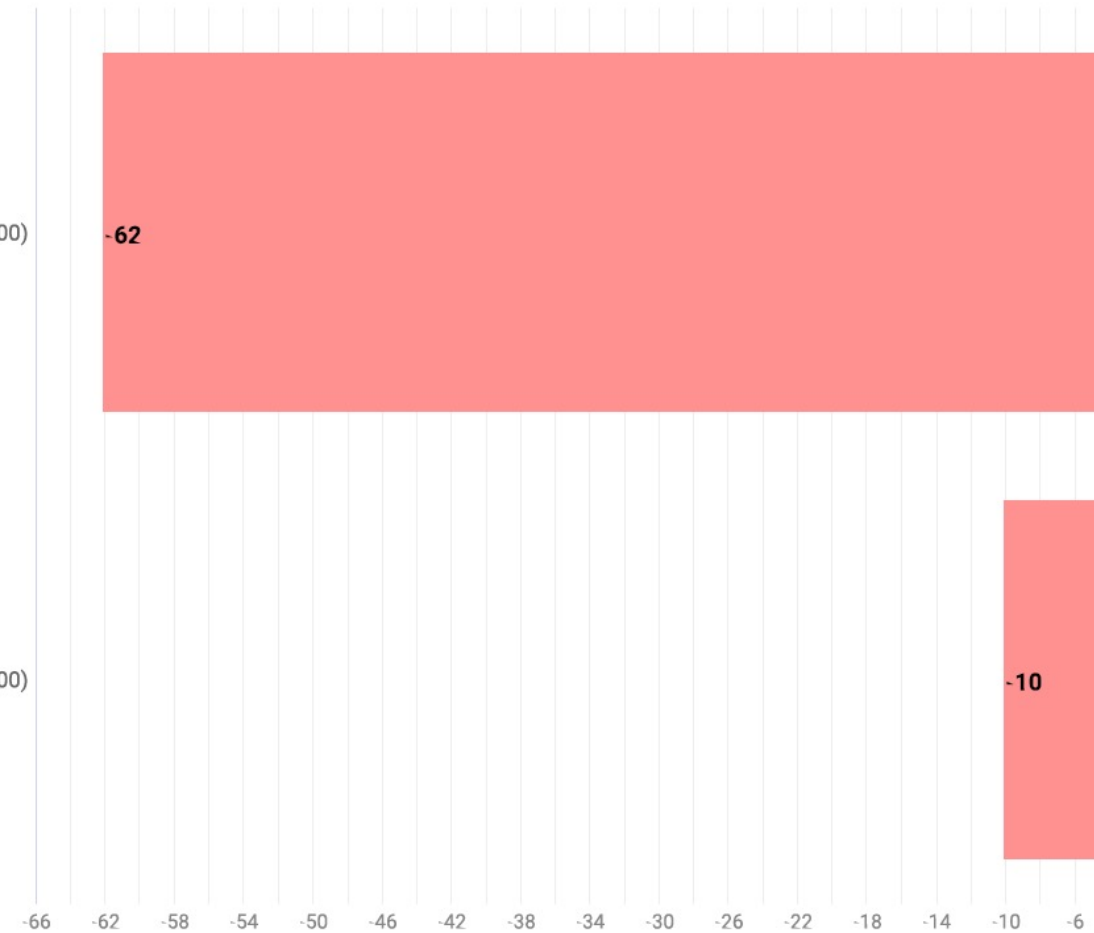
Job Postings

- Volume decreased by -0.5% from 2020 to 2021 (increased by 16% from 2019)

Volume of Career Pathway Online Job Postings in 2020 and 2021



Estimated Occupation Gaps over Ten Years in Minnesota (red indicates talent shortage)



QUESTIONS OR COMMENTS?

View the Reports here:

<https://www.minntran.org/demand-analysis/>

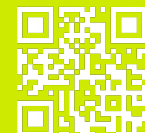


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Thank You



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