



Building New Zealand Rail Skills for the Future

May 2025

About the Australasian Railway Association

The Australasian Railway Association (ARA) is the peak body for the rail sector throughout Australasia. The ARA represents an array of rail organisations: private and public, passenger and freight operators, track owners and managers, manufacturers of rollingstock, construction companies, and organisations supplying and contributing to the Australasian rail sector. Our members operate in urban, regional, and rural areas of New Zealand.

As the leading voice for rail, the ARA provides a coordinated and unified position on relevant issues of national importance. It engages political leaders at both the local and national level in forward-looking discussions around sector potential. The ARA fosters key policy reform to effectively enhance New Zealand's productivity and economic and social prosperity, as well as its international competitiveness.

The ARA creates an avenue for the sector to connect, share knowledge, and work together to achieve greater results for rail.



About Hanga-Aro-Rau

Hanga-Aro-Rau, as the Workforce Development Council (WDC) for Aotearoa New Zealand's manufacturing, engineering, rail, and logistics sectors, plays a key role in driving economic growth and workforce development. Representing over 82,000 businesses and 630,000 employees across 75 sectors, it is the largest WDC in the country.

Hanga-Aro-Rau works to understand the current and future skills needs of the rail industry, ensuring access to clear education pathways for workforce growth. Recognising New Zealand's changing demographics, it collaborates with various stakeholders to develop industry-endorsed qualifications and standards. These standards are then supported in the vocational education system.

A core focus of Hanga-Aro-Rau is improving outcomes for Māori, Pacific, and disabled workers, by creating more diverse and inclusive workplaces. By doing so, the industry ensures the development of sustainable, enduring workforces for the future.



Acknowledgements

An independent provider has prepared this report on behalf of the ARA and Hanga-Aro-Rau, in consultation with sector representatives. We wish to acknowledge the organisations and individuals who have provided their insights and their time, contributing to the development of this paper. We would like to acknowledge and thank the following organisations:

JMD Railtech, WSP Australia, Transdev Wellington, John Holland, City Rail Link, Auckland One Rail, Vitruvius, Edilon Sedra, Siemens Mobility, Martinus/Martinus Rail NZ Limited, Auckland Transport, GW - MetLink, Arup, KiwiRail, HEB Construction, AtkinsRéalis (Australia), and CAF New Zealand.

Note: This report uses the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to categorise occupations by similar tasks and responsibilities (see Appendix 3).¹ As of November 2024, New Zealand and Australia have adopted separate classification systems, with New Zealand transitioning to the National Occupation List (NOL), and Australia transitioning to the Occupation Standard Classification for Australia (OSCA). Given the ongoing implementation reference ANZSCO classifications.

¹ Australian Bureau of Statistics. "Australian and New Zealand Standard Classification of Occupations (ANZSCO)." 2022 <https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-classification-occupation-anzsco>.

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1. Executive summary

The New Zealand rail sector plays a crucial role in supporting economic growth, sustainability, and connectivity. However, the sector faces significant workforce challenges, including skill shortages, an ageing workforce, and barriers to talent attraction and retention. This report, prepared for the Australasian Railway Association (ARA) and Hanga-Aro-Rau in collaboration with sector stakeholders, provides a comprehensive analysis of the future skills and capabilities required to sustain and grow New Zealand's rail workforce.

With an ageing workforce and increasing demand for rail services, there is a pressing need for strategic workforce planning, investment in skills development, and enhanced sector collaboration. The report identifies key challenges including the lack of clear career pathways, limited education and training programmes specifically tailored to rail, and ongoing difficulties sourcing specialised skills including signalling engineering and traction line maintenance. Additionally, diversity within the sector remains limited, particularly for women and Māori and Pacific Peoples professionals, requiring targeted initiatives to improve workforce representation.

At the same time the sector is facing these challenges, it is also experiencing rapid technological advancements, with digitalisation, automation, and sustainability initiatives transforming rail operations. To remain competitive and future-ready, New Zealand must prioritise workforce upskilling, international collaboration, and investment in training pathways aligned with sector needs. Ensuring a sustainable pipeline of skilled workers will be critical in supporting ongoing infrastructure investment and rail expansion projects.

Key Findings and Challenges

- **Skills Shortages and an Ageing Workforce:** More than one in four people in the rail workforce is likely to retire within the next 10 years, creating an urgent need for succession planning and recruitment strategies. Specialist skills, including signalling engineering, overhead traction, and digital rail systems, remain in high demand but are difficult to source locally. This trend is reflective of broader workforce challenges in New Zealand, where many industries, including construction, manufacturing, and infrastructure, face ageing workforces and skill shortages in technical and engineering roles.^{2 3 4} However, interviews noted that the rail sector is particularly impacted due to the niche and highly specialised nature of its skills, making it harder to fill roles without targeted training and workforce development initiatives.

- **Limited Education and Training Pathways:** New Zealand lacks dedicated vocational education and university qualifications for rail engineering and operations. While vocational training exists, sector engagement with tertiary education providers remains inconsistent, limiting whole-of-workforce development opportunities.
- **Barriers to Talent Attraction and Retention:** The sector struggles with low awareness among young professionals, outdated perceptions of rail careers, and limited pathways for career progression. Flexible working arrangements and diversity initiatives are needed to improve workforce retention and inclusion.
- **Technological and Digital Transformation:** The sector's move towards digital signalling, automation, and predictive maintenance requires new skills in data analytics, cybersecurity, and digital engineering. Without proactive training initiatives, the existing workforce may struggle to build the expertise needed for future rail operations.
- **Fragmented Investment and Workforce Planning:** The cyclical and uncertain nature of infrastructure funding has led to workforce instability, with inconsistent demand for skills. A long-term, bipartisan rail investment strategy is essential to provide stability and support workforce planning.

Key Recommendations

To address these challenges, this report proposes a set of actionable recommendations in three key areas to collectively develop a sector wide workforce strategy alongside a nationally coordinated bipartisan infrastructure plan:

1. System Settings

Establish long-term foundations for workforce sustainability through infrastructure planning, procurement, and regulatory reform.

- 1.1 Encourage the government to review and update the New Zealand Rail Network Investment Programme and associated infrastructure programmes to ensure long-term infrastructure investment certainty for rail, aligned with the wider infrastructure needs of New Zealand.
- 1.2 Encourage national and local governments to review procurement frameworks and policies to strengthen and prioritise local workforce development requirements.
- 1.3 Encourage the government to review regulatory frameworks and policies to identify opportunities that enhance interoperability of rail infrastructure systems and reduce barriers to the adoption of new technologies.

² Stats NZ, "Labour Force Will Grow and Age," <https://www.stats.govt.nz/news/labour-force-will-grow-and-age/>

³ Hays New Zealand, "Skills Report," <https://www.hays.net.nz/skills-report>

⁴ New Zealand Immigration, "The Green List," <https://www.new-zealand-immigration.com/visa/the-green-list>

2. Attraction, Retention and Diversity

Position rail as a modern, inclusive, and attractive career sector through branding, visibility and better workforce insights.

- 2.1 Encourage New Zealand rail organisations to utilise and leverage the ARA's 'Work in Rail' platform to promote New Zealand rail careers and pathways.
- 2.2 Rail organisations, in collaboration with Stats NZ, to establish a consistent framework for collection of workforce demographics.
- 2.3 Encourage New Zealand rail organisations to promote the ARA's Professional Certificate in Rail as a trans-Tasman pathway for foundational rail knowledge.

3. Talent, Skills and Capabilities

Build a future-ready rail workforce through planning, education partnerships, international collaboration, and mobility pathways.

- 3.1 Rail organisations and government stakeholders to explore the development of a sector-wide workforce plan that identifies the skill shortages and the plan for addressing skill gaps into the near and long term.
- 3.2 Ensure alignment of priority rail skills classifications between New Zealand and Australia support workforce mobility, skills recognition, and training consistency.
- 3.3 Encourage rail organisations to consider adoption and implementation of the Rail Industry Worker (RIW) program in New Zealand to enhance skills portability and competency management.
- 3.4 Collaborate with New Zealand universities to develop and include rail-specific modules in degree and qualification courses in New Zealand, leveraging existing successful models of engagement used by the ARA and Australian universities as a guide.

The future of New Zealand's rail sector depends on proactive workforce planning, strategic investment, and sector-wide collaboration. Addressing current and future skills gaps will require coordinated action from government, sector leaders, and educational institutions. By implementing the recommendations outlined in this report, New Zealand can build a resilient, skilled, and diverse rail workforce, ensuring the long-term success of its rail network and supporting national transport and sustainability goals.

2. Introduction

2.1 The project

This project builds upon a series of ARA reports into the rail skills and capabilities within Australia. The 2022 *ARA Building Australian Rail Skills for the Future* report responded to an earlier study that found overwhelming evidence of a skills crisis in the Australian rail sector. It provided actionable recommendations, based on research and sector feedback, to enhance workforce capacity and capability.

New Zealand's rail sector faces similar workforce challenges as those identified in Australia, operating rail on a much smaller scale than many other countries in Europe and South East Asia. This report explores the sector views and understandings of these challenges and what might contribute to activities and solutions that may be suitable across both Australia and New Zealand. This report also notes these workforce challenges are experienced differently within the sector in New Zealand, with different needs from transport and infrastructure.

This report provides a high-level view of what the sector is currently facing, and what is on the horizon. The purpose of this report is to contribute to the conversation already started with the 2022 report with New Zealand-specific workforce insights that could enhance rail workforce capacity and capability in the future.

2.2 Methodology

The methodology for the development of this report included:

1. Working with the ARA and Hanga-Aro-Rau to discuss key issues and concepts, and refine project scope and deliverables.
2. Engaging and consulting with sector, skills service organisations, rail specialists, and generalist consultancies in New Zealand, through surveys (see Appendix 1 for survey questions) and in-depth, one-to-one interviews (see Appendix 2 for key themes), to better understand key challenges, risks, and opportunities.
3. Undertaking domestic desktop research across a range of sources to inform key themes within the report:
 - a. Leadership, collaboration, and partnership
 - b. Strategic workforce planning
 - c. Attracting, recruiting, and retaining our workforce
 - d. Workforce skilling

4. Presenting draft findings and recommendations to the ARA and Hanga-Aro-Rau, with recommendations articulated through a draft written report.
5. Completing a final written report based on feedback to the draft findings and recommendations.

Findings and recommendations will support collaboration between the rail sector, local and national governments, and training providers to meet future workforce demands through immediate, mid-term, and long-term strategies.

2.2.1 Survey

To support this review, an online workforce capability survey was designed and distributed to organisations operating within New Zealand's rail sector. The survey was administered by an independent provider on behalf of and at the direction of the ARA and Hanga-Aro-Rau between December 2024 and February 2025, using Google Forms. It was disseminated via direct email to ARA member organisations and select non-member organisations with rail interests in New Zealand. Responses were provided typically by Human Resources teams or capability leads on behalf of organisations. The survey aimed to reflect workforce insights across operations, infrastructure, customer service, and strategic workforce planning.

The survey sought to capture a comprehensive profile of the current and future rail workforce. It included structured and open-ended questions across a range of thematic areas:

- Skills and qualifications
- Staffing capacity
- Training delivery
- Career development
- Barriers to entry
- Diversity
- Workforce exit trends
- Technology adoption
- Partnerships
- Anticipated impacts of future infrastructure projects.

Role-specific demand forecasts were gathered using ANZSCO-coded occupation classifications, providing a baseline for skills planning and comparative analysis across organisations. The survey incorporated both quantitative (Likert scales, multiple-choice, categorical estimates) and qualitative (short- and long-form text) responses to enable both statistical analysis and thematic coding.

Approximately 50 per cent of invited organisations participated in the survey, offering sector-wide insights into workforce development priorities and constraints. The mixed-methods analysis supported the identification of key trends, including projected skill shortages, gaps in tertiary and vocational training alignment, workforce ageing and attrition pressures, and the emerging demand for digital and sustainability-related competencies. Findings from the survey have been integrated with interview insights and workforce datasets to inform the report's recommendations.

2.2.2 Data Request

To develop a robust quantitative profile of the rail workforce, a structured data request was issued to rail sector organisations across New Zealand. This request served as the primary source of quantitative data for this report and represents the most up-to-date workforce dataset available for the New Zealand rail sector. The data collection sought to cover the full breadth of roles supporting rail, including both operational and non-operational positions such as human resources, finance, and administration.

The request was issued between December 2024 and February 2025, in parallel with the survey, and the same group of ARA member organisations and stakeholders were invited to respond. Respondents were provided with a pre-formatted Excel template and asked to return anonymised data via password protected file. The requested fields, detailed in the second sheet of the template, included job title, employment type (full-time/part-time, permanent/contract), role location, ANZSCO classification (where known), qualification level, age, gender, and ethnicity. Where possible, organisations were encouraged to provide disaggregated, role-level data; however, some submissions were received in aggregate form. As such, this determined the extent to which analyses could be performed at the whole-of-sector level.

All submissions were handled in accordance with strict confidentiality protocols. "All data received will be used solely for the purposes of this sector-wide workforce review. Individual organisation data will not be shared or published, and all insights presented in the report will be aggregated to ensure confidentiality." This encouraged broad participation and ensured consistency with data privacy standards.

The level of detail collected through this process broadly aligns with national approaches to workforce profiling and labour market intelligence, such as those developed by Infometrics. The dataset supports workforce analysis not only of frontline and infrastructure-specific roles, but also of enabling functions that are essential to the sector's operation. Data cleaning and standardisation processes included mapping of job titles to ANZSCO codes and to a custom job group framework to support consistency in role comparison. These datasets provided the basis for many of the workforce insights presented throughout the report.

2.2.3 Interviews

To supplement the survey and data request, a series of semi-structured interviews were conducted with representatives from a cross-section of rail transport and infrastructure organisations. The purpose of these interviews was to explore in greater depth the workforce challenges and opportunities facing the New Zealand rail sector, and to surface insights not easily captured through structured data collection. Interviews were conducted from January to March 2025, with participants drawn from the same pool of organisations that received the survey and data request. Interviewees included senior executives, human resources leaders, operational managers, and technical specialists, offering a diverse range of perspectives across both infrastructure and transport service providers.

The interviews were conducted online and lasted approximately 60 to 90 minutes. A semi-structured format was used, guided by a consistent discussion framework covering key themes such as skills shortages, training and development, barriers to workforce entry, retention and attrition, diversity and inclusion, career progression, and the impact of digital and technological change. Interviewers retained flexibility to explore emerging insights in greater detail depending on participant responses. Where participants consented, interviews were recorded and transcribed to enable rigorous analysis.

All interview responses were anonymised and thematically coded. Where recordings were not provided, detailed summary notes were analysed to ensure key insights were captured. The resulting qualitative data was reviewed alongside survey findings and workforce datasets to validate trends, highlight areas of consensus, and draw attention to divergent experiences across different parts of the sector. Interview findings informed both the diagnostic framing of challenges and the development of recommendations, particularly where interviewees identified best practices or implementation barriers grounded in lived operational experience.

Unless otherwise noted, quotes included in this report are derived from participant interviews.

2.3 The New Zealand railway sector

New Zealand's railway sector has been integral to the country's transport infrastructure since the 1880s.⁵ The rail sector contributes approximately \$1 billion in direct GDP contributions and \$2.3 billion in annual savings through positive impacts on environmental, safety, health and reduced road congestion outcomes.⁶

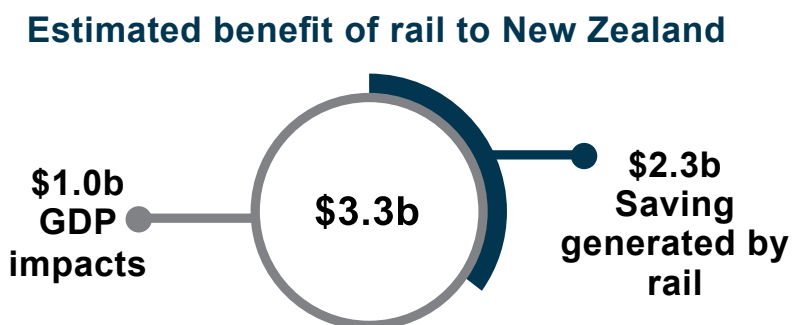


Figure A: Estimated annual benefit of rail to New Zealand. Source: ARA, "The Benefit of Rail to New Zealand", 2024

Annual Externality Benefit of Rail (millions, 2023 NSD)

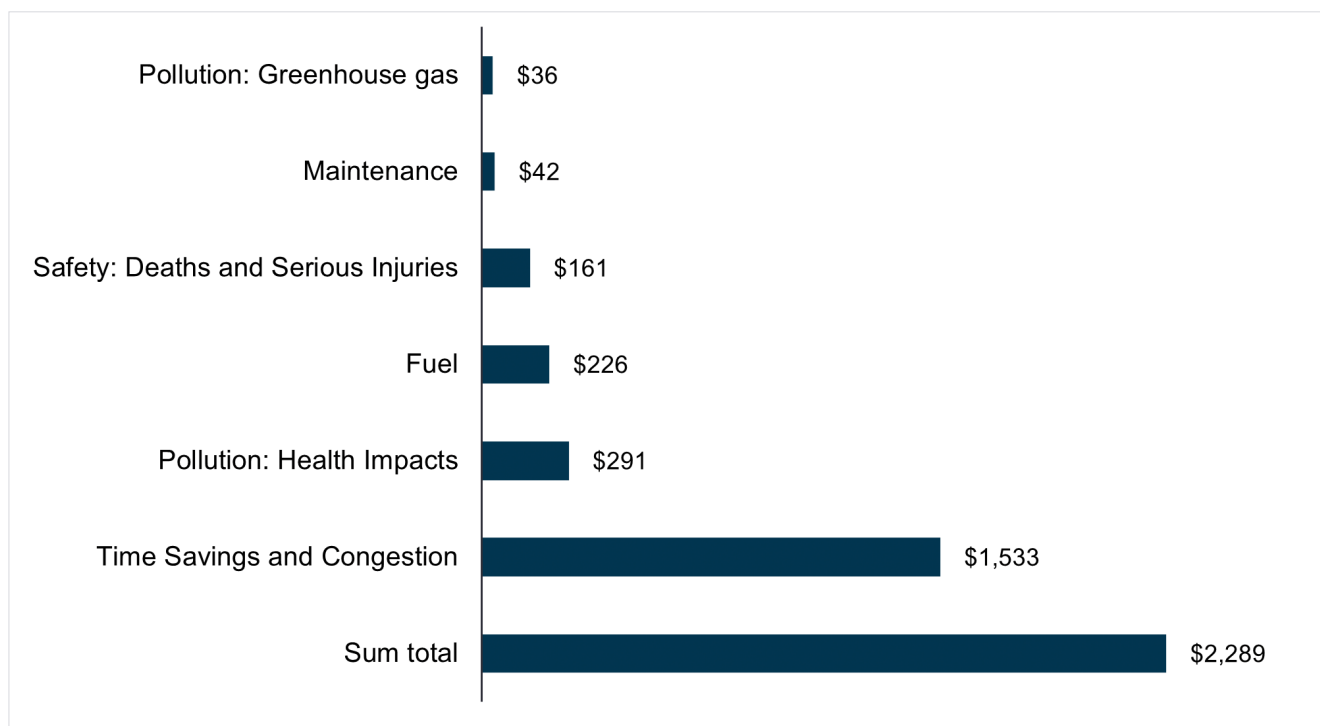


Figure B: Annual savings from New Zealand rail. Source: ARA, "The Benefit of Rail to New Zealand", 2024

⁵ KiwiRail. "Rail History," n.d. <https://www.kiwirail.co.nz/communities/rail-heritage/rail-history/>

⁶ Australasian Railway Association. "The Benefit of Rail to New Zealand", 2024

The New Zealand railway network, an essential component of both passenger transport and the commercial supply chain, extends nearly the entire length of the country. It encompasses 3,700 km of mainline track, all owned, maintained, and operated by KiwiRail.⁷ The national rail network is complemented by 250 kilometres of privately owned and funded sidings, which facilitate direct connections for customers to the main railway system. Additionally, KiwiRail's Interislander ferries provide a link between the North and South Islands across the Cook Strait. These ferries are currently equipped with roll-on/roll-off capacity, allowing for seamless transportation of rail freight between the islands.

Over the past 40 years, the rail sector has changed ownership models from government to private and then back again.⁸ Figure C below shows a timeline of key changes in the sector.

Historically, underinvestment, privatisation, and fragmented planning have posed significant challenges to network sustainability. Government reinvestment in rail in the 2000s aimed to support a modern, efficient, and resilient network that enhanced both passenger and freight services while contributing to New Zealand's climate and economic goals.

Timeline of key changes in the New Zealand rail sector

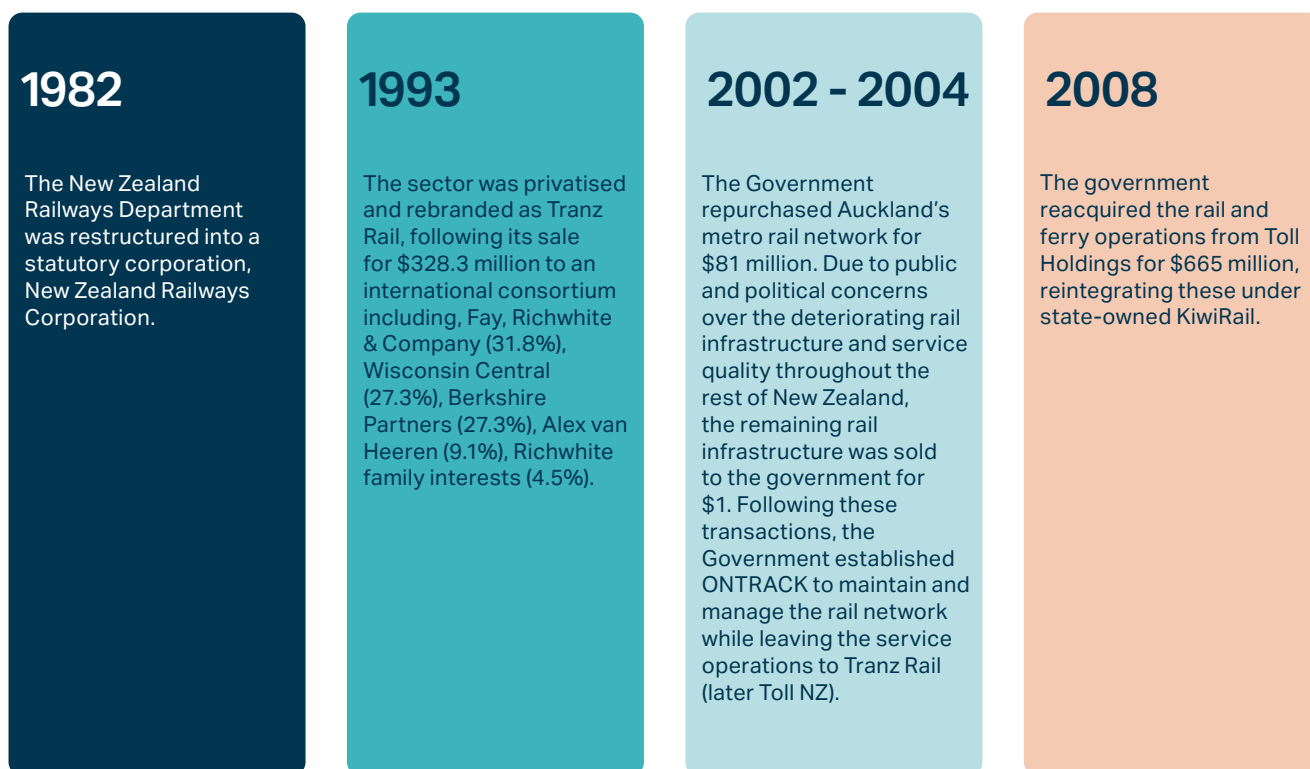


Figure C: Timeline of key changes in the New Zealand rail sector

7 KiwiRail, "Track," <https://www.kiwirail.co.nz/our-network/looking/track/>

8 KiwiRail, "Half Year Report", 2025

9 KiwiRail. "Rail History." <https://www.kiwirail.co.nz/communities/rail-heritage/rail-history/>

The New Zealand rail network

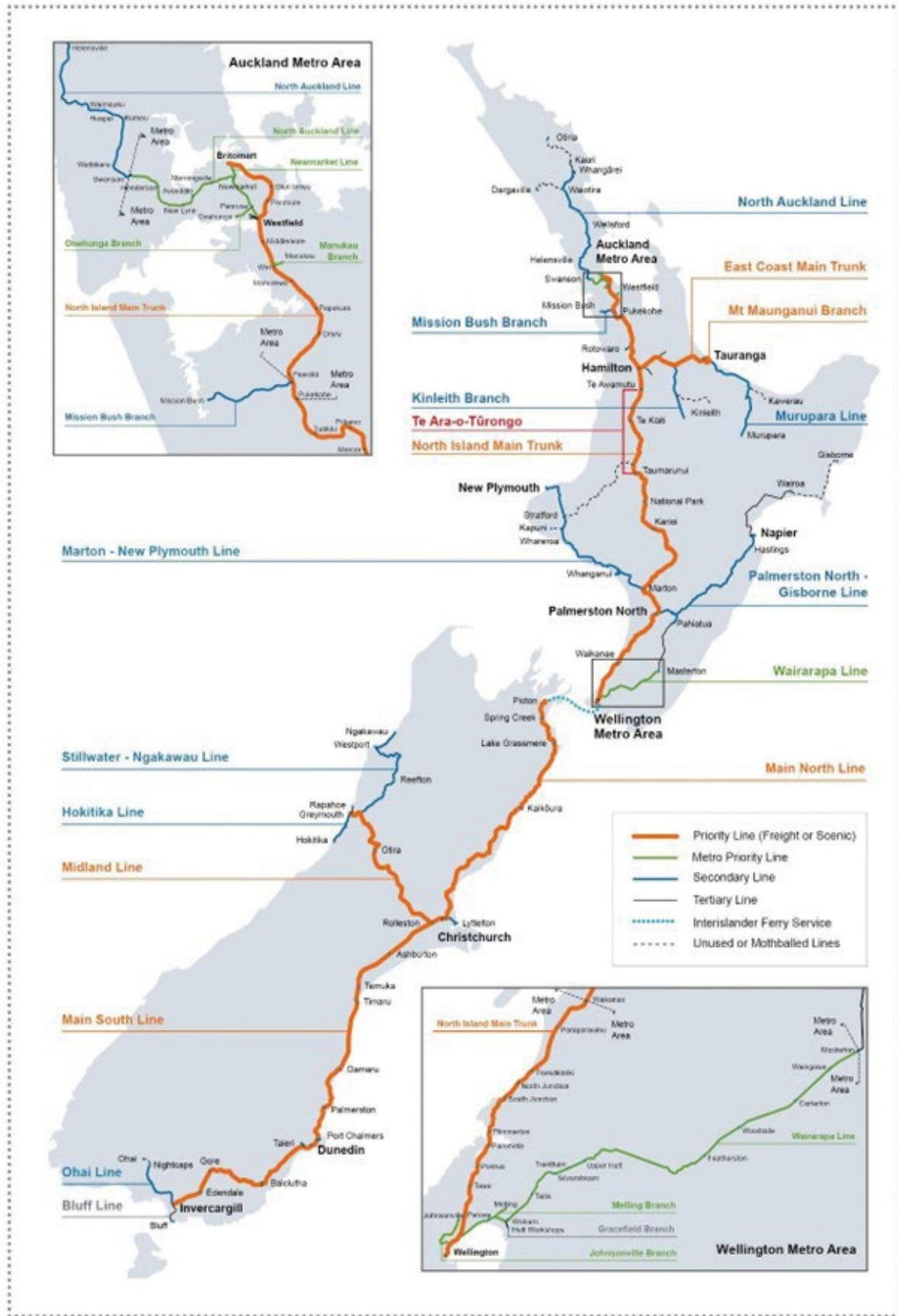


Figure D: The New Zealand Rail Network. Source: KiwiRail, "Half Year Report", 2025

2.3.1 The role of government

The New Zealand Government plays a critical role in the maintenance, regulation, and development of the rail sector. A key priority is ensuring that rail remains an integral part of the national transport system, contributing to economic growth, sustainability, and connectivity.¹⁰

The rail sector is governed through ministerial leadership, legislative frameworks, and regulatory oversight.

- **Minister of Transport:** Responsible for overall transport policy, investment, and sector regulation.
- **Minister for Rail:** Focuses specifically on rail infrastructure, services, and long-term strategy; a role reinstated in 2024 after being disestablished in 1993 following rail privatisation.
- **Minister of State Owned Enterprises:** Serves as a shareholding minister for KiwiRail, overseeing its governance and performance. This includes appointing the Board of Directors, who are accountable to the Minister for KiwiRail's strategic direction and operations.
- **Minister of Finance:** Responsible for overseeing KiwiRail's financial performance and ensuring alignment with the government's fiscal and economic objectives. The Minister works alongside the Minister for State Owned Enterprises in monitoring Crown Entity outcomes.
- **Minister for Auckland:** Advocates for the region's interests across government, helping coordinate major infrastructure and transport investments, including projects involving Auckland's rail network. The role focuses on ensuring Auckland's priorities are reflected in national decision-making.
- **KiwiRail:** Operates as a State-Owned Enterprise (SOE), monitored by the Treasury's Commercial Operations team and reporting to shareholding ministers.
- **Regulatory bodies:** Agencies such as NZ Transport Agency Waka Kotahi (NZTA) and the Transport Accident Investigation Commission (TAIC) provide oversight for rail safety and infrastructure governance.

The Railways Act 2005 governs rail operations, emphasising safety, licensing, and corridor management.

- **Safety regulations:** The Act mandates strict safety duties for rail operators, aligning with the Health and Safety at Work Act 2015.
- **Infrastructure management:** Provisions exist to regulate rail-road interactions at level crossings and establish clear maintenance responsibilities.

Government oversight ensures that New Zealand's rail network remains safe, efficient, and adaptable to future transport needs.

2.3.2 Rail infrastructure investment and planning

New Zealand's rail network is funded through a mix of commercial revenues and government investment, with distinct funding mechanisms for operational costs and maintenance and upgrades. Operational costs, including freight and passenger services, are primarily funded by commercial revenues, such as freight charges, passenger fares, and track access fees from metro services. Local government also contributes to urban rail operations, but government subsidies are sometimes required.

Maintenance and upgrades, covering track renewals, network improvements, and infrastructure expansion, are primarily funded by the National Land Transport Fund (NLTF) through the Rail Network Investment Programme (RNIP), alongside direct Crown (government) appropriations for large-scale projects. Local governments also co-fund certain upgrades, while track access fees provide a small contribution. As rail investment grows to modernise infrastructure and expand services, a skilled workforce will be essential to ensure the sector's long-term sustainability. In 2024 the RNIP provided a \$466 million investment in rail.¹¹ The plan includes a three-year investment agenda alongside a 10-year forecast to address previous underinvestment in rail infrastructure.

¹⁰ Ministry of Transport, The New Zealand Rail Plan (Wellington: Ministry of Transport, 2021), <https://www.transport.govt.nz/assets/Uploads/Report/The-New-Zealand-Rail-Plan.pdf>

¹¹ KiwiRail, Rail Network Investment Programme, <https://www.kiwirail.co.nz/our-network/funding-our-network/rail-network-investment-programme/>

From 2010-2024 the following major works in rail have been completed, or nearing completion, in New Zealand as a result of investment:

Project	Approximate Cost	Approximate Timing
City Rail Link (CRL): A major project in Auckland designed to improve rail capacity and network efficiency.	\$5.5 billion. ¹²	2016-2025/6
KiwiRail Network Renewals / Upgrades: Continuous improvements and maintenance of the national rail network to enhance infrastructure and services.	\$550 million for Auckland network renovations, with further network investments over multiple years. ¹³	2020-2026
North Auckland Line Rehabilitation: Upgrades aimed at reopening and optimising this line, particularly for freight.	\$336 million for renewing the line, with additional funding for associated projects. ¹⁴	2020-2024
Wellington Commuter Rail Enhancements: Projects to improve commuter services, including electrification and station upgrades in the Wellington area.	Major upgrades have experienced a cost increase of \$50 million , with ongoing investments for network improvements. ¹⁵	2021-2026
Kaikoura Rail Line Rebuild: Restoration efforts following the 2016 earthquake to rebuild key sections of the rail line along the east coast of the South Island.	\$1.1 - \$2 billion. ¹⁶	2016-2020
Napier to Wairoa Line Reopening: Restoring this line to service primarily for freight and local sector support.	\$6.2 million. ¹⁷	2017-2020
Electrification Extensions: Expansions of electrified areas, particularly around Auckland and Wellington to accommodate growing urban demand.	1.6 billion as part of the Auckland Transport Package; no specific cost specified. ¹⁸	2020-2025
Inter-Island Connectivity Enhancements: Upgrades to improve ferry and rail connections between North and South Island. A new plan is still in development which includes improvements to the Picton port only.	Original: \$1.45 billion (cancelled); New plan cost TBD (expected < \$3 billion). ¹⁹	2020-2023 (cancelled) 2025-2029 (new plan)
Freight Hub Developments: Creation and enhancement of several freight hubs to boost rail logistics capabilities across regions.	November 2018: \$40 million Government funding to start development. ²⁰	2018-2048

12 City Rail Link Ltd, "City Rail Link Benefits and Costs," <https://www.cityraillink.co.nz/city-rail-link-benefits-and-costs>

13 KiwiRail, "Rail Network Rebuild," <https://www.kiwirail.co.nz/our-network/our-regions/amp/rail-network-rebuild/>

14 KiwiRail, "Northland Rail Rejuvenation," <https://www.kiwirail.co.nz/our-network/our-regions/northland-rail-rejuvenation/>

15 KiwiRail, "Wellington Metro & Lower North Island," <https://www.kiwirail.co.nz/our-network/our-regions/wellington/>

16 New Zealand Government. "Kaikōura Rebuild Reaches Finish Line." December 15, 2020. <https://www.beehive.govt.nz/release/kaik%C5%8Dura-rebuild-reaches-finish-line>

17 Wairoa District Council. "Rail Line Back on Track." January 28, 2020. <https://www.wairoadc.govt.nz/our-council/news/article/383/rail-line-back-on-track>

18 Greater Auckland. "Levin to Wellington: One EMU at a Time." September 14, 2021. <https://www.greatauckland.org.nz/2021/09/14/levin-to-wellington-one-emu-at-a-time/>

19 KiwiRail. "New Ferries' Electric Propulsion System Will Help KiwiRail Meet Emission Goals." May 23, 2022. <https://www.kiwirail.co.nz/media/new-ferries-electric-propulsion-system-will-help-kiwirail-meet-emission-goals/>

20 KiwiRail. "Regional Freight Hub." <https://www.kiwirail.co.nz/our-network/our-regions/regional-freight-hub/>

Project	Approximate Cost	Approximate Timing
<p>Rail Network Investment Programme (RNIP): Ongoing program focusing on the renewal, optimisation, and management of the rail network through various projects.</p>	Integrated within broader budgets, specific to annual and strategic planning cycles. ²¹	2021-2024 (RNIP 1)
<p>Auckland Metro Rail Improvements: Enhancements across the metropolitan area to improve service reliability and frequency for passengers.</p>	Includes a \$267 million investment aimed at resolving passenger rail issues and enhancing reliability. ²²	2021-2026
<p>Otira Tunnel Improvements: Safety and efficiency upgrades to this significant rail tunnel within the South Island rail network.</p>	No specified investment amount. ²³	2020-2023
<p>Hamilton to Auckland Rail Service Initiatives: Initiatives aimed at developing a passenger rail link between Hamilton and Auckland to support regional connectivity.</p>	Initial service trials cost around \$78.2 million , with long-term rapid rail estimates rising to \$14.425 billion . ²⁴	2020-2026 (initial phase)

²¹ KiwiRail, Rail Network Investment Programme

²² KiwiRail. "Rail Network Rebuild FAQs." October 2022. <https://www.kiwirail.co.nz/assets/Uploads/Our-Regions/Auckland-Metro/Rail-Network-Rebuild-FAQs-October-22.pdf>

²³ KiwiRail. "Otira Tunnel Reaches Momentous Milestone." August 1, 2023. <https://www.kiwirail.co.nz/media/otira-tunnel-reaches-momentous-milestone/>

²⁴ Ministry of Transport. "Hamilton-Auckland Intercity Connectivity." <https://www.transport.govt.nz/area-of-interest/auckland/hamilton-auckland-intercity-connectivity>

Strategic investment in rail infrastructure strengthens freight efficiency and urban mobility, reducing congestion and driving economic growth. Rail transport also plays a critical role in sustainability, emitting 70 per cent less carbon than heavy road freight, which aligns with New Zealand’s emissions reduction targets.²⁵ Additionally, investment in major projects supports job creation and workforce skill development, particularly in civil engineering, signalling, and digital rail systems. The introduction of digital signalling, automation, and predictive maintenance further improves network reliability and operational efficiency, ensuring infrastructure remains modern and resilient. However, New Zealand’s rail sector has historically faced inconsistent investment cycles, leading to challenges in skills retention, workforce planning, and project continuity.

New Zealand’s rail infrastructure planning remains fragmented, relying on short-term funding cycles rather than a coordinated long-term strategy. The current RNIP for 2024-2027 is only partially funded and awaits final approval in 2025. These cyclical investment patterns often lead to periodic funding gaps, creating workforce instability and causing talent attrition and knowledge loss.

“We need a clear workforce pipeline, but uncertainty in government investment makes long-term planning difficult.”
– Rail sector respondent.

Investment secured by the Rail Investment Network Programme from 2021 until 2024

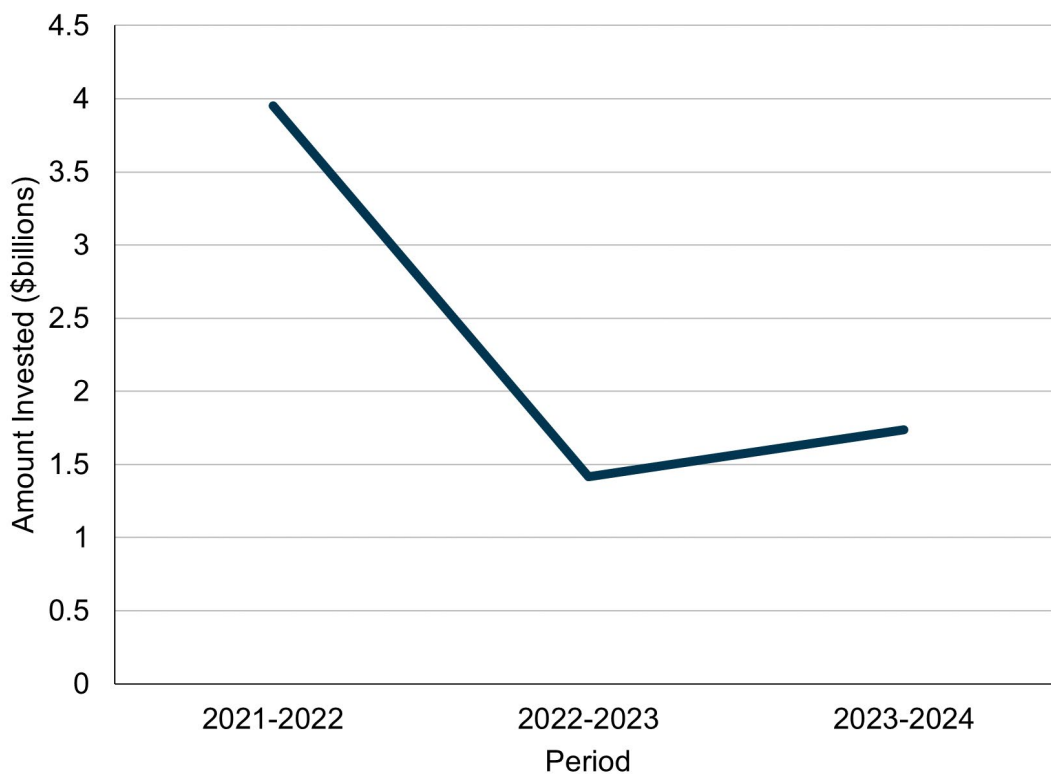


Figure E: Investment secured by the Rail Investment Network Programme from 2021 until 2024 ^{26 27 28}

25 KiwiRail. “Sustainability.” <https://www.kiwirail.co.nz/who-we-are/sustainability/>

26 Waka Kotahi NZ Transport Agency. Rail Network Investment Programme Annual Report 2021–22. 2025. PDF

27 Waka Kotahi NZ Transport Agency. Rail Network Investment Programme Annual Report 2022–23. PDF

28 Waka Kotahi NZ Transport Agency. Rail Network Investment Programme Annual Report 2023–24. PDF

The absence of a nationally coordinated, bipartisan rail infrastructure plan limits strategic workforce development and long-term planning that extends beyond political cycles. Without an overarching multi-decade rail strategy, the sector struggles with inefficient project sequencing, missed cost-saving opportunities, and difficulty attracting long-term investment. Delays and cost overruns are further intensified by regulatory bottlenecks, shifting government priorities, and a lack of coordination between rail and broader infrastructure investments.

A more integrated approach is needed to ensure that rail infrastructure investment aligns with broader transport and economic goals. Lessons can be drawn from infrastructure bundling strategies used in other sectors, where large-scale projects are grouped to improve efficiency, reduce costs, and streamline procurement. Aligning rail investments with road, public transport, and urban development projects could enhance connectivity and create long-term efficiencies, including the retention of skills and capabilities.

Greater collaboration between central and local governments, sector leaders, and transport agencies is essential to ensuring that rail infrastructure investment supports both current transport demands and future growth of rail infrastructure. If immediate transport needs persist at current levels, the sector faces a predicted workforce decline within a decade, potentially rendering it incapable of meeting demand. Additionally, anticipated future demand will further strain capabilities and capacities, highlighting the need for robust workforce planning and solution implementation. Without these measures, there's a risk of reducing rail's role as a key commercial transport carrier. By uniting these sectors and organisations, we can better address the investment and planning required to provide the rail sector with the assurance it needs regarding future demand. This understanding is vital for workforce planning and cultivating the critical skills and capabilities necessary within the rail workforce.

2.3.3 Key players in New Zealand rail

New Zealand's rail sector is relatively small compared to other countries, with a few key organisations responsible for rail infrastructure management, freight and passenger services, and sector oversight. The workforce within rail is primarily centred around KiwiRail, which plays a key role in operations. This core is supported by a variety of smaller specialist organisations and larger generalist engineering firms that possess small groups of rail expertise. Additionally, the sector includes government-owned entities, private operators, regional councils, and various contractors and suppliers, all contributing to the country's rail network operations.

2.3.3.1 Rail Infrastructure Management

The primary responsibility for rail infrastructure management and maintenance in New Zealand rests with KiwiRail, which oversees 3,700 km of track, tunnels, bridges, and signalling systems.²⁹ KiwiRail is a State-Owned Enterprise (SOE) and is responsible for both network maintenance and freight operations.

- **KiwiRail:** Maintains and operates the national rail network, providing freight logistics, inter-island ferry services, and tourism rail experiences.³⁰
- **NZTA:** Works alongside KiwiRail to fund and support key rail infrastructure projects through the National Land Transport Programme (NLTP).³¹

2.3.3.2 Rail Transport Services

Rail transport services in New Zealand are split into freight and passenger rail, with KiwiRail being the only rail freight operator and regional authorities managing commuter services.

- **Freight:** KiwiRail transports over 15 million tonnes of freight annually, supporting key industries such as agriculture, manufacturing, forestry, and import and national distribution.³²
- **Commuter Rail:** Passenger services are managed regionally, with key players including:
 - ◆ **Auckland Transport & Auckland One Rail:** Responsible for the Auckland metro rail network.
 - ◆ **Greater Wellington Regional Council (Metlink) & Transdev Wellington:** Responsible for managing Wellington's commuter rail services.
 - ◆ **Christchurch Transport:** Investigating the feasibility of regional passenger rail expansion.
- **Tourism Rail:** KiwiRail operates three scenic rail journeys – the Northern Explorer, Coastal Pacific, and TranzAlpine – serving the domestic and international tourism market.

2.3.3.3 Sector Suppliers & Contractors

New Zealand's rail sector relies on a mix of local and international suppliers to provide rollingstock, signalling systems, infrastructure upgrades, and maintenance services. While the following list is not exhaustive, it provides a sample of the organisations that operate on New Zealand's rail system, including:

- Martinus, John Holland, WSP, Vitruvius, Downer, McConnell Dowell, and JMD Railtech contribute to track and infrastructure development.
- Siemens Mobility, Edilon Sedra, and Loram support signalling, rail electrification, and track maintenance.
- Local rollingstock and rail equipment suppliers provide manufacturing, refurbishment, and maintenance services for rail operations.

²⁹ KiwiRail, "Track," <https://www.kiwirail.co.nz/our-network/looking/track/>

³⁰ KiwiRail. "KiwiRail Remains a State-Owned Enterprise." October 7, 2022. <https://www.kiwirail.co.nz/media/new-media-article-20/>

³¹ Waka Kotahi NZ Transport Agency. <https://www.nzta.govt.nz/roads-and-rail/rail/our-role-in-rail-safety/>

³² KiwiRail. Annual Integrated Report 2024. <https://www.kiwirail.co.nz/assets/Uploads/documents/Annual-reports/2024/Annual-Integrated-Report-2024-KiwiRail.pdf>

2.3.3.4 Regulatory Bodies & Governance

Several agencies oversee and regulate New Zealand's rail network, ensuring safety, infrastructure development, and sector funding.

- **Ministry of Transport:** Develops national rail policies and funding priorities.
- **NZTA:** Allocates rail funding through the NLTP and has primary regulatory responsibility for rail safety in New Zealand, including overseeing the Rail Safety Licensing and Safety Assessment framework.
- **TAIC:** Investigates rail safety incidents to improve sector standards.
- **Rail & Maritime Transport Union (RMTU):** Represents rail sector employees, advocating for labour rights, workplace safety, and sector workforce development.

New Zealand's rail sector continues to evolve, with collaborations between public and private stakeholders driving infrastructure investment, workforce development, and service expansion.

2.3.4 Rail workforce

From our data analysis³³, there are 5,324 employees within the rail sector, with 4,189 (78.7%) identified as working within Operations (42.3%), Maintenance (24.8%) and Technical (11.6%) roles. The remaining employees (21.3%) provide critical customer and support functions for rail organisations. The rail workforce spans a variety of occupations, including train drivers, infrastructure maintenance workers, and engineering specialists in signalling, traction, and rollingstock maintenance. Administrative and customer service roles also form a crucial part of the sector's operations.

The rail workforce is mostly unionised, with over 4,400 members represented by the RMTU. This union advocates for initiatives to improve workplace safety, ensure fair wages, and establish structured training programmes, all aimed at boosting workforce retention and fostering professional development.

Our data analysis indicates employment in the rail sector is predominantly concentrated in Auckland (38.5%) and Wellington (26.6%), the hubs for most commuter services and infrastructure projects. Further analysis indicates 23.6 per cent is located in rural or regional areas (i.e. outside of the three main centres of Auckland, Wellington and Christchurch), where retaining staff poses additional challenges. Interviews highlighted two main challenges associated with retaining rural and regional employees. Firstly, limited access to training and development opportunities, due to smaller hubs and remote site locations, can hinder skill advancement. Secondly, the isolation and considerable travel times associated with remote work can negatively impact morale, leading employees to feel disconnected from social and professional networks. These factors complicate retention, depending on individual career priorities.

2.4 Attraction, retention, and diversity of rail sector

As the rail sector looks to the future, rail employers report that there will be increasing demand for workers in rail infrastructure, however the picture for workers in the operational areas (including transport and freight) is more complex. The operational areas will need to flex to meet changes to the existing workforce, customer demands and the impacts of technological shifts in rail.

Meeting this demand requires the rail sector to consider the attractiveness of rail roles to a broad range of candidates, and how to grow the appeal of the sector across those demographics who may have been historically under-represented. Faced with an ageing demographic and persistent skills shortages – explored in detail in the Talent, Skills, and Capabilities section – the sector needs to enhance its appeal to new talent while fostering career longevity for current employees.

The ageing workforce presents challenges for talent retention and sector sustainability. Many senior rail professionals are approaching retirement, with our data analysis indicating 20 per cent of the rail workforce is likely to retire within the next 10 years. Additionally, a small number of workers (5.9%) remain employed beyond retirement age. This "retirement cliff" means that there will need to be a significant attraction of new people into the rail sector. This cliff also creates a risk of skill shortages in specialist areas, such as signalling and track maintenance, highlighting the need for succession planning and underscoring the urgent need to attract and nurture young talent to ensure continuity as this demographic exits the industry.

Some rail organisations have progressed with succession plans and managing attrition, however there is still a notable portion of the workforce approaching retirement eligibility in the next decade. The impact retirement will have across the rail industry, in particular specialist areas, needs to be carefully managed. The physical demands of certain roles may contribute to higher attrition rates among older workers, further exacerbating skill shortages.

In addition, based on interview data, there are limited structured pathways for younger professionals to enter specialist rail fields that are restricting long-term workforce sustainability.

³³ Note: This represents the workforce for organisations that participated in providing data for this report, and as such does not constitute a comprehensive analysis of the entire New Zealand rail workforce.

Age distribution of rail workforce

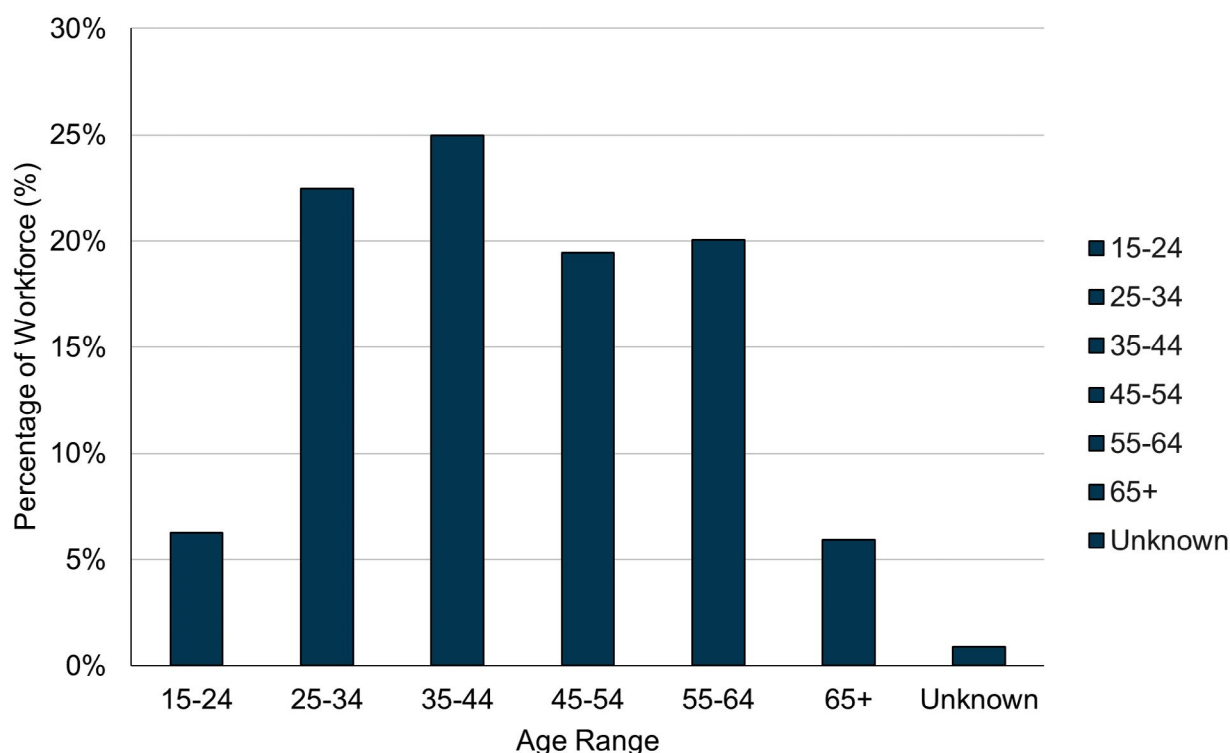


Figure F: Age distribution of rail workforce

2.4.1 Attraction and perception

Attracting new people to the sector will be key to replacing those who may retire within the next 10 years, and meeting an increased demand for people working on rail infrastructure. Based on participant interviews, the rail sector faces significant challenges attracting younger generations or those who may not have had exposure to the sector due to low awareness of career opportunities and outdated perceptions. Participants also noted that many potential employees view rail as a male-dominated, traditional sector, lacking innovation and clear career progression.

“People think rail is an old industry with no innovation, which makes it less attractive to young graduates.”
– Rail sector respondent .

Public perception of rail careers is shaped by historical factors, media portrayal, and limited sector engagement with schools, polytechnics, and universities. While rail plays a critical role in sustainable transport and economic development, it is often overshadowed by aviation, road transport, and emerging digital industries. There may be further opportunities for the rail industry to develop Private Training Establishments as an additional mechanism to broaden access and career opportunities into rail.

Efforts are being made to modernise the sector’s image, highlighting its role in sustainability, technological transformation, and infrastructure development. High-profile

projects like the City Rail Link (CRL) and electrification of key networks showcase the sector’s commitment to innovation and environmental responsibility.³⁴

Despite these efforts, the disconnect between sector advancements and public awareness remains a barrier. Many young professionals remain unaware of diverse career paths within rail, including engineering, operations, logistics, and digital infrastructure.

To bridge this gap, sector stakeholders must adopt a coordinated approach to outreach, branding, and educational partnerships to position rail as a forward-thinking and attractive career choice.

2.4.2 Raising profile of rail careers among young people or those new to the sector

The New Zealand rail sector faces several barriers to attracting young professionals or those who have not had exposure to the sector. Our survey results indicate the most significant barrier to attraction being a lack of awareness about career opportunities (55%). Additionally, 27 per cent of participants identified limited entry points into the sector as a key challenge, while 18 per cent noted the perceived difficulty of career progression as a deterrent. Other concerns raised include sector instability, negative media coverage, and outdated sector stereotypes, each cited by 9 per cent of survey respondents. Collectively, these factors hinder talent attraction and retention, limiting the sector’s ability to build a resilient and future-ready workforce.

³⁴ City Rail Link Ltd., “City Rail Link Benefits and Costs.”

The rail sector is working to modernise its image by highlighting technological advancements, digitalisation, and sustainability initiatives. These efforts align with the values of younger generations, who increasingly seek careers that contribute to environmental sustainability and innovation. However, repositioning rail as a future-focused and dynamic sector remains a challenge, requiring coordinated efforts in education, outreach, and skills development.

New Zealand has been actively promoting STEM (Science, Technology, Engineering, and Mathematics) education to prepare young people for the evolving job market. Initiatives such as the Wonder Project ³⁵ engaging nearly 140,000 students across 1,400 schools and organisations like GirlBoss New Zealand ³⁶ empowering over 17,500 young women in leadership and STEM have encouraged participation. However, a disconnect remains between STEM education and career uptake in industries such as rail, which is often perceived as lacking innovation or career growth opportunities.

Bridging this gap requires active promotion of rail's adoption of cutting-edge technologies, including automation, AI-driven signalling, and sustainability-driven infrastructure projects. Without stronger alignment between STEM initiatives and rail career pathways, young professionals may overlook opportunities in the sector. There is significant potential for partnerships with schools and tertiary institutions to demonstrate how rail careers align with the future of transportation and engineering.

Despite the sector's need for new talent, our survey found only 27 per cent of organisations offer apprenticeships or scholarships, and New Zealand universities lack rail-specific qualifications. This absence of structured career pathways restricts students' and graduates' ability to transition into rail roles. Additionally, inconsistent engagement with educational institutions reduces the sector's ability to showcase diverse career options.

Limited outreach also results in fewer opportunities for young professionals to engage with the rail sector through guest lectures, career fairs, apprenticeships, and internships. Without early exposure, many young New Zealanders remain uncertain about the skills and qualifications required, leading to missed opportunities for workforce development. While it is acknowledged that avenues into rail have been established in some rail organisations, such as KiwiRail, more could be done at the industry-wide level to make rail a more enticing and visible opportunity for young people.

Given the specialised nature of rail, knowledge transfer from experienced professionals to early-career entrants is essential. However, structured mentorship and learning opportunities remain inconsistent across the sector. With an ageing workforce, retaining institutional knowledge and fostering skills continuity should be a priority.

Without dedicated mentorship initiatives, new professionals may struggle to develop the technical and leadership capabilities needed for career advancement.

Uncertainty in project planning can also impact workforce retention and career stability. Many young professionals seek job security and clear career progression, yet the project-based nature of rail work creates instability. This lack of consistency complicates efforts to attract and retain skilled workers, particularly at entry-level positions. Establishing a structured approach to career development would help position rail as a viable, long-term career choice.

35 Engineering New Zealand. "The Wonder Project." <https://wonderproject.nz/>

36 GirlBoss New Zealand. "GirlBoss NZ." <https://www.girlboss.nz/>

2.4.3 Māori and Pacific Peoples in rail

Interview participants reported the rail sector is diverse, particularly when asked whether the workforce was representative of Māori and Pacific Peoples. However, our data analysis indicates that there is substantial underreporting in demographic data resulting in slight underrepresentation of Māori (11.2%) and Pacific Peoples

(6.4%) compared to national working age population statistics (16.95% and 6.31% respectively). There are opportunities to increase knowledge and attractiveness of rail roles for diverse candidates and therefore increase diversity in the sector. However, inconsistent workforce reporting remains a major barrier, with 36.5 per cent of employee ethnicity data unreported, making it difficult to accurately assess representation or track progress.

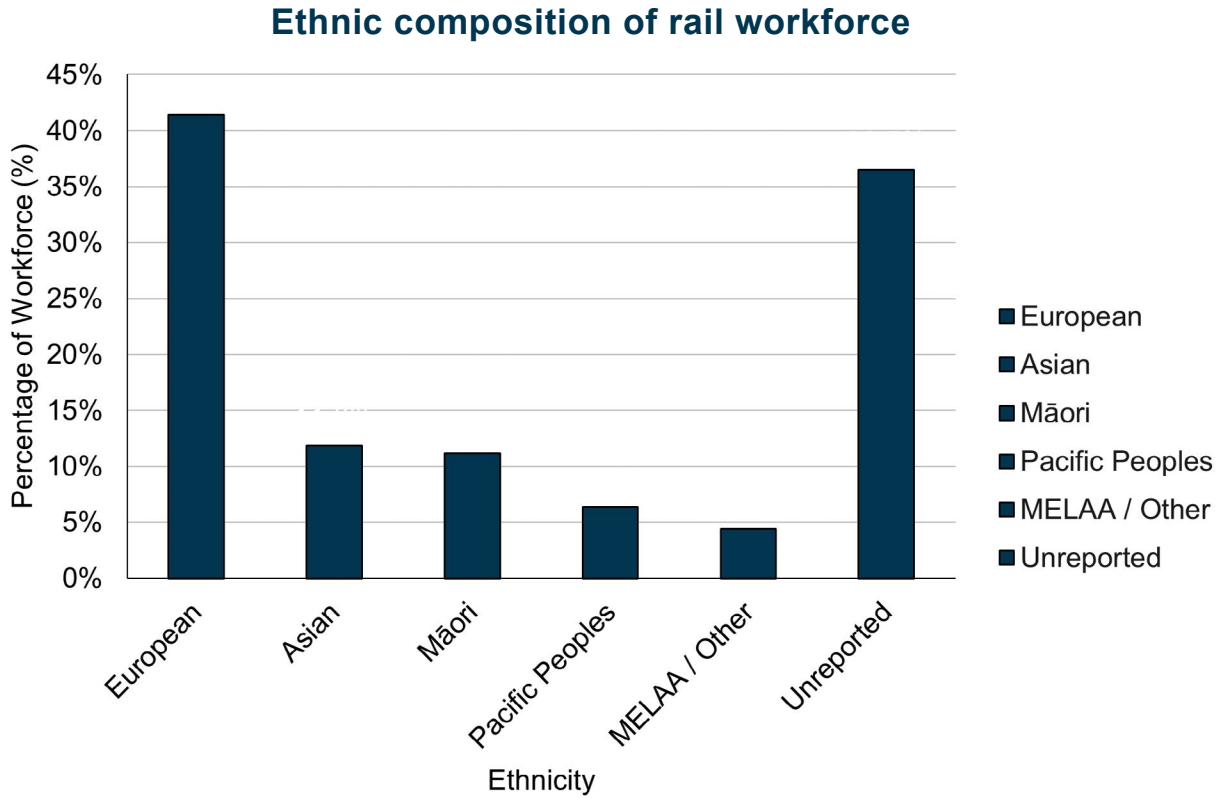


Figure G: Ethnic composition of rail workforce

Note: Encompasses those that participated in providing data for this report, not all of those within the New Zealand rail workforce.

A significant challenge in understanding and improving Māori and Pacific Peoples representation is the lack of reliable workforce data. While anecdotal evidence suggests some progress in diversity efforts, the absence of consistent and transparent reporting prevents the rail sector from implementing targeted recruitment and retention strategies or measuring long-term impact.

While Māori and Pacific Peoples employees are visible in frontline operational roles, they remain underrepresented in technical, leadership, and project management positions. There is a notable lack of Māori and Pacific Peoples professionals in engineering, digital rail

technology, and infrastructure project management. This suggests entry into the sector is occurring, but progression into specialised or senior roles remains limited.

Another key issue is the lack of clear data on attrition rates. It is unclear whether retention challenges stem from limited pipeline and rail industry investment, career advancement, workplace culture, or competition from other industries. Without detailed insights into why Māori and Pacific Peoples employees leave the sector, it is difficult to develop effective long-term engagement strategies.

Ethnicity by job group

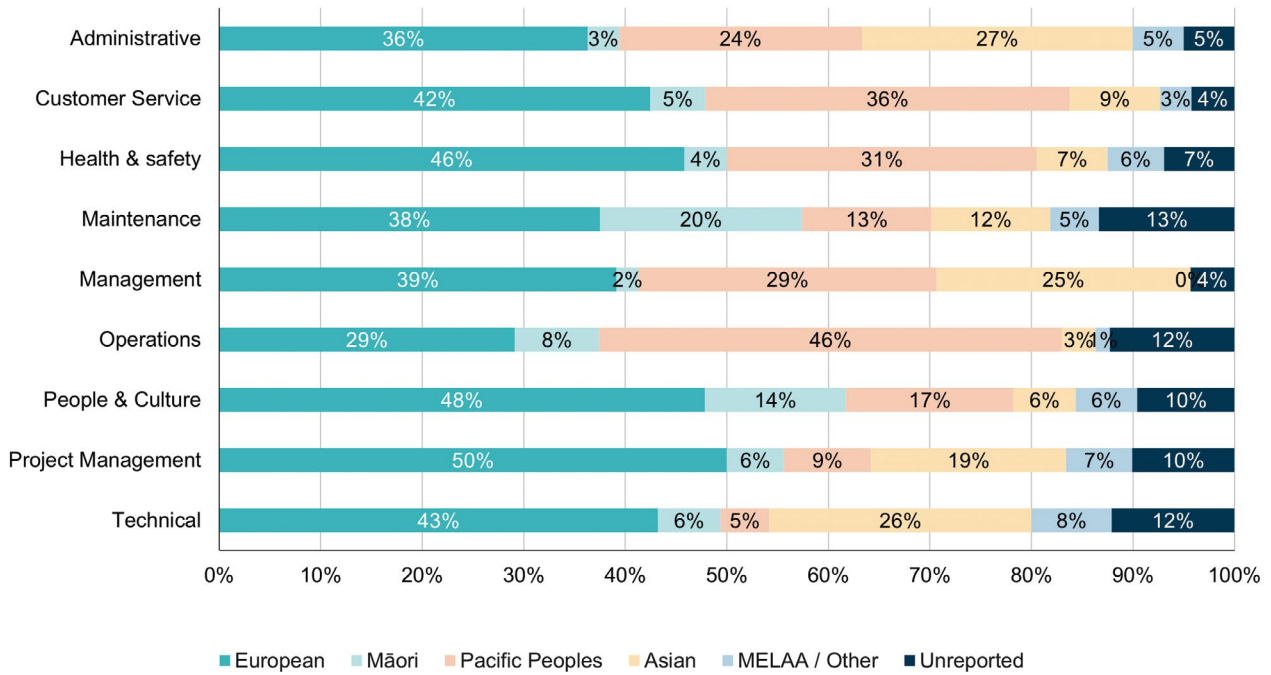


Figure H: Ethnicity by job group

Addressing these challenges requires a multi-faceted approach, including improved workforce reporting, increased Māori and Pacific Peoples participation at all career levels, and targeted retention strategies such as mentorship, leadership pathways, and skills development. Some organisations are progressing in this space, with activity to engage with Māori and Pasifika communities to raise awareness of rail career opportunities and build meaningful partnerships. Establishing clearer career pathways and development opportunities will be essential to future-proofing the workforce and fostering a more equitable and diverse rail sector.

2.4.4 Women in rail

Meeting future workforce demand will also require the sector to increase gender diversity, attracting and retaining more women in the sector. Improving gender diversity remains a key priority for the organisations that contributed to this report with the rail sector continuing to be male-dominated. We are aware that there are a number of initiatives organisations are currently delivering to grow female participation in the rail industry.

Drawing from data supplied by organisations, job categories were developed to facilitate a comprehensive analysis of roles within the rail sector. This method ensured a cohesive amalgamation of data, providing a clear summary of workforce trends. The results of this analysis are illustrated in the graph on the following page:

Gender distribution across rail sector roles

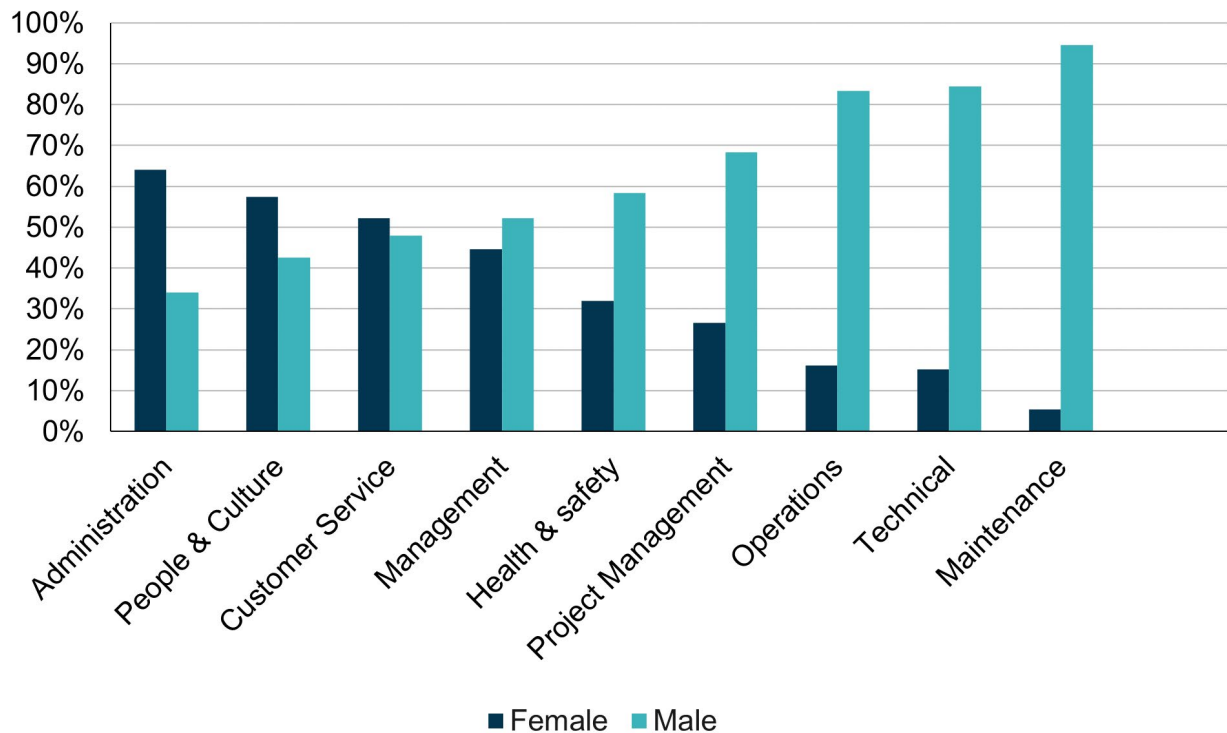


Figure 1: Gender distribution across rail sector roles

Note: This figure encompasses those that participated in providing data for this report, not all of those within the New Zealand workforce.

The sector remains male-dominated, with our data analysis indicating only one in five people in the workforce being female. Underrepresentation is particularly evident in operational and technical roles, where Maintenance and Technical roles have male representation rates of 94.5 per cent and 84.5 per cent, respectively, and 87 per cent of engineering roles are held by men. In contrast, Administration (64.1 per cent female) and People & Culture (57.4 per cent female) roles tend to be more female-dominated.

Analysis indicates at the executive level, women comprise 33.3 per cent of leadership positions, a higher proportion than in other areas but still reflective of a male majority. While leadership representation is improving, broader workforce gender imbalances persist. Our analysis also identified gender balance at the entry level.

Perceptions of rail as a male-dominated sector continue to deter female participation. Despite efforts to rebrand the sector as inclusive and innovative, shifting these perceptions remains a significant challenge. Organisations are implementing targeted recruitment strategies to improve gender balance, including refining hiring processes, monitoring female applicant metrics, and actively striving for balanced teams in leadership and technical roles.

The demands of shift work and operational roles can also pose barriers for women, particularly those with family responsibilities. While flexible working arrangements are being promoted to enhance work-life balance, ensuring

these strategies effectively meet the needs of all employees remains complex. There are opportunities to support movements such as Women in Male Dominated Industries and invest further in the active promotion of Women in Rail (through scholarships and targeted talent programmes).

2.4.5 Strategies for workforce retention

Attracting new entrants to the sector is important, as is retaining these people once they are in the sector.

Retention strategies in the New Zealand rail sector focus on career development, mentorship, competitive compensation, flexible work, organisational culture, and mental health support to maintain a stable and engaged workforce.

Career development opportunities are key to retention, with many organisations offering mentoring programmes, internal promotions, goal-setting frameworks, and structured career progression. However, many seek to further formalise these initiatives to drive employee growth and retention. Mentorship from subject matter experts (SMEs) supports the transfer of essential sector knowledge, accelerating skills development and succession planning.

Retaining rail expertise in engineering, design, and construction for major projects remains a challenge, rail employers have voiced in interviews, largely due to the intermittent nature of rail investment and project delivery in New Zealand.

Without a steady pipeline of large-scale infrastructure work, skilled professionals often seek opportunities in other sectors or overseas, where sustained investment provides greater career stability and development. This is particularly evident in rail systems engineering, signalling, and large-scale project management, where a reliance on international expertise limits the retention of local talent.

Ensuring a consistent, long-term work pipeline is crucial to maintaining a skilled workforce in the rail sector. A coordinated approach to project sequencing and workforce planning would reduce reliance on imported expertise and create more certainty for engineers, designers, and construction specialists. By committing to long-term investment strategies, the rail sector can foster career pathways that encourage skilled professionals to remain in New Zealand, strengthening local capability and reducing the risk of knowledge loss between projects.

Competitive salaries and incentives support retention in shift-based roles, yet challenges persist due to irregular hours affecting work-life balance. Organisations are enhancing fatigue management, mental health support, and rostering flexibility while promoting career progression opportunities and financial incentives to improve retention in these critical roles.

Many organisations, particularly in engineering roles, support hybrid working models, improving job satisfaction and productivity. A strong organisational culture – characterised by open leadership, diversity, and inclusion – directly influences retention, particularly for female employees. Employee resource groups for women in rail provide networking and advocacy opportunities, reinforcing a safe and inclusive workplace.

Mental health support is essential in high-stress roles such as train driving, where exposure to traumatic events can have lasting impacts. Retention strategies include:

- Employee Assistance Programmes for confidential counselling.
- Mental health first aid training for leaders and teams.
- Workplace initiatives like “R U OK?” days and peer support groups to foster psychological safety.

Proactively addressing mental health enhances workforce resilience, supports retention, and strengthens sector sustainability.

2.5 Talent, skills and capabilities of rail sector

New Zealand’s rail sector faces a range of talent and skills challenges. As a result, many specialised roles are filled by overseas professionals, yet differences in regulatory standards complicate qualification transfers, creating barriers to workforce integration.

Limited partnerships with local educational institutions further hinder efforts to develop homegrown talent, address skill gaps, and establish clear career pathways. Strengthening these partnerships is critical to building a sustainable talent pipeline and ensuring the rail sector can meet future operational and infrastructure demands.

To reflect the distinct training, qualification, and workforce development needs across the rail sector, insights in this section are organised into three core workforce domains:

- Infrastructure – including engineering, construction, asset design, signalling, and maintenance planning roles.
- Operations – covering train drivers, station staff, rail operations management, and front-line safety-critical roles.
- Corporate Services – encompassing HR, finance, IT, health and safety, and business support roles.

2.5.1 Skills and occupation shortages

Skill shortages in the rail sector vary across organisations. Infrastructure-related roles face critical shortages of skilled technical professionals, while transport sector positions often attract a surplus of applicants. This imbalance suggests that specialised infrastructure roles experience the most significant skill gaps, whereas general transport roles remain highly competitive.

Infrastructure

Roles in this domain face the most acute skill shortages, particularly in signalling engineering, traction and overhead electrical systems, structural civil engineering, and track design. These require specialised technical knowledge that is not widely available in New Zealand. A limited pool of subject matter experts and restricted local training capacity has resulted in ongoing reliance on international expertise, particularly from Australia, the UK and Canada. Interviewees frequently cited that these roles are difficult to fill and critical to major infrastructure projects.

Operations

Operational roles, such as train drivers and rail operations managers, attract significant interest, especially in metropolitan centres. For example, some recruitment rounds received over 2,000 applications for eight driver roles. However, the operations workforce is ageing: around 25 per cent of staff in these roles are over 55, and upcoming retirements are expected to impact workforce availability. Recruitment into remote locations is also difficult due to roster systems and qualification transferability issues, and some roster patterns have been noted to limit workforce diversity.

Corporate Services

Business support roles in HR, finance, IT, and administrative areas are comparatively easier to recruit for. These roles benefit from strong cross-sector transferability, allowing employers to draw from broader labour markets. Some challenges remain in aligning candidates with rail-specific systems or regulatory knowledge (e.g. safety case requirements), but this is typically addressed through on-boarding and compliance training.

Figure J summarises some key roles within the rail sector and the relative ease of recruiting for these on the following page.

Ease of recruitment by roles

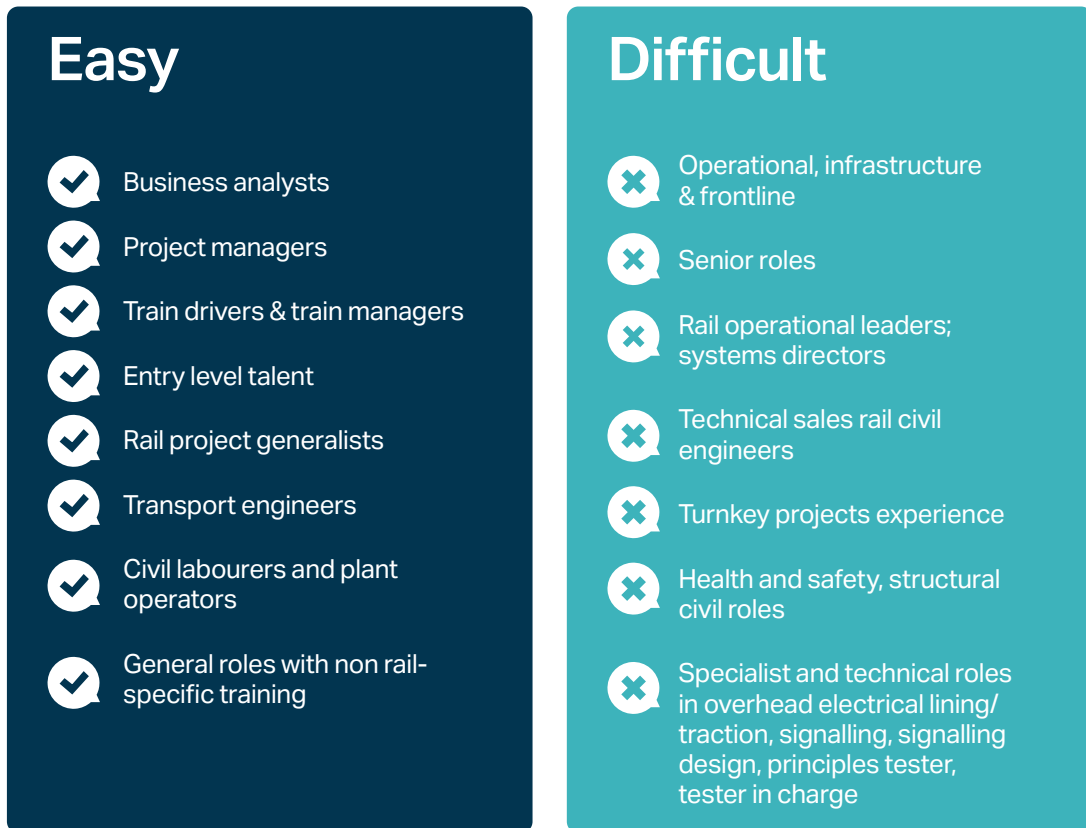


Figure J: Ease of recruitment by roles

Changes in demands across roles

Organisations anticipate changes in demand across various ANZSCO-classified occupations, falling into three categories:

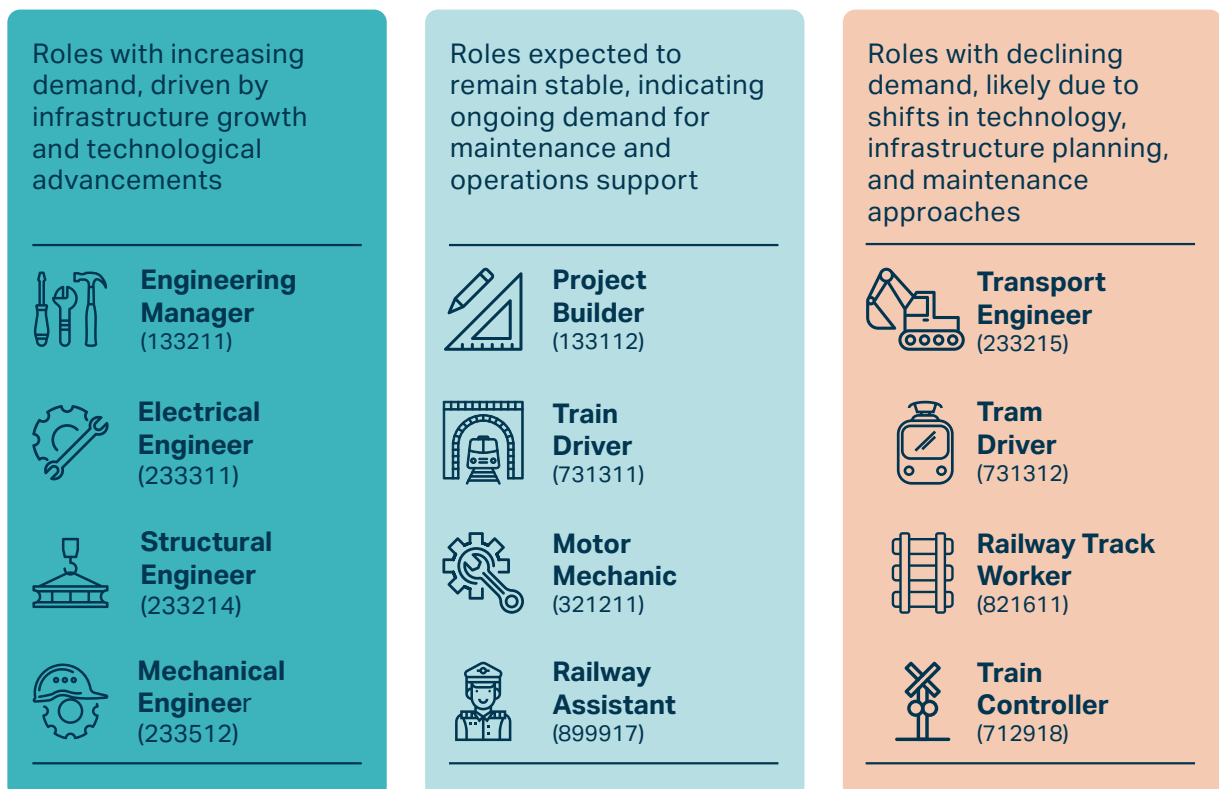


Figure K: Changes in demands across roles

Strategic workforce planning will be essential to address skill shortages, prioritise roles with projected growth, and optimise resources in areas of stability or decline.

2.5.2 Skills portability

In New Zealand, skill portability within the rail sector presents notable challenges due to the sector's small scale, specialised regulatory requirements, and reliance on both generalist and imported expertise. In particular, organisations working in the rail sector highlight:

- Transferring skills into rail from other infrastructure sectors, as well as recognising international qualifications, can be complex and time-consuming. Unlike larger markets where rail professionals can specialise in niche areas, New Zealand's workforce often requires adaptability across various roles.
- Regulatory and certification differences between countries, particularly Australia and New Zealand, create barriers for international talent mobility.

These issues make it difficult to develop a consistent talent pipeline and ensure long-term workforce sustainability within the sector. Skills portability primarily impacts on infrastructure and operations roles, as indicated below.

Infrastructure

Skill transfer into infrastructure roles is constrained by regulatory requirements and the absence of nationally recognised rail-specific qualifications. Professionals from other infrastructure sectors, such as roading or vertical construction, often possess relevant competencies in areas like geotechnical analysis, structural design, or electrical systems. However, adapting these skills to rail's regulated environment typically requires additional on-the-job learning or bridging programmes. Mutual recognition of qualifications across countries remains a persistent barrier to attracting overseas engineers.

Operations

While general operational skills are somewhat transferable across industries, critical safety roles such as train driving and network control require intensive in-house training. Drivers moving between operators or networks may need additional upskilling due to differences in signalling systems or route knowledge. Despite this, employers report good cross-sector transitions from logistics and aviation for non-driving operational roles.

Corporate Services

Corporate roles are the most portable across sectors. HR, IT, finance, and administrative professionals can transition into rail with limited retraining, although familiarity with rail safety legislation, union environments, and incident response protocols is often built through in-house onboarding. Skills portability is generally strongest in these functions.

2.5.2.1 Skill transferability

The transferability of skills from non-rail infrastructure sectors to rail-specific roles is a key opportunity in New Zealand to increase sustainability of the rail

workforce. Many engineering, construction, and project management professionals possess competencies that align closely with rail sector needs, yet barriers such as sector-specific regulations, lack of recognised rail qualifications, and limited employer awareness of transferable skills hinder smooth transitions. For example, an infrastructure engineer from the roading sector has expertise in structural integrity, geotechnical assessment, and materials engineering, which are directly applicable to rail infrastructure projects. However, the absence of structured cross-sector training pathways results in skilled professionals needing to undergo extensive on-the-job learning or additional certification before they can integrate into rail roles.

"If you don't have a directly relevant qualification, how do you get in?"
– Rail sector respondent.

While general engineering and project management skills are transferable, the highly regulated nature of the rail sector poses challenges. Rail-specific safety protocols, signalling standards, and asset management requirements differ from those in other infrastructure sectors, making direct transition difficult. Additionally, the small size of the New Zealand rail sector limits the number of formal training programmes available to bridge these gaps, forcing many professionals to learn through ad-hoc methods rather than structured sector pathways.

2.5.2.2 International talent mobility

Compared to other countries and sectors, New Zealand has a greater reliance on importing specialist skills that support large infrastructure projects. As large rail infrastructure projects in New Zealand are discrete, time-limited and may be irregular, there is limited ability to develop and retain specialist skills locally. While there is a small pool of specialised talent available locally, it is common for New Zealand's rail workforce to become generalists that can be utilised across a wide range of rail projects relating to maintenance and improvements. Where local talent would like to develop deep specialist skills within rail, it is almost a requirement that this be developed internationally. While skill portability is almost a necessity in maintaining the appropriate skills and capabilities in New Zealand, this comes with its own unique challenges.

Transferring qualifications and certifications between New Zealand and Australian rail organisations is challenging due to differing regulatory and health and safety requirements. Each country has its own framework based on unique regional needs, historical factors, and safety concerns. Australia's state-specific rail regulations can vary greatly, with New Zealand having a national approach. Both countries aim for stringent safety and operational standards suited to their networks, but the lack of mutual recognition of qualifications means that experienced international professionals must often undertake additional certification processes before they can work in New Zealand's rail sector.

These challenges are particularly acute in specialised fields such as signalling and overhead electrical line work, where expertise is already scarce. Interviews have highlighted that lengthy upskilling and certification periods often prevent highly skilled professionals from directly engaging in hands-on work. Instead, they are initially limited to providing insights as subject matter experts rather than operating in technical or leadership roles. While interoperability frameworks between New Zealand and Australia could improve skills portability, differences in regulatory complexity, wage disparities, and career progression opportunities can create imbalances, and skills portability may still result in New Zealand struggling to retain high-demand professionals who may seek opportunities overseas.

Sector professionals also noted in interviews that if a company is unsuccessful in securing a project, it is common for employees to shift to the organisation that won the contract. Given the small size of the New Zealand rail sector, many specialists are well-acquainted with their sector peers, making such transitions seamless. This fluidity allows for flexibility within the sector but can also create challenges in workforce retention and knowledge continuity, as expertise frequently shifts between competing firms rather than being retained within individual organisations.

The international portability of skills within the rail sector is significantly shaped by the movement of skilled professionals across borders, from the United Kingdom (UK), Canada, Australia, and South Africa. International SMEs, particularly from the UK and Canada, play a crucial role in enhancing the skill set available in New Zealand. These international experts bring valuable experience and knowledge, contributing to the local sector's capability to undertake complex projects. Collaboration with international firms helps bridge skill gaps and provides opportunities for knowledge transfer, which is essential for maintaining high standards in rail operations within New Zealand.

It is also common for New Zealand professionals to seek opportunities overseas to gain experience on large-scale projects, which are often not available domestically due to the smaller market size. This international experience is highly valued when they return to New Zealand, as it equips them with a broader perspective and a diverse set of skills that can be applied to local projects.

Organisations in New Zealand often seek project leads who have extensive experience across various international contexts, as this breadth of experience is seen as crucial for successfully managing complex rail projects. This trend highlights the importance of international exposure in developing a well-rounded and capable workforce that can meet the demands of the evolving rail sector.

2.5.3 Education and training for rail

The New Zealand rail sector provides multiple pathways for workforce entry, with employees transitioning from technical, vocational, and broader engineering disciplines

into rail-specific roles. Organisations aim to align formal education, in-house training, and professional experience with evolving sector needs to build a competent and adaptable workforce.

The majority of roles within the rail sector require a secondary school qualification. However, a smaller proportion require a vocational or technical qualification and only a minority of roles across the sector require a university qualification. The key distinction appears to be those organisations who have operational roles within the sector, where a greater proportion require secondary school qualification but do not require a further vocational, technical, or university qualification. Those organisations within the sector who specialise in infrastructure and engineering projects related to rail tend to have higher educational requirements for their roles.

The significant degree of in-house training and development offered to those in operational roles also reduces the need for further vocational or technical training, highlighting the high proportion of secondary school qualification, but lower vocational, technical, or university qualification.

Broken down by workforce domains the education needs are as follows:

Infrastructure

The educational pipeline for infrastructure roles lacks formal rail-specific pathways. Most engineers enter the sector with university degrees in mechanical, civil, or electrical engineering, gaining rail knowledge through project experience or in-house development. In the vocational education and training sector, Rail Infrastructure qualifications exist on the New Zealand Qualifications and Credentials Framework (NZQCF) for installation and maintenance of rail infrastructure. However these qualifications are not currently being delivered, with organisations currently undertaking in-house training for these skills. KiwiRail and other employers offer apprenticeships in disciplines such as signalling, maintenance, and traction line mechanics, but these programmes are capacity-limited and not nationally coordinated. Stronger collaboration with universities could support the introduction of rail modules within relevant degrees.

Operations

Operations roles often require secondary school qualifications for entry, supplemented by extensive in-house training. For example, train drivers undergo 18-24 months of structured learning, including simulator-based assessments and route knowledge validation. In some organisations this training is aligned to a formal vocational qualification. Apprenticeship programmes exist in rail operations and yard management, but pathways into rail from vocational training remain fragmented. Consistency in qualifications, particularly across metro and freight operators, would support career mobility.

Corporate Services

Corporate staff typically enter with tertiary qualifications in their respective fields. Few rail-specific training

programmes exist for these roles, with most professional development focused on compliance, health and safety, and incident response. Some organisations have developed digital learning platforms and blended training models to familiarise corporate staff with rail operations and regulatory obligations.

2.5.3.1 In-house training

In-house training plays a particularly crucial role in safety-critical roles such as train drivers, who undergo 18-24 months of structured learning. This tailored approach ensures that drivers are proficient in the specific aspects of their respective networks, enhancing both safety and operational efficiency. Given variations in signalling systems and operational protocols across different networks, additional upskilling is often required when drivers transfer between organisations.

The rail sector combines in-house training with external courses, ensuring employees develop essential technical, operational, and safety competencies. Survey results indicate a preference for blended learning with how organisations carry out their training, as seen in the graph below.

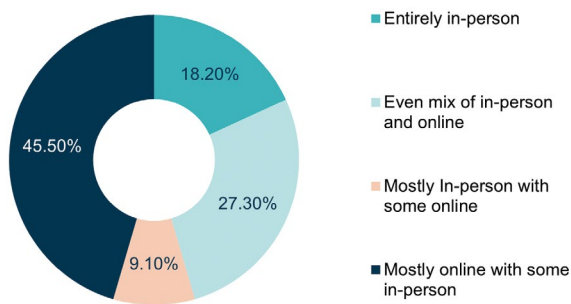


Figure L: Survey response to how internal training is currently delivered

There are also several apprenticeship programmes available for potential employees that are tailored to regional demand and specific job requirements (see Appendix 4).³⁷ While in-house training remains central to workforce development, leveraging external expertise for specialised areas such as compliance training, particularly health and safety, ensures employees receive the most current and standardised instruction.

2.5.3.2 Vocational and technical education

There is a range of vocational qualifications and credentials on the New Zealand Qualifications and Credentials Framework (NZQCF) related to rail that have been developed in conjunction with the rail industry. These include:

- Rail Operations (train driver, train manager, yard operations and operations centre)
- Rail Infrastructure (rail installation and maintenance)
- Locomotive Refinishing

Te Pūkenga, New Zealand’s vocational education provider, delivers some programmes specifically for rail operations, however, more often than not rail organisations provide in-house versions of this training to align with their own respective operations. The diagram below shows qualification pathways for all rail vocational qualifications which are on the NZQCF. Three qualifications are delivered as workplace-based learning via Te Pūkenga (Competenz). There are three qualifications, and three microcredentials which are on the NZQCF which are not currently being delivered.

³⁷ KiwiRail. “Apprenticeship Programme.” <https://careers.kiwirail.co.nz/go/Apprenticeship-homepage/7897410/>

Rail qualification pathways in New Zealand. Source: Hanga-Aro-Rau

Rail

QUALIFICATION PATHWAYS

Click on the link to see the full Qualification details

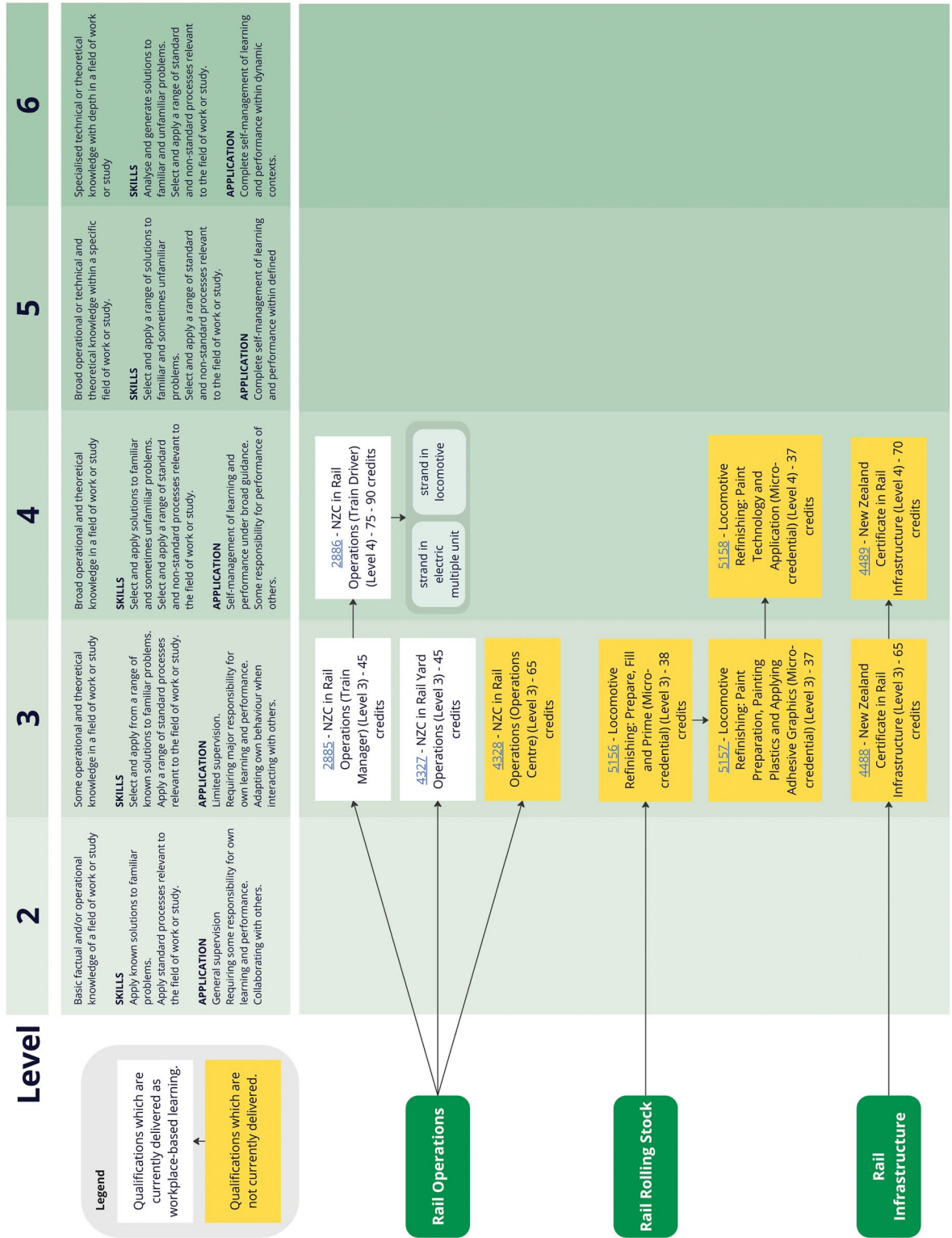


Figure M: Rail qualification pathways in New Zealand. Source: Hanga-Aro-Rau

Hanga-Aro-Rau Workforce Development Council (WDC) oversees the rail sector, focusing on quality assurance, industry standards, and skills leadership. In its role, Hanga-Aro-Rau ensures all vocational education and training (regardless of where it is delivered) meets the qualification standards. The council collaborates closely with industry stakeholders to ensure training meets industry needs, maintaining a thorough understanding of current requirements. It prioritises expanding formal apprenticeship opportunities and aligning training with career progression pathways, addressing the evolving landscape and technological advancements within the industry. The efforts of the vocational education groups are vital in equipping individuals for career advancement in the rail sector, aligning skills development with future infrastructure projects and industry demands.

Ongoing changes in the vocational education sector will see Hanga-Aro-Rau as a WDC ceasing to exist from 31 December 2025, with Industry Skills Boards (ISBs) to be stood up on 1 January 2026. The future responsibilities indicated for the ISBs will include:

- Developing the industry qualifications and standards that underpin vocational programmes.
- Quality assuring how qualifications and standards are used via consent requirements for providers (Institute of Technology and Polytechnics (ITPs), private providers, and Wānanga) and external moderation of assessments.
- Endorsing the vocational programmes that providers develop. An ITP, private provider, or Wānanga will not be able to offer these programmes without an ISB's endorsement.

It is also expected that the ISBs will continue to deliver some strategic functions of WDCs including strategic workforce analysis and planning, as well as investment advice to the Tertiary Education Commission on where it should invest its funding.

Government policy and funding fluctuations for infrastructure projects further impact investments in training, making long-term upskilling initiatives more difficult to commit to. Strengthening collaboration between sector stakeholders and educational providers will be important to ensuring vocational education aligns with evolving sector demands.

2.5.3.3 University education

New Zealand lacks dedicated university qualifications for rail, particularly in design, signalling, and rail engineering. Qualifications like these can be seen in countries around the world in Germany, the UK, and Singapore.^{38 39 40} Most professionals in New Zealand enter from mechanical, electrical, or civil engineering backgrounds, requiring on-the-job training to develop rail-specific expertise.

Surveyed organisations were divided on the effectiveness of this approach, with 45.5 per cent finding it moderately effective and 54.5 per cent rating it as effective.

"I don't know how many young engineers coming out of university in New Zealand think, 'I can't wait to go and work in the railway'."
– Rail sector respondent.

Interview feedback suggests that stronger partnerships with universities could help address skill gaps through the development of rail-specialised courses. Without these pathways, onboarding and training periods are extended, limiting opportunities for practical learning, especially given the smaller scale of rail projects in New Zealand. This gap also reduces the sector's ability to attract new talent and may slow the adoption of emerging technologies. Establishing rail-specific university programmes or professional certifications could help provide formal recognition of skills and strengthen workforce capabilities.

2.5.4 Career progression

Career progression in New Zealand's rail sector varies across organisations, with internal career pathways generally well-defined within individual companies. Many organisations provide progression guides, but these are often specific to the employer, making it unclear how transferable career development frameworks are across the wider sector. Employees also find that career advancement is closely tied to investment cycles, with fewer opportunities available during periods of low infrastructure investment.

"Retention is a challenge when career progression is limited – we need to offer more pathways for growth."
– Rail sector respondent.

This dependence on investment cycles means that when large rail projects are scarce, career progression slows significantly, particularly for junior employees who struggle to gain hands-on rail experience in areas such as track infrastructure, signalling, and rollingstock maintenance. In these periods, organisations focus on retaining talent, but with limited advancement opportunities, some employees seek work in Australia's larger rail sector or transition to other infrastructure industries, exacerbating retention challenges within New Zealand rail.

While many organisations recognise the importance of structured career pathways, implementation varies. Some rail companies have established clear competency frameworks outlining advancement steps, training requirements, and qualifications for operational and engineering roles, while others are still developing these structures.

³⁸ Technical University of Munich (TUM), Master of Science in Rail, Transport, and Logistics. <https://www.tum.de/>

³⁹ University of Leeds, Railway Engineering and Transport Planning, <https://www.leeds.ac.uk/>

⁴⁰ TUM Asia, Professional Certificates in Railway Engineering, 2025, <https://tum-asia.edu.sg/>

In some cases, these frameworks are complemented by succession planning initiatives, where mentoring programmes and leadership training help identify and prepare future sector leaders in specialist rail disciplines.

Additionally, several barriers persist. Low turnover in senior operational and engineering roles limits opportunities for advancement, making it difficult for mid-career employees to step into leadership positions. Additionally, qualification transferability and complex certification processes make it challenging for employees to move between rail organisations, regions, or different specialisations, such as transitioning from infrastructure to rollingstock engineering. Addressing these barriers requires sustained investment in workforce development, sector-wide coordination, and a focus on developing a structured and consistent approach to rail career progression that enables skills mobility across different organisations and disciplines within the sector.

Career progression differs depending on the workforce domain within rail, with these explored below.

Infrastructure

Progression in infrastructure roles is closely tied to the investment cycle. Periods of low capital expenditure limit opportunities for junior engineers to gain experience, contributing to attrition or transitions to other infrastructure sectors. Senior roles, particularly in project delivery or systems engineering, are few in number and often require international experience. Where clear competency frameworks exist, they support employee progression, but these are not consistently applied across the sector.

Operations

Operational career pathways are more formalised in larger operators. Some, such as Auckland One Rail, have documented progression plans from entry-level roles to supervisor and management positions. However, limited turnover in senior roles, combined with shift patterns and geographic immobility, can restrict upward movement. Mentorship and leadership development programmes are emerging but require further coordination across the sector.

Corporate Services

Career pathways in corporate services depend on organisational scale. Larger rail providers offer structured progression, while smaller organisations may lack vertical development options. While lateral moves across functions are possible, sector-wide frameworks for career development remain underdeveloped. Inter-organisational mobility is limited by inconsistent job classifications and a lack of shared talent pools.

2.6 Future of New Zealand Rail and its impacts on skills

As the largest employer in the rail sector in New Zealand, KiwiRail's focus areas have a significant impact on the workforce demand in New Zealand. KiwiRail's strategic focus for the next three years is to increase efficiency and productivity across key service areas, prioritising the busiest and highest-demand routes while ensuring safety and compliance on secondary networks. Investment priorities for this period include:

- Enhancing efficiency and productivity in works delivery
- Improving asset condition and service levels on priority routes
- Maintaining asset condition and safety compliance on secondary routes
- Advancing asset management maturity and data quality to support decision-making
- Growing freight volumes on rail
- Supporting increased passenger volumes ⁴¹

Beyond this three-year plan, KiwiRail's 10-year investment strategy focuses on supporting an efficient supply chain and expanding freight capacity. The primary investment will remain in network maintenance, management, and renewal, with targeted spending to improve asset conditions and service reliability on critical routes. This approach aims to reduce service outages and recovery times while prioritising key infrastructure improvements.⁴²

Investment in metro rail is also a priority, particularly in New Zealand's largest cities, ensuring that commuter rail aligns with Regional Land Transport Plans (RLTPs). KiwiRail will implement programmes to mitigate network disruptions and collaborate with the government to reduce vehicle kilometres travelled and alleviate congestion.⁴³

The RNIP 2024–2027 outlines key projects aligned with these priorities. However, funding beyond 2025 remains uncertain, raising concerns about long-term project continuity and workforce sustainability and stability. The projects identified for potential investment over the next decade and a longer term commitment (ideally with bipartisan political support) will play a crucial role in shaping the future skill demands within the sector.

Some future projects for New Zealand rail can be found in the table on the following pages:

⁴¹ KiwiRail. Statement of Corporate Intent 2023–2025 <https://www.kiwirail.co.nz/who-we-are/publications-and-resources/statement-of-corporate-intent/>

⁴² KiwiRail, Rail Network Investment Programme 2024–2027

⁴³ KiwiRail, Rail Network Investment Programme 2024–2027

Project	Investment Details
<p>Auckland and Wellington Metro Area Focused strategic planning for metro areas, supporting urban rail traffic growth. <i>Lead: KiwiRail</i></p>	<p>Investment Period \$4.3M (2024/25), \$5.0M (2025/26), \$4.0M (2026/27)</p> <p>Total Investment Cost \$51.1 million over 10 years</p>
<p>KiwiRail Services Business Investment Encompasses investments for replacing rollingstock, enhancing mechanical depots. <i>Lead: KiwiRail</i></p>	<p>Investment Period \$278.2M (2024/25), \$353.2M (2025/26), \$217.4M (2026/27)</p> <p>Total Investment Cost \$988.7 million over 10 years</p>
<p>Mechanical Facilities Upgrade Upgrading mechanical facilities for improved operations. <i>Lead: KiwiRail</i></p>	<p>Total Investment Cost \$33.8 million</p>
<p>Hillside Assembly Workshop: Construction and assembly workshop aimed at creating jobs and apprenticeships. <i>Lead: KiwiRail</i></p>	<p>Total Investment Cost \$30.9 million</p>
<p>Tourism - Passenger Service Refresh Refresh passenger services to improve tourism appeal. <i>Lead: KiwiRail</i></p>	<p>Total Investment Cost \$1.5 million</p>
<p>Metropolitan Networks – Public Transport Infrastructure Activity Class Investing in public transport infrastructure for major cities. <i>Lead: KiwiRail</i></p>	<p>Total Investment for 2024/25 to 2026/27: \$524.8 million</p>
<p>Rollingstock Renewal Renewing locomotive and wagon fleets to enhance reliability and self-funding capability aligned with the government’s commitment of \$1.7 billion. <i>Lead: KiwiRail</i></p>	<p>Government Investment \$0.5 billion over next three years</p> <p>Total Investment Cost \$1.7 billion</p>
<p>Mechanical Depots Upgrades Upgrading 12 depots across NZ, including a new facility in Waltham. <i>Lead: KiwiRail</i></p>	<p>Total Investment Cost \$207 million (depots), \$105 million (hillside workshops and wagons)</p>
<p>Electric Fleet Refurbishment Extend the economic life of electric fleets with reduced emissions. <i>Lead: KiwiRail</i></p>	<p>Total Investment Cost \$35 million</p>
<p>Modernisation and Hybrid Locomotives Project Acquiring new diesel and hybrid locomotives to modernise operations. <i>Lead: KiwiRail</i></p>	<p>Total Investment NZ\$403 million for new locomotives (2024-2026), part of broader \$1.7 billion investment.</p>
<p>Regional Rail Connectivity and Studies Studies on enhancing rail services between Christchurch, Invercargill, Auckland, Hamilton, and Tauranga. <i>Lead: KiwiRail</i></p>	<p>Ongoing study funded by the Ministry of Business, Innovation and Employment.</p>
<p>Riverlink Land Purchase for Rail Station Replacement Purchase of the land to enable improved transport outcomes as part of the relocation of the Melling Station. <i>Lead: Greater Wellington</i></p>	<p>Total cost \$1.03 million</p>
<p>Waterloo Station Transit Oriented Development (TOD) Replace ageing and unsafe building infrastructure at Waterloo Station with a mixed-use transport/commercial Transit Oriented Development. <i>Lead: Greater Wellington</i></p>	<p>Total cost \$103.5 million</p>

Project	Investment Details
<p>Wellington Metro - Remutaka Tunnel Ventilation Installation of an active ventilation system in the Remutaka Tunnel to accommodate passenger services on the Wairarapa Line in light of changes to compliance thresholds.</p> <p><i>Lead: KiwiRail</i></p>	<p>Total cost: \$16.6 million</p>
<p>Wellington ETCS - Rail Network Resignalling Implementation of Wellington Metro Upgrade Programme. Includes replacement of mixed signalling and train control systems. Installation of European Train Control System (ETCS) Level 2.</p> <p><i>Lead: KiwiRail</i></p>	<p>Total cost \$461.8 million</p>
<p>Wellington Metro - Remaining Improvements for RS1 Timetable Network improvements to enhance resilience of RS1 timetable, which provides a 15-minute service, increasing capacity, level of service and network resilience. Improvements include stabling at Waikanae, junction upgrades in Woburn, signal upgrades at North-South Junction and Pukerua Bay.</p> <p><i>Lead: KiwiRail</i></p>	<p>Total cost \$23.9 million</p>
<p>Smarter Network Technology and Innovation Programme Several bespoke technology enhancements for the rail fleet and station, including WiFi provision on trains, hardware LED strips at train stations, and full-width signage across carriages.</p> <p><i>Lead: Greater Wellington</i></p>	<p>Total cost \$27.69 million</p>
<p>Wellington Metro - Strategic Future Planning Strategic planning for future investment in the Wellington Metro rail network. Enables KiwiRail to complete Programme Business Case work and participate in key planning activities of other organisations - i.e. Regional Growth Framework, etc.</p> <p><i>Lead: KiwiRail</i></p>	<p>Total cost \$12 million</p>
<p>Unlocking Capacity & Improving Resilience - Infrastructure (Substation Upgrade) Infrastructure network capacity improvements over next 4 years. Includes: Removal of network constraints, improved peak service frequency, higher quality passenger service, cater forecast peak demands, ensure balanced mode share between rail and road.</p> <p><i>Lead: Greater Wellington</i></p>	<p>Total cost \$137.2 million</p>
<p>EMU Rollingstock Tranche for CRL Investment in new Electric Multiple Unit (EMU) trains to support the CRL. This investment ensures that there is sufficient modern, high-capacity rollingstock to meet the increased service demand and frequency enabled by the CRL. The new EMUs will improve network reliability, reduce congestion, and support Auckland's shift to a more sustainable, high-capacity public transport system.</p>	<p>Total cost \$204.7 million over 10 years</p>
<p>EMU Stabling and Depots for CRL Investment in new stabling and depot facilities to support the CRL. This investment ensures there is sufficient infrastructure to house, maintain, and service the growing EMU fleet required by the increased service demand and frequency enabled by the CRL. The new facilities will improve operational efficiency, support reliable service delivery, and enable the long-term sustainability of Auckland's expanded rail network.</p>	<p>Total cost \$36 million over 10 years</p>

Project	Investment Details
<p>Karangahape Roadside for CRL Investment in the Karangahape Roadside infrastructure to support the CRL. This investment includes works to integrate the new Karangahape Station with surrounding streets and transport connections. It ensures safe, accessible, and efficient connections for passengers entering and exiting the station, supporting increased public transport use and enhancing the urban environment in one of Auckland's busiest precincts.</p> <p>Level Crossings Removal for CRL Investment in the removal of level crossings to support the CRL. This investment enhances safety, reduces road and rail conflicts, and enables increased train frequencies made possible by the CRL. Removing level crossings improves network efficiency, reduces delays for both rail and road users, and supports the long-term reliability and growth of Auckland's rail system.</p>	<p>Total cost \$14.7 million over 10 years</p> <p>Total cost: \$62.9 million over 10 years</p>
<p>Level Crossings Removal Takanini and Western Investment in the removal of level crossings on the Takanini and Western Lines. This investment improves safety for road users and pedestrians, reduces congestion, and supports more frequent and reliable train services. It is a critical enabler for the increased network capacity delivered by the CRL and supports future urban growth and intensification along these key corridors.</p>	<p>Total cost: \$550.3 million over 10 years</p>
<p>Rail ETCS2 Signalling and Driver Assist Investment in ETCS Level 2 signalling and driver assist technology for Auckland's rail network. This advanced signalling system enhances train control, allows for higher service frequencies, and improves safety and operational efficiency. The upgrade supports the increased demands of the CRL-enabled network and lays the foundation for a more modern, automated, and resilient rail system.</p>	<p>Total cost: \$38.8 million over 10 years</p>
<p>Stations and Wayfinding for CRL Investment in station upgrades and wayfinding improvements to support the CRL. This investment enhances the passenger experience by improving station accessibility, signage, and navigation across the network. It ensures stations are equipped to handle increased patronage, supports seamless transfers, and contributes to a more user-friendly and connected public transport system in Auckland.</p>	<p>Total cost: \$17.6 million over 10 years</p>

2.6.1 Sustainability in the rail sector

New Zealand's first Emissions Reduction Plan, released in May 2022, provides a comprehensive framework for reducing greenhouse gas emissions, including measures for the rail sector.⁴⁴ The plan aligns with global climate commitments to limit temperature rise to 1.5°C above pre-industrial levels and is a key component of New Zealand's Climate Change Response Act 2002, which mandates emissions reduction targets and budgets.

Rail plays an important role in New Zealand's transport decarbonisation efforts, with strategies focused on electrification and reducing reliance on diesel-powered trains. This transition supports the first emissions budget and contributes to long-term climate goals. Investments in rail infrastructure and operational efficiency are recognised as essential in lowering transport emissions, given that rail has a significantly lower emissions intensity per kilometre than road transport.

Rail operators across New Zealand are increasingly prioritising sustainability initiatives to support the transition to a net zero economy. Efforts are being made to reduce reliance on fossil fuels, improve fuel efficiency, and integrate cleaner energy alternatives into rail operations. Electrification of key corridors, hybrid locomotive trials, and the exploration of alternative fuel technologies such as hydrogen and battery-powered trains are becoming central to long-term decarbonisation strategies.

Sector-wide investment in environmental technology, infrastructure upgrades, and operational efficiencies is helping to align rail with national and international climate action targets. These commitments reinforce the sector's role in reducing transport emissions and ensuring rail remains an integral part of New Zealand's low-carbon future. Strengthening sustainability efforts across all rail operators will be essential in maintaining momentum towards achieving the country's emissions reduction goals.

⁴⁴ New Zealand Ministry for the Environment. Aotearoa New Zealand's First Emissions Reduction Plan. May 2022.

2.6.2 Digitisation and new technologies

The global rail sector is undergoing technological transformation, driven by digitisation and automation. However, New Zealand's outdated infrastructure slows the adoption of new technologies, highlighting the need for substantial investment in modernisation.

Sector experts have identified digital engineering, data analytics, and information management as critical capabilities for New Zealand's rail sector, alongside cybersecurity and data processing to protect sensitive data and ensure operational integrity. As rail operators increasingly rely on advanced digital systems, these specialised skills will become essential.

The sector is gradually incorporating artificial intelligence (AI), automation, and digital signalling, requiring a workforce skilled in digital engineering and data analytics.

For example, KiwiRail is progressing with digital learning tools and platforms that meet current and future needs, this includes incorporating VR/AI and simulator-based training. However, current workforce capabilities indicate a significant gap in digital literacy, posing a challenge to full adaptation. Without proactive digital upskilling initiatives, New Zealand's rail sector risks lagging behind in the effective implementation of these technologies. Additionally, New Zealand's lack of rail-specific qualifications exacerbates skill gaps, particularly in signalling design and cybersecurity. Investing in industry-wide digital education and practical application frameworks will be critical to ensuring workforce readiness for the evolving rail landscape and help address skill gaps through targeted training and educational pathways.

*"In five to 10 years, we'll be seriously looking at driverless trains and AI-driven operations."
– Rail sector respondent.*

The adoption of automation and AI is set to redefine workforce requirements, offering improved efficiency, safety, and reliability. New Zealand can leverage insights from Australia, where automation, AI, and cybersecurity expertise are rapidly being integrated into rail projects. Emerging technologies, such as digital twins (virtual models that replicate physical rail systems for real-time simulation and analysis) require ongoing investment and development but offer potential cost savings and enhanced service performance. However, successful implementation depends on strong change management strategies and upskilling initiatives to prepare the workforce for evolving responsibilities.

Self-driving / driverless trains are also being explored as a future opportunity to reduce operational costs, mitigate risks associated with the ageing workforce and enhance service delivery. Specialised training in rail-specific digital skills will be essential for integrating autonomous technology.

As the sector faces an ageing workforce and succession planning challenges, training in emerging technologies provides a pathway for younger generations to enter the sector. The digitisation of rail presents both challenges

and opportunities, demanding a shift towards digital literacy and technical expertise while offering a chance to modernise operations and establish a technologically advanced rail network.

To fully capitalise on these advancements, strategic investment in workforce development, sector collaboration, and policy support will be essential. By drawing on successful international models and tailoring them to New Zealand's unique context, the rail sector can build a resilient, future-ready workforce and ensure long-term growth and competitiveness.

2.7 International comparison

New Zealand's rail sector operates within a unique context, shaped by its smaller market size, reliance on international expertise, and the challenges of attracting and retaining skilled professionals. In contrast, larger rail markets such as Australia, the UK, Canada, Japan and Norway have well-established rail networks that contribute significantly to their national economies and employment.

These countries face their own workforce challenges, including ageing employees, skill shortages, and increasing technological demands. However, they also present valuable models for workforce planning, skills development, and investment strategies that New Zealand could learn from. By examining how these nations address workforce constraints, through initiatives such as coordinated national training frameworks, technology-driven skills development, and strategic infrastructure investment, New Zealand can identify best practices to strengthen its own rail sector. Understanding the successes and challenges of international rail industries provides insight into how New Zealand can build a more resilient, future-ready workforce while ensuring sustained economic and operational growth within its rail sector.

Comparative analysis of rail investment metrics and GD proportion by country

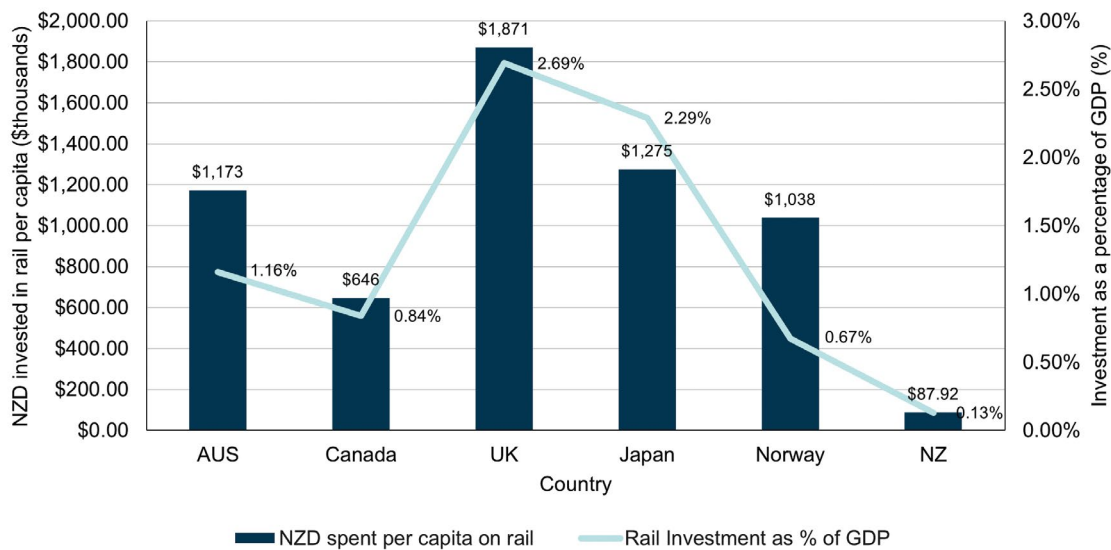


Figure N: Comparative analysis of rail investment metrics and GD proportion by country 45-46-47-48-49-50-51-52-53-54-55

As shown in Figure M, New Zealand invests significantly less per capita and per GDP on rail compared to other countries. While there are key differences between these countries based on the size of the network, population size and access to skilled workforce, this shows New Zealand is far behind other countries in investing in rail. In turn, this low investment will continue to have an impact on the attraction and retention of a skilled rail workforce in New Zealand.

2.7.1 Australia

The Australian rail sector is a major economic contributor, generating NZD\$33 billion annually and supporting 165,000 jobs. With a NZD\$170 billion investment planned over the next 15 years, the sector is focused on enhancing sustainability, improving safety, and driving economic benefits through major infrastructure projects.⁵⁶

However, with an ageing workforce and an average age of 44, attracting and retaining skilled talent remains a critical priority.

The sector is experiencing significant expansion, driven by technological advancements and large-scale developments, which has led to growing demand for specialised roles. Key areas facing skill shortages include Signal Technicians, Trainers, Experienced Drivers, Maintenance Specialists (for both infrastructure and rollingstock), Engineers (Electrical, Estimating, and Project Leads), Environmental and Sustainability Specialists, Community Engagement Specialists, and Technology Experts. These roles command a salary premium to attract top-tier professionals, prompting the sector to standardise training approaches, enhance career pathways, and introduce targeted digital courses and micro-credentials to address skill gaps.⁵⁷

45 KiwiRail, Rail Network Investment Programme 2024-2027

46 Australian Rail Track Corporation (ARTC). Annual Reports 2022-2023. <https://www.artc.com.au/about/reports/annual-reports/>

47 Queensland Rail. Annual and Financial Report 2022-2023. <https://www.queenslandrail.com.au/aboutus/governance/reports-and-publications>

48 Australian Government, Department of Infrastructure. Budget 2024-25 Announcements. <https://investment.infrastructure.gov.au/about/budget-2024-25-announcements>.

49 Canadian National Railway (CN). Annual Information Form 2020. <https://www.cn.ca/-/media/Files/Investors/Investor-Financial-Quarterly/Investor-Financial-Quarterly-2020/Year-End-Results/2020-AIF-CN-en.pdf>

50 Newsweek. Canada's High-Speed Rail Plan Gets \$4 Billion Boost. March 7, 2025. <https://www.newsweek.com/canadas-high-speed-rail-plan-gets-4-billion-boost-2034292>

51 Office of Rail and Road (UK). Train Operating Companies Financial Statements 2024. <https://www.orr.gov.uk/train-operating-companies-financial-statements>

52 Financial Times. UK Infrastructure Investment Plans 2025-26. March 5, 2025. <https://www.ft.com/content/6771f705-43c7-4269-8005-a36caefe90bf>

53 Central Japan Railway Company (JR Central). Integrated Report 2024. <https://global.jr-central.co.jp/en/company/ir/annualreport/>

54 West Japan Railway Company (JR West). Annual Report 2022. <https://www.westjr.co.jp/global/en/ir/library/annual-report/2022/pdf/c20.pdf>

55 CIA World Factbook. Railway Track Length by Country. <https://www.cia.gov/the-world-factbook/field/railways/country-comparison/>

56 Australasian Railway Association. "Economic Contribution." <https://ara.net.au/about-rail/economic-contribution/>

57 National Skills Academy for Rail. Findings of the NSAR Rail Workforce Survey 2023. <https://www.nsar.co.uk/2023/10/findings-of->

As Australia prepares for large-scale rail investments, workforce demand is expected to increase significantly, requiring an additional 70,000 workers to design, build, operate, and maintain the expanding network.⁵⁸ Addressing this demand, the sector is simplifying career entry pathways by focusing on reskilling, skill portability, and sector-wide coordination. Initiatives include leveraging technology, AI, collaborative research, and partnerships with TAFE and sector stakeholders to support workforce development.

Governments, sector bodies, unions, and rail experts are also collaborating to improve skill transferability and workforce planning. A key initiative is the development of a Rail Diploma to address engineering gaps and ensure a sustainable talent pipeline. These coordinated efforts aim to future-proof the sector by integrating advanced training, skills recognition, and workforce mobility strategies.⁵⁹

2.7.2 United Kingdom

The UK rail sector is a key driver of the national economy, supporting approximately 600,000 jobs and generating NZD\$31.5 billion in tax revenue. As a cornerstone of the UK's transportation network, the sector plays a crucial role in post-COVID-19 economic recovery and is focused on enhancing infrastructure and service efficiency.⁶⁰

The rail system encompasses Network Rail, mainline passenger and freight operations, urban metro systems such as the London Underground, and a comprehensive rail supply sector. The sector contributes to a high-wage, high-skill economy, with strong labour productivity and competitive wages, essential for sustained economic growth.⁶¹

The UK rail sector is facing significant skill shortages, largely due to simultaneous large-scale infrastructure projects such as Crossrail, which demand a highly specialised workforce.⁶² The increasing complexity and technological advancements in rail have intensified the demand for skills in digital systems, automation, and engineering, leading to greater competition for talent across projects.⁶³

Public agencies face additional challenges in retaining skilled professionals, as private sector salaries often outcompete public offerings, making it difficult to attract and retain talent. Compounding this issue, limitations in skilled migration and the absence of a long-term domestic skills development strategy further strain workforce availability.⁶⁴ Addressing these shortages will require sector-wide coordination, enhanced training initiatives, and long-term investment in workforce development to support the rail sector's continued expansion.

2.7.3 Canada

The Canadian rail network is a key driver of the national economy, supporting over 198,000 jobs and transporting NZD\$460 billion worth of goods annually. Rail accounts for 70 per cent of Canada's freight movement and 50 per cent of export-bound goods, while also facilitating 70 per cent of inter-city travel.⁶⁵

Spanning 33,000 kilometres across Canada and extending into the United States, the rail network plays a critical role in supply chain efficiency.⁶⁶ In 2023, Canada invested NZD\$3.5 billion in rail infrastructure, bringing total rail investments to NZD\$27.5 billion over the past decade. These investments focus on enhancing safety, efficiency, and capacity across the network.⁶⁷

However, the sector faces workforce challenges as a significant portion of employees approach retirement age, creating a skills gap and increasing the demand for new recruits. The sector is advocating for regulatory support to accelerate skilled labour access through Canada's immigration system. Other challenges include high education and training costs and misconceptions about career opportunities in transportation, which contribute to labour shortages in both freight and passenger services.⁶⁸

Looking ahead, the federal government has launched a five-year, NZD\$4.8 billion plan to design and plan a high-speed rail line from Toronto to Quebec City.

[the-nsar-rail-workforce-survey-2023/](#)

58 Oxford Economics Australia. Determining the Future Demand, Supply and Skills Gap for Australia's and New Zealand's Rail Workforce: 2022-2032. National Transport Commission and Australasian Railway Association, 2023.

59 Australasian Railway Association. "Rail Diploma Tackles Engineering Skills Shortage." <https://www.railskillshub.gov.au/rail-diploma-tackles-engineering-skills-shortage>

60 Oxford Economics. The Economic Contribution of UK Rail. Commissioned by the Railway sector Association, 2021. <https://www.oxfordeconomics.com/resource/The-economic-contribution-of-UK-rail/>

61 Rail Sector Deal. Rail Sector Deal. <https://www.gov.uk/government/publications/rail-sector-deal/rail-sector-deal>

62 Crossrail Learning Legacy. Addressing Skills Gaps: TUCA Case Study. <https://learninglegacy.crossrail.co.uk/documents/addressing-skills-gaps-direct-intervention-tuca/>

63 Morson Talent. "Rail Digitalisation and UK Skills." <https://www.morson.com/blog/rail-digitalisation-uk-skills>

64 NSAR. Findings of the NSAR Rail Workforce Survey 2023. <https://www.nsar.co.uk/2023/10/findings-of-the-nsar-rail-workforce-survey-2023/>

65 Railway Association of Canada. The Economic Footprint of Canada's Rail Industry. April 2020.

66 Transport Canada. "Rail Transportation, 2022." <https://www150.statcan.gc.ca/n1/daily-quotidien/240412/dq240412b-eng.htm>

67 Transport Canada. "Minister of Transport Announces Projects to Further Reduce the Impacts of Climate Change on the Rail Sector." <https://www.canada.ca/en/transport-canada/news/2023/03/minister-of-transport-announces-projects-to-further-reduce-the-impacts-of-climate-change-on-the-rail-sector.html>

68 Railway Association of Canada, Economic Footprint of Canada's Rail sector.

This 1,000-kilometre, fully electric project will include stops in Peterborough, Ottawa, Montreal, Laval, and Trois-Rivières, reaching speeds of up to 300 km/h.⁶⁹ While the project aims to reduce traffic congestion, enhance productivity, and lower emissions, it may face budget constraints and implementation hurdles, highlighting the need for effective project management and strategic oversight.

2.7.4 Japan

Japan's rail infrastructure expenditure is projected to reach NZD\$35.2 billion by 2028, up from NZD\$33.2 billion in 2023, reflecting a compound annual growth rate of 0.9 per cent.⁷⁰ This steady investment supports network maintenance, technological advancements, and service enhancements across Japan's 30,625 kilometre rail system, operated by 16 major rail companies.

Japan's rail network includes Shinkansen (bullet trains), limited express, express, rapid, and local trains, with continuous investment ensuring safety, reliability, and service efficiency. The Shinkansen system remains a global benchmark for rail technology and energy efficiency, with ongoing expansion efforts introducing next-generation trains capable of surpassing current speed records.⁷¹ These advancements reinforce Japan's long-term commitment to rail innovation and infrastructure development, despite economic and logistical challenges.

2.7.5 Norway

Norway's rail network plays a central role in the country's sustainable transport strategy, underpinned by long-term public investment in modernisation, electrification, and digitalisation. The network spans approximately 4,200 kilometres and supports both passenger and freight services. While total workforce figures are not centrally published, the sector employs a diverse range of professionals across infrastructure, operations, digital systems, and support functions.

The Norwegian government's National Transport Plan 2025-2036 outlines a proposed investment of NOK 435 billion (approximately NZD\$69 billion) in the rail sector over the 12-year period under the high investment scenario. This includes NOK 184 billion for operations, maintenance and renewals; NOK 28.6 billion for full implementation of the European Rail Traffic Management System (ERTMS); and a range of capital works, digitalisation, and resilience

measures.⁷² These investments are intended to address both asset renewal and capacity constraints, particularly around key urban and freight corridors.

A cornerstone of Norway's rail modernisation agenda is the national rollout of ERTMS, which replaces legacy line-side signalling with digital, in-cab systems. The system has already been introduced on the Gjøvik Line, enabling remote operation and improving reliability by reducing infrastructure-related faults.⁷³ The full network transition is phased through to 2032, with implementation now extended to lines not originally in scope.⁷⁴

To support this transformation, workforce capability has become a strategic focus. More than 5,000 rail workers are expected to be trained on the new systems, including train dispatchers and infrastructure technicians.⁷⁵ Training is provided through facilities such as Campus Nyland and the Norwegian Railway School in Grorud, Oslo, which combine classroom learning and simulator environments.⁷⁶ These efforts are designed to ensure the rail workforce is equipped to manage digital operations and modern asset systems.

Norway's coordinated approach to infrastructure investment, digital transformation, and workforce capability offers some possible lessons for New Zealand. In particular, its strategy highlights the importance of aligning long-term funding, skills development, and system reliability to support a modern, low-emissions rail network.

69 Transport Canada, High-Speed Rail Initiative from Toronto to Québec City

70 ReportLinker. Japan Rail sector Outlook 2024–2028. <https://www.reportlinker.com/clp/country/9675/726286>

71 Shinkansen 2024. "Global High-Speed Rail Showdown: Shinkansen vs. The World." <https://shinkansen2024.exblog.jp/37285949>

72 Jernbanedirektoratet and Bane NOR. Nasjonal transportplan 2025–2036: Jernbanesektorens oppdaterte forslag til prioriteringer – Oppdatert 13. mai 2024. Oslo: Jernbanedirektoratet, 2024. <https://www.jernbanedirektoratet.no/dokumenter/>

73 Jernbanedirektoratet. "Gode erfaringer med ERTMS på Gjøvikbanen." Jernbanemagasinet, 2023. <https://www.jernbanedirektoratet.no/jernbanemagasinet/gode-erfaringer-med-ertms-pa-gjovikbanen>

74 Jernbanedirektoratet and Bane NOR. Nasjonal transportplan 2025–2036: Jernbanesektorens oppdaterte forslag til prioriteringer – Oppdatert 13. mai 2024. Oslo: Jernbanedirektoratet, 2024. <https://www.jernbanedirektoratet.no/dokumenter/>

75 Railway Pro. "Norway Opens ERTMS Test and Training Centre." Railway Pro, November 2022. <https://www.railwaypro.com/wp/norway-opens-ertms-test-and-training-centre>

76 Bane NOR. "Toglederutdanning: Simulator Training and Recruitment Update." 2024. <https://www.banenor.no/nyheter-og-aktuelt/nyheter>

3. Findings and recommendations

This report presents strategies and opportunities to alleviate and address the challenges faced by the rail sector, informed by feedback from rail industry employers. A number of these strategies align with those identified by the ARA's report, *Building Australian Rail Skills for the Future*, and where appropriate these recommendations have been included and expanded on for the New Zealand context. To facilitate alignment, the recommendations in this report have been grouped similarly to the Australian report.

There is a need to develop a sector-wide workforce strategy alongside a nationally coordinated, bipartisan infrastructure plan for the entirety of the rail sector in New Zealand. This strategy will provide clear direction and bring together the Rail, Government and Education sectors that are integral to developing, retaining, and supporting a skilled rail workforce. The infrastructure plan will create a pipeline of projects and programmes that provide confidence and stability for rail employers to develop and train the specialist skills required. In delivering a rail sector workforce strategy and infrastructure plan, the following areas will be pivotal to success:

- Leadership, collaboration, and partnership
- Strategic workforce planning
- Skilling our workforce
- Attracting, recruiting, and retaining our workforce.

3.1 System settings of the New Zealand rail sector

The system settings of New Zealand's rail sector shapes its ability to meet national transport and economic goals. As outlined, the sector is relatively small but plays a critical role in freight and passenger transport, contributing an estimated \$3.3 billion in annual economic benefits. However, fragmented investment cycles, regulatory constraints, and skills shortages challenge its long-term sustainability.

A more coordinated approach is needed to strengthen collaboration between industry, government, and the education sector. Given the generalist nature of New Zealand's rail workforce, targeted investment in specialist skills and expanded international partnerships will be essential.

The sector faces persistent challenges in coordination, regulation, and investment certainty. Limited collaboration between key stakeholders has contributed to gaps in skills development and sector-wide planning, while regulatory frameworks have at times restricted innovation and hindered the adoption of new technologies. Additionally, short-term and cyclical investment patterns have led to instability, making long-term infrastructure planning and workforce retention more difficult. Overcoming these barriers will require stronger governance, clearer regulatory alignment, and a more stable funding environment.

By addressing these system issues, New Zealand's rail sector can build a more resilient and skilled workforce while ensuring infrastructure investment aligns with long-term national priorities.

3.1.1 Expansion and bipartisan agreement of a national rail investment and infrastructure plan

Recommended Action: Encourage the government to review and update the New Zealand Rail Network Investment Programme and associated infrastructure programmes to ensure long-term infrastructure investment certainty for rail, aligned with wider infrastructure needs of New Zealand.

Proposed Lead: Ministry of Transport

Support: NZTA, regional councils, rail sector

A stable and long-term approach to rail investment is essential for supporting the sustainability, resilience, and efficiency of New Zealand's transport infrastructure. Over time, the lack of consistent funding and political alignment on rail priorities has created significant challenges, leading to fragmented investment, workforce instability, and the loss of skilled professionals. Reviewing and updating the New Zealand Rail Network Investment Programme, such as including a national rail investment and infrastructure plan, so that it is supported and delivered across political cycles will ensure continuity in planning and delivery. This coordinated approach should provide certainty for the industry and enable a more strategic approach to workforce development.

A national investment framework would support the retention of essential skills within the sector, reducing reliance on overseas expertise and creating long-term career pathways for workers across the rail industry. Workforce development is closely tied to the stability of funding cycles, as inconsistent investment has historically led to gaps in training, difficulties in succession planning, and the erosion of specialist expertise in key technical areas. A predictable pipeline of rail projects would enable industry partners to invest in apprenticeships, upskilling initiatives, and professional development, ensuring that the workforce is equipped to meet the evolving demands of the sector.

The expansion of infrastructure planning should incorporate both maintenance and future network development, addressing critical priorities in urban and regional rail, freight corridors, and integrated transport systems. Ensuring that funding decisions are driven by long-term economic and environmental benefits, rather than short-term political agendas, will provide the industry with the stability needed to enhance workforce retention and attract new talent. Cross-party support for core infrastructure projects would reduce inefficiencies in project sequencing, helping to mitigate the risks associated with cost overruns and delays.

A more integrated approach to rail investment will also

strengthen alignment with other infrastructure sectors, including road, public transport, and energy networks. A coordinated national strategy that connects rail with broader transport and economic objectives will generate efficiencies across procurement, project delivery, and workforce allocation. This approach will also ensure that investment in the rail sector contributes to national development goals while creating opportunities for skills development and knowledge retention within the industry.

A bipartisan commitment to a long-term rail infrastructure strategy can provide certainty for industry stakeholders, support private sector investment, and foster a skilled and adaptable workforce. The development of a modern, sustainable, and efficient rail network will not only enhance the movement of freight and passengers but will also strengthen workforce resilience, ensuring that the sector remains an attractive and viable career path for future generations.

3.1.2 Government infrastructure procurement

Recommended Action: Encourage national and local governments to review procurement frameworks and policies to strengthen and prioritise local workforce development requirements.

Proposed Lead: Ministry of Transport

Support: NZTA, the Treasury, regional councils, rail sector

Government procurement plays a critical role in shaping workforce development within the rail sector. By leveraging procurement policies to prioritise workforce capability and skills development, New Zealand can create a more sustainable and resilient rail sector. Currently, procurement processes primarily focus on cost efficiency and project timelines, often overlooking long-term workforce growth and skill sustainability. However, with a more strategic approach, government procurement could drive sector-wide workforce development and ensure that major rail projects contribute to building a skilled and diverse workforce.

A key opportunity lies in embedding workforce development requirements into rail infrastructure contracts. This could include provisions for apprenticeships, local hiring commitments, and mandated upskilling initiatives within project agreements. Such provisions are included in the Government Procurement Rules, in particular for the construction sector where procured works over a certain threshold must include questions on the skill development and training practices that will support capability uplift and skill transfer to New Zealand.⁷⁷ Collaboration with tertiary institutions,

sector training organisations, and unions will be essential in aligning procurement strategies with workforce development objectives.

Additionally, procurement mechanisms can be used to promote diversity and inclusion in the rail sector. By incorporating diversity targets into contract requirements, the government could incentivise rail companies to improve representation of Māori, Pacific Peoples, and women in the workforce. This approach aligns with best practices from international infrastructure projects, where procurement is used as a tool to address workforce imbalances and ensure broader sector participation.⁷⁸⁻⁷⁹⁻⁸⁰

To maximise the impact of government procurement, a more integrated and long-term approach is needed. Rather than treating each project as an isolated investment, procurement strategies should consider how projects are bundled and sequenced to create stable employment opportunities and prevent skill shortages. This would enable a more consistent pipeline of work, reducing the sector's reliance on cyclical hiring patterns that lead to workforce instability.

By embedding workforce and capability development within procurement frameworks, New Zealand's rail sector can ensure that public investment delivers lasting benefits beyond infrastructure delivery. A coordinated effort between government agencies, sector stakeholders, and workforce planners will be crucial in making procurement a powerful tool for building a skilled, sustainable, and diverse rail workforce.

3.1.3 Regulatory improvements

Recommended Action: Encourage the government to review regulatory frameworks and policies to identify opportunities that enhance interoperability of rail infrastructure systems and reduce barriers to the adoption of new technologies.

Proposed Lead: Ministry of Transport

Support: NZTA, New Zealand rail regulators, rail sector

Regulatory frameworks play a critical role in shaping the efficiency, competitiveness, and future-readiness of New Zealand's rail sector. However, current regulations often create barriers that lock the sector into legacy technologies, restrict competition, and slow down the adoption of innovative solutions.

Ensuring that rail technology and infrastructure remain flexible and adaptable to future advancements is essential for long-term sustainability and efficiency. This flexibility and adaptability also influences the skills and capabilities

⁷⁷ Ministry of Business, Innovation & Employment, *Government Procurement Rules*, 4th ed. New Zealand Government, May 2021.

⁷⁸ Business Services Association, LGBT+ in FM Network, and Trowers & Hamblins LLP, *Guidance Note on Equity, Diversity and Inclusion in Relation to Procurement*, n.d.

⁷⁹ Infrastructure Sustainability Council of Australia, *Creating Social Value Through Strategic Infrastructure Procurement*, October 2016.

⁸⁰ Organisation for Economic Co-operation and Development (OECD), *Diversity at Work: Making the Most Out of Increasingly Diverse Societies*. Paris: OECD, 2020.

within the workforce. By proactively aligning regulations with technological advancements, New Zealand can build a future-ready workforce equipped to support a more efficient, resilient and sustainable rail network.

One of the key challenges identified in sector interviews is vendor lock-in, where rail networks become tied to proprietary technology from specific suppliers, limiting the ability to integrate new systems or adopt alternative solutions. This has been particularly evident in signalling and traction technologies, where restrictive procurement processes and regulatory inconsistencies have hindered the adoption of modern, interoperable systems. Addressing these issues requires a regulatory approach that encourages open standards, allowing for seamless integration of different technologies and reducing dependency on single suppliers. Without a change in approach, limitations on long-term career opportunities available to the workforce and reduced competition will continue in an already small rail sector.

In addition to preventing system lock-in, regulatory improvements should focus on aligning certification and compliance processes with international best practices, particularly in relation to Australian and European rail standards. The high cost and complexity of obtaining approvals for new rail technologies in New Zealand have discouraged innovation and slowed infrastructure modernisation. Streamlining these processes, while maintaining rigorous safety and performance standards, would enable the sector to develop the skills necessary to adopt emerging technologies such as digital signalling, automation, and advanced rollingstock more efficiently. Additionally, aligning regulations with international best practices would allow the sector to leverage global experiences and expertise, further enhancing capability development and technology adoption.

3.2 Attraction, retention and diversity

The New Zealand rail sector faces persistent workforce challenges, including skills shortages, an ageing workforce, and difficulties in attracting new talent. With over a quarter of employees expected to retire within the next decade, the sector must address low public awareness, outdated perceptions, and competition from other industries that hinder recruitment.

Despite rail's critical role in sustainable transport, its visibility as a modern, technology-driven career option remains limited. Diversity also remains a challenge, with Māori, Pacific Peoples, and women underrepresented and inconsistent workforce data making it difficult to track progress. Additionally, unclear career pathways reduce opportunities for both new entrants and current employees seeking advancement.

To ensure a skilled, diverse, and future-ready workforce, the sector must take a more coordinated approach to workforce engagement, career visibility, and inclusion.

Addressing these challenges is essential to securing rail's long-term sustainability and appeal as a career of choice.

3.2.1 Increased adoption of the Work in Rail platform to New Zealand

Recommended Action: Encourage New Zealand rail organisations to utilise and leverage the ARA's 'Work in Rail' platform to promote New Zealand rail careers and pathways.

Proposed Lead: Rail sector

Support: The ARA

The ARA's existing Work in Rail platform could be used to enhance the visibility of rail careers and support workforce attraction and retention efforts across both countries. The platform already serves as a digital gateway to rail careers in Australia and is well-positioned to be used by New Zealand rail organisations to promote New Zealand's rail workforce, training pathways, and employer landscape.⁸¹

Greater use and sharing of the Work in Rail platform would enable New Zealand-based individuals to access the same high-quality career information, role descriptions, and sector insights currently available. As New Zealand rail organisations submit content to the platform there are likely to be benefits to the sector including:

- Increased visibility of rail careers, supporting talent attraction across regions, age groups, and underrepresented communities.
- Improved access to workforce information in a consistent format across Australasia, helping individuals better understand how to enter and progress within the sector.
- Stronger alignment with workforce planning and skills development strategies, particularly as the National Rail Skills Hub expands its focus across the Tasman.

3.2.2 Improve rail sector demographic data collection and usage

Recommended Action: Rail organisations, in collaboration with Stats NZ, to establish a consistent framework for collection of workforce demographics.

Proposed Lead: Rail sector

Support: Stats NZ Ministry for Women, Te Puni Kōkiri, Ministry for Pacific Peoples, MBIE, Regional Councils, unions

Improving the quality and consistency of workforce data is essential to understanding current and future capability needs in New Zealand's rail sector. At present, there are significant gaps in workforce demographic information – including ethnicity, age, and gender – making it difficult for employers, training providers, and policymakers to make fully informed decisions about recruitment, workforce planning, and career pathways.

For example, ethnicity data was unreported for around 36.5 per cent of the rail workforce in the 2025 ARA survey, limiting the sector's ability to understand the composition of its workforce or identify areas where particular skillsets or training investments may be needed.

81 Work in Rail. 2025. <https://workinrail.net.au/>

Improving data visibility will allow for more accurate forecasting, targeted skills development, and informed investment in workforce capability across the country.

This approach is not about setting quotas or targets, but about ensuring decision-makers have access to reliable, up-to-date information on who makes up the rail workforce and where future capability challenges may lie. Better data will support more transparent decision-making, help align training investments with regional demand, and ensure all New Zealanders have clear and visible opportunities to pursue careers in rail.

By improving demographic visibility, the sector can strengthen long-term workforce planning and ensure it is building the skills and capabilities needed to deliver future rail infrastructure and services.

3.2.3 Promote the ARA Professional Certificate in Rail as an industry entry pathway

Recommended Action: Encourage New Zealand rail organisations to promote the ARA's Professional Certificate in Rail as a trans-Tasman pathway for foundational rail knowledge.

Proposed Lead: Rail sector, the ARA

Support: Education sector, TEC, WDaC/ISB

New Zealand's rail sector faces a shortage of clear, accessible entry pathways for people looking to start a career in rail, particularly for those transitioning from other industries or without prior rail experience. While there is growing demand for early-career professionals, many organisations lack structured onboarding or industry orientation programmes. At the same time, limited awareness of rail career opportunities and a lack of foundational training offerings creates a barrier to attracting new talent.

The ARA's Professional Certificate in Rail provides an effective solution to this gap. Designed for both Australia and New Zealand, the Certificate delivers a comprehensive, 25-week online introduction to the rail industry. Participants learn about infrastructure, operations, rollingstock, signalling, safety, and sustainability - gaining a broad systems-level understanding that prepares them to contribute from day one.

The Certificate is particularly well-suited to early-career professionals, individuals moving from other sectors, and those entering non-technical roles who need rail context. It also offers a scalable and cost-effective development option for rail employers seeking to build internal capability or introduce consistent onboarding across teams.

To maximise its impact in New Zealand, rail organisations are encouraged to actively promote the Certificate and support access through targeted sponsorships or scholarships. Metro Trains Melbourne (MTM) recently awarded 15 fully funded scholarships to help new entrants complete the programme, an approach that could be replicated locally to increase sector visibility and support more inclusive entry pathways.

Broader uptake of the Certificate would help address

entry-level skill gaps, improve workforce readiness, and support greater cross-sector mobility into rail. It also reinforces trans-Tasman alignment in rail training and capability development, supporting long-term workforce resilience and adaptability.

3.3 Talent, skills and capabilities

The New Zealand rail sector faces growing pressure to develop and retain a highly skilled workforce as demand for rail services increases and infrastructure reaches the end of its operational life. The need to modernise ageing assets, integrate emerging technologies, and maintain service levels is driving demand for specialised technical expertise in areas such as digital rail systems, automation, and advanced asset management. However, skill shortages, an ageing workforce, and limited structured pathways for workforce development continue to present significant challenges.

Despite efforts to upskill the workforce, the sector lacks a coordinated, industry-wide approach to workforce planning. Many training and career development initiatives are fragmented, with individual organisations responsible for addressing skill gaps on their own. Limited engagement with tertiary education providers and the absence of formal rail-specific qualifications further restricts the pipeline of skilled professionals entering the industry. Additionally, succession planning remains inconsistent, raising concerns about knowledge retention as experienced workers retire.

To ensure a sustainable and future-ready workforce, the sector must take a strategic approach to skills development, training, and professional accreditation. Strengthening partnerships with educational institutions, establishing clear career pathways, and fostering continuous professional development will be essential in equipping the workforce with the expertise needed to support rail's long-term growth and technological transformation.

3.3.1 Rail sector workforce plan

Recommended Action: Rail organisations and government stakeholders to explore the development of a sector-wide workforce plan that identifies the skill shortages and the plan for addressing skill gaps into the near and long term.

Proposed Lead: MBIE

Support: Rail sector, WDC/ISB, MoE

A sector-wide workforce plan helps maintain the sustainable development of skills across the entire rail sector, rather than focusing on the needs of individual organisations.

While some organisations may have their own workforce plans, a broader sector-wide approach is needed to address skills shortages and align training with national transport objectives. A sector-wide plan would allow for better coordination across rail operators, infrastructure providers, and sector partners, ensuring that workforce strategies do not become siloed. This is particularly important for emerging skills in areas such as digital signalling, automation, and rollingstock maintenance,

which require a shared sector approach to training and development. Without a collective strategy, smaller operators and contractors may struggle to access skilled workers, leading to inefficiencies and skills gaps that could undermine long-term rail sector growth.

A coordinated, sector-wide workforce plan is essential to addressing skill shortages in the New Zealand rail sector and ensuring a sustainable talent pipeline into the future. This plan should provide a comprehensive overview of current and anticipated skill gaps, establish strategies for targeted workforce development, and create mechanisms for long-term sector collaboration.

A key component of this strategy is the identification of critical skill shortages across all areas of the rail sector, including infrastructure, rollingstock maintenance, operations, and emerging technologies such as automation and digital signalling. Interview findings indicate that gaps in specialised roles, such as signalling engineers, overhead traction specialists, and rail project managers, continue to create bottlenecks in workforce capacity. Additionally, succession planning remains a challenge, with an ageing workforce and limited pathways for junior professionals to develop into senior technical or leadership roles.

A New Zealand-specific workforce plan should provide a structured, data-informed approach to skill development, ensuring that investment in rail infrastructure translates into long-term benefits for both the sector and its workforce. By drawing on successful international models while adapting to the realities of New Zealand's rail sector, this plan will support the sector's growth, resilience, and sustainability.

The Australian rail sector provides valuable insights for New Zealand, particularly regarding workforce planning and project sequencing. The Australian National Rail Action Plan facilitates cross-jurisdictional workforce planning, preventing skills shortages and regional competition.⁸² Moreover, Australia is rapidly integrating automation, AI, and cybersecurity expertise into rail projects, positioning the sector for long-term workforce sustainability and technological advancement. These technology developments are new skills that need to be developed in New Zealand, with a workforce strategy being able to support this development so that it is sustainable and timely to align with technology implementation.

3.3.2 Maintain skills equivalency

Recommended Action: Ensure alignment of priority rail skills classifications between New Zealand and Australia support workforce mobility, skills recognition, and training consistency.

Proposed Lead: Stats NZ

Support: The ARA, WDC/ISB, rail sector

Since ANZSCO came to an end of joint custodianship between the Australian Bureau of Statistics and Tauranga Aotaroa Stats NZ in 2024, each country has

introduced their own tailored statistical classifications for occupations.⁸³ While these classifications will reflect the local contemporary labour market and meet stakeholder needs, there is an opportunity within the rail sector to maintain close alignment and cohesion between the OSCA and the NOL, where this is deemed appropriate.

Maintaining consistency will ensure there is future connection across the wider region to meet the growing and changing skill needs of each country, and recognises the potential collaboration between countries to meet skills shortages. This consistency will also contribute to recognising qualifications and skills where personnel and experts shift between countries and enable knowledge sharing and potential opportunities for work during periods of low activity.

Maintaining proximity in classifications will support cross-border workforce mobility, making it easier for skilled rail professionals to transition between the two countries. This alignment would also enhance collaboration on training, certification, and regulatory standards, reducing duplication and ensuring greater workforce interoperability. For individuals, this consistency would provide clearer career pathways and recognition of qualifications across both countries, making the rail sector more attractive to skilled workers.

As the rail sector in New Zealand faces increasing demand for skilled workers, maintaining alignment with Australian classifications will help attract experienced rail professionals and facilitate overseas recruitment. It will also ensure that training and certification programmes remain aligned to international best practices, strengthening the sector's ability to adapt to evolving workforce needs. By fostering regional consistency, this approach will enhance workforce planning, sector resilience, and the ability to respond to infrastructure growth and modernisation efforts. Additional barriers and challenges to regional consistency can be found in a misalignment between the regulatory frameworks of Australia and New Zealand. While beyond the scope of this recommendation, this could be a future opportunity of focus.

While maintaining proximity between New Zealand and Australian rail sector classifications offers clear benefits, it is important to consider potential drawbacks. A strong alignment with Australian standards could inadvertently prioritise international recruitment over local workforce development. If too much reliance is placed on attracting Australian talent or aligning with their occupational structures, there is a risk that New Zealand's unique rail sector needs and workforce development strategies may not be fully addressed. Conversely, greater alignment and the creation of attractive opportunities for New Zealanders to work in Australia could result in an unintended consequence of undermining local workforce strategies and the broader intent of addressing capability and capacity needs of New Zealand's rail workforce.

⁸² National Transport Commission. National Rail Action Plan. <https://www.ntc.gov.au/transport-reform/national-rail-action-plan>

⁸³ Stats NZ, "The Future of Occupation Classifications in Aotearoa New Zealand," <https://www.stats.govt.nz/consultations/the-future-of-occupation-classifications-in-aotearoa-new-zealand-consultation/>

Additionally, closely mirroring Australian classifications could lead to training and certification pathways that are more suited to Australia's rail infrastructure, operational requirements, or regulatory frameworks, rather than those specific to New Zealand. This may create unintended barriers for local workers entering the sector or progressing within it.

To mitigate these risks, it is essential to balance international alignment with a strong focus on domestic talent development, ensuring that training programs, apprenticeships, and career pathways remain accessible and relevant to New Zealand's workforce needs. The need for closer alignment will be important to the creation and maintenance of a larger workforce pool for the entire rail industry.

3.3.3 Skills portability framework

Recommended Action: Explore opportunities and potential benefits adopting and implementing the Rail Industry Worker (RIW) program could bring to New Zealand rail organisations to enhance skills portability and competency management.

Proposed Lead: Rail sector

Support: The ARA, Education Sector, MBIE, Immigration New Zealand

Adopting the Rail Industry Worker (RIW) program in New Zealand could provide a nationally consistent approach to recognising skills and managing workforce competency. Modelled on the successful Australian system, the RIW program supports workforce mobility by enabling workers to carry validated, transferable credentials across employers, regions, and projects. Further work could be undertaken to further understand the opportunities the RIW program could provide to the New Zealand rail industry as well as the benefits that could be achieved.

For New Zealand, this would help address critical workforce shortages by removing unnecessary barriers to entry, particularly for skilled professionals transitioning from other industries or international rail systems. It would also give smaller organisations, contractors, and suppliers a clearer pathway to participate in the sector by standardising requirements and improving visibility of job readiness.

For workers, the program offers a centralised competency profile, transparent training pathways, and reduced administrative burden. For employers, it enhances safety assurance, streamlines workforce onboarding, and supports strategic workforce planning through access to unified, real-time competency data. Together, these features would strengthen the resilience, inclusiveness, and efficiency of New Zealand's rail workforce

As above, care needs to be taken with implementation of this recommendation to ensure there is no unintended consequence of undermining local workforce strategies and the broader intent of addressing capability and capacity needs of New Zealand's rail workforce.

3.3.4 Rail modules in degrees and qualifications

Recommended Action: Collaborate with New Zealand universities to develop and include rail-specific modules in degree and qualification courses in New Zealand, leveraging existing successful models of engagement used by the ARA and Australian universities as a guide.

Proposed Lead: Education sector, TEC, WDC / ISB

Support: Rail sector, the ARA, MoE

With only 27 per cent of organisations offering apprenticeships or scholarships, engagement with educational institutions is a critical strategy for building a pipeline of young talent. By forming partnerships with schools, colleges and universities, the rail sector can introduce students to the diverse career opportunities available. Initiatives such as guest lectures, career fairs, and internship programmes are designed to provide early exposure and foster interest in rail careers. Additionally, offering clear and structured career pathways helps young professionals understand how they can progress within the sector, outlining the skills and qualifications needed for various roles.

Integrating rail-specific modules into university and vocational education courses will strengthen the talent pipeline by equipping students with the foundational knowledge and skills needed for careers in the rail sector. These modules would cover key areas such as rail infrastructure, operations, safety, and emerging technologies, providing students with sector-relevant competencies before they enter the workforce. This integration would also support growing awareness of rail as a viable career pathway for students.

This work can be accelerated by building on existing frameworks used to create partnerships already established through the ARA in Australia. Collaborations with Monash University (through the S2ARail Graduate Research Industry Partnerships), Deakin University (through microcredentials in rail design, planning and maintenance), and the University of Tasmania (through a diploma in rail infrastructure) provide strong models for how industry and academia can co-design rail-relevant content for relevant university degrees and courses.

These programmes are already delivering accredited and stackable learning opportunities that respond directly to workforce needs, and offer a valuable foundation for adapting rail learning to the New Zealand context.

By embedding rail-focused content into existing degree and qualification pathways, the sector can increase awareness of rail careers and attract a broader range of skilled graduates. This approach ensures that new entrants are better prepared for the technical and operational demands of the sector, reducing training time and costs for employers. For students, these modules offer clearer career pathways into rail, enhancing job readiness and employability while fostering long-term workforce sustainability. It is important to note that this initiative would not replace existing network specific competency assessment and training.

Expanding rail education at tertiary institutions will mitigate skills shortages by creating a steady stream of qualified professionals who are equipped to meet sector needs. As infrastructure projects grow and the demand for skilled workers increases, a structured educational framework will support workforce development and succession planning. Collaboration between sector and academia will ensure that curricula remain aligned with evolving rail sector requirements, strengthening the sector's ability to attract, train, and retain talent.

4. Summary of findings and recommendations

The summary presents strategies, based on input from rail industry employers, to address challenges in New Zealand’s rail sector. Success hinges on key areas such as leadership and partnership, strategic workforce planning, skill development, and the attraction and retention of the workforce.

A number of these strategies align with those identified by ARA’s Australian report ‘*Building Australian Rail Skills for the Future*’. The relevant themes identified in this report have been linked to the recommendations below to

identify opportunities where the ARA could leverage, align or expand existing ARA activities current to the Australian rail workforce to New Zealand’s rail workforce. This is done to support any packaging of initiatives that might be appropriate to address the common skills and capability challenges identified across the Australasian rail sector.

The recommendations have been assessed by priority receiving a rating of Critical (C), High (H), Medium (M) or Low (L).

4.1 System settings of the New Zealand rail sector

Improving governance, regulatory alignment, and investment stability is essential to strengthening New Zealand’s rail sector and supporting long-term workforce development.

Rec No.	Priority	Action <i>Australian report link</i>	Responsibility
1.1	C	Encourage the government to review and update the New Zealand Rail Network Investment Programme and associated infrastructure programmes to ensure long-term infrastructure investment certainty for rail, aligned with wider infrastructure needs of New Zealand. <i>Leadership, collaboration and partnership</i>	Proposed Lead: MoT Support: NZTA, regional councils, rail sector
1.2	C	Encourage national and local governments to review procurement frameworks and policies to strengthen and prioritise local workforce development requirements. <i>Strategic Workforce Planning</i>	Proposed Lead: MoT Support: NZTA, the Treasury, regional councils, rail sector
1.3	L	Encourage the government to review regulatory frameworks and policies to identify opportunities that enhance interoperability of rail infrastructure systems and reduce barriers to the adoption of new technologies. <i>Leadership, collaboration and partnership</i>	Proposed Lead: MoT Support: NZTA, New Zealand rail regulators, rail sector

4.2 Attraction, retention and diversity

A more coordinated approach to workforce engagement, career visibility, and inclusion is needed to address skills shortages, an ageing workforce, and diversity gaps, ensuring rail remains a competitive and attractive career choice in New Zealand.

Rec No.	Priority	Action <i>Australian report link</i>	Responsibility
2.1	M	Encourage New Zealand rail organisations to utilise and leverage the ARA's 'Work in Rail' platform to promote New Zealand rail careers and pathways. <i>Attracting, recruiting, and retaining our workforce</i>	Proposed Lead: Rail sector Support: The ARA
2.2	M	Rail organisations, in collaboration with Stats NZ, to establish a consistent framework for collection of workforce demographics. <i>Attracting, recruiting, and retaining our workforce</i>	Proposed Lead: Rail sector Support: Stats NZ Ministry for Women, Te Puni Kōkiri, Ministry for Pacific Peoples, MBIE, Regional Councils, unions
2.3	H	Encourage New Zealand rail organisations to promote the ARA's Professional Certificate in Rail as a trans-Tasman pathway for foundational rail knowledge. <i>Attracting, recruiting, and retaining our workforce</i>	Proposed Lead: Rail sector, ARA Support: Education sector, TEC, WDC/ISB

4.3 Talent, skills and capabilities

A strategic, sector-wide approach to skills development, training, and workforce planning is needed to address skill shortages, ageing workforce challenges, and gaps in education pathways, ensuring rail can meet future demand and technological advancements.

Rec No.	Priority	Action <i>Australian report link</i>	Responsibility
3.1	C	Rail organisations and government stakeholders to explore the development of a sector-wide workforce plan that identifies the skill shortages and the plan for addressing skill gaps into the near and long term. <i>Strategic workforce planning</i>	Proposed Lead: MBIE Support: Rail sector, WDC/ISB, MoE
3.2	M	Ensure alignment of priority rail skills classifications between New Zealand and Australia support workforce mobility, skills recognition, and training consistency. <i>Strategic workforce planning</i>	Proposed Lead: Stats NZ Support: The ARA, WDC/ISB, rail sector
3.3	H	Explore opportunities and potential benefits adopting and implementing the Rail Industry Worker (RIW) program could bring to New Zealand rail organisations to enhance skills portability and competency management. <i>Strategic workforce planning</i>	Proposed Lead: Rail sector Support: The ARA, Education sector, MBIE, Immigration New Zealand
3.4	H	Collaborate with New Zealand universities to develop and include rail-specific modules in degree and qualification courses in New Zealand, leveraging existing successful models of engagement used by the ARA and Australian universities as a guide. <i>Upskilling our workforce</i>	Proposed Lead: Education Sector, TEC, WDC / ISB Support: Rail sector, the ARA, MoE

5. Appendices

5.1 Appendix 1: Survey questionnaire

See attached PDF.

5.2 Appendix 2: Key themes from interviews

The following themes were derived from interviews with rail sector employers within New Zealand, focusing on workforce development, skill shortages, collaboration, entry barriers, technological change, and issues of retention, diversity, and inclusion.

1. Workforce Development & Skills Pipeline

- The rail sector faces an ageing workforce, with approximately 20% of employees over 60 years old, creating an urgent need for succession planning.
- There is a lack of structured career pathways, and awareness of rail careers beyond train drivers and engineers is low.
- Some organisations report no major skill gaps due to their internal training programmes, while others struggle to retain specialists.
- High attrition is seen in areas with limited career growth opportunities, often leading employees to seek overseas roles or shift industries.

2. Skills Shortages & Training Gaps

- There is a significant shortage of workers in asset management, signalling expertise, and commercial negotiation related to rail operations.
- Underground operations and emergency maintenance are areas where local expertise is lacking, particularly for projects like the City Rail Link.
- Organisations rely on Australian and UK expertise to fill gaps, as local specialists are scarce.
- Formal training programmes often fail to align with the practical needs of the sector, creating a skills mismatch.

3. Sector Collaboration & Training Partnerships

- Many organisations develop in-house training, but nationally recognised qualifications are lacking.
- Some organisations partner with tertiary institutions, but vocational and high school outreach remains weak.
- Internships, apprenticeships, and gateway programmes could attract young talent, but funding constraints limit implementation.
- The ARA is seen as a potential leader in fostering professional membership frameworks and cross-Tasman knowledge sharing.

4. Barriers to Entry & Workforce Perceptions

- The rail sector is perceived as male-dominated, conservative, and difficult to enter without prior experience, making it unattractive to new talent.
- Shift work and remote locations pose challenges, particularly for younger generations who may not be accustomed to non-standard hours.
- Public awareness of career opportunities in rail is low, leading to a smaller pipeline of interested candidates compared to other industries.

5. Technological Change & Emerging Skills

- Automation, AI, and digital systems are gradually being introduced, but the workforce lacks digital literacy to fully adapt.
- AI could play a major role in predictive maintenance, service timetabling, and infrastructure optimisation, but uptake remains slow.
- The sector is shifting from mechanical to digital maintenance, requiring a new skills focus.
- Cybersecurity, digital integration, and data analytics are becoming essential, but training in these areas is still limited.

6. Retention, Diversity & Inclusion

- Retention is strong where salaries and shift allowances are attractive, but low turnover creates limited career progression opportunities.
- Māori and Pacific participation is increasing, with some organisations implementing leadership and cultural competency training.
- Women remain underrepresented in operational roles, and targeted recruitment efforts are needed.
- Mental health and wellbeing are growing concerns, with some organisations offering pastoral care, mentoring, and mental health support.

5.3 Appendix 3: ANZSCO Occupations

For the New Zealand Rail sector, the following ANZSCO occupations were identified:

- Construction Project Manager
- Project Builder, Engineering Manager
- Structural Engineer
- Transport Engineer
- Electrical Engineer
- Motor Mechanic (General)
- Metal Machinist
- Electrician (General)
- Train Driver
- Tram Driver
- Railway Track Worker
- Mechanical Engineer
- Train Controller
- Fitter (General)
- Railway Signal Operator
- Crane
- Hoist or Lift Operator
- Transport Operations Inspector and Railways Assistant

5.4 Appendix 4: KiwiRail Apprenticeship Programmes

Kiwi rail offers seven apprenticeship programmes, where the availability of these are varied based on regional demands and the specific types of work available in the area. These apprenticeships include;

- **General Engineers:** New Zealand Certificate in Mechanical Engineering (General Engineering) Level 4 (Duration: 3-4 years).
- **Locomotive Engineers:** New Zealand Certificate in Rail Operations (Train Driver) Level 4 (Duration: 2 years).
- **Traction Line Mechanics:** New Zealand Certificate in Electricity Supply (Traction Line) Level 4 (Duration: 2 years).
- **Signals Technicians:** New Zealand Certificate in Electricity Engineering Level 4 (Duration: 3-4 years).
- **Maintenance Engineers:** New Zealand Certificate in Maintenance Engineering (Maintenance Engineering) Level 4 (Duration: 3-4 years).
- **Telecommunications Technicians:** New Zealand Certificate in Customer Premises Systems (Wireless Systems) Level 4 (Duration: 2.5-3 years).
- **Structures Maintainers:** New Zealand Certificate in Carpentry Level 4 (Duration: 3-4 years).

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