NL WORKFORCE INNOVATION CENTRE

cna College of the North Atlantic

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the dais

Fair Winds and Full Sails

Towards Long-Term Stability for Workers in Newfoundland and Labrador

February 2025

Final Report Presented by the Dais and the NL Workforce Innovation Centre (NLWIC)

Newfoundland & Labrador

Canada

Max Bell Foundation

Acknowledgements

The Dais is Canada's platform for bold policies and better leaders. We are a public policy and leadership think tank at Toronto Metropolitan University, connecting people to the ideas and power we need to build a more inclusive, innovative, prosperous Canada.

NLWIC has a provincial mandate to provide a coordinated, central point of access to engage all labour market stakeholders about challenges, opportunities and best practices in workforce development. The Centre's goal is to promote and support the research, testing and sharing of ideas and models of innovation in workforce development that will positively impact employability, employment and entrepreneurship within the province's labour force and particularly underrepresented groups.

Graph data in this report can be found at: https://github.com/thedaisTMU/NFL_jobpathways

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Executive Summary

The Job Transition Pathways (JTP) research project is a collaboration between the NL Workforce Innovation Centre (NLWIC) at the College of the North Atlantic (CNA) and the Dais at Toronto Metropolitan University (TMU). The primary objective of the JTP project is to identify and outline occupational transition pathways in NL that enable workers to achieve long-term employment stability while reducing the challenges associated with labour market disruptions. This initiative stems from growing concerns around multiple economic disruptions brought on by global economic and geo-political forces, the lingering effects on the labour market from the COVID-19 pandemic, and rapid advancement in automation technologies.

The Job Pathways Model, originally developed by the Dais in 2019, relies on a skills adjacency framework, which identifies the optimal fit between the attributes (skills, abilities, and work activities) of declining "origin occupations" and those of emerging "destination occupations" using Occupational Information Network (O*NET), alongside Canadian labour market data from Statistics Canada and other sources. The enhanced version of the Model integrates a human-centered design approach, blending model-generated insights with qualitative methods and lived experiences, to ensure it is locally relevant and practically applicable. The Model was tested on motor vehicle assemblers and Ontario grocery sector workers, both in occupations deemed at risk of decline due to automation, and both in smaller, limited geographic areas in Ontario. Several upskilling opportunities were identified and presented in subsequent reports by the Dais.

The collaboration between the Dais and NLWIC marks the first implementation of the Model outside Ontario, showcasing its adaptability to different provincial contexts and advancing innovative workforce development through interprovincial partnerships.

Unlike previous applications, the implementation of the Model in NL spans the entire provincial labour market rather than focusing on a specific occupation or smaller geographic area in the province. This broad scope makes the project inherently explorative and innovative but also presents unique challenges. NL's labour market is shaped by rural-urban disparities, a declining population, and large, project-specific demands in areas like renewable energy, oil and gas, and construction. Addressing these complexities requires careful consideration of localized factors, stakeholder collaboration, and innovative methodologies.

The JTP research project was conducted in two Phases:

- Phase One, led by the Dais, involved a comprehensive quantitative labour market analysis to identify origin and destination occupations. It also proposed short-term transition pathways to equip workers with the skills necessary for longer-term career stability in growing industries.

- Phase Two, led by NLWIC, focused on field-testing the proposed pathways through qualitative research and analysis using consultations with employers, industry associations, labour market experts, and workers. This phase also explored additional talent gaps and opportunities across the province.

Key Findings and Insights

The Phase 1 data-driven insights identified two primary growth sectors as having key occupational destinations for long-term transitions including: Ocean (Blue)/ Green Economy sectors, which include industries like ocean technology, onshore wind energy, hydrogen, aquaculture, and marine biotechnologies; and Tech Sector, a $1.6 billion sector in NL with potential for expansion and various applications across other industries. [1]

The proposed short-term transition paths are meant to equip workers for eventual entry into the identified sectors. Origin occupations, including construction trade helpers and labourers, and specifically industrial electricians, were identified as potential candidates for transitioning into destination occupations such as deck hand, water transport deck and engine room crew positions. Similarly, sales and service occupations – retails sales were highlighted as suitable for transitions into customer service representative occupations within the business and finance sector. The first occupational pathway proposed transitioning occupations that have traditionally been part of NL's cyclical economy and limited-duration projects into something more sustainable for a province abundant in ocean-related resources. The second proposed occupational transition focuses not only on the similarity of skills, but also on relatively quick improvements in digital literacy to support the growing demands of the digital economy.

Phase 2 employed a human-centered design approach to gather qualitative data, including interviews, focus groups with key stakeholders, and an online workers' survey. The objective was to validate and expand on Phase 1 labour market findings, focusing on origin and destination occupations and identifying additional transition pathways to high-demand occupations. The research explored industry trends, employer needs, skills and training gaps, policy and regulatory factors, and opportunities for collaboration. It also examined barriers and facilitators to job transitions in NL, offering insights to inform interventions and policies aimed at improving workforce mobility and outcomes.

Research participants highlighted that the NL's labour market showed no sustained occupational declines, making it difficult to easily identify "origin occupations" for transitions. It was suggested to consider additional factors contributing to potential occupational instability, including low wages, job precarity, seasonal or cyclical employment demands, and potential labour surplus in specific occupations. At the same time, the research findings confirmed critical labour shortages that persist across many industries. The marine sector faces shortages in occupations such as deckhands, ferry personnel, ocean mapping specialists, and naval architects. Wind-hydrogen projects are expected to drive future demand for electricians, welders, pipefitters, and project managers, while construction and mining continue to require millwrights, truck operators, surveyors, and lab technicians. Ocean technology and aquaculture are seeing rising demand for technologists, data analysts, and operations managers. Childcare and healthcare sectors remain strained, with shortages in early childhood educators, personal care attendants, and occupational therapists, among many other occupations. Finally, the education sector struggles to recruit student assistants, janitorial staff, and administrative personnel, while business and administration occupations such as payroll officers, HR professionals, and executive assistants are also in high demand across many different industries.

All the key stakeholders also emphasized the importance of addressing soft skills gaps in communication, teamwork, adaptability, and problem-solving to improve retention and growth. They stressed the need for greater engagement of young people in career exploration and raising awareness of emerging opportunities. Succession planning, mentorship, and coaching were identified as critical to supporting workforce adaptation and long-term success. The research also uncovered specific gaps and opportunities for improvement when it comes to numerous factors

[1] TechNL Annual Report 2021. https://technl.ca/wp-content/uploads/2022/05/techNL-2021-Annual-Report.pdf

shaping occupational transitions and workforce development, including institutional challenges such as gaps in education and career development training, and issues related to labour market data currency and accessibility. Limited early exposure to trades, declining post-secondary enrollment and insufficient career guidance further disrupt skills alignment with industry needs.

Additionally, it was highlighted that there are potentially unexplored opportunities for occupational transitions for traditionally underrepresented population groups in the province, including women in trades, Indigenous people, persons with disabilities, immigrants and internationally trained professionals and workers, and mid-career and senior workers. A focused approach to unique needs and better skills assessment could optimize the skills matching and workforce integration.

Recommendations for Improving Policy and Practice for Successful Occupational Transitions

The findings in both Phases 1 and 2 emphasize the need for evidence-based strategies to address skills shortages, enhance workforce adaptability, and support inclusive transitions across sectors. The insights informed actionable recommendations pertaining to policy making, education and training, career counselling, workforce development, recruitment and human resources, and research. Proposed strategies include:

- Strengthening alignment between training institutions and industry demands.
- Incorporating soft skills development into workforce development strategies.
- Raising awareness about emerging occupations and dispelling misconceptions.
- Enhancing labour market data collection, transparency, and access.
- Addressing social determinants of health related to employment transitions.
- Exploring collaborative and innovative job transition training/support programs.
- Engaging families and communities in promoting emerging occupations in rural regions.
- Broadening and updating recruitment practices to support transitions.
- Supporting employer-led job transitions.

Job transition strategies should be viewed as an ongoing process, with a focus on fostering greater mobility for workers across industries and occupations. Given the dynamic nature of NL's economy, it is crucial to continually revisit and recalibrate these strategies to align with shifting economic conditions and emerging workforce development needs.

Project Background

In 2019, The Dais, a public policy and leadership think tank at Toronto Metropolitan University (then known as Brookfield Institute for Innovation + Entrepreneurship) developed the Job Pathways Model to connect displaced workers with evolving employment opportunities. As the labour market continually shifts, individuals experiencing job loss or disruption often face uncertainty in navigating towards new career paths, even with access to labour market information (LMI). The Job Pathways Model[2] (Image 1) was designed to highlight potential routes from declining occupations to growing and emerging occupations by analyzing skills adjacency and individual as well as employer-based factors. A note: In this new iteration and collaboration between The Dais and NLWIC, the Model is referred to as the Job Transitions Pathways (JTP) Model.

The first implementation of the Model by The Dais in Ontario, specifically the Greater Toronto Area (GTA), focused on identifying "origin" occupations—those facing disruptions or significant layoffs—and using the skills adjacency method to illuminate transition opportunities into "destination" occupations with potential for growth and improved stability. The two key occupations deemed at risk of decline were Banking Insurance, and Other Financial Clerks, and Motor Vehicle Assemblers, Inspectors, and Testers. Subsequent case studies, including one within the Ontario grocery sector, expanded the application of the Model to additional industries and regions. The Model also added human-centered design to include insights from people with lived experience and provide deeper understanding of labour market experiences for engaged workers, employers and other key stakeholders. By examining skills overlap between origin and destination occupations, the Model offers a foundation for mapping out possible and meaningful career trajectories.

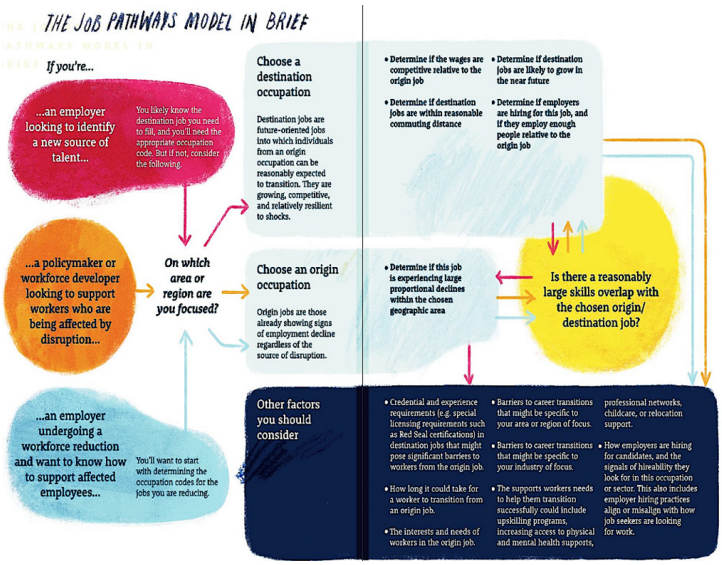


Image 1. The Dais Job Pathways Model

[2] For more details on the Job pathways Model, visit https://dais.ca/wp-content/uploads/2023/10/Lost-and-Found-ONLINE-2.pdf

In 2020, The Dais formed a partnership with NLWIC to test the Model in NL. After extensive discussions and careful considerations of challenges posed by the COVID-19 pandemic, the team implemented strategic adjustments to adapt to the evolving labour market while remaining aligned with the project's original objectives, which included:

1. Identifying potential and realistic job pathways for workers in declining occupations,
2. Testing the JP Model in practice in NL while further developing, documenting, and sharing Model; and
3. Generating insights for policymakers and contributing to a significant improvement in the targeting of interventions that help workers move from disrupted or declining occupations into promising or high-growth jobs, and that help employers source needed talent.

By partnering with another province, The Dais intended to test the Model's adaptability to different regions and labour needs, encouraging users to factor in specific local dynamics and circumstances, such as high-demand jobs or critical skills shortages.

This collaborative research project was grounded in several key assumptions about the NL labour market and its changing needs. Firstly, it assumed that COVID-19 had left a lasting impact on employers, workers, and the broader provincial labour market, fundamentally reshaping workforce dynamics and recovery prospects. Secondly, it anticipated that some occupations in NL were either declining or at risk of decline. Finally, the project assumed that certain sectors were poised for significant, long-term growth, presenting opportunities for workers to transition into more secure and stable occupations.

When the partnership between The Dais and NLWIC was first conceived in 2020, the consequences of the COVID-19 pandemic on NL's economy were unforeseen and unpredictable, including its after-effects on the oil and gas industry which has historically played a vital role in the province's GDP. Initially, there was a sense that oil and gas might take an extended period to recover. However, the trajectory of recovery took an unexpected turn, with the industry and broader economy rebounding relatively quickly. This evolving landscape stressed the importance of developing adaptable pathways that reflect real-time labour market realities, supporting workers as they transition into occupations aligned with growing sectors and a sustainable economic future for NL.

The aim of this research project is to highlight potential pathways and share insights that can inform workers' transitions within the province. The research findings will also offer valuable lessons for job developers and recommendations for policymakers, education and training institutions, employers, and career and employment service providers, supported by feedback from employers and workers on their actual needs for training, information, and other critical supports.

NL Context

NL has shown resilience through numerous economic shifts and disruptions. Most recently during the pandemic, unemployment rate climbed to 14.1%, with a loss of around 13,000 jobs, primarily in full-time roles.[3] Despite those challenges, the province's economy has demonstrated substantial recovery and adaptability. Over the following years, economic growth gradually lowered the unemployment rate to 10.04%, as of December 2024.[4]

The NL economy is unique even within Canada. While the vast majority of Canada's output comes from the service sector, in NL, a significant portion of the province's GDP comes from the goods-producing sector (47% or $15.9 billion in 2021)[5] , consisting mainly of traditional industries (i.e., agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction). These industries have been an integral part of the provincial economic life for generations and have been bolstered through deliberate policy decisions. In the 1980s, the provincial government set the stage for the NL oil boom through the creation of the Atlantic Accord, allowing the region to tax offshore resources in the same manner it would tax onshore resources, along with giving NL the ability to exercise preferential hiring practices.[6] The goods producing sector was further improved after subsequent premiers created the Economic Recovery Commission and Enterprise NL to support small and medium-sized enterprise development and diversification. Real estate and tourism also play a significant role in NL's economy, contributing 18% of the service sector's economic output. In fact, the plurality of job postings that were posted in NL between 2021 and 2023 were found mostly concentrated in the province's largest population centre, St John's – also one of the biggest centres for tourism and sales (see below Figure 1 and 2).

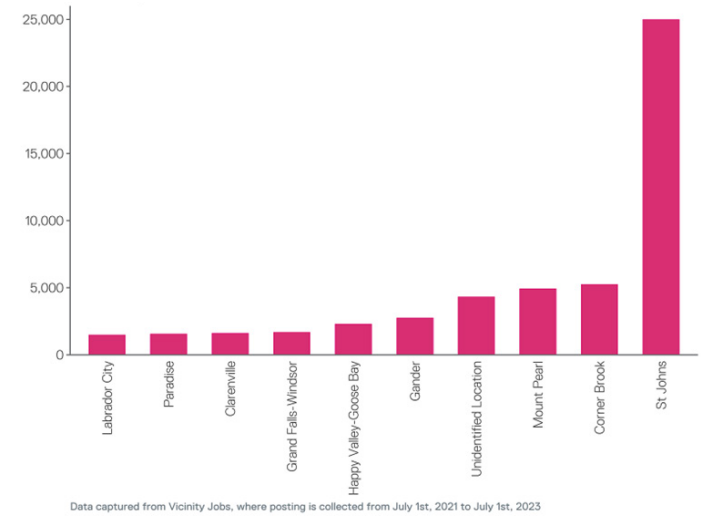


Figure 1. Job Postings by City in NL 2021-2023

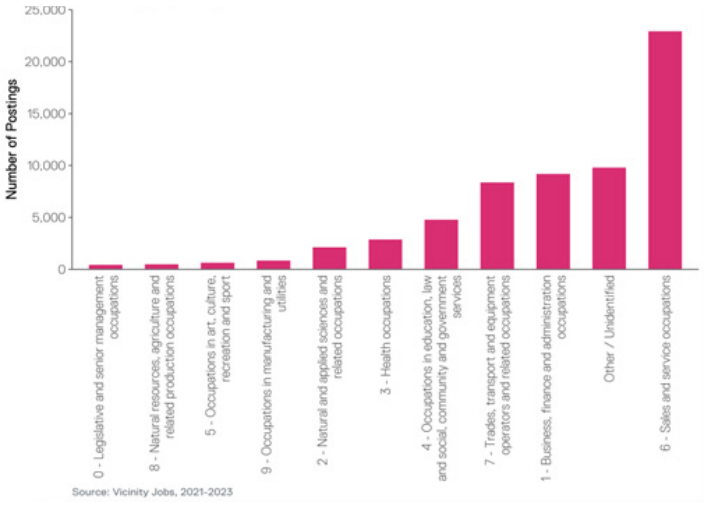


Figure 2. Job Postings by Occupations in NL 2021-2023

[3] Government of NL. Budget 2021. https://www.gov.nl.ca/budget/2021/wp-content/uploads/sites/5/Economy-2021.pdf

[4] Government of NL. Department of Finance. 2024 https://www.stats.gov.nl.ca/DataTools/Dashboard/DashboardFact.aspx?qfid=24

[5] Statistics Canada divides the economy into two sectors: the goods producing sector, which makes tangible products, and the service sector, which make up everything else. These are companies that generate revenue by providing intangible products and services and can include anything from retail and transport to food and profession (see for e.g., Statistics Canada, 2006)

[6] Carter, Ken, Heather M. Hall & Rob Greenwood. "5 Newfoundland and Labrador: Missed Opportunities, but Glimmers of Hope." Ideas, Institutions, and Interests: The Drivers of Canadian Provincial Science, Technology, and Innovation Policy, 126. Toronto: University of Toronto Press, 2022. https://doi.org/10.3138/9781487534806-007.

The NL economic structure (Table 1) has made it particularly vulnerable to fluctuations in the economic environment and other external shocks. From the collapse of the cod fishery, the volatility of international energy prices, to the COVID-19 pandemic, the NL economy has weathered many storms. Job losses in the fishery and forestry sectors are barely being offset by gains in oil, gas and mining. In some cases, this has meant that workers in NL are forced to find opportunities in other provinces, contributing to sectors like mining, quarrying, oil and gas extraction, utilities, and construction elsewhere, like Alberta.[7]

Nevertheless, the labour force in NL has been shown to be adept in transferring their skills into other work contexts, making their way into diverse industries through economic shifts. In fact, the oil boom for NL gave way to a generation of educated professionals who have returned to the province with experience in global finance and supply chains as well as technology more broadly. At its inception, offshore revenues from oil generated $127 million in 2003-04, climbing to $10.8 billion by 2022. The influx of revenues from the oil sector brought forth a wave of resource nationalism and investments into innovation infrastructure including increasing research budgets in Memorial University.[8]

TABLE 1: TYPES OF ECONOMY COMMON IN NL (COMPILED BY NLWIC)

Economy Types	Description	Benefits	Challenges
Cyclical	Relies on broader economic cycles, with fluctuations in demand tied to commodity prices; often seen in oil, gas, and mining.	Higher wages Economic growth during boom.	Price volatility Vulnerability to global market downturns/global pandemic.
Seasonal	Jobs in industries like fishing and tourism surge during specific times of the year.	Enables local/rural employment Cultural preservation.	Limited employment Income instability.
(Mega) Project-based	Large construction or infrastructure projects, such as hydroelectric and offshore developments.	Temporary job creation Targeted skills development.	Short-term employment Lack of sustainable opportunities.

[7] Carter, Ken, Heather M. Hall & Rob Greenwood. "Newfoundland and Labrador: Missed Opportunities, but Glimmers of Hope." 118.

[8] Carter, Ken, Heather M. Hall & Rob Greenwood. "Newfoundland and Labrador: Missed Opportunities, but Glimmers of Hope." Ideas, Institutions, and Interests: The Drivers of Canadian Provincial Science, Technology, and Innovation Policy, 128. Toronto: University of Toronto Press, 2022. https://doi.org/10.3138/9781487534806-007.

More recently, the province has also experienced population growth, with the increase by 2,106 persons or 0.4% from April to July 2024, primarily driven by migration.[9] This demographic shift has helped boost the working-age population and labour force participation, which increased the labour force size to 269,400 in December 2024. These gains reflect an expansion across both service and goods-producing sectors, with educational services and professional, scientific, and technical services showing particularly strong growth. Educational services added 3,100 positions, likely driven by the demand for skills development and population growth. Professional, scientific, and technical services increased by 2,100 jobs, signaling a shift toward specialized skills and an increase in remote work and innovation-related opportunities.[10]

In the goods-producing sector, manufacturing showed the most robust growth, adding 3,000 jobs, likely in response to increased local production initiatives and sustainability efforts. Meanwhile, traditional resource sectors—forestry, fishing, mining, oil, and gas, as well as construction—have seen some job losses, reflecting ongoing challenges in global commodity pricing and a transition towards sustainable energy. Some of the projects in the natural resources sector are also traditionally seasonal and cyclical, and some are in the planning and developing stages.

However, certain service industries continue to face challenges. Declines in accommodation and food services and reductions in transportation and warehousing highlight evolving consumer behaviour that affect these sectors. The utility sector also showed some contraction, possibly linked to the region's gradual shift toward renewable energy sources. Looking into the future, the province anticipates a continued high demand for skilled workers, particularly due to a significant number of retirements for incumbents in these positions (Figure 3). Nearly 97% of job openings will be from replacement needs rather than new growth. The construction and healthcare sectors are expected to remain critical drivers of demand, alongside a focus on green economy transitions. Emerging opportunities include the need for workers in renewable energy, mining, and the technology sector, driven by advancements and investments in these areas.[11]

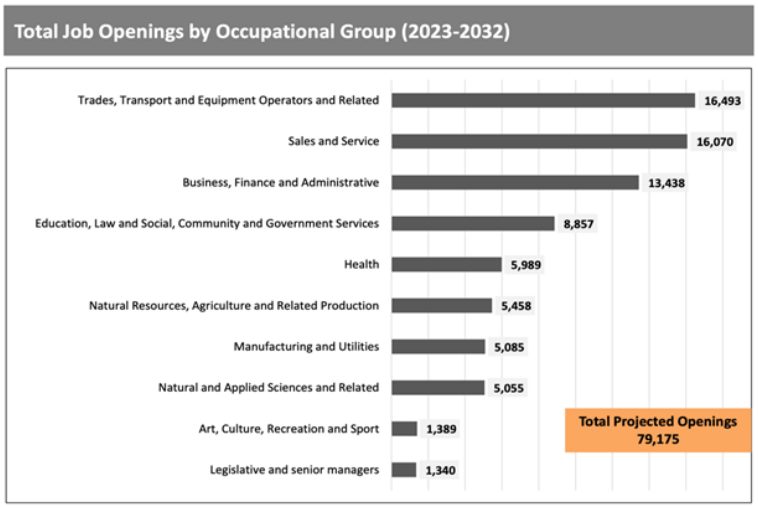


Figure 3. Occupational Projections, Department of Finance, Gov NL (Summer 2023)

[9] All the labour market data and occupational data was sourced from the Department of Finance, Labour Market Bulletin. https://www.gov.nl.ca/fin/economics/eb-labour/ (Note: Job Bank is another source for this information, though the numbers differ).

[10] Government of NL. Department of Finance. 2024 https://www.stats.gov.nl.ca/DataTools/Dashboard/DashboardFact.aspx?qfid=24

[11] NL Occupational Projections Overview 2023-2032. https://www.gov.nl.ca/labourmarketinformation/files/Occupational-Forecast-Slides_SLMR-deck-Summer-2023.pdf

Project Methodology

Phase 1 – Mapping Skills and Occupations Across the NL Labour Market

This project used a two-phase approach. Phase 1 of the project, led by the Dais, completed mapping of the skills and occupations across the NL labour market. The main goal was to identify viable job transition pathways within the NL labour market using quantitative assessment of the current and potential NL workforce, focusing on both short-term (the next 3-5 years) and long-term (10 years) outcomes. This step leveraged The Dais' quantitative skills adjacency model that identifies the optimal fit between the attributes (such as skills, abilities, and work activities) required in the origin occupation(s), and those attributes as required by potential destination occupations.

Phase 1 research relied on the 2016 Canadian census, and where available, the 2021 census, as well as skills data that comes from the US's O*Net database, which is connected to the Canadian context through a crosswalk developed by the Dais[12] , that was updated for the 2021 National Occupational Classifications.[13]

It is important to note that the 2021 census was first fielded in May of that year, during a global health pandemic, and when COVID-19 vaccinations began to roll out in Canada. This likely impacts the labour market picture it paints. However, an analysis of the Labour Force Survey shows that the unemployment rate in NL was relatively unchanged in May 2019 (12.3 percent) compared to May 2021 (at 13.1 percent), without significant shifts in the population.[14]

To ensure robust research results were produced, the Dais also incorporated three additional data sources to the Phase 1 Report to add further precision to the analysis. These included LinkedIn Talent Insights[15] to analyze the talent landscape, job postings data from Vicinity Jobs[16] to analyze labour demand, and labour market projections from the NL government.

Finally, Phase 1 also utilized a broad-stroke quantitative occupational similarity analysis [17] to gain a sense of similarities between different occupations, as a final piece that allowed the project to identify specific proposed transitional pathways. It is important to note that the occupational similarity measure by itself does not predict actual effective occupational transition, and it is only when this measure is combined with confirming these insights through ground truths gained in the qualitative analysis in Phase 2 as described above can there be a degree of confidence in the proposed paths. This is particularly relevant for NL, as the province has a large share of informal or hidden labour market that can only be explored through engagement with key stakeholders and workers with lived experiences.

[12] Vu, Viet. "Connecting the Dots: Linking Canadian occupations to skills data." Brookfield Institute, August 6, 2019. https://brookfieldinstitute.ca/connecting-the-dots-linking-canadian-occupations-to-skills-data/.

[13] Vu, Viet. Further and Further Away: Canada's unrealized digital potential. Toronto: Brookfield Institute, 2022. https://brookfieldinstitute.ca/further-and-further-away/.

[14] https://www.gov.nl.ca/fin/files/The-Economic-Review-2021-FINAL-1.pdf

[15] LinkedIn Talent Insights (LTI), a data visualization and aggregation platform for LinkedIn profile data that enables researchers and human resource professionals to understand labour market information that is self-reported by LinkedIn users. Job title, industry, skills, years of experience, educational degree and field of study, company, location, and spoken language can stratify aggregate profile data.

[16] Vicinity Jobs is an online job postings aggregator based in Canada. For Newfoundland and Labrador, over 30% of job postings come from employer websites, with the rest comprised of specific large employers (such as Canadian Tire), government job postings, and other large job postings websites (such as Indeed)

[17] Occupational similarities are generated as a cosine distance between two occupations, with occupational measures taken from O*Net Skills, abilities, interest, knowledge, work activity, work context, work styles, and work values. Further detail on the construction of the measure can be found in Lamb, Huynh, and Vu, "Lost and Found." (2019)

Phase 2 – Qualitative Research/Consultations with Key NL Stakeholders

Phase 2 of the project featured a deep dive into the specific pathways identified in Phase 1 through interviews and focus groups with key stakeholders, and a workers' survey. Phase 2 also focused on understanding the feasibility of the proposed transitions by analyzing the additional factors such as potential barriers to transition hiring practices, credential vs skills requirements, and the time it takes to upskill or reskill.

OBJECTIVES OF PHASE 2 RESEARCH
Validation of Phase 1 findings by incorporating lived experiences and the current labour market realities on the ground.
Exploring additional transition opportunities
Identifying barriers and facilitators for successful transitions
Identifying transition opportunities to engage underrepresented population groups
Developing evidence-based interventions and policy to improve occupational transitions

Participant Recruitment and Data Collection

Interviews

Interviews were conducted between May and August 2024, with additional interviews completed in September of 2024, with a range of stakeholders, including representatives from community organizations, educational institutions, sector associations, government agencies, and employers. Most interviews were conducted virtually, with a few taking place in-person. A total of 72 individuals across 67 organizations participated in these interviews, providing a broad cross-section of perspectives on NL's labour market challenges and opportunities (Appendix B). Interviews allowed for the exploration of detailed, role-specific insights into job transition dynamics and provided a structured way to gather first-hand accounts of workforce experiences, skills gaps, and potential interventions.

Focus Groups Across the Province

The NLWIC research team conducted five in-person focus groups in key regions/communities across NL, including Grand Falls-Windsor, Corner Brook, Stephenville, Gander, Clarenville, and one virtual focus group in Labrador. The focus groups took place from September 16th to September 20th, 2024, with the Labrador session taking place on October 17th, 2024. With a total of 38 attendees representing various sectors, community organizations, and population groups, these sessions facilitated interactive discussions and sharing of ideas, allowing participants to build on one another's perspectives. The focus groups were particularly useful in identifying region-specific barriers and supports for job transitions.

Workers' Survey

A public survey was distributed targeting unemployed or underemployed workers across the province. It was accessible online from September 12th to October 20th, 2024. The survey was developed by the NLWIC research team and integrated into the software program with assistance from the Office of Institutional Research (IR), College of the North Atlantic (CNA). IR also supported processing of the survey data and the final results. This survey aimed to capture workers' perspectives on job security, career ambitions, training needs, and perceived barriers to transition. Three hundred and eighty-three (383) individuals completed the survey.

The data was thematically analyzed from the interviews and focus groups, with a particular attention to the key project objectives and the questions posed during these sessions. Findings were primarily reported in aggregate throughout the report to preserve confidentiality and provide a comprehensive overview of recurring themes and insights.

Data Analysis and Findings

The skills profile for NL (See Appendix D for the full Phase 1 analysis) indicated a labour market focused on public sector and resource-based occupations, with limited demand for tech-related skills and remote work capabilities. This specialization contributes to a workforce skilled in traditional and practical trades, supported by post-secondary education focused below the bachelor's level. Despite these trends, the province's high demand for social-emotional skills shows adaptability across industries. This profile highlights both the strengths and limitations in NL's labour market, offering insights into potential pathways for future upskilling, particularly in emerging fields that demand digital and remote competencies.

The current growth that has been observed in NL is one that has a relatively low guarantee of long-term sustainability. The vast majority of growth in the labour force over the past years has largely been focused on two areas: first, increasing needs for the care economy for aging adults (i.e, health occupations), and second, a modest rise in occupations that are most often associated with a worker having less than a bachelor's degree (i.e., sales and retail). Even in these instances, growth appears to be more of a result of worker reallocation rather than genuine growth in these sectors. For example, while there has been an increase in employment in areas like the fishing industry and the service sectors (that includes both retail and food & beverage), there have been corresponding declines in occupations within these same sectors. This points towards a compositional shift in the workforce rather than overall sectoral growth. This means that while the industry as a whole may be growing, the nature of work and the skills required may be evolving. With the fishing industry in particular, this shift may involve a greater emphasis on occupations that require technological proficiency, such as operating automated fishing vessel, or managing computerized fish processing equipment.

In addition, areas where labour market opportunities seem to be rising relate to the care economy, especially ones that revolve around the aging population. Continued investment in talent in these areas without diversifying into other economic opportunities, or non-talent interventions (such as inclusion of technology), is likely not possible due to fiscal constraints.

Given the economic and skills profile explored in Phase 1, it became clear that there was a need to discuss labour market opportunity in two frames, one that is focused on ensuring short-term availability of labour market opportunities, and one that envisions long-term stability in the labour market. As an example, in the short-term, the energy sector already has shown early signs of cooling, and investment in occupations that support the tourism industry are highly sensitive to cyclical economic disruptions. Continued training can likely be offered in areas of health and social services, in light of an aging population and the increasing need for such services in the province. Funding for health and social services is also unsustainable without other growth areas in the economy. All this necessitated a second, more long-term view of skills investment and transition. Two distinct job transition pathways proposed, focusing on short-term transitions, with a clear path to long-term labour market opportunities.

Proposed Job Transition Pathways for NL

By synthesizing findings from the analysis of NL's skills profile, skills supply and demand, labour market opportunities, and connections between educational backgrounds and destination occupations, clear potential pathways for job transitions from short-term to long-term opportunities can be identified. The proposed transitions take into consideration historical trends, current circumstances, and future projections. In addition, the focus is placed on credible transfer of skills, possibility of improved wages, and value of on-the-job experience and acquired skills.

Pathway 1 - Long term Investment in a Sustainable Oceans Industry and Renewable Energy Sector

The talent and skills structure in NL is tied intimately with the oceans. Also known as the Blue Economy, the oceans industry has an enormous potential to formalize existing workers while contributing to local communities' development and well-being.[18] In its Global Startup Ecosystem Report: Blue Economy Edition, Startup Genome sees untapped potential in the Blue Economy. Recognizing the Blue Economy as a sub-sector that intersects with Cleantech, AI & Big Data, Agtech & New Food, Transportation, Tourism and many others, it provides ample room for innovation and opportunity.[19] With OECD's recognition that the global ocean economy's growth will eventually outpace the growth of the broader global economy by 2030, the province is well positioned to meaningfully invest in its talent to meet emerging opportunities.[20] By ensuring talent that goes into this industry is trained in conservation, which would ensure long term sustainability of the fishery and oceans tourism industry, the province will be safeguarded against the impacts of climate change. Proposed transitions from Construction Trades Helpers and Labourers and specifically Industrial Electrician into occupations like Deck Hand, Water Transport Deck and Engine Room Crew, align with the evolving needs of aforementioned industries.

Proposed Transitions - Construction Trade Helpers and Labourers (NOC 75110, and related occupations, specifically Industrial Electrician (NOC 72201) to Deck Hand, Water Transport Deck and Engine Room Crew (NOC 74201)

- Occupational similarities: 0.69 (max: 0.79, min: -0.12, possible range: -1,1)
- Median wage (Construction Trades Helpers and Labourers, and related occupations: $19.65; Deck Hand, Water Transport: $39.11)

The following figure illustrates both short-term and long-term transitions, demonstrating pathways that support the identified growing sectors, sustainable oceans and renewable energy industries.

Figure 4. Proposed Job Transition Pathways 1

[18] ILO Future of Work Report, 2022.

[19] Startup Genome. https://startupgenome.com/reports/the-global-startup-ecosystem-report-blue-economy-edition

[20] "Ambition 2035: Next Steps: Growing Canada's Ocean Economy to $220B." Canada's Ocean Supercluster, 2023. https://oceansupercluster.ca/wp-content/uploads/2023/11/Ambition2035_NextSteps_Document_English_Final.pdf.

As previously mentioned, some of the highest declines seen in the province between 2016 and 2021 were those employed as construction trade helpers and labourers. Within this broad category, the two occupations, electricians and industrial electricians, were responsible for almost 25% of the total decline seen in the occupational group.[21]

However, another occupation with high skills similarities was marine engineering and deck officers. Between 2016 and 2021, this occupation saw a modest decline (likely reflecting the slowdown of tourism in 2021 due to the COVID-19 pandemic); however, government projections indicate a tight labour market for these occupations. There is an overlap in a number of skills and responsibilities for these two occupations observed in the NOC descriptions. In addition, the two occupations share many of the same competencies (Table 2), with noted upskilling and increase in proficiency and complexity level.

TABLE 2: COMPARISON OF KEY COMPETENCIES FOR NOC 75110 AND NOC 74201 (SOURCE: JOB BANK)

Competencies (proficiency or complexity level)	NOC 75110 – Construction Trade Helpers and Labourers Occupation	NOC 74201 - Deck Hand; Water Transport Deck and Engine Room Occupation
Skills		
Quality Control Testing	2 - Low Level	3 - Moderate Level
Preventative Maintenance	2 - Low Level	3 - Moderate Level
Operation and Control	2 - Low Level	3 - Moderate Level
Personal Attributes		
Collaboration	4 – Highly Important	4 – Highly Important
Active learning	2- Somewhat Important	3 – Important
Social Orientation	2- Somewhat Important	4 - Highly important
Concern for Others	2- Somewhat Important	4 - Highly important
Adaptability	2- Somewhat Important	4 - Highly important
Leadership	1 – Minimally Important	3 – Important
Analytical Thinking	1 – Minimally Important	3 – Important
Knowledge		
Languages	1 - Basic Level	1 - Basic Level
Mathematics	1 - Basic Level	1 - Basic Level

[18] ILO Future of Work Report, 2022.

[19] Startup Genome. https://startupgenome.com/reports/the-global-startup-ecosystem-report-blue-economy-edition

It is important to note that this short-term occupational transition serves many purposes. For workers, short-term transitions are meant to support developing new skills and broadening existing ones in order to improve their prospects for securing a stable, well-compensated position. Currently, there are proposed plans in the province for many renewable energy projects, including wind energy generation. While there is a lack of the detailed occupational data and projections, if such jobs are to exist in the future, the skills of an electrician provide a fairly good match to those who work in installing and operating wind turbines.

When it comes to proposed origin occupations as noted above, the consultations yielded divergent perspectives. Some stakeholders saw a steady demand and no visible decline when it comes to industrial electricians. However, the distinction was made between the journeyperson electricians with extensive experience, and the apprentice electricians who completed their pre-employment program. According to one industry expert, "there is a sizeable population of these graduates", which can lead to an oversupply of this occupation in the labour market, hence making it a suitable origin occupation from which to transition. From the focus group in the Central Region, a prevalent sentiment suggests an oversupply of other skilled tradespeople, particularly welders and pipefitters, where opportunities do not always align with the volume of trained workers. Supervision was mentioned as a critical issue, as the shortage of journeypersons has left newer apprentices without adequate mentorship and support to progress effectively in their careers.

Other industry experts acknowledged the supervision issue but notably expressed their concern about the projected shortage of all trades, including electricians.

While there may be some conflicting views on the current and projected demand for industrial electricians, there is a consensus on the current oversupply of apprentices in the labour market and lack of succession planning and resources to progress to journeypersons. This makes industrial electrician and other trades in a similar situation potentially a good fit for an origin occupation in NL. However, should industrial electricians or other trades transition into other occupations over the next few years to meet current labour market demands, but the need for them resurges as sectors like renewable energy or construction expand, it will present a significant challenge for employers and industries.

> "So my take on the need for electricians is the opposite. I'm seeing it as a cliff, and that we need to train more apprentices to be ready to meet the needs for the increased housing starts that are needing to happen in terms of the construction of affordable housing and the investment that's going into that to replace journeypersons that are retiring. Journeypersons electricians are retiring. That means there's no one to help train and mentor the apprentices…. There's lots of new apprentices coming out, but the old guard is retiring. What are we going to do? The whole model is about supervision and the whole mentoring part. So do we need to look at our education model?"
>
> - Training/Education Expert

Consultations revealed that the marine transportation and shipbuilding industries present viable destination pathways for workers transitioning from other sectors, particularly those in labour-intensive or in traditional industries like construction, fishing, and oil and gas sector. There is an identified need for workers in the marine sector, including transitioning workers to ferry operators and deck hands.

This pathway has become a natural choice for people in NL's rural, fishing-based communities. Rural communities remain the backbone of recruitment for maritime occupations, reflecting the longstanding maritime culture of the province. One training instructor shared, "A lot of our Bridge Watch and Marine Diesel Mechanics come from rural communities… it's a tradition, especially in the fishing and labour industries." But with this focus, urban populations remain underrepresented, and industry leaders often find it disappointing that fewer young people from metro areas see these occupations as viable career paths.

The support and incentive structures around these pathways have also changed over time. Employment Insurance (EI) once played a significant role in encouraging transitions through sponsored training, but as we heard from a training instructor "we don't have as many EI-sponsored students as we used to," reflecting a potential barrier for workforce transitions. Age does not significantly impact eligibility for these programs, although most entrants are young, with a median age of around 20-21. There are, however, cases where older individuals, often those with established careers in industries like construction or oil, express interest in transitioning to marine economy occupations, motivated by the desire for working closer to home. These older entrants often bring valuable work ethic and dedication, which the industry values as it faces labour shortages.

> "There are definitely entry-level opportunities that are much shorter to get into the industry, like Bridge Watch or Marine Diesel [Mechanic], which are great for transitioning into work on board a vessel. We've seen many individuals take this route over the years. Typically, what happens is someone works in Alberta for a couple of years. For one reason or another—they don't like it, or they're looking for something more stable or valuable—they come back home. Often, they've been earning a good income and don't want to lose that, but at the same time, they're not willing to spend three years in school. That's where programs like Bridge Watch come in. These are entry-level technical certificates that are only about eight months long. That's a much easier pill to swallow. Some of these programs are even supported by government initiatives, like EI, which makes them more accessible."
>
> - Training/Education Expert

Other Related Proposed Occupational Transitions Identified Through Consultations

Local stakeholders consistently pointed out a striking finding: there are currently no truly "declining" sectors or occupations in Newfoundland and Labrador. This insight is a key takeaway from the research and reflects the pressures of a tight labour market across the province. Although NL still has important seasonal sectors (such as tourism and fisheries) and cyclically operating projects that facilitate some labour mobility, demand for workers and specialized skills is outpacing supply in most areas. This prolonged demand across sectors suggests that the province's labour market is expected to remain tight, with a steady need for skilled workers in the foreseeable future. This means that, in general, there are no available workers for transition to growing occupations.

While the overall sentiment of no declining occupations prevailed in the consultations, several occupations and industries in NL were mentioned as experiencing a downturn or at least stagnating at this time, leading to shifts in training program offerings and workforce demand. For example, carpentry and cabinet-making programs were mentioned as experiencing lower enrolment of students, raising questions about whether this is driven by a lack of interest among students or decreased demand in the labour market. Similarly, the number of powerline technician positions has declined, reflecting cyclical trends linked to large infrastructure projects like Muskrat Falls, which previously drove high demand but have since tapered off. Workers in carpentry and powerline occupations were recommended by industry professionals as good candidates for job transitions as they possess transferable skills that align with increased opportunities in sectors such as mining, and heavy equipment operation (HEO) and heavy-duty equipment technician (HDET) occupations.

The oil and gas sector currently remains a stronghold for the province, particularly offshore extractions, where upcoming projects are expected to create a steady demand for vessel operations and logistics. "The offshore sector still has a strong presence here, with potential major projects in the next ten years… this means vessel logistics, tankers, and support for the industry," explained an experienced instructor. Based on several opportunities and projected demands identified by the research participants, there are specific selected priority occupations considered a good match to proposed origin occupations that align well with the pathways for a short-term transition (3-5 years), while also contributing to long-term economic prospect for NL workers. (See Table 3). There are additional reasons why these specific occupations were selected as priority occupations for transitions:

- Most of the destination occupations outlined below provide a substantial improvement in earning potential, promising more financial stability and better quality of life; this is an important incentive when encouraging transitions.
- There are programs offered for most of these occupations within local education and training institutions, both public and private, and some in the rural regions of the province.
- Many of these destination occupations and the skills attached to them can be applied across multiple growing industries; there is a cross-sectoral advantage and increased employment security for suggested upskilling/reskilling opportunities.
- Most of these destination occupations offer opportunities for further growth and training.
- The length of programs ranges from 12 weeks to three years. These timelines could make transitioning into these occupations more achievable and attractive to workers.

TABLE 3: SELECTED PRIORITY DESTINATION OCCUPATIONS FOR SHORT-TERM TRANSITIONS IN NL

	Destination Occupation	Sector	Wages	Length of Training	Pathways
Construction Trade Helpers and Labourers, and related occupations (bus drivers, custodial workers, other casual, part-time jobs)	Heavy Equipment Operator (HEO)	Mining, oil and gas, renewable energy, construction, public works.	$20-$36/hr Higher rates on the West Coast and in Labrador	22 weeks	Certificate
	Heavy Duty Equipment Technician/Truck and Transport Mechanic	Mining, oil and gas, renewable energy, construction, public works.	$23-$48/hr	37 weeks	Certificate
	Welder	Construction, manufacturing, oil and gas, shipbuilding.	$22-$42/hr	36 weeks	Certificate
	Blaster	Mining, construction, oil and gas.	$25-$45/hr Higher in Labrador	12-week	Certificate Level 1
	Aircraft Structural Repair Technician	Aviation	From $20/hr	One year	Certificate
	Remotely Operating Vehicle Technician (ROV)	Marine industry, renewable energy, oil and gas.	Starting from $60K	2 years	Certificate

TABLE 4: TECH-RELATED PROPOSED TRANSITIONS AS IDENTIFIED THROUGH CONSULTATIONS

Origin Occupation	Destination Occupation	Sector	Wages	Length of Training	Pathways
Junior Software Developer	Data Analyst	Technology, healthcare energy, finance, business, and other.	$25-$50/hr	2-semester data analytics course	Diploma or a degree prerequisite
	Surveyor (land and water)	Renewable energy, construction, mining, land management.	Starting at $60K	3 years	Diploma

Consultations revealed an additional potential oversupply of junior developers within the tech sector, which was then connected to other identified occupations currently in demand (Table 4).[23] As AI-related occupations are growing, particularly at mid-to-senior levels, it was noted that employers face challenges filling these positions due to a lack of locally available technical and management training. Although programs at MUN and CNA may help address this gap in the future, according to an industry expert, the current junior talent pool in tech is substantial, with limited businesses available to absorb this talent. Industry experts highlighted that the most sought-after occupation is senior software developers, particularly those with expertise in Cloud technologies. This aligns with trends seen in certain trades occupations mentioned earlier in the report, where there is an oversupply of entry-level workers but a significant demand for experienced or specialized talent.

Pathway 2 - A Focus on Technology, Both in Traditional Tech and Green Tech

An area of the economy that cannot be ignored is one that surrounds technology. Technology, both in how it applies to traditional industries and how it creates new ones, is integral for the province in being able to stay ahead of demographic change and other long-term economic trends. Recent research shows that the Atlantic provinces are amongst the lowest in the country in adopting the latest technologies like Artificial Intelligence - at just over 2%. [24] For the province to be able to take advantage of the digital and tech economy, it is not enough for workers in the province to gain digital literacy. Concerted efforts are needed to invest in digital infrastructure and digital adoption, both in and out of government. The provincial government has been actively supporting new technology start-ups and investing in the digital economy. Digitalization is not just a targeted opportunity, but rather a cross-cutting enabler, as identified in the Economic Growth Strategy for Newfoundland and Labrador from 2019. [25]

Proposed transition – Sales and Service Occupations; Retail Salesperson (NOC 64100, TEER 4 and 5)[26] to Customer Service Representative - Financial Institutions (NOC 64400, TEER 4) or Banking, Insurance and Other Financial Clerks (NOC 14201, TEER 4)

- Occupational similarities: 0.77 (max 0.88, min -0.09)
- Median wage (Sales and Services Occupations: $16.00; Customer Service Representatives – Financial Institutions: $28.00)

[23] See Appendix A for detailed qualitative analysis and findings regarding sectors and occupations in NL.

[24] Angus Lockhart. "Automation Nation? AI Adoption in Canadian Businesses", The Dais, 2023, https://dais.ca.

[25] https://www.gov.nl.ca/fin/files/publications-pdf-mck-final-report.pdf

[26] TEER 4 - Occupations usually require a secondary school diploma; or several weeks of on-the-job training; TEER 5 - Occupations usually require short-term work demonstration and no formal education - https://noc.esdc.gc.ca/Search/QuickSearchJobTitleResults

The figure below illustrates both short-term and long-term transitions, demonstrating pathways that support the identified growing sectors and occupations, including tech sector.

The second proposed occupational transition focuses on how best to take advantage of the potential of a digital economy. As such, it is not only focused on relative occupational similarity, but also on a measure of improvements in the digital context within which a worker may operate. Between 2016 and 2021, there has been a steep decline in the number of people employed in NL as a retail salesperson. As mentioned earlier in this Report, the post-pandemic numbers for retail sales jobs have since recovered, and there is an increased demand in those positions currently across the country. Government projections also show this occupation being in a "balanced labour market" up until 2032. Most of the positions related to retail salesperson or services occupations, around 97%, require a high-school diploma or less. These positions are also generally low paid and well below living wage.

On the other hand, as the analysis of LinkedIn data shows as well as the comparison of labour market occupations via census information, job postings that ask applicants for financial skills, particularly jobs in banking (financial advisors) remained high in demand, without the talent to fulfill it.[27] In addition, the projections provided by the Job Bank and the NL government also point towards the growing demand of occupations that require financial skills. Some of the skills include analytical thinking skills, reading and understanding financial documents, such as balance sheets, income statements, cash flow statements, annual reports, and more. Most of the activities and responsibilities tied to these skills today involve the knowledge of software programs and digital literacy. To ensure this occupation is an improvement in digital intensity compared to retail salesperson, we looked at measurements of occupational digitalization found in a previous study and demonstrated how it is an improvement.[28]

Figure 5. Phase 1 – Proposed Transition Pathway 2

[27] See Appendix A for the full Phase 1 analysis and data sources

[28] Ibrahim Abuallail and Viet Vu, "Race Alongside the Machines: Occupational Digitization Trends in Canada: 2006-2021," Brookfield Institute, 2022.

TABLE 5: COMPARISON OF KEY COMPETENCIES FOR NOC 64100 AND NOC 14201 (SOURCE: JOB BANK)[29]		
Competencies (proficiency or complexity level)	NOC 64100 – Retail Salesperson Occupation	NOC 14201 – Banking, Insurance, and other Financial Clerks Occupation
Skills		
Writing	2 - Low Level	3 - Moderate Level
Numeracy	2 - Low Level	3 - Moderate Level
Oral Communications	3 – Moderate Level	3 - Moderate Level.
Personal Attributes		
Attention to Detail	4- Highly Important	5 – Extremely Important
Collaboration	4- Highly Important	4- Highly Important
Social Orientation	3 – Important	3 – Important
Concern for Others	3 – Important	4 - Highly important
Adaptability	3 – Important	4 - Highly important
Active learning	3 – Important	3 – Important
Analytical Thinking	N/A	4 - Highly important
Knowledge		
Sales and Marketing	2 – Intermediate Level	1 – Basic Level
Mathematics	1 – Basic Level	2 – Intermediate Level

[29] Government of Canada, Job Bank. https://www.jobbank.gc.ca/trend-analysis/search-occupations

When it comes to sales and services occupations in NL, for the most part they are considered to be consistently in-demand, especially food service industry and retail. From a tourism perspective in particular, "opportunities in the service sector – retail, accommodations, food and beverage service - will continue to be in high demand and growing". However, tourism is still predominantly a seasonal sector in the province. This makes retail sales occupations not only traditionally precarious with low wages, job instability and limited benefits, but also prone to seasonal and cyclical fluctuations. These types of positions are also frequently occupied by students and newcomers as a steppingstone to gaining experience in the workforce. All these factors make a strong case for the retail sales occupations as a fitting starting point in transitioning to a better compensated, more stable position with long-term prospects.

The need for and, frequently, a shortage in customer service representatives, especially in finance and business, were identified in almost every sector in the consultations. In terms of opportunities in banking, for example, the emphasis is on online, remote services and the need for some level of digital literacy, according to the industry representatives. In NL, several branches of a major bank closed for good recently, but that did not result in the loss of jobs. Entry level, part-time positions with guaranteed hours for client advisor positions are still in high demand, as suggested by a human resources expert within the finance sector, and a university degree for these positions is not mandatory. This opens up potential transition opportunities for individuals from the retail sector. As banks are considered "retail organizations", "retail mindset is important", as emphasized by an employer representative. These entry-level positions are part-time, permanent, with plenty of opportunity for internal growth and development, as well as on-the-job training. They are not considered at risk of decline.

Regarding transition into the tech sector, they are not a new phenomenon in NL. There is ample evidence of individuals leaving stable careers in fields such as education and nursing to pursue opportunities in the growing tech industry. This trend highlights the tech sector's openness to individuals from a wide range of occupational backgrounds. With its diverse array of occupations and a strong emphasis on on-the-job training, the industry offers pathways for workers to transition from seemingly unrelated fields. This adaptability makes tech an attractive option for those seeking new career opportunities, even without prior experience in the sector, as skills can often be developed or transferred with the right support.

> "I was the only school counsellor in a school of almost 600 students. So we had just over 530 when I left. It was a lot. I mean, mental health issues that you are dealing with, you don't have support you're trying to get these kids , I was in a grade 5 – 9 school, you have the junior high element, so it was a lot and very stressful, it was every day you're putting out fires, you never feel like you are getting ahead…When you are in education, you get to do a million and one thing, so I was trying not to limit myself in looking for further opportunities. My tech connection was random. It was a lot and it wasn't, in terms of making a change. It was a big learning curve."
>
> - Training/Education Expert

> We're open to hiring retail people who have passion for recruitment because we've done it before. We've hired students who are literally out of school who have no office experience, don't know how to use a printer and they grow and evolve within an organization. So similarly, transitioning someone from retail who has that passion who has that common sense, who's intelligent, who's willing to help people, we're totally open to supporting them to grow and develop in this area."
>
> - Recruitment Specialist

Other Related Proposed Occupational Transitions Identified Through Consultations

In addition to customer service roles in finance, sales and service occupations are also considered good origin occupations for recruiters. We heard from a recruiter specialist that retail experience is extremely helpful and an excellent match for working with clients in recruitment.

The consultations also confirmed that the province faces a significant shortage of ECEs, including the largest childcare provider in the province YMCA, despite steady enrolment rates in ECE programs and capped waitlists. However, the number of those who graduate remains low; reportedly only a quarter of any cohort finishes the Program, which is insufficient to meet the growing need for qualified professionals. Childcare is a regulated sector, and it is impossible to hire equivalencies without the certificate. The ECE Program itself is rigorous, and the work in the field is equally demanding, requiring a blend of technical knowledge, emotional resilience, and interpersonal skills. Compensation for ECEs has increased and it is competitive with that of teaching assistants for the same length of program. While still below the living wage[30], it is a significant improvement for those considering transitions from working in sales and service occupations and making a minimum wage. This transition (Table 6) is also supported by the soft skills developed through sales experience, predominantly those of patience, communication, listening, and perseverance. For more detailed analysis of occupational and sectoral priorities in NL, see Appendix A, Section A.1.

TABLE 6: ADDITIONAL PRIORITY DESTINATION OCCUPATION FOR NL IDENTIFIED THROUGH CONSULTATIONS

Origin Occupation	Destination Occupation	Sector	Wages	Length of Training	Pathways
Sales and Services Occupations – Retail Sales; Hospitality	Early Childhood Educators (ECE)	Education	$18-$25/hr	One year	Certificate

[30] NL Living Wages 2024 Press Release .pdf

The Many Factors Shaping Occupational Transitions: From Education to HR Policies

The consultations highlighted a range of factors that significantly influence workforce transitions, shedding light on how various dynamics across sectors, labor conditions, educational structures, and personal preferences are shaping employment patterns. The findings highlight the growing trend of worker-led transitions, where individuals are actively seeking career changes, often driven by the pursuit of better work-life balance or less stressful occupations. Occupational transitions are also affected by institutional challenges, such as gaps in education and career development systems that fail to provide early and sustained student exposure to diverse career opportunities, particularly in high-demand fields like trades. Additionally, the consultations pointed to a lack of comprehensive and current labor market data, which impedes both individual career planning and the ability of employers, industry associations, and educational institutions to effectively align workforce supply with emerging job demands. The role of HR policies and the institutional structures governing workforce development is crucial in either supporting or hindering these transitions. Furthermore, the decline in post-secondary enrollment and limited access to specialized career guidance exacerbate these challenges, leaving both workers and employers with insufficient tools to navigate the changing landscape of work. Collectively, these findings point to the need for more robust, data-driven policies, better career development frameworks, and a more flexible approach to workforce transitions that can address both individual aspirations and the broader demands of the labor market. Appendix A, Section A.3 contains further, more detailed information on the factors outlined above, and it includes additional factors identified through the consultations.

Barriers and Challenges for Occupational Transitions in NL

The JTP model faces several unique barriers and challenges in NL, stemming from the province's specific labour market dynamics and geographic realities. One notable challenge is the lack of clearly declining occupations, which makes it difficult to identify a surplus workforce readily available for transition. Instead, transitions often involve moving workers from lower-paying or precarious sectors, such as retail or food service, that have been struggling to retain employees. This redistribution may inadvertently exacerbate labour shortages in these critical service areas, further straining sectors that provide foundational economic and community support.

To mitigate these consequences, targeted strategies could focus on recruiting specific demographics, such as students or older workers seeking part-time or less physically demanding jobs, to fill occupations in these precarious sectors. However, this approach requires robust outreach, training, and incentives tailored to these groups, ensuring they can effectively support the affected industries without compromising their own career aspirations or personal circumstances.

Another significant barrier to effective job transition pathways in Newfoundland and Labrador lies in conflicting perceptions about the state and future of key occupations and sectors. For example, while some stakeholders view oil and gas as a declining industry, others see it as a continued source of stable, high-paying opportunities. Similar debates arise in sectors like trades, fishing, and forestry, where opinions diverge on whether these areas are waning or are still promising growth areas. These differing perspectives create uncertainty on workforce planning and can complicate efforts to design effective transition strategies, as they affect both workers' willingness to retrain and employers' investment in future skills development.

Additional challenges arise from the nature of job transitions themselves. Many workers poised

for transition in NL are constrained by geographic limitations, with a significant portion of the population residing in rural or remote communities. Relocation for upskilling or employment opportunities often requires significant investment in transportation, housing, and childcare, which may not be feasible for many workers. Moreover, existing training programs in rural regions may not align with the skills needed for high-demand occupations, creating further barriers to successful transitions.

Another challenge is the misalignment between educational outcomes and employer needs. Employers often report that workers lack specific technical or soft skills critical for workplace success, such as adaptability, teamwork, and communication. This gap not only affects immediate employability but also hampers workers' ability to navigate future transitions effectively.

Finally, cultural factors and worker preferences play a significant role. Many workers may hesitate to leave established occupations, even in lower-paying sectors, due to comfort, familiarity, or fear of failure in a new field. Additionally, younger generations may prioritize work-life balance and job satisfaction over monetary gains, complicating efforts to attract them to certain high-demand but less appealing industries.

Insights from the JTP Model Testing in NL

The JTP model, originally tested in Ontario, offered a structured framework for identifying pathways between declining and growing occupations. However, testing it in NL revealed key differences in applicability and effectiveness. While the model provided valuable insights, its reliance on robust labour market data and clear industry patterns posed challenges in NL, where occupational trends are heavily influenced by the mega-projects and subject to regional variation.

When developing and testing the Model, the Dais built upon a substantial body of prior research on job transitions, employment trends, automation, the future of work, and broader labour market dynamics in Ontario and beyond. As an established research institute and think tank, the organization leveraged years of robust evidence and data collection to inform and guide the development of the Job Pathways Model and subsequent testing of the same. This foundation provided clarity and direction in applying the model within Ontario. In contrast, NL lacked a comparable research foundation or infrastructure to support this type of analysis. Many organizations in NL, including businesses and professional associations, do not routinely collect or maintain comprehensive labour market data. This significant gap in foundational data and research capacity posed challenges for effectively testing and adapting the JTP model in the province.

One of the challenges in testing the JTP model in NL was the seasonal and cyclical nature of employment for many sectors and occupations in the province, and the workplace culture and established workers' habits that are created within that structure. This can create instability in employment, making it harder to establish clear, sustainable transition pathways. Additionally, workplace culture and established habits tied to these cycles can create resistance to change, as workers may be reluctant to leave familiar patterns of work-life balance or take risks on new career paths.
An important difference from the Ontario studies was the targeted approach to one or two specific occupations prior to conducting the research. This focused approach allowed for a comprehensive and detailed study of a single occupation, enabling a deeper understanding of job transitions, workforce needs, and tailored strategies for supporting workers in this specific sector.

Timing also played a crucial role in the testing of the JTP model in NL. The province's labour market is currently in a state of flux, with emerging industries like wind energy and hydrogen projects poised to create new opportunities. However, the ongoing transitions and uncertainties make it difficult to predict long-term trends or identify stable pathways for workers. This volatility stresses the need for a more adaptive and localized approach to job transition planning, one that can accommodate NL's unique economic context.

Despite these challenges, the testing of the JTP model in NL highlighted the importance of tailoring such frameworks to regional realities. By incorporating local insights, including qualitative data from workers and employers, and addressing resource and engagement barriers, the model has the potential to evolve into a more flexible tool that meets the needs of NL's labour market.

Project Limitations

One of the key limitations for the JTP research project is the potential bias introduced by stakeholders representing competing industries. Many of the individuals consulted are likely to have vested interests in supporting their own industry's needs and demands, which could influence the information they provide. This could result in skewed or selective responses that prioritize one industry's needs over another, making it difficult to obtain a balanced, unbiased understanding of the broader labour market dynamics. Such competing interests may lead to a tendency among stakeholders to downplay or overlook challenges in their own industry while emphasizing opportunities in others. Additionally, these biases could affect the prioritization of sectors in the study, making it harder to accurately assess the full scope of job transition pathways across all industries. In order to mitigate this, every effort was made to analyze the data from various stakeholders, ensuring that insights are cross-checked and balanced against one another. The stakeholder interviews were designed to prompt participants to consider broader industry trends and the long-term implications of workforce transitions, rather than focusing solely on immediate concerns.

As with every public survey, there are certain risks that can be anticipated, especially when there is a financial incentive involved. The main risk is a sampling bias where the survey may disproportionately reach certain groups while excluding others. The Workers' Survey was initially distributed in a targeted manner, focusing on specific groups that either directly represented workers or provided support to job seekers. However, in order to reach wider audiences, social media was utilized to increase the reach. Considering the worker population in NL, the survey sample is limited. However, the consensus is that the survey results provide a reasonably representative snapshot of the NL workforce, especially those who are underemployed and/or unemployed.

Recommendations

Considering the findings from both quantitative and qualitative research and analysis, the report highlights the following recommendations, with the main objective to support effective job transitions and address labour market needs in NL.

1 General Recommendations for Job Transitions

Create an ecosystem that enables proposed transitions for workers in NL

To realize proposed transition pathways, it is essential to develop and implement policies that prioritize long-term career sustainability, with a focus on retraining programs and cross-sectoral decision making based on labour market information. Robust support system should be established, including mentorship opportunities, career transition counselling and comprehensive wrap-around services, particularly for people in rural or remote areas of the province. Efforts should be made to help workers showcase their transferable skills, ensuring that they are recognized and valued across different sectors. Special attention should be given to transitions targeted at workers in lower-wage, precarious positions, such as those in sales and retail by creating targeted pathways to higher-wage, sustainable occupations. Making transition pathways opportunities transparent and accessible will strengthen cross-sectoral mobility. Provincial stakeholders should continue to create new ways to encourage workforce transitions with on-the-job training and subsidized upskilling programs.

Develop a Job Transitions Compass tool for supporting exploration of job transitions

A tool such as the Job Transition Compass would fill a gap in the existing landscape by offering a visually engaging, user-centred interface for exploring job transitions. It would be particularly useful for regions or industries that are experiencing frequent disruptions, where workers need clear guidance on how to transition between declining and growing occupations. It could also integrate local labour market data for region-specific insights. The Job Transition Compass would be an easy-to-use, interactive visual pathway for job transitions. It would be powered by AI technologies, supported by data analytics and human-centered design principles.

Implement Job Transition Pathways Playbook training sessions

This would involve designing targeted workshops or presentation sessions that equip relevant stakeholders with the skills and knowledge necessary to support and encourage workers to transition from declining to emerging occupations.

Provide better opportunities for underrepresented groups to consider alternative occupational pathways that may have been previously overlooked

This could be achieved by creating collaborative, targeted outreach and training programs, mentorship programs, scholarships, or tailored skills workshops.

2 Recommendations for Government

Enhance Labour Market Data Collection, Transparency, and Wider Access

Providing detailed, accurate, and accessible labour market data can help workers, job seekers, career practitioners, and employers make informed decisions about job transitions, training needs, and project feasibility.

Address Social Determinants of Health Related to Employment Transitions

There is an opportunity to consider a holistic approach for addressing systemic barriers that affect job transitions, recognizing the interconnected nature of challenges such as access to affordable education, funding opportunities, supportive services, childcare, and transportation. These factors are not isolated; they often interact to either enable or hinder an individual's ability to successfully transition between occupations. Inadequate childcare or transportation options can disproportionately affect certain groups, such as women or rural workers, limiting their ability to participate in upskilling programs or pursue employment opportunities.

By addressing these barriers collectively, rather than in isolation, policymakers can create a more resilient labour market. This includes investing in accessible, regionally distributed training programs, tailoring childcare services to the needs of workers, providing transportation subsidies, and ensuring equitable access to funding for skills development. Such an integrated approach also requires collaboration among all stakeholders.

Explore Collaborative and Innovative Job Transition Training/Support Programs

There is an opportunity for collaborative and innovative job transition training and support programs that could be modelled on successful initiatives like Alberta's Edge Up project. Edge Up, designed to support displaced workers from Calgary's oil and gas sector, offers reskilling opportunities tailored to high-demand industries like Tech, leveraging partnerships between employers, educational institutions, and government agencies. The partners collaborated to design, implement and evaluate a digital upskilling pilot project with the goal of transitioning 90 displaced mid-career Calgary energy sector workers to high-growth technology opportunities. The project was supported by external funding from the Future Skills Centre. A similar approach in NL could involve creating targeted training programs for workers in sectors at risk of disruption to prepare them for occupations in growing sectors like green energy. Collaboration with local businesses, post-secondary institutions, and industry associations would ensure the alignment of training with market needs.

Support the Collaborative Development of a NL Workforce Demand and Supply Map

The findings of the project point to the need for current and forecasted workforce demand and supply to guide the planning, implementation, and evaluation of policies, programs and/or service delivery models by government, education and training providers and industry. This would further support skills training and upskilling programs for successful job transitions. The Map would include relevant information by region, sector, major projects, and occupations and skills.

3 Recommendations for Education and Training Providers

Design and Evaluate Alternative Pathways in Post-secondary Institutions

The consultations confirmed that in order to meet the demands of the labour market, education and training content needs to be improved. Education and training institutions could consider introducing flexible pathways that combine related programs. For example, skills adjacency models could allow students to gain multiple certifications that are applicable across industries. This could be accomplished by developing and using micro-credentials or modular training options that can be completed

in a shorter period of time and combined with other training modules. While there are some conflicting opinions on the wider recognition and standardization of micro-credentialing, it has so far proven to be a reliable, practical, affordable way to gain new skills in the economy that is rapidly changing. Partnerships between employers, training institutions, and industry associations can ensure the curriculum aligns with real-time labour market needs. Flexible delivery methods, such as online or hybrid formats, can make these programs accessible to workers in rural areas or those balancing other responsibilities.

Enhance Bridging Programs

Develop bridging programs that connect training directly to employment opportunities. These programs should particularly target regions dominated by low-paying jobs, ensuring that workers transition into stable, higher-paying occupations.

Promote Youth Employment Programs

Expand and better align existing youth employment programs with growth industries, such as Construction, Tech and Ocean Tech, to attract younger talent to emerging sectors. By leveraging technology, these programs can not only enhance digital literacy and digital skills for youth, but also use familiar and attractive methods, such as gamified apps and platforms to help youth explore career options based on their interests and skills. Virtual Reality (VR) - based career simulations can inspire students and offer a real insight into potential occupations in industries like healthcare, mining, and energy that may be obscure to students.

Engage Families and Communities in Promoting Emerging Occupations

Youth and new labour market entrants are often influenced by their family traditions and past generational choices in occupations, and this is especially the case in rural NL. Those occupations may be the only familiar pathways they know of, but they also serve as a source of pride for many families. It is possible for young people to miss out on exciting opportunities that are better connected to the current and future needs of the labour market. Schools and communities could put more emphasis on parent/guardian education sessions where they inform parents about emerging career opportunities and the value of guiding youth toward growing sectors. In addition, smaller and rural communities, in partnership with industry or training institutions, could provide workshops or open houses that showcase local industries and potential alternative career pathways.

4 Recommendations for Career and Employment Service Providers

Leverage Skills Adjacency Model

Career practitioners should actively identify and promote the use of the Skills Adjacency Model when advising job seekers who are interested in exploring new opportunities. For example, this could be helping workers from sectors at risk of disruption like oil and gas transition into renewable energy or tech by highlighting transferable skills.

Increase Awareness and Guidance

The research findings indicate that there are job and career transitions occurring regularly, often initiated by the workers themselves. These shifts can be driven by personal circumstance, and many people are looking not only for a good skills match but a decent living wage. There are aspects of both necessity and randomness in some of these transitions. The necessity for workers does not always match the necessity for the local economy. The key to more meaningful choices that consider

both the skill set and the labour market demands is access to information. Guidance counsellors in school and career practitioners should have access to the most current data on labour market supply and demand. This can help them raise awareness about available training programs, funding options, and high-demand occupations. Simplifying access to these resources and data can empower workers to pursue career change.

Integrate Mentorship and Coaching

Career transition programs should include mentorship and coaching components to help individuals navigate the emotional and psychological barriers associated with career changes. Good mentorship can also ignite the desire to transition into a new field by providing practical details and useful insights about the job, as well as increased networking opportunities within the new area of interest. This would be a great opportunity for senior or retired professionals to make a meaningful contribution to job transitions and simultaneously maintain their engagement in the community.

5 Recommendations for Employers

Broaden and Update Recruitment and Other HR Practices

The research emphasized opportunities for improvements and innovations within human resources practices. Barriers to both employment and job transitions are often reinforced by rigid job descriptions, an overemphasis on formal credentials rather than practical skills, and reliance on outdated assessment criteria that fail to reflect current workforce dynamics. Other challenges include a lack of transparency in hiring processes, unrealistic experience requirements for entry-level positions, and complex, time-consuming online application systems that are not user-friendly. There is an opportunity for employers to adopt inclusive HR practices that, among others, prioritize acquired skills, and foundational education with potential in the industry (e.g., hiring a candidate with a general degree such as math or chemistry and training them for a specific role). This approach expands the labour pool and encourages skill development.

Foster Interdisciplinary Teams

Employers should invest in in-house cross-training of employees to diversify their skillsets. This strategy ensures workforce flexibility during periods of fluctuating demand and enhances job security for employees. Companies can also create in-house retraining programs to transition workers from declining occupations (e.g., in oil and gas) to emerging positions in renewable energy or technology.

6 Research Recommendations

The growth of new industries and occupations, and the increased adoption of AI across all sectors, will continue to drive rising job transitions. There is a need for consistent, continuous, both province-focused and regional research and evaluation on cross-industry or cross-occupation workers' transitions as the nature of the NL's economy and labour market evolves and focuses more on the skills and competencies rather than degrees and credentials. NLWIC is well positioned to build on its existing knowledge, expertise, and stakeholder connections and engage in these activities to support job transitions and workforce development in the province. The proposed research projects involve the following activities:

An explorative study of the most effective approaches to data collection for labour market supply and demand across key stakeholders

There is still a noted disconnect between various stakeholders and labour market participants when it comes to collecting and sharing relevant data on labour supply and demand in NL. Many companies and industry associations do not always have resources for much needed data collection and analysis related to the labour force. There is an opportunity for NLWIC to utilize its stakeholder connections and map some of the key figures in the NL ecosystem to develop and pilot a data collection framework with a small, representative group, that could eventually be scaled to all the relevant stakeholders.

- **A research study exploring the integration of micro-credentials into workforce development policies and programs.**

In collaboration with training institutions, the province could undertake a comprehensive study to explore the role of micro-credentials, certifications, and tailored training in bridging skill gaps, particularly in high-demand industries such as IT, renewable energy, and healthcare. The research should focus on how collaborations between employers, training providers, and industry associations can optimize the relevance of micro-credentials, ensuring they align with the skills required by these industries. Key questions to address include how effectively micro-credentials support workers transitioning between careers, especially from declining to growing occupations, and whether they are widely recognized across industries and geographies. The study could also examine the effectiveness of micro-credentials in addressing the unique challenges faced by remote areas, such as limited internet access and the need for local industry alignment. Additionally, understanding learner perceptions of the value of micro-credentials compared to traditional degrees, particularly in terms of career advancement, is critical. Finally, the research should investigate how these programs attract younger workers by offering accessible pathways to high-demand fields and contribute to early career development and job readiness for youth.

- **Exploring Barriers to Youth Workforce Entry**

A comprehensive research project should be conducted to explore the challenges faced by youth in NL when entering the workforce, particularly in terms of access to education, training, and employment opportunities in both rural and urban areas. The study could evaluate the effectiveness of existing STEM programs and career readiness initiatives in preparing youth for emerging industries, such as green energy and technology, and identify any gaps that need to be addressed. It would also be valuable to examine youth awareness and perceptions of sectors like clean energy and the blue economy, focusing on their interest levels and perceived barriers to entry. Additionally, the role of family and community networks in shaping career choices, especially in rural areas, should be investigated to find ways to strengthen community-based support for workforce transitions. Another critical area of study would be the impact of immigration and settlement programs on the workforce transition of newcomers, and how these programs can help address skills shortages in the province. Lastly, it would be beneficial to explore youth entrepreneurship opportunities, resources, and barriers.

Conclusion

The goal of a robust talent and workforce policy is rooted in securing a stable, well-paying career paths for all those who desire such careers. This goal is ever more salient in a province like Newfoundland and Labrador, where a successful talent policy must go beyond just looking at the labour market. As NL has navigated through various economic challenges in the past, its workforce has shown resilience, adapting to changes alongside the provinces' economic shifts. Workers continue to adjust their careers in response to the evolving labour market landscape, remaining vigilant to potential waves of disruptions while on the lookout for opportunities for growth and job security. While NL's labor market is undeniably tight, with current labor shortages across sectors, there are still individuals who remain underemployed or disengaged, highlighting a potential opportunity for better alignment between educational outcomes, workforce attachment, and economic needs. This need is particularly pronounced here in the province, where retaining workers has historically been a challenge. Many workers, especially those in rural and remote communities, are drawn to meaningful, well-compensated work that offers growth opportunities and benefits. In order to sustain long-term employment in the province, a broader perspective is needed and focus on a long-term career mobility, where workers are not confined to a single trajectory but can adapt to shifts in the labor market, supported by workplace policies, training programs, and industry networks.

The JTP collaborative research project involving the Dais from Ontario (Phase 1) and the NL Workforce Innovation Centre from NL (Phase 2), outlined one promising comprehensive approach to navigate the labour market transition in NL. The approach relies on the availability and accessibility of current labour market information, robust data analysis, and continuous engagement with all key local stakeholders., including training institutions, industry associations, career practitioners, educators, employers, workers and job seekers. The research in Phase 1 aimed to understand the current labour market landscape in the province, and based on that knowledge, proposed several potential short-term transitions that meet provincial labour demands in the next 3-5 years. Additionally, the research highlighted the potential for growth in Ocean and Tech sectors, presenting the need for intentional efforts from various key stakeholders to develop these areas.

The qualitative research findings complemented the initial labor market analysis, affirming the importance of strategic, evidence-based interventions to ensure that workers are equipped to navigate the changing economic landscape. The qualitative findings from this research also revealed additional key themes critical to workforce development in NL. Education plays an important role in career considerations and potential transitions, and there was a clear consensus on the need for better career exploration opportunities and curriculum alignment with the latest advancement in technology for young students. With that said, there is a significant emphasis on soft skills training to facilitate successful career transitions in the future. Additionally, workers identified several barriers to transitioning, such as lack of awareness of emerging opportunities and the challenges of navigating career changes, especially in rural and remote areas. Employers stressed the critical role of mentorship and on-the-job learning during periods of occupational transitions.

As the province moves forward, continued cross-industry and cross-stakeholder collaboration will be critical. The provincial and federal governments' role in facilitating these transitions, investing in skill development, and fostering an environment that encourages economic diversification will be key to securing long-term economic stability and workforce sustainability. Equally important is the active engagement of employers, educational and training institutions, industry associations, labor organizations, and community groups in creating a cohesive strategy for job transition pathways. By working together, stakeholders can build pathways that enable greater mobility across sectors and occupations, ensuring workers are equipped to adapt to a dynamic economic landscape. This collective effort will not only strengthen the workforce but also position the province to thrive in an increasingly interconnected and evolving future.

Appendix A – Phase 2 Data Analysis and Findings

In this section, we present an in-depth qualitative analysis of growing sectors and occupations and highlight several of them as priority destinations for the province in both the short and long-term. We also present additional insights from the qualitative research regarding general occupational trends and demands in NL, barriers and challenges to transitions, opportunities for underrepresented groups, and recommendations for next steps for the key labour market players in the province.

A.1 Identified Priority Sectors Overview

Ocean Tech/Marine Sector

The ocean technology sector in NL is a high-priority growth area for the province driven by Canada's Ocean Supercluster—a $300 million federal initiative aimed at fostering research, collaboration, and innovation within Canada's ocean economy.[31] This investment is transforming NL's Ocean Industry into a technology- and data-focused knowledge economy. The province's past revenue from the offshore oil industry has enabled enhancements in knowledge and research capacities, including National Research Council's Ocean, Coastal, and River Engineering Centre.

Memorial University's Marine Institute, NL's primary academic institution for the marine sector, plays a critical role in this sector with extensive research in ocean science, fisheries, mining, forestry, and oil and gas. To bridge the gap between academia and industry, C-Core facilitates the commercialization of university R&D. The province has built a strong ocean tech industry serving global markets, with expertise in navigation and communications systems, remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), subsea technologies, marine robotics, and simulation.

NL's ocean technology workforce requires specialized skills in engineering, robotics, computer science, data analysis, and marine operations. Specific occupations in demand include marine and ocean engineers, ROV/AUV operators, data scientists, simulation developers, and robotics specialists. Future sector growth will depend on sustained investment as oil revenues—which have traditionally funded innovation—continue to decline.

Memorial University, supported by the provincial and federal governments, and industry, is investing in the Harsh Environment Research Facility (HERF) to support advanced research in icy conditions, further solidifying NL's role in developing technology solutions for global ocean markets.

What We Heard

According to the industry experts in Phase 2, with over a hundred projects on the horizon, NL's Ocean sector is at a critical juncture, poised to grow rapidly across various areas—from offshore wind and marine transport to sustainable fishing and aquaculture. Yet, building the workforce to support this expansion is complex, requiring new pathways, training programs, and a greater awareness of opportunities within the sector. Despite the pressing need for skilled workers, the Ocean sector faces challenges in both workforce diversity and awareness

[31] https://www.gov.nl.ca/iet/sector-diversification-division/technology-sector/ocean-technology/

about the full range of occupations available. As one sector leader observed, "Ocean tech is primarily white men…there is a lack of diversity, but also not enough workers."

A significant obstacle in workforce development is the general lack of awareness about job opportunities in the ocean sector, especially in roles beyond highly technical positions. "I think it's an awareness issue and a people issue," one sector leader shared, explaining that many see the industry as limited to fishing and shipping. "There are **operational, project management, marketing, and business development roles** that pay well, but people don't necessarily connect these jobs with the ocean sector."

Moreover, small-to-medium-sized enterprises (SMEs) lead most ocean-sector projects but struggle to find skilled workers for critical support roles, such as **operations, HR, and business development**. Often growing rapidly without established HR departments, these companies lack the resources to attract and onboard talent, risking project delays or even cancellations. For example, a marine tech company that grew from local operations to 50 markets worldwide now faces the challenge of meeting demand while maintaining workforce scalability. These companies need "operations people who can help us grow from local to global," shared a company leader, noting that gaps in workforce infrastructure can stymie growth. Another shipbuilding industry professional shared:

> "We talk about declining and growing occupations. We are experiencing both at the same time, if that makes sense, because the shipbuilding industry is growing and there is more and more attention being put on renewing fleets, and at the same time, it is declining in regards to being able to find the talent and being able to find the skills required, and not just the design of the ship, but the whole cycle. We're seeing projects delayed because of the lack of skill that are needed and we're seeing a lack of engagement from people interested or even knowing that opportunities are here in shipbuilding and blue economy, as career options."
>
> – Industry Recruiter

Beyond technical occupations, workers with skills in project management, operations, and logistics also have significant potential to transition into the ocean sector. For example, a project manager from tech or logistics could seamlessly adapt to a marine project management role with minimal retraining. This adaptability is especially valuable for SMEs, which often experience rapid growth and need versatile roles to support scaling efforts. "If you can manage a project, you can manage a project," one industry expert noted, underscoring the transferability of skills from sector to sector.

Emerging sub-sectors and companies within the Ocean economy demonstrate a growing willingness to support workers in this transition by offering hands-on training and skill development. Many employers increasingly recognize that to thrive in a competitive, global market, they must be flexible in their hiring practices and be proactive in worker training. This flexibility extends to hiring candidates with strong foundational skills, even if their industry background is unrelated. As one leader put it, "There are more companies willing to take on a candidate with some foundational education and train them to what they need." The acceptance of cross-sector talent reflects a broader cultural shift that values adaptability and learning potential, but also reflect challenges in traditional recruitment practices. Some employers go as far as establishing their own training programs to attract and retain the right talent (See Genoa Academy and Pennecon in Construction Examples).

Employer-led transitions – Genoa Academy

Genoa Design's **Genoa Academy** in Newfoundland and Labrador is a unique program providing specialized training to help workers transition into marine design and shipbuilding, primarily focusing on skills development for the offshore and marine sectors. Launched to address a shortage of skilled workers in the region's marine and shipbuilding industries, Genoa Academy is an employer-led training initiative that equips participants with skills in 3D modelling, ship design, and engineering software. The Academy's curriculum includes intensive, hands-on training and mentorship designed to bridge knowledge gaps and create direct pathways to employment within Genoa Design and other marine design and engineering firms. Trainees, often from unrelated fields or declining industries, are given the tools to move into high-demand, technical roles. Graduates from Genoa Academy typically join Genoa Design as full-time employees, which reinforces the company's commitment to developing its workforce and strengthening the local talent pipeline for marine and offshore sectors.

Through Genoa Academy, Genoa Design exemplifies a successful model of employer-driven reskilling in a smaller, regionally based organization, investing in talent development that benefits both the employees and the company's long-term growth in a specialized field. This program has also received support from local workforce development organizations, which shows the importance of its role in economic and workforce development within NL.

Despite high job demand in the marine sector, programs like the ROV and Ocean Mapping experience challenges in recruiting sufficient number of students to meet industry needs. Reasons for this include limited awareness of non-traditional occupations, and external influences on students' career choices. Graduates from programs like ROV and Ocean Mapping at Marine Institute are often hired immediately, with employers actively seeking more graduates than are available. This reflects a growing demand for skills in fields linked to the Blue and Green economies, as well as sustainable practices like aquaculture and satellite ocean mapping. The programs attract a varied student demographic, with a recent increase in female students, particularly in Ocean Mapping, and a mix of high school graduates, industry workers, and mature learners.

While marine transportation occupations offer accessible entry points, transitioning to shipbuilding—particularly in design roles—poses greater challenges for those without relevant engineering or technical backgrounds. As one educator shared, "For someone without design or engineering training, it could be a slog, taking at least two to three years to gain a comprehensive understanding of shipbuilding design requirements." Design-based positions require additional specialized knowledge, and even professionals with related backgrounds, like electrical engineers, need substantial on-the-job training—often six to eight months—to adapt to ship-specific demands. The difficulty in bridging these gaps quickly means that the transition is more viable for those with some form of design experience or technical training.

The Tech and Ocean sectors represent significant areas of growth, leveraging Newfoundland and Labrador's unique geographical position and rich marine resources. This expanding demand in technology aligns with a shift toward building an innovation-driven economy, requiring skilled professionals in marine robotics, simulation, autonomous vehicles, and advanced navigation systems. Some key industry experts emphasized the synergy between skills in the Ocean Tech and Offshore Oil and Gas sectors which allows workers to transition between these industries more seamlessly, fostering cross-industry career pathways.

Mining

The Canadian Mining Outlook 2024 by the Mining Industry Human Resources Council (MIHR) highlights ongoing and emerging occupational demands across Canada's mining sector. While mining employment has grown significantly—from 115,655 in 1999 to 189,062 in 2023—a modest 3% growth is projected by 2034.[32] Key occupations, particularly in Extraction, Milling, and Production, are expected to experience critical shortages due to a combination of high demand and insufficient workforce supply. This shortage is driven by demographic shifts, declining enrolment in relevant training programs, and negative industry perceptions, all of which hinder the entry of new talent into mining occupations.[33]

The tightening labour market has created a "job seeker's market," where candidates hold more negotiating power, often able to command higher wages, benefits, and flexible work conditions. Additionally, mining-related sectors are seeing a low unemployed-to-vacancies ratio, with less than one unemployed person per job opening in many areas.

In NL a strategic focus on critical minerals, supported by the provincial government's 2022 Regional Table initiative, emphasizes the need for skilled workers in occupations that support the development and extraction of critical minerals, such as rare earth elements, copper, and tungsten. NL's well-established mining industry, producing between $5-6 billion in minerals annually, currently employs over 9,000 workers across exploration, development, and mine construction. However, the industry faces challenges in attracting new workers to fill vacant occupations, with NL's Critical Minerals Plan identifying a gap in labour attraction.[34]

Educational institutions in the province, including Memorial University and CNA, provide training for key mining-related occupations, yet industry leaders express concerns that enrolment in these programs does not align with demand.

What We Heard

Through the conversations with the key local stakeholders, it is clear that the mining sector is experiencing rapid growth, driven by expanding exploration and development projects. However, the industry faces pressing challenges in securing a skilled workforce to meet these demands, with significant shortages expected over the next decade.[35] The industry requires a diverse set of skills, spanning trades, technical expertise, and supply chain management. Key areas of workforce demand include skilled trades such as heavy equipment operators, blasters, and heavy equipment mechanics, as well as geologists, geophysicists, mining engineers, and planners. Declining enrolment in relevant educational programs—25% in earth sciences in NL and nationwide—has exacerbated concerns, particularly in roles critical to exploration, such as **geologists and geophysicists**.

[32] https://mihr.ca/wp-content/uploads/2024/04/Mihr-Outlook-2024-EN.pdf

[33] https://mihr.ca/labour-market-information/monthly-report/

[34] https://www.gov.nl.ca/iet/files/Critical-Minerals-Plan-Our-Critical-Minerals-Advantage.pdf

[35] NL Occupational Projections Overview 2023-2032 emphasizes high replacement rates in trades and other occupations related to mining.

The province faces shortages in specialized Trades occupations such as blasters; companies have begun to provide in-house funding for training and certification to meet immediate needs. Stakeholders noted that apprenticeships and government-supported certification programs are available but potentially underutilized due to a lack of awareness about financial supports for specific Trades occupations.

The Mining sector in both the Central Region and the West Coast highlights significant workforce demands, with particular attention on heavy equipment operators (HEOs) in Central Newfoundland and the need for more focus on occupational health and safety (OHS) standards. The focus groups echoed the sentiment expressed in the interviews that this sector faces an aging workforce, with fewer young workers entering the field, leading to long-term sustainability concerns.

Additionally, there is a gap in targeted local training. For example, the College of the North Atlantic campus in Baie Verte currently does not offer mining-focused courses, raising concerns within the community about addressing future labour shortages.

Technological advancements such as drill simulations offer new training opportunities but require central coordination to ensure accessibility and effectiveness. For positions in mining engineering, safety, and maintenance, companies report a high volume of mid-career applicants, and few younger candidates, underscoring the need for early engagement initiatives with youth and non-traditional labour force participants.
Furthermore, industry representatives noted the public's mixed views on extractive industries, particularly given environmental concerns. Mining leaders stressed the sector's rigorous regulatory framework and emphasized the essential role of mining in the green transition, as critical minerals are necessary for technologies like solar and wind energy.

Industry experts in NL's mining and technical professions highlighted the importance of entry-level training and first-job opportunities as essential for building capacity. For instance, establishing structured development programs for entry-level occupations such as blasting technicians with mentoring from experienced workers, could grow the talent pipeline. They also emphasize the need for advanced technical training, including simulation-based programs for sophisticated machinery operations, as technology becomes more integral to daily tasks. However, rigid hiring practices—such as requiring years of experience for entry occupations—are seen as a barrier, driving younger workers out of the province in search of opportunities elsewhere. To retain talent, industry experts suggested engaging parents, communities, and local organizations in supporting homegrown training models, rather than relying solely on a "love for home" to keep workers rooted in the province.

When looking at the labour market data, mining and petroleum technologies/technicians had 87 completions of programs in 2009 compared to 15 in 2021, all within the College of the North Atlantic, which is a change of -82.8%. Similar degree programs (earth sciences) had a higher level of completions. There are currently 2,794 workers in these occupations in NL, which is 247% above national average. There is a projected growth of 6.2% between 2024-2027. Median wage for these occupations is $39.68/hr.[36]

Education

In Newfoundland and Labrador, the Educational Services sector remains a substantial part of the workforce,

[36] The data was retrieved from the Lightcast platform.

employing around 20,000 people in 2024.[37] This sector includes a range of occupations in elementary and secondary education to higher education and training services. The key ones include elementary and secondary school teachers, post-secondary instructors, education administrators, and support staff, such as student, assistants, Teaching and Learning Assistants (TLAs), utility workers, and administrative personnel.

There are approximately 1,700 secondary school teachers in the province. Prospects for secondary school teachers are rated as "good" for 2023-2025, with employment growth expected due to a modest increase in the student population. [38] Retention and recruitment challenges persist, influenced by competition across Canada and the need for government funding to support new positions.

In terms of elementary and kindergarten teachers, 4,400 individuals are employed across the province.[39] The employment outlook for these roles over the next few years is expected to be moderate. Some employment growth may occur due to an increase in the provincial student population, which has been a shift after years of decline.

Most (84%) elementary school and kindergarten teachers in the province are full-time workers. The workforce is predominantly female (86%), and the majority hold a bachelor's degree or higher. Retirements are not expected to significantly open positions, so many new teachers may face challenges securing permanent roles. Regional prospects across the province vary, but all areas currently project a moderate outlook for these teaching positions.[40]

Teaching is a regulated profession in the province. To qualify as a teacher in NL an individual must hold a recognized degree and be registered with the Newfoundland and Labrador Office of Teacher Certification and Record with the Department of Education. As the only university in the province, Memorial University sets the curriculum standards for the teaching profession in the province. Over 90% of teachers in NL receive their initial education degrees from Memorial University.

At institutions like Memorial University and the College of the North Atlantic, there is also demand for faculty, researchers, and administrators, particularly as the province continues to align educational programs with regional economic development needs.

What We Heard

When it comes to teaching positions, meeting the demand for specialized roles, particularly in elementary education, French language instruction, and multi-subject qualifications, has become a challenge. French teachers are especially needed in the Avalon region, while in rural areas, there is high demand for teachers with combined qualifications, such as French and mathematics. “The demand for combined qualifications may be difficult to meet,” acknowledged a recruitment specialist, highlighting how this scarcity complicates staffing in more isolated communities.

[37] Government of NL, 2017. https://www.stats.gov.nl.ca/Statistics/Topics/labour/PDF/Employment_Industry_Monthly.pdf

[38] Job Outlooks in ¬Newfoundland Labrador is used for all the occupations mentioned in the education section. https://www.jobbank.gc.ca/outlookreport/location/nl

[39] https://www.jobbank.gc.ca/marketreport/outlook-occupation/4714/NL

[40] Job outlooks updated for November 2023. https://www.jobbank.gc.ca/marketreport/outlook-occupation/15904/NL

Substitute teaching has become equally strained. With minimal incentives, substitutes often look to other sectors, leaving schools with few emergency options. This shortage reflects a systemic issue, as "in this labour market, it's unrealistic to expect people to sit at home and wait to be called in," said an expert stakeholder.

Beyond teachers, there are acute shortages in casual and support roles, including custodial, utility, and bus driver positions. Custodial workers are often hired on a casual, call-in basis. The positions have high turnover rates, and it is difficult to retain skilled employees. Currently, custodial compensation ranges from $20–$22 per hour, which is below the living wage, making these positions less appealing despite their essential role in school maintenance.

NL Living Wage

$24.10 for Central
$24.70 for Eastern
$23.10 for Western
$27.30 for Labrador-Northern Peninsula

(Canadian Centre for Policy Alternatives 2024)

In terms of teaching support, **Teaching and Learning Assistants (TLAs)** and student assistants play critical roles in providing specialized educational support, especially for children with complex needs. Both positions are in high demand and face limitations that may deter candidates. TLAs, for example, must be certified at Level II, a requirement that necessitates a three-year diploma or degree, yet the resulting starting salary of $35,000 is not competitive. Student assistants work with children with special or complex needs. They need a high-school-degree, are hired on a casual basis, and generally lack job security at first. A respondent commented on the physical challenges often faced by these positions, noting, "It's a tough position; it employs mostly female candidates, but more males should be encouraged."

The requirements for administrative occupations within the educational sector have recently evolved, adding complexity to the responsibilities expected of clerical staff. Office administrators now manage payroll, budgets, and other financial tasks, demanding skills that are typically associated with higher-paying finance occupations. However, the salary for these positions has not increased to reflect this additional skill set, resulting in recruitment challenges. "This puts HR in a difficult situation," one HR professional noted, as they must now seek candidates with specialized finance training for positions that offer limited incentives. There is also limited availability of training programs tailored to these expanded occupations, further reducing the pool of suitable candidates.

There are also significant gaps in operational occupations vital for keeping schools running, such as **bus drivers and tradespeople such as heavy equipment operators and electricians**. Many workers in these occupations are opting for better-paid opportunities on large-scale projects, especially in Labrador, making it harder for schools to maintain regular operations. Guidance counselling and career development within schools have also been impacted, as counsellors are often occupied with urgent mental health issues students face, leaving less time for career-related support.

Finally, there is a need for modernization in recruitment and retention approaches within the education system. In the interviews with education experts, it is noted that the challenges in the hiring process and outdated digital recruitment platforms deter prospective candidates, who often abandon the process halfway through. Furthermore, it was pointed out that the physical location requirements for certain occupations such as HR may no longer be necessary, prompting a re-evaluation of whether these positions could be handled remotely, thus improving access to qualified candidates across the province.

Construction

The Construction Sector in NL is set for an intense period of activity, fueled by a high demand for skilled labour across multiple large-scale projects in both the public and private sectors. Nationally, Canada's construction industry has seen record-low unemployment rates as of 2023, with NL experiencing a 13.3% construction unemployment rate. Despite this being the highest rate among provinces, NL's construction labour force has fluctuated due to the cyclical nature of its industry, often driven by mega-projects like Muskrat Falls and various energy-related projects.

BuildForce Canada's latest labour market forecast for Newfoundland and Labrador highlights several key trends and challenges for the construction and maintenance industry. Employment is expected to peak in 2023, driven by strong new-home construction and major projects like mining and offshore platforms, before contracting by 16% (2,300 workers) by 2027. The sector faces significant challenges due to an aging workforce, with 17% of workers expected to retire and insufficient younger workers to replace them. Skilled trades training has declined, with new apprenticeship registrations dropping significantly since 2016, exacerbated by the COVID-19 pandemic. Several trades, including Heavy Equipment Operators and Welders, risk undersupply of journeypersons by 2027. The industry is actively working to diversify its workforce by recruiting underrepresented groups, such as women, Indigenous Peoples, and newcomers. Women currently make up only 6% of tradespeople, while Indigenous and immigrant participation remaining low despite recruitment efforts. Enhancing diversity is seen as a critical strategy to address future labour shortages and sustain workforce growth.[41]

What We Heard

There are major upcoming construction projects planned for the next 5 years. The province's Roads Plan outlines numerous highway and local road construction projects aimed at enhancing transportation infrastructure across the province. This Plan includes not only major highways and regional trunk roads but also provincially owned local roads. These efforts are expected to create steady demand for construction labour over the next few years. Argentia Energy Project is set to be operational by 2026; this Project already employs approximately 2,000 workers on-site. As it ramps up, it will continue to require a substantial workforce in construction trades, supporting jobs for electricians, welders, carpenters, and other skilled trades. EverWind and World Energy GH2 Projects are progressing at a rapid pace, where World Energy's projects are foreseeing thousands of fly-in, fly-out workers, indicating robust demand for skilled construction workers, particularly in NL's non-residential construction sector. Finally, additional capital projects, including new mining operations and infrastructure improvements, are creating continuous demand for construction labour. Projects like the new penitentiary will be tapping into the same pool of skilled tradespeople, such as plumbers, pipefitters, and carpenters, adding to labour demand.

[41] BuildForce Canada: Construction Forecast 2022. https://www.constructionforecasts.ca/en/content/newfoundland-and-labrador-see-modest-employment-recovery-2023-contracting-through-2027

The construction demand is leading to what local stakeholders describe as a "good problem" or a “tsunami of opportunities”—an abundance of job opportunities in Trades occupations. This environment may incentivize workers, especially those in their early 50s who have previously worked in Alberta or other regions, to return home to NL for longer-term employment opportunities.

Programs like "Build Your Future" led by the Association for New Canadians (ANC) underscore the industry’s inclusivity initiatives, encouraging immigrants to join the construction workforce and fill critical labour gaps. Moreover, labour organizations, including the Federation of Labour, confirm that there is a sustained demand for trades such as plumbing, welding, and carpentry across NL, driven by both public infrastructure projects and private energy investments.

Employer-led transitions - Pennecon

In Newfoundland and Labrador, Pennecon stands out as an example of an employer involved in workforce training and skills development. Although Pennecon does not provide extensive formal retraining programs, it invests in employee training related to health, safety, quality, and environmental management, aiming for high standards across its operations. Pennecon's approach includes implementing rigorous Health, Safety, Environment, and Quality (HSEQ) programs, which focus on continuous improvement and routine evaluation. This training promotes skill-building that helps employees meet demanding project standards and adapt to industry needs.

Additionally, Pennecon supports skills development through initiatives like its Indigenous Scholarship Program. This scholarship aids Indigenous students pursuing trades or other post-secondary education, reinforcing the company's commitment to enhancing the skilled workforce in the region and supporting workforce diversity.

For organizations similar to Pennecon that may also provide in-house training and skill-building initiatives, NL's energy, construction, and heavy civil industries are likely to offer pathways for workers transitioning to high-demand areas like project management, environmental safety, and sustainable practices.

For more detailed information on Pennecon's safety and training programs, please see Pennecon Limited ps://pennecon.com/about/hseq/).

When discussing lack of awareness of interesting and lucrative opportunities, an industry expert mentioned a Rope Access Course. The course presents a unique career opportunity, particularly for young people seeking entry into diverse industries such as construction, energy, telecommunications, and offshore sectors. This specialized skill involves using rope systems to safely access hard-to-reach areas, making it invaluable in various high-demand fields. Despite its strong earning potential and flexibility to branch into multiple career pathways, rope access remains underutilized and relatively unknown among youth. Highlighting this course could open doors for young workers to access well-paying jobs while addressing skills shortages in several sectors.

Rope Access Course – an in-demand skill

Overview
The basic rope access course in Canada, often an IRATA or SPRAT Level 1, teaches techniques for ascending, descending, traversing ropes, and performing basic rescues. Courses include a mix of theoretical instruction and practical skills assessments, and they generally take 5 days to complete.

Requirements
Must be at least 18 years old.
Comfortable working at heights.
A medical assessment is often recommended but not always required at the introductory level.

Cost
The cost for a Level 1 course in Canada ranges from $1,200 to $2,500 CAD, depending on the training provider, course location, and certification (IRATA or SPRAT).

Potential Salary in Canada
Entry-level rope access technicians (Level 1) in Canada typically earn $25–$35 CAD per hour. Experienced technicians at Level 2 or Level 3 can earn $40–$75 CAD per hour, especially in industries like oil and gas, construction, and wind energy. Some positions, particularly in remote or high-demand areas, offer higher pay. Rope access certification can open doors to various career opportunities in Canada's industrial sectors, including energy, infrastructure, and maintenance.

Tech Sector

The Tech sector in the province has been strong and been on the rise in over a decade. In the last two years, NL has seen significant growth in the Tech sector and new startups, with latest information from 2023 making it a $1.8 billion industry with over 200 companies, 6500 employees and an average salary of $70,000 per year.[42] The NL government has been making deliberate and strategic efforts to grow the technology industry and stimulate new private sector employment through its Technology Sector Work Plan.[43] The province projects the employment of 10,000 tech sector workers within the next three years.[44]

Through TechNL initiatives and investments in recent years, the Tech sector has been supporting training and upskilling, and increasing awareness of occupational opportunities within the tech sector.

What We Heard

According to Tech industry experts, the Tech sector in the province is steady but experiencing slower growth, with no significant declines in occupations. Customer success occupations are a notable bright spot, showing consistent

[42] TechNL Annual Report, 2021. https://technl.ca/wp-content/uploads/2022/05/techNL-2021-Annual-Report.pdf. These are the latest number on the tech sector value.

[43] https://www.gov.nl.ca/iet/files/Technology_Workplan_Final.pdf.

[44] https://www.gov.nl.ca/releases/2024/iet/0129n03/

growth. Unlike customer service, customer success focuses on proactive relationship building, problem-solving, and communication. While there is no dedicated program in NL for Customer Success, individuals transitioning from occupations like banking are seen as more suitable due to their experience in professional, relationship-driven environments. Retail customer service, however, is not viewed as an easy transition into customer success.

> "You don't necessarily have to have the direct tech knowledge. Learning about the product, learning about the tech sector, learning about how to be a business development person in a tech role vs non-tech role, those specific things we can teach. We hire a lot from Computing Systems Engineering Tech Programs from CNA; those are generally students that graduate from high school, go directly to CNA, do a couple of work terms and then they are looking for a full -time job. And what we are looking for from those individuals, when they come to us is actually customer experience, working with customers. So if somebody has Walmart, that is a big one, because it can be hard dealing with customers at Walmart, because when they come to us, they are the ones who work with the customers to get their data into our system and arrange properly and organize, transform, so they have to talk to customers".
>
> – Industry recruiter

Compensation in the tech industry is comparable to the rest of Canada but may not meet the high expectations of junior technical staff transitioning from higher-paying sectors.

Programs like Get Coding stand out for their effectiveness in reskilling workers, offering mentorship, industry connections, and tailored coaching to ensure employability. However, shorter micro credential programs, while helpful, often fail to fully prepare individuals for industry needs, as employers view these credentials as insufficient without practical experience.

Get Coding[45] is a specialized training program designed to reskill and upskill individuals for careers in the tech industry, particularly in software development. Unlike short-term micro-credential courses, Get Coding offers comprehensive, industry-aligned training that continues until participants secure employment, with support available for up to three years. The program emphasizes mentorship, coaching from experienced software developers, and building strong portfolios to meet employer expectations. It is tailored for individuals with little to no technical background, making it an accessible and effective pathway to enter the tech workforce.

Beyond the Tech start-ups and established Tech companies, the application of tech-related skills is vast. Key stakeholders do not see tech as a sector, but rather as an "enabler". For example, when it comes to green energy, "digital and data science skills could facilitate remote monitoring of hydrogen production, metering and other automated processes". Similarly, junior and senior software developers are in high demand in the Ocean Tech sector, with some additional training requirements. This creates transitioning opportunities for the potential oversupply of entry-level software developers in the Tech sector.

Early Childhood Education (ECE)

A recent survey of over 500 Early Childhood Educators (ECEs) in Newfoundland and Labrador highlights a workforce

[45] Get Coding has since changed their name to Get Building.

in crisis, with 62% considering leaving the field for jobs with benefits and 42% citing low wages as a reason to exit. The report, "*The Childcare Crisis is a Workforce Crisis*," commissioned by the Jimmy Pratt Foundation and the Newfoundland and Labrador Federation of Labour, reveals that 90% of ECEs are disappointed by the lack of benefits in the wage grid, 83% lack pensions, and 57% lack health or dental insurance.[46] Additionally, 65% report no replacement options when ill, and 45% feel undervalued professionally. Advocates warn that without urgent improvements in wages, benefits, and working conditions, the province's target of recruiting 1,000 new ECEs by 2026 to meet childcare demand is unattainable, jeopardizing the expansion of affordable childcare.

The province has recently introduced the Early Childhood Educator (ECE) Wage Grid in Newfoundland and Labrador, funded by Federal and Provincial Governments, which aims to improve recruitment and retention by recognizing the vital contributions of ECEs. This stepped salary scale applies to regulated childcare centres participating in the Operating Grant Program and offers set wage rates for certified ECEs with current accreditation from the Association of Early Childhood Educators Newfoundland and Labrador (AECENL).[47]

Additional Talent Gaps in Occupations and Skills in NL

The recruitment industry is evolving, with a growing demand for **recruiters** as companies increasingly recognize the need for dedicated professionals to find talent, especially in sectors where supply outpaces demand. Agency recruitment, in particular, requires client-focused individuals who are flexible, driven, and passionate about helping people, even if they lack traditional experience. Successful hires have come from diverse backgrounds, such as Trades or unrelated customer service occupations, showing that transferable skills, commitment, and enthusiasm can outweigh direct experience.

We also heard that there is a great potential and need to transition individuals into high-demand technical careers, such as **millwrights and aircraft maintenance technicians**, where current training programs and graduate numbers are insufficient to meet labour market needs. Participants in the focus groups in the **Central Region** discussed the current demand in the **aviation sector** where staffing shortages are significant, particularly at NavCan, which struggles to hire air traffic controllers and flight service specialists. The sector's challenges are intensified by an aging workforce, evidenced by a recent mass retirement event that resulted in the sudden loss of 33 employees. This event highlighted the acute vulnerability of aviation in the region to workforce shortages, as well as the challenges associated with backfilling roles that require specialized skills and lengthy training processes.

The focus group on the West Coast discussed the demand within the **healthcare sector**. While not necessarily the focus of this research, as there are many initiatives supporting the workforce development in the sector, it is worth noting the shift in priorities among nurses and other healthcare professionals that is emerging. Throughout the consultations, it has been mentioned that many nurses are exploring career transitions into business occupations, where they hope to find greater flexibility and autonomy, even at the cost of lower pay. This trend underscores a desire for more adaptive work environments and career pathways, which traditional healthcare occupations may not readily offer. The movement of these skilled healthcare workers into other fields is indicative of a broader trend toward seeking balance, autonomy, and personal fulfillment, reshaping workforce dynamics within the healthcare sector and beyond.

[46] https://nlfl.nf.ca/wp-content/uploads/sites/83/2024/03/JPF-ECE-Survey_FA.pdf

[47] https://www.gov.nl.ca/education/files/ECE-Wage-Grid-Policy-and-Standards-Manual.pdf

The **West Coast** faces unique growth and retention challenges across several key sectors, including agriculture, accounting, childcare, education, social work, skilled trades, and industrial supply chain occupations in mining and health. Employers in the services sector also experience significant difficulties in attracting and retaining workers, often compounded by economic volatility and the boom-and-bust cycles that lead to workforce instability in local communities. Additionally, despite the availability of summer programs geared towards youth employment across the province, there is a lack of interest or participation, reflecting an issue of youth engagement in the local labour market.

In the **Avalon Region**, construction remains a robust growth area, followed closely by childcare, fisheries, and supply chain development. The region benefits from relative employment stability, with a strong presence of government and service sector jobs that buffer it from the more volatile employment trends affecting other parts of the province. However, the Construction sector's growth trajectory signals an increasing need for skilled labour, posing challenges in meeting workforce demands, particularly in occupations tied to infrastructure development and regional planning.

A.2 Survey Results: Worker Perspectives and Experiences in NL

This survey provides a window into the current circumstance related to work and career aspiration of individuals across the province, revealing key trends, barriers, and opportunities.

The largest group of respondents came from Labrador (31%), followed by the Northeast Avalon (25%), with the rest dispersed equally across the province. Demographically, over half of the respondents were female (53%) and aged 25 to 35 (55%), with a smaller portion aged 36 to 45 (24%). This indicates that the majority of the respondents were at prime working ages. Of the 258 respondents who answered self-identification questions, 46% identified as Indigenous, and 41% as an Immigrant, almost half of those individuals being Temporary Foreign Workers.

Among the 87 individuals who disclosed their primary income sources, 25% relied on income support, and 12% were receiving Employment Insurance (EI), reflecting financial vulnerability. Additionally, 22% of respondents were unemployed, and 21% were in part-time roles, leaving just over half in full-time positions.

Despite high educational attainment - 37% with university degrees – 35% of respondents indicated that their current job does not align with their field of study. This may be evidence of employment misalignment for those with higher degrees, highlighting further a potential skills mismatch in the labour market.

Interestingly, barriers to employment such as a perceived lack of jobs (23%) contradict the perspectives of employers and industry experts in the interviews and focus groups, suggesting a gap between job seekers and employers. Other challenges identified include insufficient networks and a lack of job information.

Forty-seven individuals responded to the question about the primary sources they use for finding jobs. 31% stated company websites as the most utilized, while the second most frequent source was LinkedIn (19%).

Looking ahead, nearly 50% of the respondents expected to remain and advance in their current field of work within the next three to five years. However, many (25%) are considering changes and transitions to new sectors or occupations, emphasizing the importance of and need for accessible training and financial assistance.

The five most common educational backgrounds identified in the survey, listed in descending order based on frequency were:

1. Engineering and Technical Fields
2. Information Technology (IT) and Computer Science
3. Business, Finance, and Management
4. Natural Sciences and Environmental Studies
5. Healthcare and Medical Fields

The most common current job titles identified in the survey were in the following areas, starting with the most mentioned:

1. Management and Administrative Occupations
2. Retail and Customer Service Occupations
3. Engineering and Technical Occupations with software engineer leading
4. Social and Community Services with support worker and home support leading
5. Healthcare Occupations

For both of those questions, Skilled Trades were ninth and tenth respectively.

Forty percent (40%) of respondents identified their current employment as either “a short or medium- term job while I find something in another field” or “a job, but not a career, it helps pay the bills”. This also aligns with the current job titles, among those retail and customer service sales, support workers and administrative roles, generally seen as transient and often precarious.

Most commonly mentioned areas of interest for those who are looking for work are:

1. Teaching and Education
2. Administrative and Office Occupations
3. IT, Tech, and Data Occupations
4. Customer Service and Retail Occupations
5. Healthcare and Social Services
6. Accounting, Finance, and Business Occupations

The data on educational backgrounds, current jobs, and desired jobs show other notable connections, reflecting both alignment and mismatch in the labour market.

The survey results reveal significant connections to the most common transition occupations and emerging themes listed. The high educational attainment among respondents, with 37% holding university degrees, aligns with the frequent transitions into skilled and knowledge-based occupations such as Tech, healthcare, and teaching.

Many individuals with degrees in engineering and Tech seem to match occupied positions in technical and engineering fields, particularly software engineering, suggesting alignment between education and employment for technically skilled workers. The most current job titles in management, retail, and customer service roles,

despite the prevalence of higher educational background, may indicate potential underemployment or a lack of available jobs that directly match some of those qualifications. Another possible explanation could be the presence of internationally trained professionals who may be going through the credential process in order to work in their field. This can be a time-consuming process, forcing people to find any employment during that time.

The most frequently mentioned areas of interest for future work - teaching, administrative roles, Tech, healthcare, and business – indicate a desire for career advancement or better compensation and stability.

The preference for occupations in Tech, education, healthcare, and business align closely with the frequency of educational background in engineering, Tech, healthcare, and business fields. This alignment may indicate a strong desire among individuals to leverage their academic expertise in future occupations. The expressed interest in teaching and education, even by individuals with technical or business backgrounds, may reflect the appeal of job stability or opportunities to contribute to the community.

The mismatch between current and desired occupations may suggest gaps in skill utilization and opportunities for career growth. For example, individuals with technical education working in retail or customer service roles may feel their skills are underutilized, prompting them to aspire to management or IT occupations. Similarly, the emphasis on healthcare and education occupations as desired fields indicates growing interest in sectors perceived as stable and essential.

A.3 Insights from Stakeholder Consultations on Education, Training, and Workforce Development

The consultations revealed various factors influencing workforce transitions, uncovering how several dynamics across sectors, labour conditions, educational structure, and personal affinities are shaping employment patterns. These findings emphasize both worker-led transitions and institutional challenges that affect occupational stability and labour market growth.

Worker-led transitions from high-stress occupations toward occupations offering better work-life balance is a growing trend that emerged in the post-Covid period. For example, workers in traditionally stable yet high-stress professions, such as teaching and nursing, are seeking transitions into office-based careers in tech and mining industries. This trend is especially notable in Labrador, where mining jobs offer competitive pay, greater flexibility, and often a better work-life balance than teaching roles. Many teachers are leveraging transferable skills to secure positions in areas like HR, administration, and other support roles within industries less demanding than the classroom. Contributing to this transition are the difficult and sometimes unsafe classroom conditions. Additionally, the rising cost of living in rural towns makes it even harder to retain professionals in education and support services roles, such as custodians and bus drivers.

The survey participants confirm the workers' desire for a better work-life balance. Work-life balance emerged as the most valued aspect of work (39%), underscoring its importance alongside advancement opportunities (17%), job satisfaction and fulfillment, and salary and benefits.

The survey also explored past job transition experience of workers in NL (Table A).

TABLE A: MOST COMMON TRANSITIONS EXPERIENCED BY THE WORKERS' SURVEY PARTICIPANTS	
Origin Occupations	Destination Occupations
Restaurant server, engineering, administrative roles, and customer service	Teaching/Education Roles: Post-secondary teacher, teacher assistant, youth care worker, lecturer.
Retail, healthcare, technical roles, and engineering	Administrative/Management Roles: Administrative assistant, office administrator, operations manager, HR, project manager, business manager.
Engineering, teaching, sales, customer service, call centres	IT and Data-Related Roles: Data analyst, software engineer, cybersecurity, systems analyst, Tech specialist, product manager.
Retail, hospitality, administrative roles	Trades/Skilled Labour: Electrician, plumber, carpenter, welding engineering technician, heavy equipment operator.
Services, teaching, childcare, engineering	Healthcare and Social Services: Nurse, healthcare assistant, mental health advocate, social worker, HR in healthcare
Retail, banking, non-profit work	Sales and Customer Service: Sales manager, customer service manager, call centre operator, recruiter.
Services, retail, and factory work.	Entrepreneurship/Freelancing: Startup founder, paid acting, vintage resale business, crop farming.
Skilled labour, technical education.	Engineering and Technical Roles: Process engineer, mechanical drafter, electronics technician.

The past transition experiences of the survey participants indicated that there was a clear motivation and desire for professional stability and growth. Tech, healthcare, and teaching are some examples of reliable professions. A significant number of people seemed to have transitioned into tech-related fields, with roles in programming, data science, and cybersecurity. While this is still a stable sector with some growth, as confirmed in the consultations, this may indicate potential surplus of those occupations. Transitions often stem from a desire for better compensation, seniority, or a more fulfilling career path, which is also reflected in provided examples. Several respondents mentioned pursuing certifications, diplomas, or degrees to facilitate their career transitions, with several having on-the-job training. A smaller group opted for entrepreneurial paths, leveraging unique skills and experience.

Data gaps and insufficient labour market analysis were identified as key missing pieces in not only transitions, but workforce development in general. Access to comprehensive, current labour market data remains a challenge for both employers, industry associations, and educational institutions. Despite some collaboration between industry and training organizations, much of the data necessary for informed decision-making is either inaccessible or not adequately contextualized. Investments in data collection and analysis would allow for a better alignment between labour supply and demand, supporting data-driven policies that can address workforce gaps, support successful transitions, and anticipate future needs.

Relocation challenges and demand for mobility can be barriers to transition. For many, transitioning into a new career that requires relocation is a significant life decision. Rural job opportunities in NL offer exciting prospects, yet they often require workers to move away from their homes, communities and families. A move to a remote location additionally raises questions about the availability of housing, healthcare, amenities, and infrastructure. Addressing these practical challenges is essential for encouraging workforce transitions into rural projects, as quality-of-life considerations weigh heavily in relocation decisions.

In the workers Survey, when asked if they would be willing to relocate to another community or region in the province, 62% of participants responded positively. This may indicate the urgency with which the workers are looking for employment or more meaningful employment, somewhat contradicting the prevailing sentiment with our key stakeholders of the abundance of jobs in most sectors. Those who were not willing to relocate to different areas of the province shared compelling reasons for why this would be a challenge. Some key factors influencing individuals' decisions not to move include strong existing family and social ties, such as caretaking responsibilities and established community connections; financial constraints, including high relocation costs and limited resources; employment and educational factors, including family members' stable jobs and children's schooling, also impact the decision to remain. Many also cited the province's quality of life, safety, and familiarity as important lifestyle preferences, alongside practical challenges like dependence on local transportation and the difficulty of adapting to a new environment.

Another significant challenge for those living and working in rural areas of the province identified in several focus groups was inadequate cell coverage. Broadband exists, but it is not always available in all parts of the province.

Demand for mobility is not only emphasized in geographical terms, but also in terms of moving from one occupation and career to other.

> "The demand for forty-year careers is declining, and the demand for mobility is increasing significantly; so, the days of finish high-school and then finish your higher education and then go to a job for 40 years – that is done, it's finished. A lot of skill cross over, demand for non-specialized skills is growing. Communications, time management, project management, leadership, particularly communications. There is a mixing of occupational skill set happening and the lines are getting thinner. There is a significant need for cross-occupational skills set and the ability of workers to transition from occupation to occupation. Training institutions are not prepared for this. "
>
> – Training Program Developer/Researcher

There is a **lack of early and sustained exposure to opportunities in Trades**. A consistent message from consultations highlighted a critical gap in early Trades education. Currently, students are introduced to trade-related career paths much later than recommended by many respondents, missing early engagement opportunities that might steer them toward promising careers. The idea of introducing students to trades as early as Grade 7 was repeatedly emphasized as a potential solution, echoing models like those in Ontario, where students begin Trades education in Grade 11. This approach could create a five-year pipeline, according to experts, preparing the workforce to meet upcoming demands in sectors like marine, offshore support, and natural resources exploration industries. Establishing this pipeline is essential as these industries prepare for large-scale projects requiring a skilled labour force. This goes beyond Trades as well.

> "We always seem to focus on universities and colleges, but we need to start getting into younger institutions, and I am not talking high-school, I'm talking elementary school. Because the kids will go back and tell their parents, this person was in and talked about something, and I want to know more. We need that awareness piece there; we need to get that conversations happening at much earlier age than we currently do".
>
> – Industry Development Manager

Another issue identified in the consultations is **gaps in career development supports for young students**. In many high schools, the mandatory career development course is not delivered by specialized career development professionals, and other school staff are often unfamiliar with diverse career options, diplomas, and certificates that could guide students into specialized fields. With school counsellors overburdened by various issues outside of career coaching, the ability to advise students on long-term career paths when they most need it is limited. This gap affects students' ability to make informed decisions about future opportunities and to explore diverse post-secondary and vocational paths. Many students lack a clear understanding of what specific programs are offered and the types of careers these programs enable. Improved communication of program benefits, career outcomes, and industry connections could help bridge this gap and guide more individuals into relevant fields.

> "When youth are placed with employers through post-secondary employment funding opportunities, they are placed in service industry mostly, and we can't find any other employers to give youth a taste of something different. Summer programs are there, but youth are not interested. Also, young people are not always able to communicate, they are not using email, which limits their options."
>
> – Pre-employment support specialist, West Coast Region

A telling piece of evidence that emerged through consultations is the **decline in post-secondary enrolment and number of graduates**. Decreasing enrolment rates, particularly at university, have resulted in a lower supply of graduates to meet workforce demands, especially in the areas of projected growth. Total student enrolment at Memorial University fell by 5.4% from the previous year, and graduate student enrolment declined by 7.7%. This decline creates a bottleneck, especially as employers are increasingly eager to hire students even before graduation, which was particularly emphasized for Marine Institute programs. In contrast, the enrolment at the College of the North Atlantic for the Fall 2024 has increased by 3.2%, much of the increase attributed to "strategic programs expansion and the addition of new offerings across high-demand fields". Training institutions are eager to keep pace with industry demands for new talent, highlighting the need for initiatives to boost post-secondary engagement and program completions, particularly in fields aligned with workforce needs.

Local stakeholders highlighted **slow adaptation of HR policies and outdated recruitment practices**. HR policies have been slow to evolve alongside the changing labour market. Outdated job descriptions, rigid definitions of entry-level occupations, and dated application platforms hinder both employers and employees. These practices can pose significant barriers to transitions, limiting workforce adaptability and discouraging job seekers from navigating outdated systems. Streamlining recruitment platforms and updating job descriptions could facilitate transitions by allowing a broader spectrum of candidates to demonstrate their skills and qualifications without restrictive application processes. On the **West Coast**, workers and employers expressed concerns over the predominance of low-paying jobs in the area, making it challenging to retain skilled workers or attract new talent. Focus group participants emphasized that a structured "bridging" mechanism from training programs directly into employment could be more effective than merely facilitating transitions from one job to another. By strengthening the connection between training and immediate job placement, particularly in entry-level

and transitional occupations, there is potential to address gaps in employment quality and workforce retention within the region.

Out of 177 respondents who answered the question about factors that would boost their confidence in making job or career transitions, 139 or 79% chose clearly defined skills and qualifications in the job posting as the most helpful. This is very much in line with what was heard from recruiters and employers as they acknowledged the need to revamp some HR practices, including overly rigid job descriptions, excessive focus on credentials rather than skills, and reliance on traditional assessment criteria. As one industry expert pointed out, “we need to hire for purpose, not the degree”.

Motivation and personal disposition are critical factors in successful job transitions, as they influence both the willingness and ability of individuals to embrace change. It was noted multiple times in the consultations that “a job transition may be possible between two different but similar occupations, but it may not be desirable; people need to be motivated”. Transitions are most successful when they align with an individual’s goals, values, and perceived sense of purpose, making career counselling and coaching vital for helping people identify their "why." Building confidence through skills-building workshops, mentorship programs, and sharing success stories can reduce fear and uncertainty, while providing clear and manageable pathways—such as short-term certifications or government-supported training—can make the transition feel achievable. Viewing change as an opportunity rather than a risk takes collaborative effort. Celebrating small successes along the way and creating structured support that address both financial and psychological barriers can further sustain motivation.

In many sectors, particularly in the Trades, there is **no sufficient and strategic succession planning and mentorship opportunities**. The aging workforce and limited availability of experienced mentors can create gaps in knowledge transfer. Encouraging mentorship programs and engaging senior workers in training roles would support the next generation of tradespeople and other occupations and maintain a steady talent pipeline across industries.

A lack of awareness about training opportunities and funding options to support workers transitioning between industries is identified as a significant barrier. Many workers, especially those in declining industries may not know about the resources available to help them reskill or upskill for emerging opportunities. This gap in awareness can prevent them from taking the first steps toward entering growing sectors, even when they have transferable skills that could ease the transition.

> “It still comes back to critical mass and awareness. In our case, for instance, there’s a perception issue. People still associate the Ocean economy with fishing in a dory. We ran a program with junior high school students in Nova Scotia and Newfoundland, and in every school we visited, when we asked, What kinds of jobs do you think exist in the ocean economy? The answers were always fishing and defense.”
>
> – OceanTech Expert

Similarly, funding programs, such as government subsidies, grants, or employer-sponsored training, are often underutilized due to insufficient promotion or complex application processes. Workers may not realize these programs exist or may lack guidance on how to access them. Without clear and accessible pathways, individuals are left feeling overwhelmed by the financial and logistical challenges of pursuing new careers.

[48] Gazette, 2024. https://gazette.mun.ca/campus-and-community/student-enrolment-update/

A.5 Insights into transition opportunities for underrepresented groups in the workforce

Despite progress in gender diversity across various fields, women remain significantly underrepresented in many sectors in NL, such as in Engineering Technology, Trades, Construction, Forestry, Mining, and Ocean Tech. Ocean Tech, in particular, is still dominated by white men, with limited diversity in terms of gender and race. This lack of representation creates barriers not only to workforce entry but also to innovation, as diversity of thought has been shown to drive better problem-solving and creativity.

The demographic in marine Trades largely reflects rural backgrounds, with many participants coming from fishing or community-based construction industries. While the industry continues to be male-dominated, efforts are being made to attract diverse candidates, including women and Indigenous peoples. One instructor noted, "The majority are still male, but it's much more accepted now to see women in these courses, and we aim recruitment at females and other diversity groups." Despite these recruitment efforts, geographical factors still influence people's choices, where "a lot of people from urban areas don't see these programs as a path to a career."

> "In the Marine industry, we have plateaued when it comes to females. This is not new. We cannot break the 30% representation of women in our workforce, we fluctuate between 25-30%. I know in the past we were targeting females in these occupations, but I do not see any targeted recruitment for females in the shipbuilding industry."
>
> – Industry recruiter

When it comes to the Trades and Construction industry, "women are still underrepresented and discouraged in this industry". There is a real effort to retain women in positions in the Construction industry in particular.

> "Women tend to be very good electricians, and there's two reasons for that: one is, there are a lot of women that tend to be very petite, and their hands are smaller, so easier to work with tools and electrical panels under ceiling tiles. The other thing is, a lot of women have good mathematical aptitude, which is needed as a skill in this occupation. So dexterity and math are an advantage for women."
>
> – Industry expert

Programs to introduce young women to STEM fields and Skilled Trades earlier in their education could help mitigate this disparity. These initiatives could include hands-on, project-based learning, which has proven effective for engaging women and other underrepresented groups in fields they might otherwise overlook. Mentorship programs, where women are paired with experienced professionals, could further support career advancement and retention. In addition, workplace culture adjustments to promote gender equity, such as family-friendly policies and support for career breaks, would be essential for sustained inclusivity in these male-dominated fields.

STEM programs for girls are both effective and essential in addressing gender disparities and fostering interest in these fields. The consultations confirmed that it is important to approach such initiatives thoughtfully. In urban or densely populated areas, where a wide range of programs and opportunities exist for various groups, these targeted initiatives are highly beneficial. In rural or underserved regions, however, where opportunities and resources are limited for all youth, it was suggested that it may be more equitable to focus on inclusive programs that provide access and support to all young people, regardless of gender. This ensures that no groups are inadvertently left behind.

The consultations uncovered that Indigenous communities in NL, especially in Labrador, face significant workforce challenges. With high youth migration and limited local job opportunities, Indigenous people often need to relocate for work and education. This transition is not only costly but also disruptive for families who need affordable housing if moving to a larger community like Happy Valley Goose Bay. Additionally, Indigenous learners tend to excel in hands-on, experiential learning environments, yet few programs cater specifically to this style. Transferrable skills are abundant in these communities, particularly among those with experience in fishing, construction, and other Skilled Trades. Fishermen, for example, possess numerous skills—such as boat building and equipment maintenance—that can easily be applied to construction and industrial settings.

> "When you get to like indigenous communities, there's just, it's, it's actually really interesting there because there's such a history, right? And, and the ocean is so tied to their culture, and what makes their community, but they don't see themselves in the, well, you know, what they'll call like mainstream careers. And so there is a huge gap in helping people connect those dots. But yeah, I think the training is there. I think it's more about helping people realize what they need to do."
>
> – An Ocean Tech professional when talking about the exposure of Indigenous people to ocean-related jobs

Vocational programs designed to build on these skills could open up new job opportunities. Additionally, trauma-informed, culturally inclusive supports, including mental health services and culturally aware employment counsellors, are critical for Indigenous youth who may face unique stressors due to past and present trauma. These holistic services could help Indigenous communities achieve greater stability and access to meaningful employment without needing to migrate as frequently.

Immigrants represent a potential solution to NL's labour shortages, yet they often encounter systemic barriers that prevent full participation in the workforce. Language proficiency is a primary barrier, especially in occupations requiring high-level English skills, such as those in education and healthcare. Moreover, certain work permits restrict immigrants from working with children or in other sensitive areas, which complicates job placements. Cultural and systemic biases further limit opportunities, leading many immigrants to accept entry-level jobs below their qualifications. Expanding language support programs and providing resources like digital translation tools could significantly aid newcomer integration. Additionally, removing unnecessary bureaucratic restrictions on work permits, coupled with workplace training for cultural sensitivity, would help make the workforce more accessible. Programs like the construction course with the Association for New Canadians (ANC) exemplify how targeted training initiatives can bridge skills gaps and connect immigrants with in-demand occupations in Construction, where their skills are greatly needed.

The employment landscape for people with disabilities is gradually transitioning from physically demanding jobs to more accessible, knowledge-based occupations in fields such as technology and customer support. This shift presents new opportunities for people with disabilities, particularly those seeking entry-level roles that require strong communication skills and the ability to market their abilities. Despite these advancements, many individuals with disabilities still face barriers in finding meaningful employment. Training programs that focus on developing soft skills—such as communication and self-advocacy—could better equip them for knowledge-based occupations. Employers could also benefit from support in creating inclusive workplaces that accommodate varying abilities and provide accessible technology and adaptive tools. As the workforce evolves, integrating accessible design into job roles and remote work options will be essential for increasing employment rates among people with disabilities.

> "A person had a hearing impairment, and we were wondering how we can accommodate that person in a classroom during the training. And the solution was very simple. Get me someone who can help me, get me an assistant, get me close captioning. But it was all new to us as an employer. So I think if you have that open mind and you are willing to work with the person because this person was someone with great charisma, participated as much if not more than any other person in class, so it didn't hold them back. I think if you have that open mindset in allowing people with any type of disability or any type of accommodations to welcome them in the class, there is going to be great success all around".
>
> – Industry Development Manager

With NL's aging workforce, retaining mid-career and senior workers is increasingly vital. The NL labour market data showed a decline in youth entering the workforce, and as more workers retire, gaps in experience and knowledge are expected to widen.[49] Many older workers, however, wish to extend their careers, particularly those who find it challenging to live on retirement income alone. Community advocates suggested that retraining programs in sectors like retail, tourism, and hospitality—fields that offer part-time or seasonal employment—could provide practical opportunities for older workers to remain active. These jobs often involve customer interaction, which has been shown to support mental and emotional well-being among seniors. Companies that recognize older workers as assets rather than liabilities can also benefit from mentorship programs, where seasoned employees pass down valuable knowledge and skills to younger staff. Programs that address the specific needs of older workers, from flexible hours to job-sharing options, would foster an environment where senior employees can continue contributing without overexerting. Additionally, bridging older workers into tech-savvy occupations through introductory technology training could allow them to adapt to the digital demands of modern workplaces. Similarly, in Trades there is an opportunity to engage older workers.

> "This to me sounds like there's an opportunity for aging population in particular fields to then pick up in a different way. They could start mentoring or have some role within our training, whether it's practical, you know, practical sessions or so. What we're looking at is transitioning people within a shorter period of time."
>
> – Education Expert

[49] Youth Labour Force Characteristics by Gender, Monthly, NL. https://www.stats.gov.nl.ca/Statistics/Topics/labour/PDF/LFC_NL_Youth_Monthly.pdf

Appendix B - NL Key Informants

1. Amanda Skanes, Director of Academic Development & Planning – College of the North Atlantic (CNA)
2. Mike Long, Dean of Applied Research & Innovation - CNA
3. Gary Thompson, Dean of Sustainable Development - CNA
4. Brent Howell, Dean of Natural Resources & Industrial Trades - CNA
5. Stephen Warren, Dean of Business & IT - CNA
6. Sonny Hegde, Dean of Engineering Technology - CNA
7. Ian Skanes, Program Developer - Curriculum Advancement - CNA
8. Sandi Badcock, Manager, Community Based Education Delivery – Marine Institute
9. Georgina White, Assistant Head (Interim), School of Ocean Technology – Marine Institute
10. Kristopher Drodge, Head of School, Maritime Studies – Marine Institute
11. Travor Brown, Dean, Faculty of Business Administration - Memorial University
12. Jessica Noseworthy, Executive VP – Keyin College
13. Lisa Lovelady, VP/COO - Academy Canada/Eastern Academy
14. Liam Flanagan, Program Manager, Ready Talent - TechNL
15. Ogaga Johnson, Director of Workforce Development – Econext
16. Colin Corbett, Director, Clean Energy Innovation - Econext
17. Darin King, Executive Director - TradesNL
18. Nancy Andrews, Chief Engagement and Communications Offices - Canada's Ocean Supercluster
19. Shelly Petten, Executive Director - OceansAdvance
20. Charlene Johnson, CEO - EnergyNL
21. Amanda McCallum, Executive Director - Mining NL
22. Rhonda Neary, President/COO - Newfoundland and Labrador Construction Association (NLCA)
23. Bill Dawson, Executive Director – Newfoundland and Labrador Forest Industry Associations (NLFIA)
24. Jamie Baker, Executive Director – Newfoundland Aquaculture Industry Association (NAIA)
25. April Bowne-Stone, Learning and Development Specialist - Employment Options, IPGS, Government of NL
26. Jessica McCormick, President - NL Federation of Labour
27. Ross Houlihan, Economic Development Officer, Ocean Technology – Industry, Energy and Technology (IET), Government of NL
28. Lori Ledrew, Executive Director - Office to Advance Women Apprentices (OAWA)
29. Jim Murphy, Director of Employment Services - Association of New Canadians (ANC)
30. Michelle Blundon, Director, Career Development - Women in Resource Development Corporation (WRDC)
31. Randy Follett, Manager, Regional Economic Development – IET, Government of NL
32. Rene Jeddore, Director of Training and Economic Development - Miawpukek First Nation
33. Dorothy Pye-Johnson, Director of Employment & Skills Development - NunatuKavut Government
34. Valerie Howe, Director - Gardner Centre, Memorial University
35. Mary Ford, Training and Workforce Development Coordinator - TradesNL
36. Sondria Browne, Outreach Coordinator - Murphy Centre
37. Shelley Andrews Career, Development Coordinator - Avalon Employment
38. Stephen Quinn, Career Services Coordinator - EmpowerNL
39. Ron Taylor, Director of Strategy - Connections for Seniors
40. Hannah Janes, Manager, People and Culture – YMCA of NL
41. Mara Hayward, Employment Services Manager - The John Howard Society of Canada
42. Ema Shiroma-Chao, Career Development Coordinator – Memorial University

43. Kristen White, Career Development Coordinator – Memorial University
44. Dr. Earl Walker, Senior Research Associate – Community Sector Council NL (CSCNL)
45. Geoff Newman, Manager of Strategic Initiatives – IPGS, Government of NL
46. Jennifer Meadus, Director, Workforce Development Secretariat – IPGS, Government of NL
47. Derrick Barrett – Manager, Labour Market Information – IPGS, Government of NL
48. Sergio De Leon, Human Resources Manager - NLSchools
49. Stefanie Tuff, Executive Director – Newfoundland and Labrador Teachers Association (NLTA)
50. Ian Crewe, Assistant Executive Director – NLTA
51. Trent Langdon, President - NLTA
52. Dan O'Brien, Human Resources Manager - NLSchools
53. Jennifer Vinnedge, Recruiting Specialist - Nasdaq
54. Alex Gibson, Human Resources Advisor - Pennecon
55. Peter Crowe, Vice President Regional Leader, Atlantic Canada - Stantec
56. Travis Richards, Program Development Strategist – Calibre Valentine Gold Mine
57. Steven McGinn, HR Program Manager - PAL Aerospace
58. Janessa Cole, Director of Operations - HR Project Partners
59. Ryan Thistle, Partner/Recruitment Talent - Venor
60. Jamie Griggs, Group Advisor - RBC
61. Charlene Gibson, Atlantic Senior Recruiter - RBC
62. Simon Hurd, Senior Talent Acquisition Specialist - RBC
63. Gale Gillingham, Technical Training Manager – Genoa Design International Ltd.
64. Cheryl Simpson, Director of HR - Genoa Design International Ltd.
65. Faith Barnes, Human Resource Coordinator - Genoa Design International Ltd.
66. Jan Mertlik, Co-Founder and CEO, Get Coding
67. John Chaytor, Senior Policy Planning and Research Analyst – IPGS, Government of NL
68. Submission prepared by representatives of the Health and Community Services (HCS), Government of NL
69. Submission prepared by representatives of the Department of Children, Seniors and Social Development (CSSD)
70. Submission prepared by representatives of the Department of Industry, Energy and Technology (IET)
71. Submission prepared by representatives of the Department of Tourism, Culture, Arts, and Recreation (TCAR)
72. Submission prepared by representatives of the Department of Finance

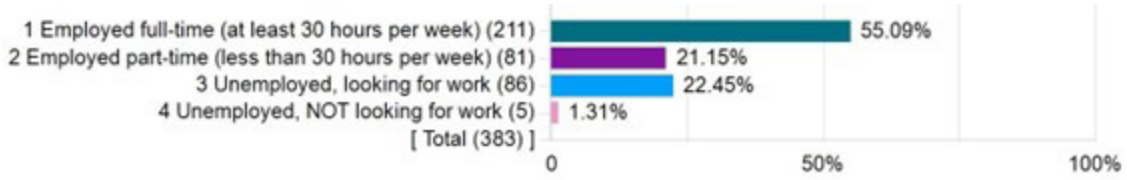
Appendix C – Workers' Survey

The survey was publicly distributed via social media and widely shared by the general public. Additionally, it was targeted and distributed to specific stakeholders with the clear intent of reaching individuals who were unemployed and seeking work, underemployed, or considering a career or employment change. Those include:

1. Sondria Browne (Murphy Centre)
2. Shelley Andrews (Avalon Employment)
3. Dorthy Pye-Johnson (NunatuKavut)
4. Michelle Blundon (WRDC)
5. Kristen White (MUN - Career Development)
6. Rahaf HajAhmad (TechNL Student Membership)
7. Jim Murphy (ANC)
8. Rosalind Strickland (Employment Options)
9. Cheryl Penney (Employment Options)
10. Melanie Adams (Employment Options)
11. Katrina Locke (Employment Options)
12. Mini Nair Jayasankar (SDO - PPD)
13. Sarah Maunder/Briffett (SDO - Ridge Road)
14. Yaniv Koblentz (SDO - HVGB)
15. Tracy Holloway (SDO - Clarenville)
16. Brittany Glover (SDO - Gander)
17. Lavinia Crisby (SDO - St. Anthony)
18. Adam Berry (SDO - Bonovista)
19. Samantha Allen (SDO - PAB)
20. Elizabeth Parrott (SDO - Burin)
21. Jennifer Richardson (SDO - Placentia)
22. Johnathan Bennett (BDO - Stephenville)
23. Audrey Wade (CEC)
24. Ashley Christopher (CNA-CB)
25. Lisa Lovelady (Academy Canada/Eastern)
26. Lori Ledrew (Women Apprentices)
27. CNA Alumni
28. Deatra Walsh (MNL)
29. Alison Stamp (MUN Alumni)
30. Laura Aguirre Polo (AMAL)

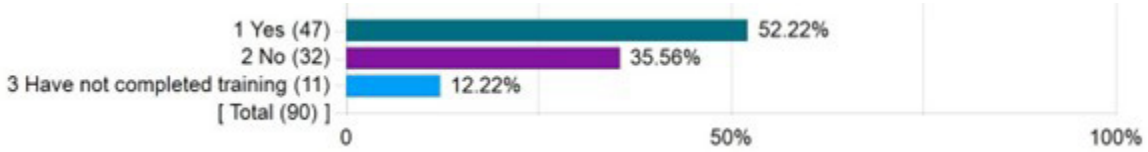
Survey Report Results

Currently, what is your main employment activity?

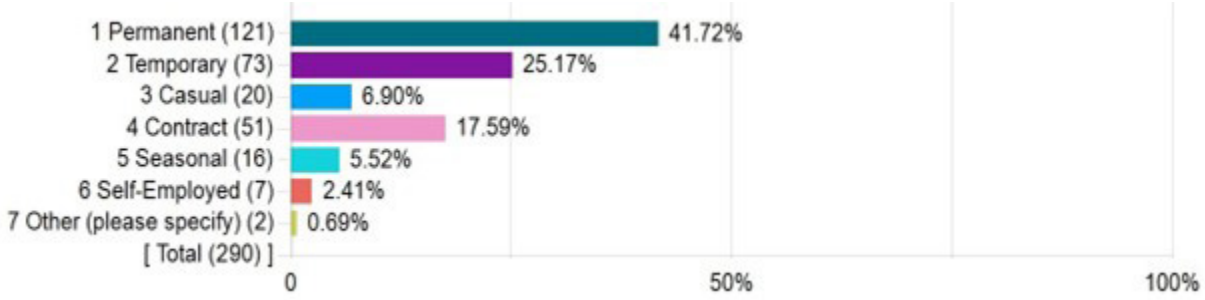


Is your current job related to the field of study you completed?

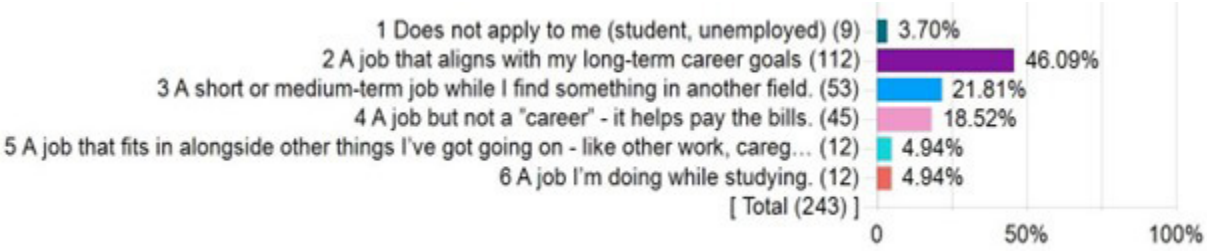
Have you at any time been employed in a job that is related to your completed field of study?



Please identify what best matches your current employment status:

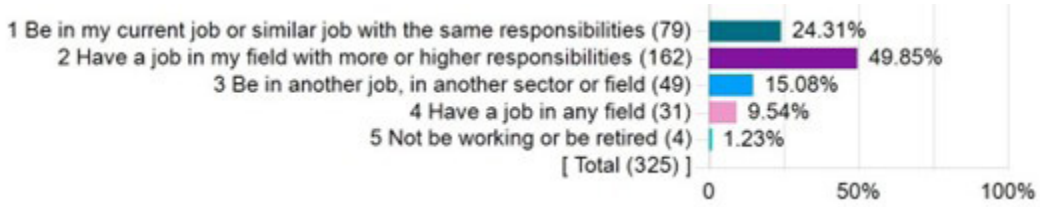


Please identify the statement that best matches how you see your current job:



How many years of experience do you have working in your occupation that you trained for?

Considering your current situation, what do you expect to be doing 3-5 years from today?

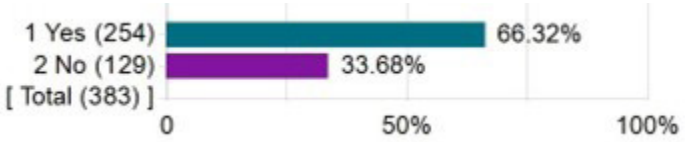


Please select your response of the following statements:

1. Have you changed jobs or career in the past 10 years?

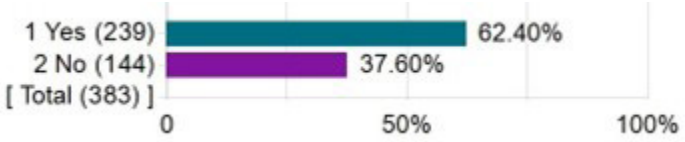
If yes, what job or career did you transition into, and what type of training, if any, did you undertake? (Please specify).

2. Are you interested in transitioning to a different job/career?

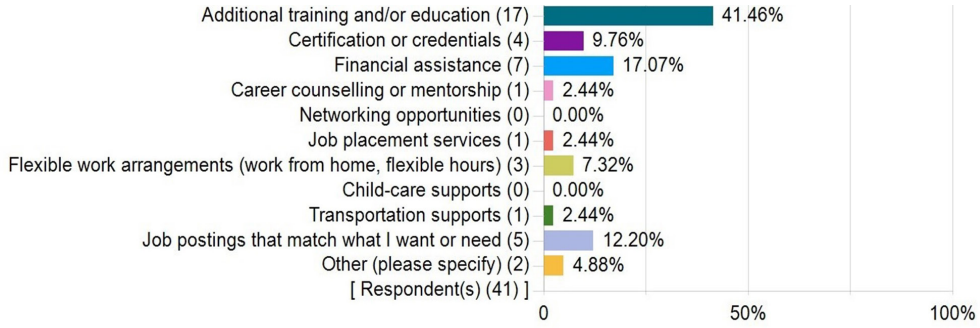


If yes, what kind of occupation or career would you be interested in transitioning to? (Please specify).

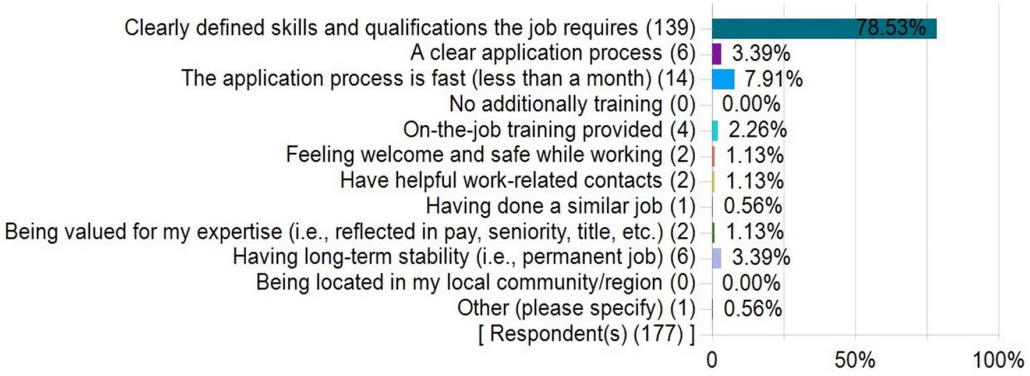
3. Would you be willing to relocate to another community/region in the province?



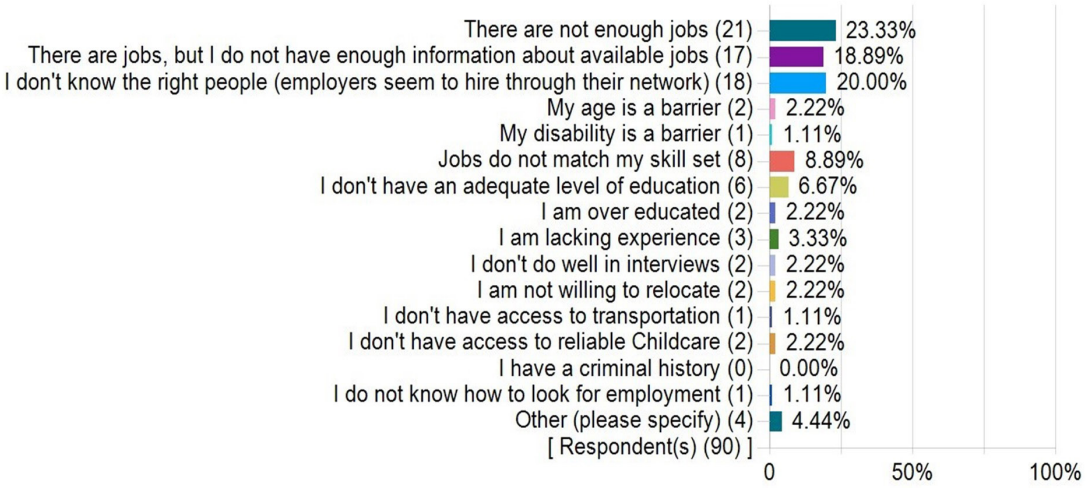
What would you need to transition to a new job or career?



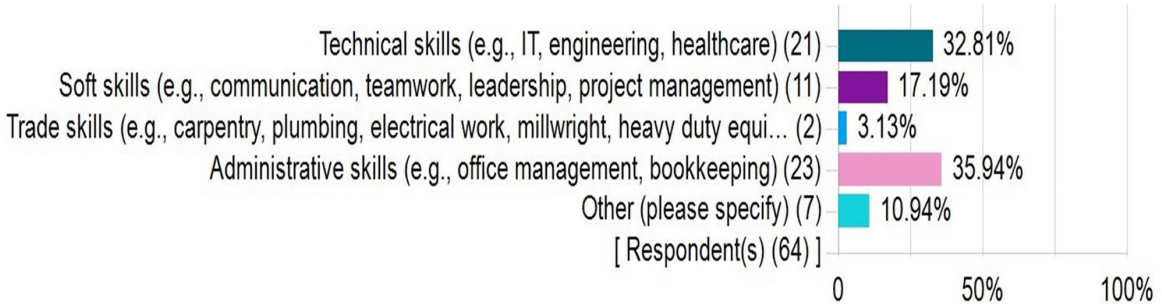
Which of these things would help you feel most confident about moving into a new job or career?



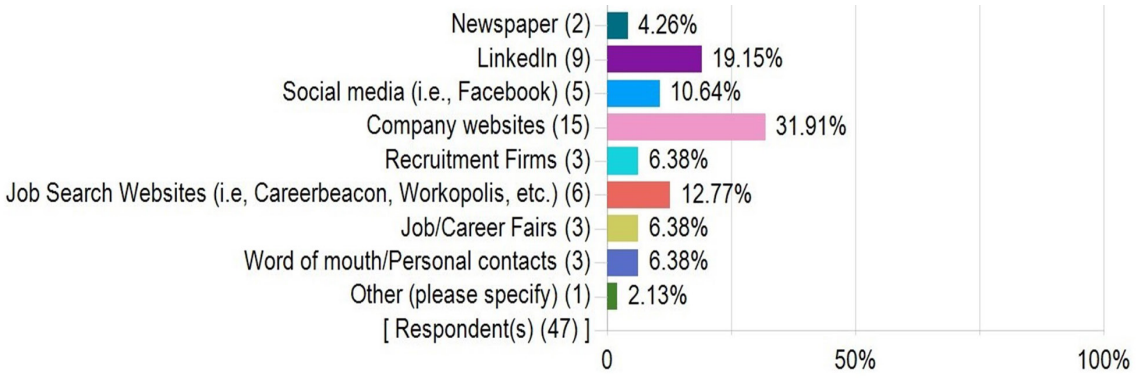
What are the main barriers associated with finding employment for you?



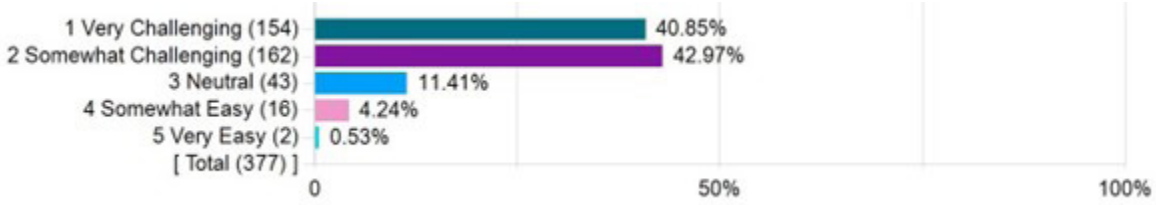
What additional skills do you feel you need that would help you transition to a new job or career?



What are the primary sources you use for finding jobs?

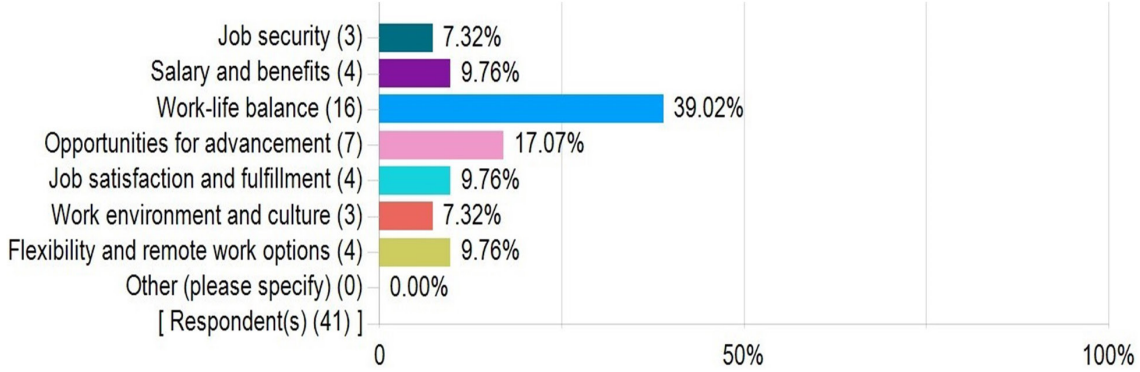


How challenging is it to find a new job or career in Newfoundland and Labrador?



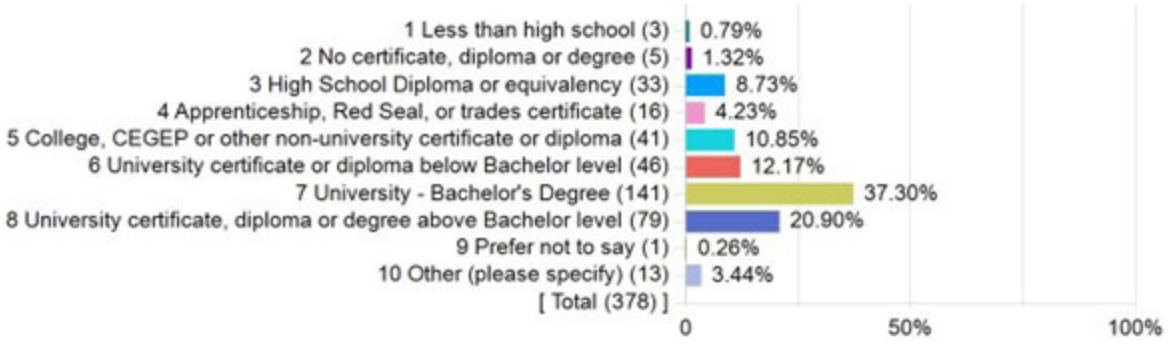
What would you be willing to do for a new job or career opportunity?

What do you value most about work?

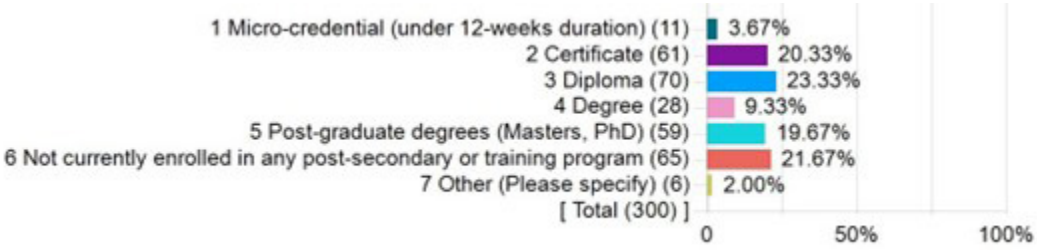


Demographics

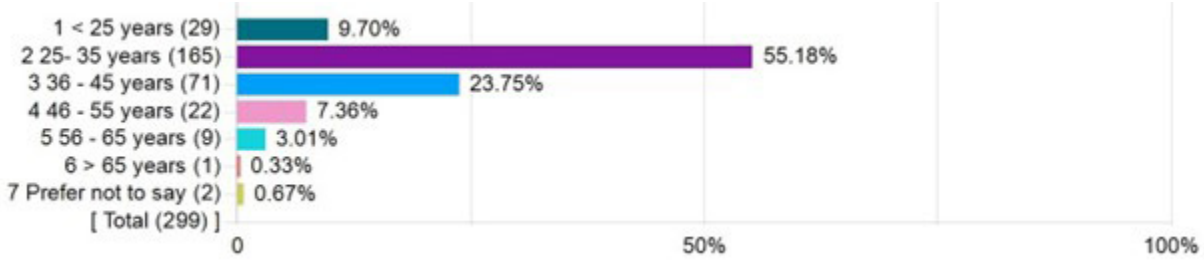
What is the highest level of education you have completed?



Please select from the below listed public or private post-secondary educational and/or training programs you are currently enrolled:

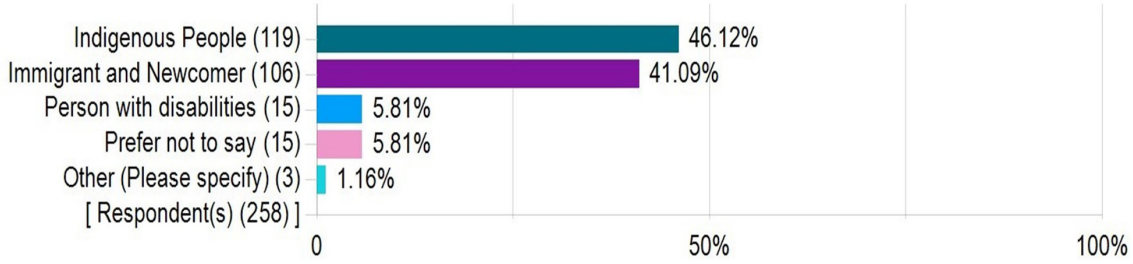


What is your age?

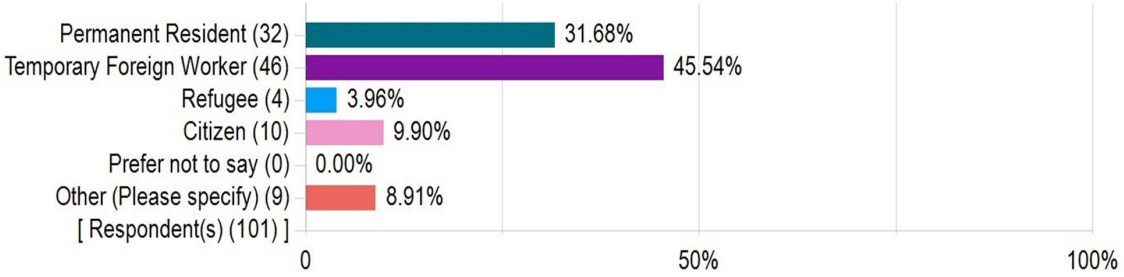


Please select gender from list below:

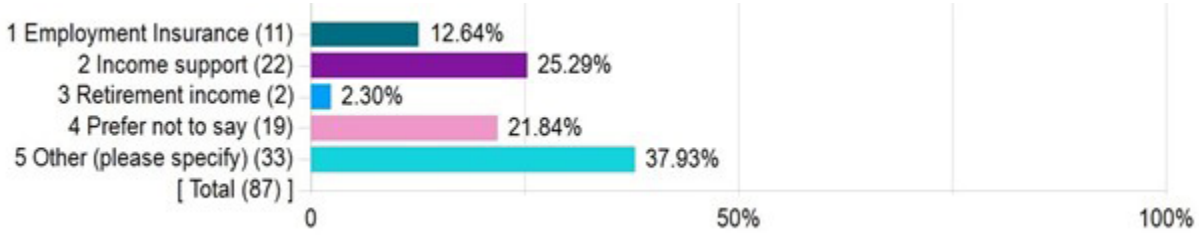
Do you self-identify with any of the following groups?



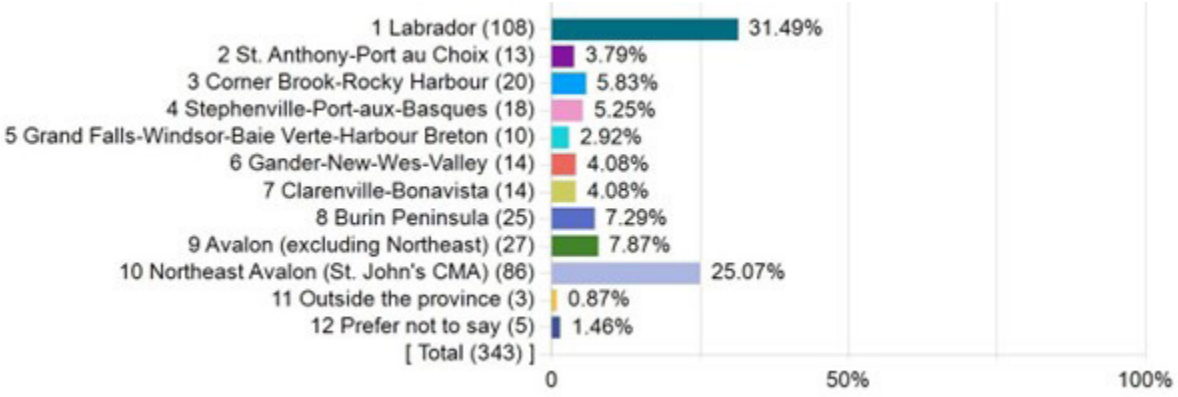
As an immigrant and newcomer what is your status in Canada?



What is your primary source of income?



In what region of Newfoundland and Labrador is your primary residence located?



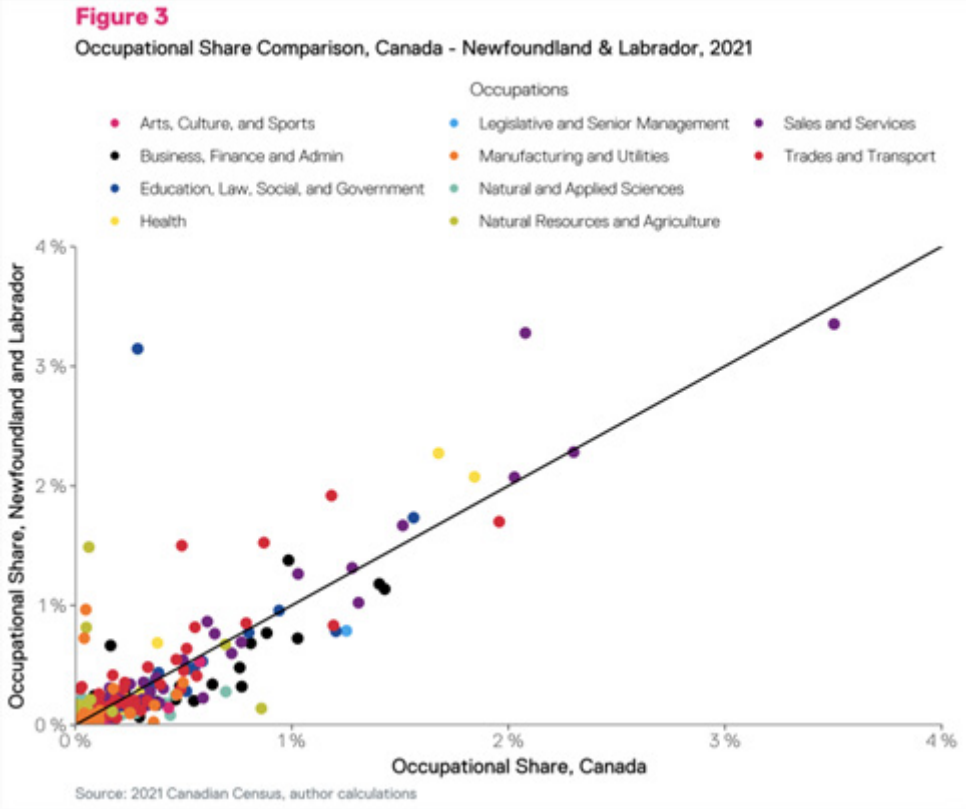
Appendix D – Phase 1 Data Analysis and Findings

This Appendix provides the detailed analysis process and methodology as it was outlined in the original Phase 1 Manuscript to supplement the results in the main body of the report.

A Skills Profile for Newfoundland and Labrador

When analyzing the NL's skills profile, we focus on key industries, occupational demand, skills requirements, and educational attainment.
Occupational Demand

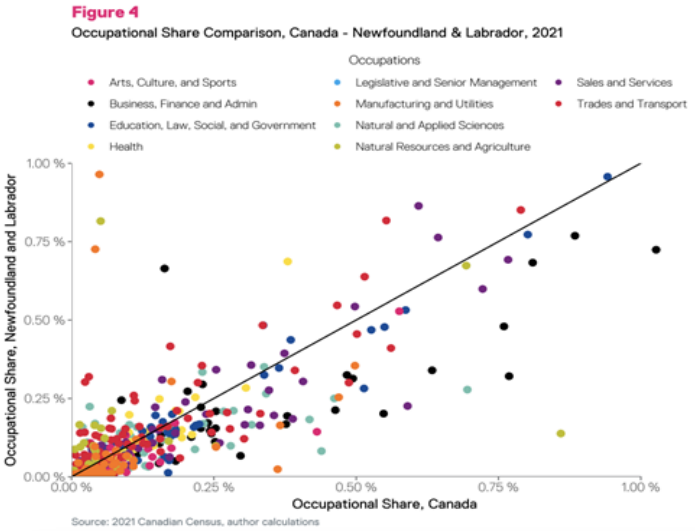
When the NL labour market is compared to the general Canadian labour market, some clear trends emerge that reflect the economic structure discussed at this report's introduction. We used 2021 Census data to analyze and compare the share of specific occupations in NL with the rest of Canada, presented in Figures 3 to 5.

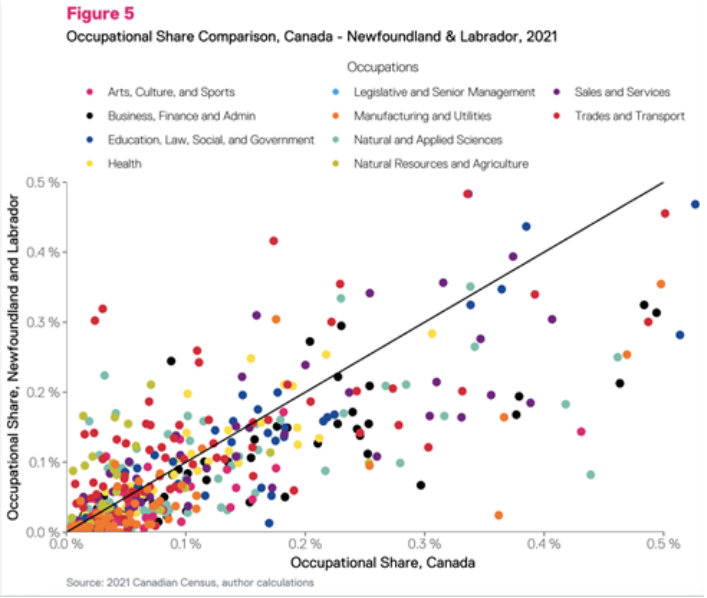


Each coloured dot in Figure 3 - 5 represents a different occupation categorized according to its one-digit, broad category 2021 NOC occupation. The position of each dot on the graph indicates the relative concentration of that occupation in Newfoundland and Labrador compared to the rest of Canada. If a dot is above the trend line, it signifies a higher concentration of that occupation in Newfoundland and Labrador compared to the national average. Conversely, if it's below the trend line, it indicates a lower concentration in Newfoundland and Labrador. The positive slope of the trend line indicates that as the share of an occupation increases nationally, the share of that same occupation in Newfoundland and Labrador also tends to increase. For example, gray dots representing natural resources and agriculture, and red dots representing trades and transport, are positioned above the

trend line. This suggests that these occupations have a higher concentration in Newfoundland and Labrador compared to the national average. Conversely, dots below the trend line indicate occupations that are relatively less concentrated in Newfoundland and Labrador compared to the national average.

Figure 4 and 5 in particular zoom into the lower left quadrant of Figure 3.





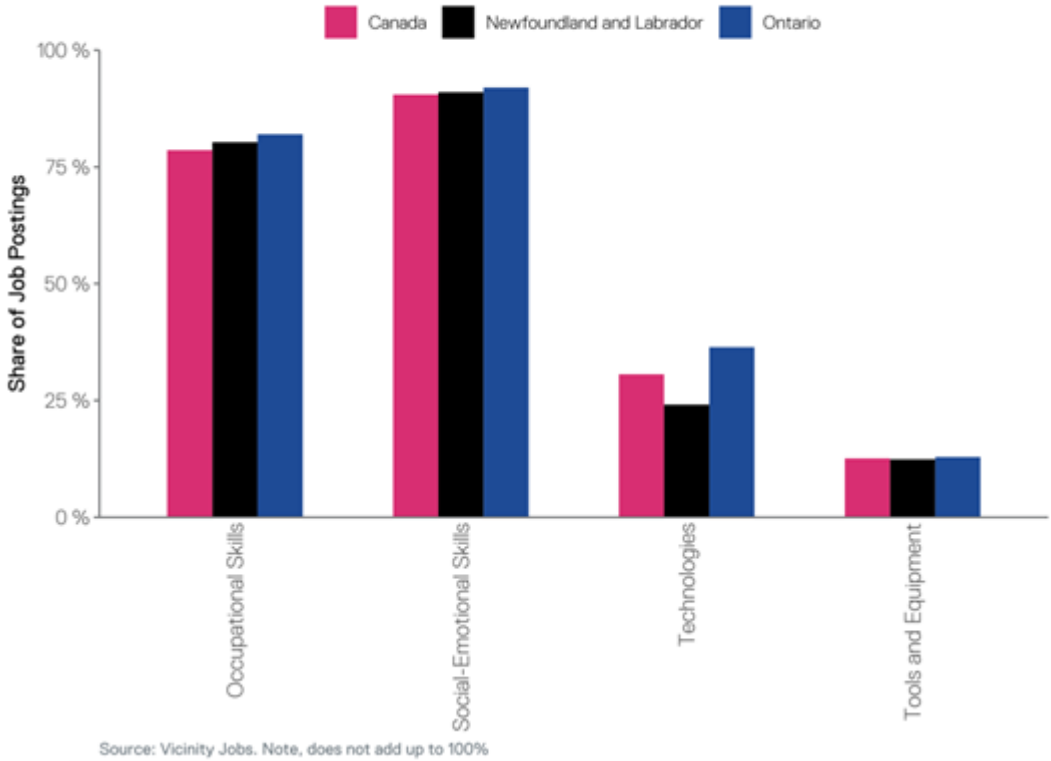
It is evident from the graph that NL has a high proportion of public sector workers (health, education, legislative and senior management). In addition, NL's overrepresentation of workers in natural resources and agriculture, NOC 8, (grey dots) confirms the validity of this analysis. Under the natural resources, the NOC code includes labourers; landscaping and grounds maintenance labourers; aquaculture and marine harvest labourers; mining labourers; oil and gas drilling, servicing and related labourers; and logging and forestry labourers. We also note a higher than national share of those working in trades, transport, and equipment operators (red dots), compared to the Canadian labour market, and a comparable share of sales and services occupations (purple dots), jobs often of precarious nature with lower wages. This data from 2021 shows that there were fewer occupations in NL often associated with high pay and stable macro-employment conditions (such as tech workers, or other traditionally white-collar workers in business and finance). A 2022 study from the Centre for Future of work shows business, professional/tech services, and finance as the sectors with the fastest wage growth. (Comparing-Wage-Trends-July2022.pdf (centreforfuturework.ca)).

Skills requirements

The skills and qualifications requirements vary by industry. Skills are generally grouped as: occupational skill, social-emotional, tools and equipment, and technologies. When we look at the skills requirements in the composition of labour demand in NL compared to other provinces, jobs in the province were less likely to ask for proficiency in technologies (36.8% in Ontario, as opposed to 24.1% in NL). As the share of job postings in other skill groups is similar across the provinces, this point towards a stronger focus of the labour market in the kind of jobs that do not require the ability to work with specific technologies, such as arts, entertainment and recreation, wholesale and retail trades, health care and social assistance or accommodation and food services (Skills in Demand by Industry | Careers Nova Scotia).

Figure 6

Skills Requirements in Online Job Postings



Source: Vicinity Jobs. Note, does not add up to 100%

This trend is more significant still, given that by May 2021, remote-work arrangements for these positions were still the norm, thus necessitating the need for technology-enabled work environments (through use of software such as Zoom). In 2022, nearly half of Canadians worked from home at least some days, most of whom were higher earners and university educated.[50] Some occupational groups (such as in tech) had more than recovered (compared to the February 2020 baseline). The lack of technology tools demanded for workers in NL point towards the associated lack of remote work in the province.

The data also suggests a high demand in social-emotional skills in the NL job postings, which include cognitive, interpersonal, language, resource management, and personal qualities. These skills and characteristics are desirable in most industries, but the highest percentage of job postings (95%) in finance and insurance, as well as information and cultural industries, identified social- emotional skills as essential. (Source)

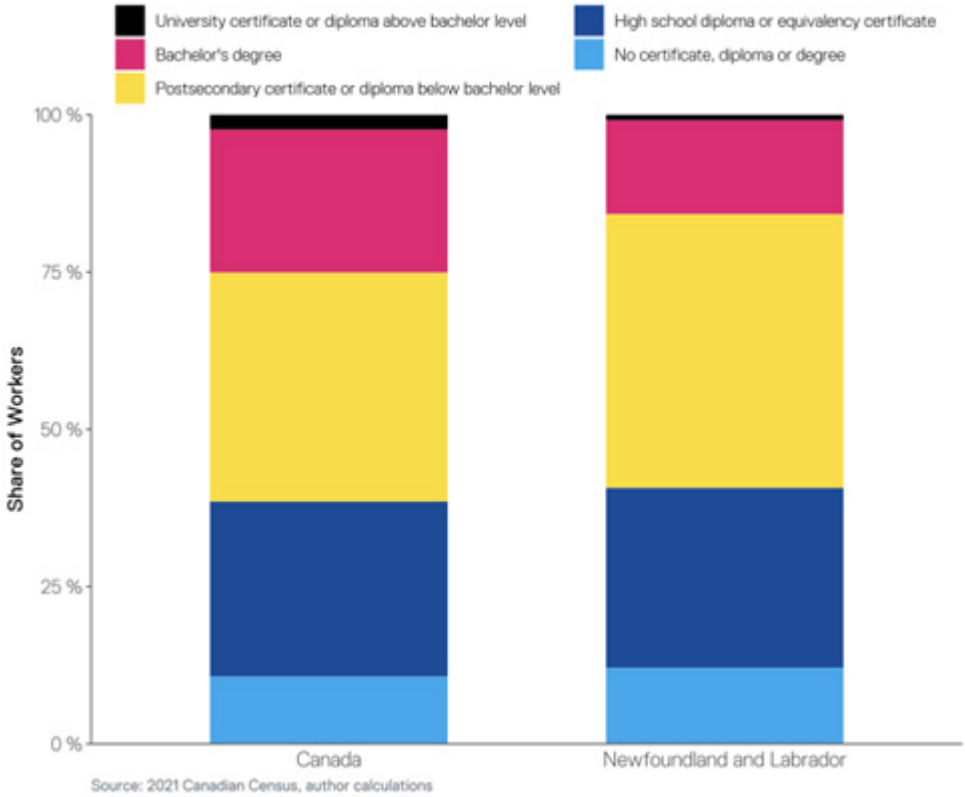
[50] Environics Institute for Survey Research & Diversity Institute, "The shift to remote work: How workers in Canada are adapting to working from home" (Sept. 2022), Retrieved from https://fsc-ccf.ca/research/the-shift-to-remote-work/.

Educational Attainment

Educational attainment trends reflect the employment trends explored in the previous section. Workers in NL are less likely to have completed a bachelor's degree (a credential that is commonly associated with white-collar jobs and higher wages). However, a higher share of those working in Newfoundland and Labrador (compared to the national average) have participated in post-secondary education at a level below a bachelor level. That is, most workers in Newfoundland and Labrador have either an apprenticeship, college diploma, or other certificates that allow them to be highly skilled in the occupations for which they are trained. This is a positive sign that workers are willing to up-skill, given a clear labour market opportunity and availability of programs. However, upskilling has leaned towards traditional economic staples for the region like agriculture, forestry, fishing and hunting as well as mining, quarrying, and oil and gas extraction.

Figure 7

Labour Force Educational Attainment, 2021



Source: 2021 Canadian Census, author calculations

Key Insights

- There is an abundance of skilled labour relying on traditional industries.
- Jobs in the province were less likely to ask for proficiency in technologies.
- High-demand in social-emotional skills.
- Most workers in NL have specific skills training obtained through college or apprenticeships.
- NL workers are well prepared to upskill/reskill towards emerging and growing industries, with emphasis on technology and social-emotional skills.

Aligning Skills Supply and Demand in NL

When analyzing the congruence between skills demanded by employers, and how well that matches up to the skills employees self-assess, we utilize LinkedIn profile data and job postings on the website for occupations in NL during November 2023. The skills profile data provide a valuable snapshot of the skills and skill trends to help inform this inquiry.

Within this analysis, we acknowledge that LinkedIn as a data source only partially captures the picture of the labour market in NL. In particular, service sector jobs are more likely to be posted on LinkedIn, and white-collar professionals are more likely to have a LinkedIn profile. Thus, results in this section will be heavily biased towards those working in the service industry, while missing the analysis on the resource-based economy that is important to the province.

In fact, the latest Job Vacancy and Wages Survey, which collects information on different recruitment strategies used by employers to fill vacancies, shows that in the 2nd quarter of 2023, while over 63% of job postings are being posted on an employer's own website, only 1 in 3 job postings in non-engineering natural resources and agriculture jobs are posted on an employer's own website. However, just under 70% job postings for non-engineering natural resource and agriculture jobs were posted in an online job site (such as LinkedIn), compared to just under 80% of job openings overall in NL collectively, the rate at which employers post jobs on a job vacancy site (such as LinkedIn) is higher than the rate at which employers hire for openings through informal networks and referrals.[51] We therefore believe that this data still provides value, as the composition and demands for the service sector in the province is not as well analyzed or understood as the resource sector.

The key metric to understand the data is a ratio of job postings (numerator) divided by the number of profiles (denominator) that mention the specific profession, skill, or industry of interest. A higher ratio suggests higher employer demand for the particular profession, skill, or industry than the supply of LinkedIn professionals in NL, implying a talent shortage.

Through this analysis, we identify a previously unexplored skills mismatch in the province, one that revolves around financial skills. While most professionals from Newfoundland and Labrador on LinkedIn listed technical skills such as engineering, or domain-specific knowledge such as petroleum, the area of the labour market that saw the highest number of job postings, relative to workers with skills to meet it, were in finance (more specific finance-related skills shown in Figures 9-13). In fact, over 1,000 job postings on LinkedIn in November 2023 alone asked for this skill.

While we see many trends that mirror our expectations (including the underrepresentation of jobs in energy and manufacturing in LinkedIn, and the expected labour needs in healthcare industries), we discover labour market dynamics that other data sources have yet to make clear. There are, for example, high levels of labour shortages in financial advisors, particularly in a banking context in Newfoundland and Labrador, as found through LinkedIn analysis.

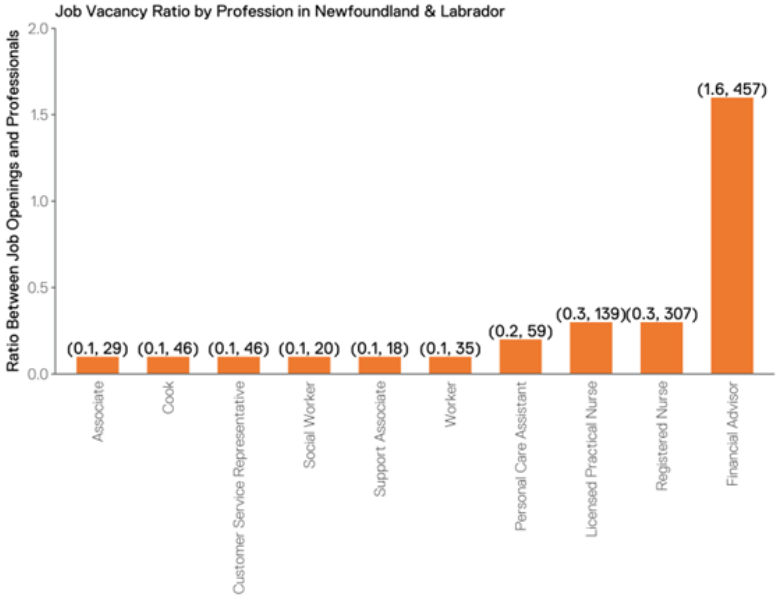
[51] Statistics Canada, Job vacancies and proportions of job vacancies by occupation and recruitment strategies, quarterly, unadjusted for seasonality (Table 14-10-0328-08) https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410032808

The Employment and Social Development Canada's (ESDC) labour market information for NL's third quarter of 2023 lists business, finance and administration as the biggest job vacancies. There is also a projection that the highest numbers of job openings by occupation group for 2023-2030 belongs, among others, to business, finance and administration. There is a significant need for replacement, as well as a noted expansion in this industry. (Job Bank/NL government reference).

This is a very unique finding that we aim to test and validate through our Phase 2 of the research project.

Figure 8

Job Vacancy Ratio by Profession in Newfoundland & Labrador

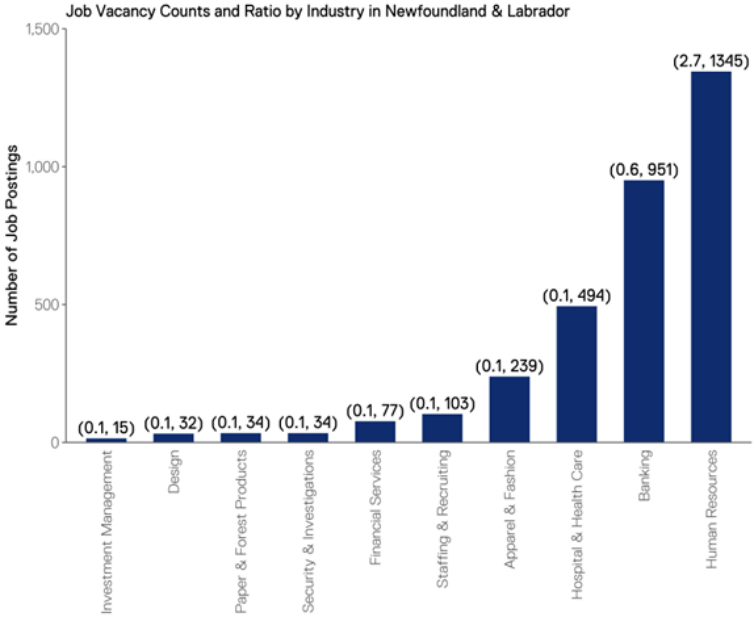


Source: Linkedin Talent Insights, Ratio higher than 1 means more job vacancies than professionals (Ratio, # of Vacancies)

The second frame through which we use LinkedIn data in understanding the skills landscape of Newfoundland and Labrador is by analyzing the different skills that employers ask for in job postings and compare it to the skills professionals report in their own LinkedIn profiles.

Figure 9

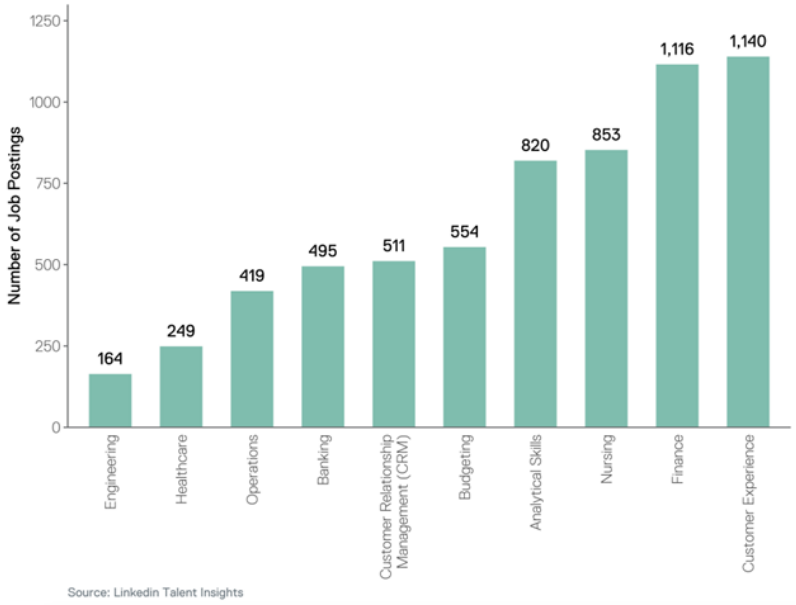
Job Vacancy Counts and Ratio by Industry in Newfoundland & Labrador



Source: Linkedin Talent Insights, Ratio higher than 1 means more job vacancies than professionals (Ratio, # of Vacancies)

Figure 10

Skill Demand From Employers in Newfoundland & Labrador

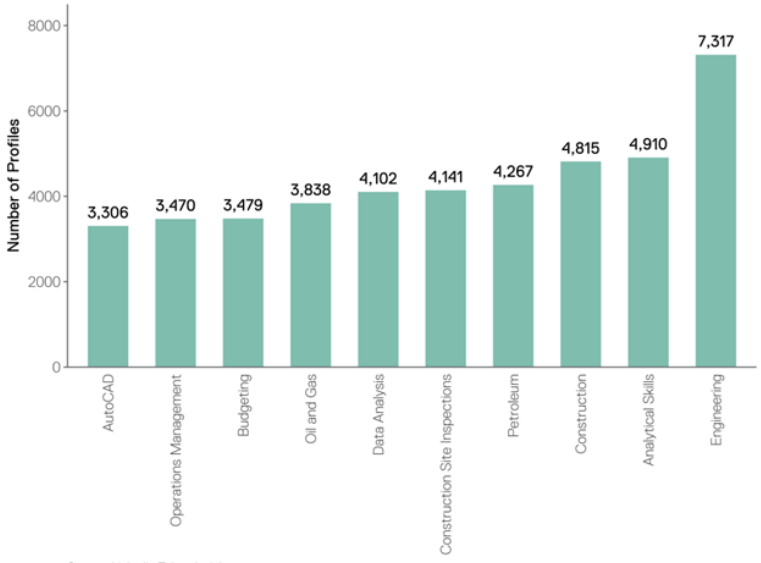


Source: Linkedin Talent Insights

When we focus on skills that employers hire for (Figure 10), we see employers in Newfoundland and Labrador predominantly asking for customer-related, banking, and healthcare skills needed for employment. While finance and healthcare related skills may be industry or occupation specific, skills that are broadly applicable to many occupational contexts are also desired, including customer experience, analytical, budgeting, and operations. This further validates our previously discussed understanding of the Newfoundland and Labrador labour market, as it relates to current demands.

Figure 11

Skills Reported by Workers in Newfoundland & Labrador



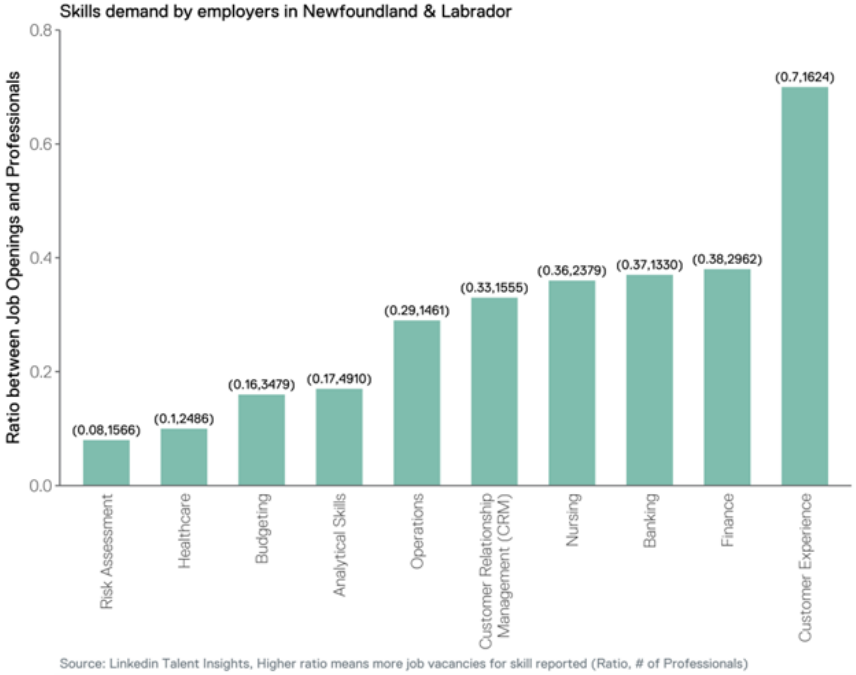
Source: Linkedin Talent Insights

However, a clear disconnect emerges when we examine the most common skills listed by professionals on their own LinkedIn profile (Figure 11). While there are some overlaps (including analytical skills and budgeting), the vast majority of skills relate to the energy (in particular oil and gas) sector. As job postings on LinkedIn only modestly underrepresent jobs in the natural resources sector, this shows signs of a potential skills mismatch.

To further examine this idea of a skills mismatch, we now directly compare skills listed by professionals on LinkedIn and skills asked for by employers. First, in Figure 12, we look at the frequency with which the top skills listed by professionals on LinkedIn appear in job postings. This shows that while generalized skills such as "Analytical Skills" and "Budgeting" show a high level of match, oil and gas related skills in particular show low signs of skills matching between job postings and profiles. Interestingly, data analysis, a skill that was identified to be an important skill in Canada in previous studies [52], shows relatively few job postings to match.

Figure 13

Skills demand by employers in Newfoundland & Labrador



Source: Linkedin Talent Insights, Higher ratio means more job vacancies for skill reported (Ratio, # of Professionals)

Figure 13 shows the same analysis, but starting from the job postings side, where we take the top 10 skills listed by employers in job postings posted on LinkedIn and see how well it matches up to skills listed by professionals. This analysis predictably shows the same ratio when a particular skill shows up in both the job postings top 10 list and the profiles top 10 list (e.g., Budgeting and Analytical Skills). Additional insights include a relatively saturated market for "Customer Experience", while skills such as "Finance", "Banking", and "Nursing" show relatively fewer concentration of those who list such skills.

Key Insights

- LinkedIn is a supplementary source of data and only captures a part of the NL labour market
- It is heavily biased towards workers in the service industry.
- This data shows high demand for skills in finance sector.
- NL government's projections also point towards business, finance, and administration positions as being in demand in the future.
- As it is a unique perspective, we will rely on additional data through consultations and testing with key local stakeholders.

[52] Vivian Li., Tiffany Kwok, Mahmehr Hamza. "The Skills Algorithm: Digital Skills Demand Across Canada's Labour Market". The Dais, 2023. https://dais.ca.

Creating Linkages Between Occupations Based on Educational Backgrounds

Our analysis using LinkedIn data and the unanticipated skills mismatch we uncovered motivates some additional potential areas where there are current labour needs, as well as places where workers may be available to fill such needs. The final aspect of our analysis shows the interrelatedness between a worker's educational background and their occupations. More specifically, we aim to understand the skill profiles of individuals in NL by analyzing the educational credentials of those holding university degrees and the occupations within which they are employed. This analysis will allow us to understand and characterize, for example, the level of degree-occupation mismatch (with identification of the level of underemployment for example), as well as contextualizing unique ways in which knowledge gained through a university degree is used in a provincial-specific occupational context.

In order to do this, we rely on data from the 2021 Census, particularly one that disaggregates, for each occupation, across different university major programs. For example, through this data we can observe that across Canada, 35% of Software Developers and Programmers with postsecondary education studied Computer Science, while 4% studied Computer Programming, and 1.7% studied Mathematics.

In particular, we use network analysis to group occupations and post-secondary programs that have high levels of interconnectedness together, to explore the skills-education landscape for Canada overall, and Newfoundland Labrador specifically.

Network analysis involves examining the connections and relationships between different elements within a system represented as nodes (occupations or university major programs) and edges (the connections between them). By analyzing the interconnectedness of occupations and post-secondary programs, we can identify clusters or groups that share common attributes or exhibit high levels of similarity.

We can see that a lot of programs are connected through occupations in some way on this map (Image 1). Some are only barely connected whole others are closely interconnected. The different density of the connecting edges help us visualize the relative strength of similarity.

Image 1.

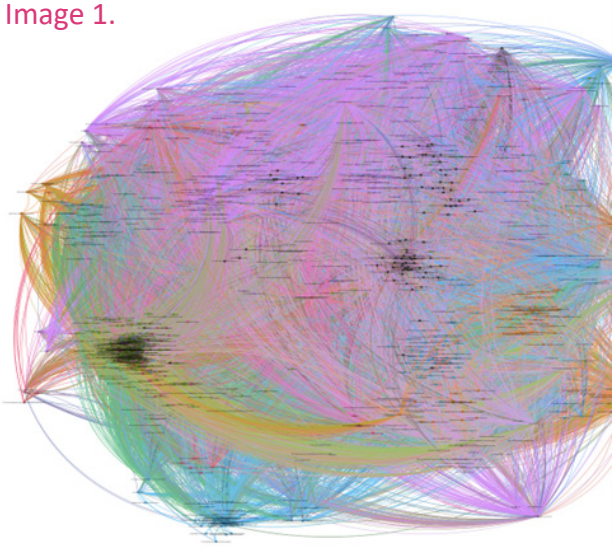
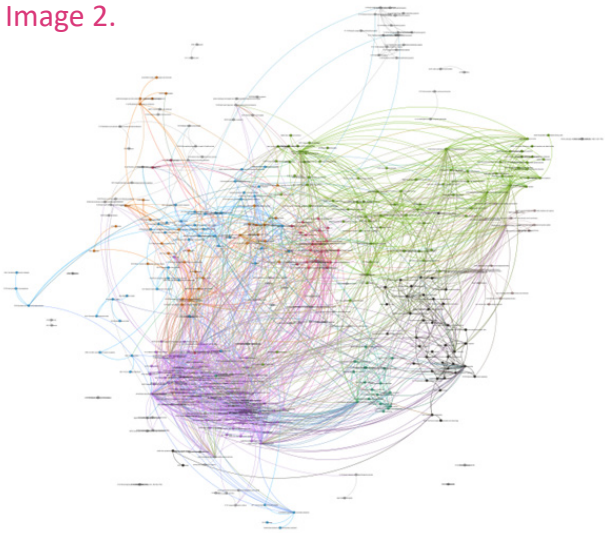


Image 2.



We find the following skills structure that are unique to Newfoundland and Labrador:

- A close education-skills connection between fishing and transportation workers: Consistent with our understanding of the Newfoundland and Labrador economy, there seems to be a distinct "oceans" economy, combining tourism and passenger related marine transportation workers, and those who work in the fishing industry. Interestingly, the education sector also seems to have a similar educational background as these marine workers. Some of the possible explanations for this may be that the education sector aligns its curriculum with the needs of industries like fishing and transportation due to the region's reliance on marine-related activities. Educational institutions in NL, including MUN's Marine Institute, offer specialized training and certification programs tailored to the skill requirements of these industries, such as navigation, marine safety, and vessel operations; CAN offers complementary programs including the Marine Cook Program and some training in the aquaculture sector. The province is home to a number of advanced and innovative Ocean Research Facilities.
- Lack of a clearly separate culture industry: While the general Canadian labour market has a clearly defined culture worker cluster (such as dancers, musicians, and artists), these workers in NL were distributed across tourism, education, and general office worker clusters. In particular, while there was a distinct design cluster for the Canadian labour market, the set of design related occupations were part of the general office cluster. Arts workers are generally present across all strata of the labour market. They are also often self-employed and have to supplement their income. As we are looking at the 2021 census, it is important to note that while employment rebounded post-pandemic by 1.7% in February 2021 across all industries in Canada, the performing arts, heritage institutions and related industries lost 12,200 jobs.
- (-12.0%), according to the Canadian Association for Performing Arts. (Employment in arts and culture industries, February 2021 - Canadian Association for the Performing Arts (capacoa.ca)
- A clear tech workers skill-education structure that mirrors the rest of Canada (largely): When it comes to technology workers, the same delineation between digitally intensive workers (such as computer programmers, and web programmers) and high-tech workers (such as petroleum engineers).
- Stronger focus on ocean-related conservation (compared nationally) for natural science occupations.
- A particular strength in workers adept in socio-emotional skills: Looking at both the postings data from the previous section and understanding the training-employment dynamics we explore here, we learn a particular strength of the province in workers with high proficiency in socio-emotional skills, particularly in working with other people.

Key Insights

- There is an existing infrastructure for expanding oceans economy through upskilling and reskilling of workers from traditional industries into growing and emerging industries.
- There is a recognized value in cross-sectoral work experience, as well as resilience in NL workers.

Analyzing NL Labour Market Opportunities

Recognizing the unique and dynamic nature of NL labour market, it is important to look at the data on employment opportunities from different time points in order to observe shifts in employment patterns and occupational trends. This comparative analysis not only helps us see the past evolution of labour market opportunities, but it also helps in forecasting potential challenges and openings in the future.

In this section, we analyze the NL labour market evolution over the period between 2016 and 2021. Our aim is to uncover emerging labour market opportunities and identify areas of growth and potential skills investments. To conduct this analysis, we utilize data from two census waves in 2021 and 2016. Between the two census years, a new set of occupational codes was introduced by ESDC. While we strive to broadly achieve a one-to-one mapping between the occupations, the complexity of these changes resulted in data gaps for certain occupations (14 in total). In the majority of cases where there were some shifts, we used our best judgment in understanding the changes, and assigned occupational changes to specific codes. We then supplement such analysis by looking at job postings to identify growth areas.

Areas of decline

The first set of significant changes that we observe between 2016 and 2021, being agnostic about pandemic effect when several large projects were deferred, is those working in Oil & Gas industry. The importance of this industry for NL is undisputed. In the last few decades, the Oil & Gas sector has been instrumental in revitalizing the province and increasing the quality of life for its population. But the industry is also volatile as it continuously balances supply and demand and responds to external disruptions. While global energy context changed dramatically by February 2022 (with Russia's invasion of Ukraine disrupting a vital oil supply chain), the decline in oil production workers in this observed period of time is still noteworthy (Table 1). In addition to the pandemic closures, the decline is likely a symptom of significantly reduced demand and a global surplus of excess oil during that time period. (https://atlanticbusinessmagazine.ca/article/nl-offshore-fits-and-starts-expected-for-2021-22/)

TABLE 1: TOP 10 5-DIGIT OCCUPATIONS THAT SAW EMPLOYMENT DECLINE BETWEEN 2016 AND 2021

Occupation	2016 Employment	2021 Employment	Percent Change
Oil and gas drilling, servicing and related labours (85111)	520	240	-54%
Oil and gas well drilling and related workers and service operators (84101)	335	95	-72%
Longshore workers (7451)	515	280	-46%
Oil and gas well drillers, servicers, testers and related workers (8232)	440	265	-40%
Petroleum Engineers (21332)	425	295	-31%

The more recent activities in NL, however, have put a spotlight on the Oil & Gas sector again. The federal government approved the Bay du Nord offshore oil mega project, and a return to full operations for the Terra Nova and White Rose projects, with the help of the Oil and Gas Industry Recovery Assistance Fund, has increased overall oil production. Some projects, like Hibernia, with its drill rig updates, may still allow a decade or more of future drilling. Still, the future of the sector is uncertain as countries transition to clean energy. The International Energy Agency forecasts decreased demand for both oil and gas by 2050, by 75% and 55% respectively. (Net Zero by 2050, 2021) https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

In addition to Oil & Gas, the most significant areas of decline identified in a major group (2-digit NOC) belong to Industrial, Electrical and Construction Trades (72). The two-digit number indicates a major group, which belongs to a broad category 7 - Trades, Transport, and Equipment Operators and Related Occupations. Also in this broad category is Trades Helpers, Construction Labourers, and Related Occupation group included in Table 2. as an occupation also in decline between 2016 and 2021.

Much like other industries, the NL's construction industry experienced a sharp decline in construction activity in 2020, with high levels of unemployment during that time period. The industry has since recovered, both non-residential and residential. According to the 2022-2027 Workforce Outlook for NL by BuildForce Canada, it will experience a short period of relative stability before it starts its downward trend and declines by 16% by 2027.

TABLE 2: TOP 10 2-DIGIT OCCUPATIONS THAT SAW EMPLOYMENT DECLINE BETWEEN 2016 AND 2021

Occupation	Employment in 2021[53]	Growth from 2016	Percent Change
Industrial, Electrical and Construction Trades (72)	14,410	-3,840	-21%
Sales Representatives and Salespersons - Wholesale and Retail Trade	9,425	-2,155	-19%
Longshore workers (7451)	6,145	-2,150	-26%
Supervisors and technical occupations in natural resources, agriculture, and related production	9,495	-1,295	-40%
Technical occupations related to natural and applied sciences	425	295	-12%
Office Support occupations	10,380	-1,240	-11%
Trades helpers, construction labourers, and related occupations	6,625	-815	-11%
Sales and service support occupations	10,405	-650	-6%
Occupations in front-line public protection services	1,540	-620	-29%

[53] The numbers come from cross-walking 2021 census table to conform with 2016 census NOCs to allow for across time comparison. The employment number may not add up exactly to 2021 NOC results..

The impact of the decline in tourism (due to the pandemic bubble) is also very apparent, with a reduction in workers in the food industry, from cooks to food and beverage servers. There is reasons to believe that since 2021, Newfoundland and Labrador likely experienced similar levels of recovery in these key industries that have been observed in the rest of Canada.

Areas of growth

When it comes to the areas of growth in NL between 2016 and 2021, there is a clear indication that the major group 32 – Technical Occupations in Health has experienced the most significant increase, almost doubling the numbers. The group includes medical technologists and technicians; denturists, dental hygienists, and dental therapists; and opticians, practitioners of natural healing, licensed practical nurses, massage therapists and others in paramedical and other technical occupations in health. Another notable increase is in the number of registered nurses and nurse aides. Some of this is likely reflected by a surge hiring to support the province's vaccine rollout. In NL, much like the rest of the country, an aging population is putting additional strain on the health care system. Still, meeting the demands for health care workers remains a challenge. As most health occupations require extensive and specialized education, this is not a viable pathway transition through the JTP model. (https://www150.statcan.gc.ca/n1/daily-quotidien/221130/dq221130b-eng.htm)

Workers in the education sector also saw an increase at all levels including at postsecondary institutions. Like healthcare, education is a regulated profession that requires specialized education and certification, which makes it more challenging to create a transition pathway to or from another occupation.

Another area of growth is Sales Support Occupations (66), which includes: cashiers, service station attendants, store shelf stockers, store clerks and order fillers, and other sales related occupations. In Canada, there are 3.4 million people working in non-management sales and service occupations, and just over 42% were in a job that did not have any formal education requirements, such as Sales Support Occupations. (https://www150.statcan.gc.ca/n1/daily-quotidien/221130/dq221130b-eng.htm) The average wage for this occupation in 2022 was $16, or just above the minimum wage.

The projected number of job seekers in Canada within this occupation is expected to substantially surpass the projected number of job openings, significantly enough to eliminate the shortage situation seen over the 2019-2021 period, returning this occupation to balanced conditions over the 2022-2031 period.

There is a clear indication of the growth in the area of business, finance, and service support. These occupations increasingly also require digital literacy.

TABLE 3: TOP 10 2-DIGIT OCCUPATIONS THAT SAW EMPLOYMENT GROW BETWEEN 2016 AND 2021

Occupation	Employment in 2021[54]	Growth from 2016	Percent Change
Technical occupations in health (32)	5,895	2,235	61%
Sales support occupations (66)	12,745	1,655	15%
Service support and other service occupations	17,000	1,600	10%
Paraprofessional occupations in legal, social, community and education services (42)	5,440	1,365	33%
Harvesting, landscaping and natural resources labourers	2,940	540	23%
Middle management occupations in retail and wholesale trade and customer services	8,785	510	6%
Professional occupations in business and finance	5,385	395	8%
Administrative and financial supervisors and administrative occupations	12,210	360	3%

One notable increase in employment between 2016 and 2021 was the one observed for Web Designers. In 2016, less than 100 web designers were active in Newfoundland & Labrador. By 2021, this number has increased to more than 300, representing a tripling of these workers. Work within this occupation is likely consistent with the view of a remote-first approach, explaining some of the increase given the context of the 2021 Census.

Key Insights

- The most recent Statistics Canada data on labour market opportunities is from 2021, which includes the Covid-19 period.
- While many industries/occupations subsequently recovered and are currently in demand, they may not be a long-term, stable solution for NL workers.

[53] The numbers come from cross-walking 2021 census table to conform with 2016 census NOCs to allow for across time comparison. The employment number may not add up exactly to 2021 NOC results.

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