RAIL NETWORK
INVESTMENT PROGRAMME

2024-27

Front cover photo: The RNIP has seen substantial investment in the Auckland network
Above: Bridge 202 rebuild over the Waikouaiti River near Dunedin

CONTENTS

Foreword 4
1 Introduction 5
1.1 Efficiency and productivity 6
Rail Network Investment Programme – At A Glance 7
2 Strategic context 11
2.1 The role of rail in New Zealand 11
2.2 Strategic alignment 11
2.3 Strategic direction guiding the formation of this RNIP 13
2.4 Benefits of investing in the rail network 13
3 Funding New Zealand's rail network 15
3.1 How the planning and funding framework works 15
4 The national rail network today 18
4.1 Introduction to KiwiRail 18
4.2 Services supported by the rail network 18
4.3 Rail network assets and infrastructure 18
4.4 Continuous Programmes – maintenance, operations, insurance, management and renewals 21
4.5 Improvement projects 21
4.6 Current state of the national rail network 21
5 Planning and prioritising investment 24
5.1 Asset management planning 24
5.2 Prioritising expenditure 24
5.3 Strategic approach for the Rail Network 25
5.4 Selected option 26
6 Investment programme – National network 27
6.1 Investment priorities 27
6.2 Network maintenance, operations and management 28
6.3 Network renewals 31
6.4 Weather events recovery 36
6.5 Future opportunities 37
7 Investment programme – Metropolitan rail 38
7.1 Investment priorities 38
7.2 Auckland metropolitan network investment 38
7.3 Wellington metropolitan network investment 41
8 Delivering on this programme 43
8.1 Roles and responsibilities 43
8.2 Risks and challenges 43
8.3 Ensuring there is capability and capacity to deliver the programme 44
8.4 Sustainability and reducing emissions from delivery 45
8.5 Addressing climate change priorities & decarbonisation 46
8.6 Programme governance 47
9 Measuring success 49
9.1 Overview 49
9.2 Measuring the achievement of outcomes 49
9.3 Measuring improvements to the network 50
10 Other investments 53
10.1 Wider funding landscape 53
10.2 Major improvement projects 53
10.3 Level crossings 53
10.4 Regional passenger rail 54
10.5 KiwiRail services business investment 54
Investment programme schedules 55
Appendix A - One network framework 70
Acronyms and definitions 76

FOREWORD

The KiwiRail Board of Directors presents a revision of the previously approved Rail Network Investment Programme (RNIP 2024-27) to reflect Government's objectives to reduce the 3-year costs by $200 million and reduce the 10-year forecast to between $4 and $5 billion.

This programme will help deliver the operation, renewals, maintenance and improvements required to meet the long-term challenges of the rail network over time, while contributing to economic growth and productivity of New Zealand.

It is incumbent on us at KiwiRail to stretch every network dollar, as taxpayers expect full value from their investment. The RNIP enables us to realise this objective. A reliable network underpins every rail operator to deliver better service to their customers. Given current affordability challenges investment is focused on metro networks to improve service reliability for metro passenger service and maintaining reliability in the Auckland – Hamilton – Mt Maunganui Golden Triangle for freight services and to continue providing reliable passenger services. Flowing from that, operators can improve or maintain market share, profitability, and make progress towards climate goals and an enhanced reputation for rail overall. All these goals rest, literally, on the state of the network.

Rail continues to be a critical player in facilitating the movement of passengers and freight throughout New Zealand, providing a vital service for Auckland and Wellington commuters, and connecting New Zealand's exporters to global markets. Beyond its lower emissions profile, rail serves as an effective solution to mitigate congestion, reduce wear and tear on roads, and bolster overall safety on New Zealand's highways.

This programme is strategically designed to continue the role rail plays in the efficient movement of passengers and freight, with the understanding that New Zealand's economic productivity relies on an integrated land transport system.

This document takes account of government objectives, with targeted investment in the metros and Golden Triangle priority routes of the network, which is underpinned by a commitment to improve efficiency by maximising delivery through value-for-money investments. Additionally, this programme aims to best serve our customers that rely on rail services, with region-specific investment to provide a more productive, efficient and safe transport network within our available funding. It continues the momentum and significant uplift in delivery capacity gained through the inaugural RNIP. This continuation solidifies the framework established through the amendments to the Land Transport Management Act 2003 (LTMA).

The RNIP has improved KiwiRail's asset management maturity, knowledge of asset condition, and informed our intervention strategies. The remaining task ahead of us however is large, which, combined with a disciplined fiscal approach, means that it will still take us some years to restore a fully resilient and reliable national rail network.

To reduce funding requirements, we have deferred a significant number of renewals works over the next two years. This is not the preferred and lowest whole of life cost option with increased maintenance requirements. These assets still need renewing in future RNIPs and with escalation will cost more to deliver. Similarly, we have not built in high contingency across the 10-year programme and our focus will remain on continued prioritisation of work to ensure we get best value for money.

The focus of this RNIP will be on maintaining reliability in our most critical routes, and on the safety and compliance of the remaining network.

Through this programme KiwiRail is committed to delivering the maximum outcomes for all New Zealanders within our funding constraints.

Rob Jager ONZM
Acting Chair, KiwiRail
31 March 2025

1 – Introduction

The RNIP sets out a 3-year investment programme and a 10-year investment forecast for the national rail network – the thousands of kilometres of track and associated infrastructure such as signals, tunnels and bridges, that provide the network for rail freight and passenger services in New Zealand.

This is the second RNIP, developed in accordance with the requirements of the LTMA. The 2024-27 RNIP provides essential investment to build and maintain New Zealand's vital rail transport infrastructure. It builds on the previous 2021-24 RNIP which recognised the need to address underinvestment in the rail network, and uses the lessons learned to deliver a more efficient programme.

Delivering this investment will help to improve passenger and freight volumes, network safety and supply chain resilience, aligning to the Government's overarching goal of unlocking New Zealand's economic potential.

The programme has been developed by KiwiRail, guided by:

- the Government Policy Statement on Land Transport 2024 (GPS)
- the investments and Ministerial direction provided through Budget 2024
- Regional Land Transport Plans (RLTPs)
- the New Zealand Rail Plan (NZ Rail Plan).

The investment focus set out in the GPS is:

- investing in the busiest and most productive parts of the existing rail network, to support efficient movement of freight
- investing in the metropolitan rail networks to support the efficient movement of people in Auckland and Wellington.

This programme complements investment in the state highway network, improving integration and resilience in the wider transport sector to deliver a productive and efficient supply chain. It acknowledges the critical role of rail in enabling business and economic growth and connecting communities.

KiwiRail has worked with Auckland Transport (AT) and Greater Wellington Regional Council (GWRC) to develop the Auckland and Wellington metropolitan programmes, ensuring alignment with each RLTP.

The investment set out in this programme reflects the work KiwiRail will deliver to:

- efficiently maintain, manage, renew and operate the rail network
- ensure the safety of passengers, staff and the public
- improve the resilience and recovery times of the rail network to unplanned events in metropolitan networks and priority freight routes
- contribute to lifting economic productivity
- support emissions reduction in the transport network.

1.1 – EFFICIENCY AND PRODUCTIVITY

Value for money is a core driver of the GPS and for KiwiRail and is therefore woven through this RNIP. It means taking needs-based investment decisions which prioritise productive use of the network and safety critical investments. It also means being efficient in our spending, enabling taxpayer dollars to go as far as possible to maximise delivery and outcomes from investment.

To deliver improved value for money, KiwiRail has reviewed the maintenance, renewals, management, operations, and improvement programmes to find potential efficiencies, thereby allowing for more to be delivered within the funding allocated.

For example, in Budget 2024 KiwiRail proposed the reprioritisation of $180 million from investment in two regions (as part of North Island Weather Events responses) to instead be spread across the entire network to increase economic growth and productivity. The Government responded by allocating this investment where it is needed in the metro rail networks, and directly funding the nationwide RNIP where KiwiRail can invest where it is most needed.

Across our maintenance and renewals programme, KiwiRail utilised internal subject matter experts to inform areas where there are opportunities to improve efficiency, productivity and make cost savings. Areas where we will focus in this RNIP include:

- bulk buying materials at better prices with decreased lead times
- continue to develop standard designs that will reduce design costs, reduce material costs through use of standard components, reduce consenting lead times and increase labour productivity
- enhanced planning and optimisation across different works, reducing disruption to services and maximising plant productivity
- enhanced prioritisation of renewals works based on our improved asset management models and criticality frameworks
- commissioning modern plant to improve safety and productivity
- investigating strategic access arrangements to reduce delivery costs through better use of planned network access
- deploying digital shields around worksites to allow safe operation of plant closer to the tracks
- 3D digital engineering as a design norm, allowing construction sequencing to be tested in a virtual environment before rolling out on site, and as-built data to be readily uploaded into the maintenance system
- improving the interface between rail and train, such as wheel profiling by train operators and grinding rail to extend the life of assets
- improved inventory management, including increased scrap recovery
- maintenance regimes that align to route strategies to support better whole of life cost.

Our commitment to efficiency and value for money is not just about cost saving, but delivering rail infrastructure that meets our standards of quality within the funding available while ensuring the safety and wellbeing of our staff.

Long-term certainty of funding is a critical enabler of KiwiRail fully realising these efficiency and productivity improvements.

Bulk buying materials provides opportunities to improve efficiency and make cost savings

RAIL NETWORK INVESTMENT PROGRAMME – AT A GLANCE

The RNIP is guided by the GPS. The investment focus for rail is:

- investing in the busiest and most productive parts of the existing rail network, to support efficient movement of freight
- investing in the metropolitan rail networks to support the efficient movement of people in Auckland and Wellington.

The RNIP is funded from three National Land Transport Fund (NLTF) activity classes - Rail Network, Public Transport Infrastructure and Investment Management.

NLTF – RAIL NETWORK ACTIVITY CLASS (NATIONAL RAIL NETWORK)

Rail Network Activity Class	**3-year total $1,360.4m**		
Category	**3-year indicative spend**	**Components**	**Benefits**
Network Renewals	**$738.6m**	• Replacing life-expired or damaged rail sleepers and ballast • Drainage and culvert works to manage increased rainfall and train frequency • Civil works to strengthen slopes and prevent coastal erosion • Replacing and repairing bridges, signalling systems and traction across the national network • Plant to support efficient programme delivery and improve safety • Replacing assets that are no longer fit for purpose on a modern railway • Yard renewals	• Improved safety of the network • Reduced or managed faults, outages (such as signal faults) and derailments • Reduced or managed Temporary Speed Restrictions (TSRs), and heat restrictions (H40s) • Enables increased volumes on rail • Provides capability/ employment opportunities
Network Improvements	**$13.5m**	• Electrification business case	• Improved efficiency
Network Maintenance, Operations, Insurance, and Management	**$487.1m**	• Maintenance • Minor repairs • Inspections of all assets • Track Evaluation Car (TEC) and Non-Destructive Testing (NDT) • Vegetation management • Asset management • Network operations and management • Unplanned event recovery	• Enables services to run safely, on-time and reliably • Identifies and mitigates network faults and risks • Supports efforts to meet regulatory requirements • Improves asset management maturity and data quality
Weather Events Recovery	**$121.2m**	• Northland reinstatement works • Hawkes Bay reinstatement works	• Reinstating reliable services

NLTF – PUBLIC TRANSPORT INFRASTRUCTURE ACTIVITY CLASS (METRO RAIL NETWORK)

Public Transport Infrastructure activity class	3-year total $761.4m		
Category	**3-year indicative spend**	**Components**	**Benefits**
Auckland Metro – Improvements	**$407.8m**	As identified in the Auckland RLTP and the Auckland Rail Programme Business Case: • Additional traction feed • Integrated rail management centre completion • Infill signalling • European Train Control System (ETCS) level 2 business case • Fencing and security • Overdue renewals • Rail Network Rebuild • Auckland traction control software renewal • Auckland train control software upgrade • Single-line running switches	• Critical to enable full benefits of City Rail Link (CRL) to be realised • Support passenger growth and Vehicle Kilometres Travelled (VKT) reductions • Supports long-term planning • Improved resilience • Improved productivity and efficiency
Wellington Metro – Improvements	**$353.6m**	• Resignalling (ETCS Level 2) business case • Overdue renewals • New substations and replacements • KiwiRail Infrastructure elements of the Lower North Island Rail Integrated Mobility (LNIRIM) project	• Improved safety • Enables increased metro capacity • Improves resilience • Supports long-term planning • Support passenger growth and VKT reductions • Improved productivity and efficiency
Additional investment is planned in the next three years in metro areas through: • Renewals and maintenance programmes delivered through contracts with AT and GWRC • Completing the major improvement projects such as electrifying Papakura to Pukekohe and building a third main line in the busy section between Wiri to Westfield, and improvements at Quay Park to improve rail access to the Port to Auckland, and new stations at Drury Central, Drury West and Paerātā • Completing any Transitional Rail projects, such as: Rail Network Growth Impact Management (RNGIM), Auckland Metro Remediation (AMR), and Wellington Metro Upgrade Programme (WMUP).			

Investment Management activity class	3-year total $13.3m		
Category	**3-year indicative spend**	**Components**	**Benefits**
KiwiRail strategic future planning	**$13.3m**	• Strategic future planning for the future development and long-term requirements of the Auckland and Wellington networks • This includes input into regional and all of government projects and policy initiatives, business case and feasibility study development, urban development, and stakeholder engagement	• Supports long-term planning • Support passenger growth and Vehicle Kilometres Travelled (VKT) reductions • Improved resilience • Improved productivity and efficiency

Like the nation's roads and highways, the rail network constitutes vital infrastructure that delivers wider benefits. The RNIP sets out the three-year investment programme and 10-year forecast for the national rail network and metropolitan networks.

KiwiRail recognises cost pressures across the transport system and is committed to delivering an efficient and reliable national rail network, improving metro networks and maintaining performance in the busiest, most productive areas of the network.

Furthermore, KiwiRail is continuing to improve its asset management maturity and its understanding of asset condition across the rail network. Following the completion of asset modelling for this RNIP, KiwiRail has identified a larger quantum of overdue renewals than assessed in 2021. During the next three years, KiwiRail will validate the overdue renewals modelling and further investigate what investment is needed to deliver better levels of service for customers whilst ensuring value for money.

Inflationary pressure, paired with this new information on asset health means KiwiRail will not be able to achieve the previous aspiration set across all areas of the network as previously outlined. Over the next three years, KiwiRail will instead focus on improving reliability on the metros, maintaining performance in the Golden Triangle priority routes linking Auckland, Hamilton and Tauranga, and safety and compliance on other routes.

At this level of investment, it will take longer than previously envisioned to achieve a resilient and reliable national rail network. This is reflected in the measures below.

The Rail Network Rebuild has seen teams working around the clock to take maximum advantage of rail closures

HOW WILL WE MEASURE SUCCESS?

Detailed performance measures are shown in Section 9.

1 to 3-year investment priorities:

- improved efficiency and productivity of works delivery
- maintaining asset condition/service level ratings (in Golden Triangle priority routes)
- safety and compliance with minor decline in service levels (remaining priority network routes)
- safety and compliance with moderate decline in service levels (secondary routes)
- safety and compliance with significant decline in service levels (tertiary routes)
- improved asset management maturity and data quality to support decision making
- maintain freight volumes on rail
- supporting growth of metro passenger volumes.

3 to 10-year investment priorities:

- improve asset condition/service level ratings (Golden Triangle priority routes)
- maintain asset condition/service level ratings (priority routes)
- safety and compliance with minor decline in service levels (secondary routes)
- reduction in outages/asset failures and time to recover
- growing freight mode share and metro passenger volumes on rail
- improved efficiency and productivity of works delivery.

Key benefits:

- increasing rail's contribution to economic growth and productivity
- increased reliability on passenger routes
- increased reliability on Golden Triangle priority routes
- improved safety
- greater value for money
- emissions reduction.

Broader Investment in Rail	
The RNIP provides the foundational network infrastructure, with other investments (funded outside of the NLTF) provided to improve services and grow network capacity. Existing Government investments which KiwiRail is delivering total over $4b and includes:	
$1,631m	Rolling Stock
$207m	Mechanical Facilities
$2,292m	Major Improvement Projects (Wiri to Quay Park, Papakura to Pukekohe, Drury Stations, Wellington Metro Upgrade Programme, Northland Package*), RNGIM
$237m	City Rail Link (Be Ready and delivery programmes)
$149m	Provincial Growth Fund and other investments to support economic growth

* Includes Whangārei to Otiria and Marsden Point Rail Link detailed design only

Reliable rolling stock is crucial to KiwiRail delivering success for its customers. Image by Hayden Goss

2 – Strategic Context

2.1 – THE ROLE OF RAIL IN NEW ZEALAND

Rail transports people and freight – supporting productivity and economic growth, reducing emissions, congestion and road deaths, and strengthening social and cultural connections between communities.

Rail is a key part of an integrated transport system for both freight and passengers in New Zealand, and a critical part of New Zealand's supply chain, moving around 17 million tonnes of freight a year and transporting around a quarter of NZ's exports. Every week more than 900 freight trains operate on our 3800km of track from Whangārei to Bluff, while more than 22 million commuter trips are made in Auckland and Wellington each year.

2.2 – STRATEGIC ALIGNMENT

Maintaining reliability of the rail network strongly aligns with and contributes to key national strategies and commitments.

Key Strategic Documents	Alignment
KiwiRail Statement of Corporate Intent (2024-2026)	The RNIP is an investment in the national rail network to restore rail and provide a platform for future investments for passenger and freight growth. Therefore, the RNIP aligns directly and is fundamental to the Statement of Corporate Intent (SCI) objective of KiwiRail being as profitable and efficient as comparable businesses that are not owned by the Government. It also supports the business purpose 'Stronger Connections, Better New Zealand'.
Government Policy Statement on Land Transport 2024–2034 (GPS), Minister of Transport	The RNIP supports the four GPS 2024 strategic priorities: economic growth and productivity, increased maintenance and resilience, safety, and value for money. We see a strong alignment with the rail network and support a multi-modal approach to the implementation of these priorities.
Regional Land Transport Plans (RLTPs)	As members of the Auckland, Wellington, Waikato and Bay of Plenty Regional Transport Committees KiwiRail has ensured strong alignment between the RLTPs of these regions and the RNIP. We have also had regard to other RLTPs relevant to the rail corridor.
New Zealand Rail Plan, 2021, Ministry of Transport	The New Zealand Rail Plan sets out the Government's vision and investment priorities for rail and was last updated in 2021. This RNIP recognises a shift in focus to efficient and reliable investment in line with direction from the GPS.
Te Anga Whakatakoto Hua mō ngā Waka, Transport Outcomes Framework, 2018 Ministry of Transport	The Transport Outcomes Framework (TOF) provides an overarching strategic approach for the government and the sector. The aim of the TOF is to set up a system that supports the wellbeing of New Zealanders and the liveability of places. It plays a key role in shaping a framework for the policy interventions that are needed and that are supported by RNIP to meet the future of rail aspirations. Rail is well aligned with and an active contributor to the successful outcomes of the TOF – *inclusive access, healthy and safe people, economic prosperity, environmental sustainability and resilience and security.*
Freight and Supply Chain Strategy, 2023, Ministry of Transport	As a major contributor to national supply chains, KiwiRail is aligned with the Freight and Supply Chain Strategy. Freight is a core part of our business, moving 17 million tonnes of freight a year and transporting around a quarter of NZ's exports. The RNIP supports further growth in the use of rail, maintaining KiwiRail's role in the national supply chain and in supporting the New Zealand economy.

Key Strategic Documents	Alignment
Te hau mārohi ki anamata Towards a productive, sustainable and inclusive economy: Aotearoa New Zealand's first emissions reduction plan (ERP) 2022, Ministry for the Environment	KiwiRail is committed to supporting the goal of achieving a net-zero carbon economy by 2050. We have an important role to play in supporting decarbonisation of the NZ transport sector. Rail is well placed to help reduce Vehicle Kilometres Travelled (VKT) on passenger and freight networks due to our natural advantage as a low-emissions, high-capacity transport solution, for example every net tonne kilometre of freight moved by rail produces around 70 per cent less emissions than road freight[1]. Passenger rail can also support mode shift in Auckland and Wellington. KiwiRail has provided input into ERP1 and the second Emissions Reduction Plan which is currently being developed to highlight the significant contribution rail can make to reducing emissions. KiwiRail will continue to identify opportunities to reduce our consumption of fossil fuels and support further modal shift to rail, for example, through developing a detailed business case for electrification of rail in the Golden Triangle.
Urutau, ka taurikura: Kia tū pakari a Aotearoa i ngā huringa āhuarangi Adapt and thrive: Building a climate-resilient New Zealand – New Zealand's first national adaptation plan 2022, Ministry for the Environment	As an asset owner, KiwiRail has a role to play in ensuring the resilience of its network and operations. KiwiRail has completed a resilience programme business case and has included preferred programmes into the RNIP prioritisation process, including high-risk sites exposed to sea level rise, severe weather events and has identified a programme of work to be completed over the next 30 years. KiwiRail also considers the impact of climate change through its design standards for new assets (e.g., culverts and swales) over the asset lifetime. Further investment is required beyond what has been included in this RNIP to address high-risk sites across the network and manage the increasing impacts of climate change over time.
Climate Change Response (Zero Carbon) Amendment Act 2019	The RNIP aligns with the Act's goal for New Zealand to reduce net emissions of all greenhouse gases to zero by 2050. It does this by increasing the attractiveness of rail freight and passenger services over time to support increased use of rail, reducing fuel use and emissions from the transport system.
Hīkina te Kohupara – Kia mauri ora ai te iwi: Transport Emissions – Pathways to Net Zero by 2050, Ministry of Transport (MoT)	This business case aligns with Theme 3: Supporting a more efficient freight system by investigating ways to reduce carbon emissions arising from diesel fuel used in transporting freight. It does this indirectly by improving the reliability over time and consequently the attractiveness of rail which helps shift freight from road (more energy intensive) to rail (less energy intensive). Rail also plays an important role in Theme 1: Changing the way we travel by supporting transport mode shift.
Climate Change Commission Draft advice to inform the strategic direction of the Government's second emissions reduction plan (April 2023)	The Climate Change Commission's advice outlines the increasing role that rail will need to play to support decarbonisation of New Zealand's transport sector, including through increased modal share and electrification. The RNIP is aligned with this advice, as it focuses on increasing KiwiRail's modal share and opportunities to decarbonise our operations, for example, through electrification.

1 https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2024-detailed-guide/

2.3 – STRATEGIC DIRECTION GUIDING THE FORMATION OF THIS RNIP

The strategic priorities for the GPS 2024 are:

- Economic Growth and Productivity
- Increased Maintenance and Resilience
- Safety
- Value for Money.

The strategic priorities for the GPS 2024 overlap and complement one another. Economic Growth and Productivity is an overarching strategic priority which means it takes precedence over the other three. They reflect the need to rebuild and to strengthen resilience while being supported by firm foundations through maintaining and operating our existing transport system.

GPS strategic priorities	Alignment to this RNIP
Economic Growth and Productivity	Rail is a key part of an integrated transport system for both freight and passengers in New Zealand, and a critical part of New Zealand's supply chain, moving 17 million tonnes of freight a year and transporting 25% of NZ's exports. Every week more than 900 freight trains operate on our 3800km of track from Whangārei to the Bluff, while more than 22 million commuter trips are made in Auckland and Wellington each year.
Increased Maintenance and Resilience	There is alignment with this strategic priority and the RNIP. The Rail Network activity class investment focuses on maintenance and renewals to continue operating the rail network to meet customer levels of service within the constrained funding available. The RNIP maintains the reliability of the Golden Triangle routes and metro routes over time, by renewing life-expired assets with more reliable modern assets. The RNIP includes interventions to address the worst sections of high-risk slopes on the network.
Safety	The RNIP supports investment in continued safety of the network through renewing life-expired assets and upgrading level crossings to improve safety outcomes where the rail and roading network interact.
Value for Money	This RNIP focuses on increasing the efficiency and effectiveness in our network spending through a range of initiatives. This includes prioritising investment in the metros and priority freight lines to contribute to a more efficient national network and maintained performance in the Golden Triangle.

2.4 – BENEFITS OF INVESTING IN THE RAIL NETWORK

The services offered by KiwiRail, and the work required to keep these services operational, reduce congestion, improve safety, and allow businesses to thrive, directly contributing to New Zealand's economic success. In addition, KiwiRail and the New Zealand rail industry directly and indirectly employ a vast number of people throughout New Zealand.

Without these services, congestion on roads would overwhelm cities, businesses would face increased costs to transport goods, New Zealand's emissions would increase, and roads and state highways would deteriorate due to the increased usage, placing additional burden on the government and taxpayer.

A fully integrated transport system takes a whole-of-system approach, recognising that rail takes significant pressure off roads, reduces emissions and creates economic value that is not sufficiently captured in traditional profit and loss calculations.

The impact on New Zealand is significant as rail transports around a quarter of all export freight, over 900,000 tourist passengers[1] and over 22 million commuter trips in Auckland and Wellington (35 million per year pre-Covid).

1 Typical use of scenic rail and Interisland services pre-Covid.

Rail offers a distinct advantage by providing a higher capacity mode for efficient and sustainable transportation, excelling in mass transit public transportation and the transportation of bulk commodities such as logs, forest products, agricultural products and industrial resources, benefiting a wide range of people and industries.

The benefits from rail are delivered to all New Zealanders through social, environmental and economic values which were first quantified in 2016 by professional services firm EY. In 2021 they updated the Value of Rail in New Zealand report to reflect rail's growing contribution.

Some key findings from the 2021 report include:

- without rail, Auckland would require an additional 780 to 937 daily truck trips
- without rail, Wellington would require an additional 298 to 358 daily truck trips
- commuter rail in Auckland and Wellington metro areas avoids an estimated 22 million car trips each year
- air quality benefits are equivalent to saving 70 lives each year
- an estimated 288 serious injuries and deaths on the road are avoided each year
- rail reduces CO2 emissions by an estimated 2.5 million tonnes each year
- every tonne of freight carried by rail has 70 per cent fewer greenhouse gas emissions than if the same freight was carried by trucks.

The Benefits of Rail to New Zealand was published by the Australasian Railway Association in August 2024 in conjunction with EY and now includes a revised value of $3.3 billion in economic value to New Zealand. The potential benefits and economic value added will be further improved by an efficient and reliable national rail network and continue to grow with increased freight services and the introduction of new public transport services (such as CRL, Te Huia, Drury stations and new Wellington metro trains through the Lower North Island Rail Integrated Mobility (LNIRIM) project).

Supporting a safe, resilient and reliable national rail network over time is a key part of New Zealand's multi-modal transport system and is critical to support productivity and business growth. It isn't road versus rail, it's about all modes working together for the most efficient and productive outcome for New Zealand.

The Te Huia service provides a rail connection between Hamilton and Auckland for passengers

3 – Funding New Zealand's Rail Network

3.1 – HOW THE PLANNING AND FUNDING FRAMEWORK WORKS

The rail network is funded under the LTMA which enables KiwiRail to maintain, renew and improve the rail infrastructure as a critical national transport network.

Under this arrangement, KiwiRail accesses funding through the RNIP, which outlines rail investment over three-year periods within a 10-year forecast. This framework is a significant improvement from the short-term nature of funding provided to KiwiRail in the past.

Ongoing certainty of baseline renewal and maintenance funding is critical for KiwiRail to make long-term, value-for-money investment decisions for New Zealand's rail network.

KiwiRail will continue to fund its commercial freight and passenger operations and assets from revenue received from delivering services, with support from the Government as an investor on a case-by-case basis.

The RNIP plays a critical role in the planning and funding environment, as it is the means by which KiwiRail:

- outlines the planned investments for the national freight and tourism and metropolitan rail networks
- supports its case for the funding needed to carry out this essential work.

ACTIVITY CLASSES

Three activity classes are reflected within this RNIP, these are Rail Network, Public Transport Infrastructure (PTI) and Investment Management.

The Rail Network activity class is for the national network funded from NLTF revenue (track user charges) and a government top up. This enables KiwiRail to deliver ongoing operations, maintenance, management, renewals and improvements to the national rail network. Also included in this activity class is one-off reinstatement work following the early 2023 North Island weather events.

The PTI activity class is for investment in metropolitan

The Rail Network Rebuild has seen old foundations under the tracks replaced and upgrades to drainage

passenger networks. These are predominantly for infrastructure improvements, but also include funding for overdue renewals programmes. This activity class is funded directly from the NLTF with government budget funding for specific projects including the completion of the Rail Network Rebuild (RNR), Lower North Island Rail Integrated Mobility (LNIRIM), Metro access agreement top-up funding in FY25, and for overdue renewals in the metros.

The Investment Management activity class funds strategic future planning of the Auckland and Wellington metropolitan areas. Strategic future planning is an ongoing project that enables KiwiRail to undertake long-term planning of the rail network, including undertaking investigations and engagement required for RLTP development.

SPECIFIC FUNDING ARRANGEMENTS FOR METROPOLITAN AREAS

The approach to funding metropolitan rail networks was developed through the Metro Rail Operating Model (MROM) which rests on the position that the cost of wear and tear of the network (ongoing operation, maintenance and renewal) be shared between the users of the network (in proportion to their consumption of the services/assets) while the government would meet the cost of bringing the network into a fit-for-purpose state.

The Auckland and Wellington metropolitan networks are extensively used by commuter passenger services operated by AT and GWRC, while being shared with less frequent freight and tourism services operated by KiwiRail.

Specific network access agreements are negotiated between KiwiRail and AT (Auckland Network Access Agreement (ANAA)), and KiwiRail and GWRC (Wellington Network Access Agreement (WNAA)).

These agreements are put in place to fund maintenance, renewal, and operation of the metropolitan sections of the network based on an agreed level of service and reflecting each operator's relative usage. KiwiRail meets the freight share of these costs from the Rail Network activity class, while AT and GWRC meet their metro shares from rates, funding from the NLTF Public Transport Services activity class, and passenger fares.

Over the past triennium AT and GWRC have advised affordability constraints, resulting in scaled back investment programmes to fit within available budgets. Whilst the investment is prioritised to provide the optimal outcome for the network, underfunding ultimately leads to increased operational restrictions, poor network resilience and less efficient short-term interventions. KiwiRail strongly supports the progression of Ministry of Transport's review into affordability and funding aspects of the MROM. KiwiRail is working with metro partners AT and GWRC along with the New Zealand Transport Agency (NZTA) to review components of the current MROM. The review is looking to address funding operational and governance settings. Maintaining and renewing the network is the Government's highest priority for metropolitan rail networks. This is needed to attain the benefits of our investments in improving the network through government-funded major projects.

In addition, KiwiRail has identified further overdue renewals programmes necessary to bring the performance of the metropolitan networks up to a modern standard.

The metro network improvement projects in the RNIP are considered for funding from the PTI activity class which is fully funded from the NLTF (i.e.100% Funding Assistance Rate).

EMBEDDING THE WAY FORWARD

We are elevating our Services business to be customer-led with substantial investment to fund the renewal of our commercial assets – new locomotives, wagons and upgraded mechanical depots. The Services business must be self-sustainable – generating sufficient cashflow to fund its capital expenditure on an ongoing basis.

In the Infrastructure business, through the 2021-24 RNIP, KiwiRail has been able to make significant advances in asset management and in our understanding of asset degradation, including overdue renewals. This is larger than previously assessed. KiwiRail will continue to improve asset management maturity, allowing more informed decisions on the longer-term investment need into the rail network.

Delivery capacity has increased to begin addressing the overdue renewals and core maintenance on select priority routes. Over time, this will translate to the timeliness and reliability of rail services in the most productive areas of the rail network. This supports KiwiRail's ability to deliver for its freight and tourism customers and to enable growth in metro services.

Sections of the network within the Auckland and Wellington metropolitan areas are being improved to support growth and more reliable commuter services in future. KiwiRail is aware of its obligations to ensure that the CRL can be integrated to a network that can reliably accommodate service frequencies that underpinned the CRL business case. The 2024-27 RNIP continues projects which commenced through the previous RNIP whilst also commencing the next phase of improvement projects necessary to lift capacity and performance in the metropolitan networks, supporting forecast growth.

BENEFITS OF GREATER FUNDING CERTAINTY

Case Study: Structures – Bridge Renewals (BR194 MSL, Dunedin)

The new funding model allowed KiwiRail to better plan renewals, with Bridge 194 being a notable example.

The funding certainty and additional planning time led to significant efficiencies and improvements. Increased design time allowed us to identify value engineering savings, including using precast materials at a lower cost. We could also better allocate resources, such as reserving machines that would be usually used on other track works, including six panel lifters, originally acquired to deliver a major tunnels programme.

The panel lifters allowed the teams to work concurrently, building the new rail track to one side, while the formation was dug up and relayed. Without the panel lifters, the work would have been done consecutively, instead of concurrently.

The combination of these factors allowed for a significant productivity improvement, allowing a planned 92-hour block of line to be completed within 59 hours and avoiding thousands of kilometres of road transport (by using rail). In addition, this removed the need for a second Hi-Rail machine which saved cost. This way of working is much safer for our staff by reducing manual handling and reducing the pressure of working during time-constrained block of lines and is a more efficient use of network access. Panel lifters are now part of our routine delivery planning.

Case Study: Digital Shields

Digital Shields is a technological system that stops machinery from crossing boundaries while working on the railway. This creates a digital shield between the operating machinery and any hazards in the area. They were developed as part of the delivery of the Trentham to Upper Hutt double tracking and allows machinery to work much closer to the live railway than previously possible, increasing productivity, safety and operational efficiency. The technology is now a routine part of KiwiRail's toolbox and is also being deployed by NZTA across its projects.

4 – The National Rail Network Today

4.1 – INTRODUCTION TO KIWIRAIL

Like many railways worldwide, KiwiRail operates a vertically-integrated model comprising of a Services business (rail freight, Interislander, scenic, commuter and property); and an Infrastructure business (metro networks, tracks, tunnels, bridges etc).

Both businesses must operate together seamlessly for the optimal delivery of rail services. This model recognises that railways are interconnected systems which benefit from a coordinated approach to design, planning, operation, and maintenance.

The ongoing operation and renewal of rail freight assets, such as locomotives and wagons are funded through the revenue received in freight and passenger operations.

As the foundation of rail services, it is critical that the rail network itself, with its many interdependent parts, functions effectively and safely, meeting regulatory requirements in accordance with KiwiRail's rail licence and rail safety case.

4.2 – SERVICES SUPPORTED BY THE RAIL NETWORK

Rail is an essential part of New Zealand's freight, supply chain and public transport network, supporting businesses, the public and economy. Current services supported by New Zealand's national rail network include:

- freight services operated nationwide by KiwiRail
- urban passenger rail services in Auckland and Wellington, operated by Auckland One Rail on behalf of AT and Transdev on behalf of GWRC
- tourism services operated by KiwiRail's Great Journeys of NZ (GJNZ), including the TranzAlpine, Coastal Pacific and Northern Explorer
- inter-regional passenger services operated by KiwiRail on behalf of councils, being the Capital Connection (between Palmerston North and Wellington) and Te Huia (between Hamilton and Auckland)
- other services, including charter services and services run by heritage operators.

In the Auckland and Wellington metropolitan areas, freight trains, urban passenger and inter-regional services currently share most of the same rail network infrastructure. New Zealand does not have a separate metro rail network infrastructure.

Each week, KiwiRail's National Train Control Centres manage the following volumes of scheduled movements across the national rail network:

- 3000 electric suburban passenger services in Auckland
- 2200 electric suburban passenger services in Wellington
- 800 long-haul freight trains
- 700 mainline shunts, servicing major industrial sites
- 92 long-distance commuter trains
- 28 long-distance scenic passenger trains for GJNZ.

4.3 – RAIL NETWORK ASSETS AND INFRASTRUCTURE

The rail network is the infrastructure that supports the operation of rail services which transport passengers and freight. As the foundation for delivery of rail services it is critical that the rail network functions effectively, efficiently and safely.

The New Zealand rail network is used for the movement of freight, long-distance passengers, and urban passengers and is owned, operated and maintained by KiwiRail, spanning almost the length of the country. Some 600km is electrified, and around 380km is within 1km of the coast.

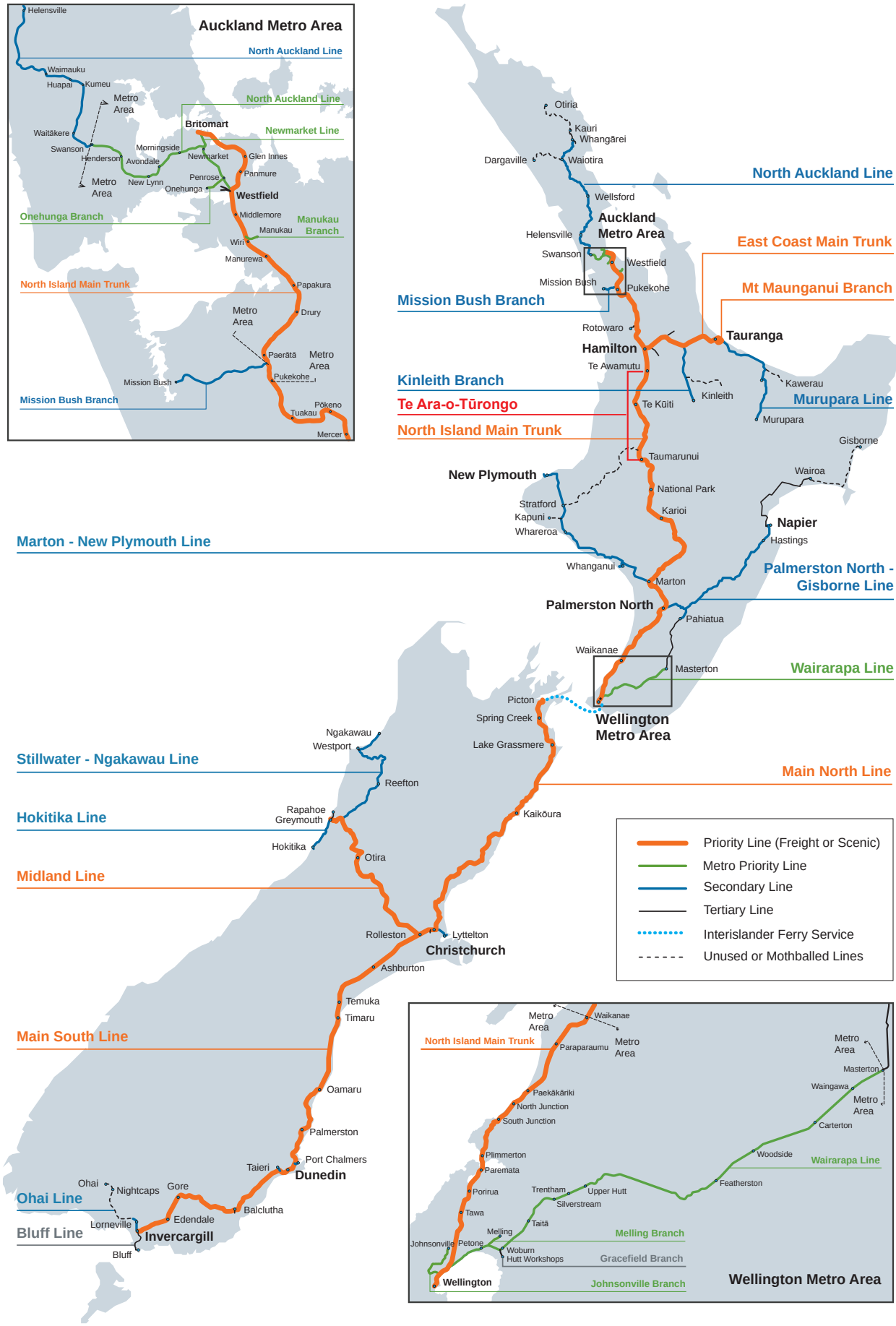
Two routes are temporarily unused (Kauri-Otiria and Napier-Wairoa). Their status may change in the short term. Beyond these, some 388km is mothballed or is unused on a long-term basis.

Ninety-three per cent of the active network is single track, with opposing traffic on the same track, which limits capacity. Double (or more) track sections have significantly more capacity: they are most of the Auckland and Wellington metros, most of the Auckland-Hamilton line and most of Heathcote to Islington in Christchurch.

The maximum axle load operating on the network is 20 tonne on a 50km section in Auckland carrying steel billet from NZ Steel. Elsewhere 18 tonne is nearly universal. With futureproofing in mind, the wagon fleet now has near universal 20 tonne capability. For a standard container wagon, increasing the axle load from 18 to 20 tonnes increases the available payload from 56 to 64 tonnes. Locomotives, however, are designed to have wide running rights, and therefore 18 tonne has been selected for KiwiRail's new mainline classes. Some minor branch lines operate at lower maximum axle loads, using lighter locomotives, but these lines comprise only 2 per cent of the operational network.

The clearances on the Midland Line restrict the use of hi-cube containers on standard wagons. All other routes are open for 9ft 6in high ISO containers.

NATIONAL RAIL NETWORK



The network comprises a large number of assets, separated into the following categories:

TRACK

Components within this asset class include:

- rail – in various weights of steel to support different axle loads
- sleepers – the beams that support and space the rail; traditionally made of timber but gradually being replaced with stronger materials including concrete and composite (plastic)
- ballast (crushed stone) – which supports the sleepers and distributes the weight of passing trains evenly to the ground below
- subgrade – compacted soil that provides the base for the track
- turnouts – short sections of track that enable trains to move between adjacent tracks (enabling trains to pass, branch to other lines, or wagons to be marshalled)
- heavy specialist track equipment used for renewals, maintenance, inspections and compliance.

CIVIL ASSETS

Components within this asset class include:

- formation – including cuttings, embankments and slope stabilisation measures that support the track
- drainage – including culverts (generally pipes below the formation that prevent washouts by carrying water underneath the track)
- river and coastal protection – including seawalls, groynes and revetments (all intended to protect the rail corridor).

STRUCTURES

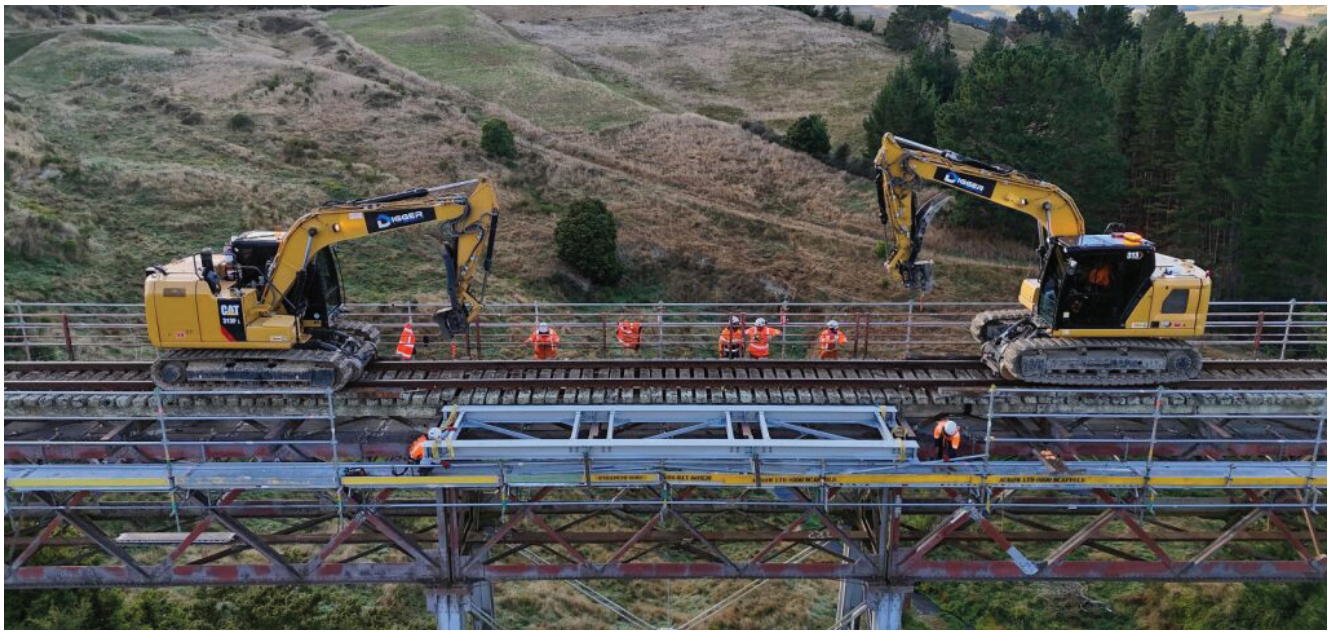
Components within this asset class include:

- bridges and viaducts (bridges more than 5 spans and 10m high) – the network has over 1400 rail-carrying bridges and viaducts
- tunnels – approximately 100 across the network
- lighting towers – approximately 200 nationwide.

SIGNAL AND TELECOMMUNICATIONS, TRACTION AND ELECTRICAL

Components within this asset class include:

- signals – trackside indicators (mostly coloured lights) that convey information such as safe speed and right-of-way to train drivers
- train control systems – centralised systems which manage the safe running of trains
- telecommunications assets – a variety of means to transmit voice and data, mainly for communicating with trains, which includes bearer networks (fibre and copper), telemetry equipment, radio networks and line-side systems
- traction and electrical – including overhead wires and traction poles (which support the wires) along electrified sections of the network, as well as electrical assets such as substations, transformers and tunnel-ventilation systems
- active level crossings – road crossings controlled by flashing lights, bells and barrier arms (approximately 1200 across New Zealand).



Maintaining KiwiRail's more than 1400 bridges is crucial to the network

4.4 – CONTINUOUS PROGRAMMES - MAINTENANCE, OPERATIONS, INSURANCE, MANAGEMENT AND RENEWALS

Operating a rail network means various ongoing costs must be met to:

- keep the network operating safely and effectively within its existing parameters
- maintain and minimise degradation of service levels for customers
- ensure the network is compliant.

Continuous programme costs include the following:

MAINTENANCE

The maintenance programme for KiwiRail encompasses various activities aimed at ensuring safe and effective operation of the rail network, while helping to achieve the expected life of an asset.

Maintenance costs are incurred from a range of activities including:

- inspections and monitoring to understand asset condition and ensure regulatory and safety compliance
- preventive maintenance aimed at avoiding asset failure before it occurs and maintaining compliance with existing engineering and safety standards, and
- corrective and emergency maintenance to return assets from an unsatisfactory or failed condition back to a serviceable condition e.g. within specification.

As well as cyclical inspections, KiwiRail undertakes special inspections such as heat runs during the summer to detect track buckling, or in response to adverse weather or seismic events. Inspections may be manual (e.g. network staff walking the track) or mechanised (via drone or vehicle).

OPERATIONS AND MANAGEMENT

A rail network is a controlled environment, where all train movements are directed and coordinated. This distinguishes it from the road network, where there are road rules underpinned by law, but within those parameters individuals are generally free to access the network as they please.

In New Zealand, the direction and coordination of train activities takes place via the train control centres, based in new purpose-built facilities in Wellington and Auckland.

The provision of operational activities (such as train control) is an inherent cost to providing a rail network, as without these activities the network would be unable to operate.

Management costs associated with a rail network include indirect management costs (such as asset engineers, production teams, an engineering team and other management etc), asset and data management, planning, safety teams (Zero Harm) and corporate costs such as information technology, human resource and finance systems.

INSURANCE

The rail network is insured for major unexpected events, such as flooding, slips, earthquakes and tsunamis. This includes insurance of the metropolitan networks in Wellington and Auckland for which GWRC and AT contribute but does not extend to certain tertiary lines and specific assets.

RENEWALS

Renewal costs in the context of a rail network are costs associated with extending asset life by refurbishing, or partially or completely replacing, individual assets as necessary.

All assets that comprise the rail network have a finite functional life. This varies significantly depending on the particular asset concerned and the loading and environment they are exposed to.

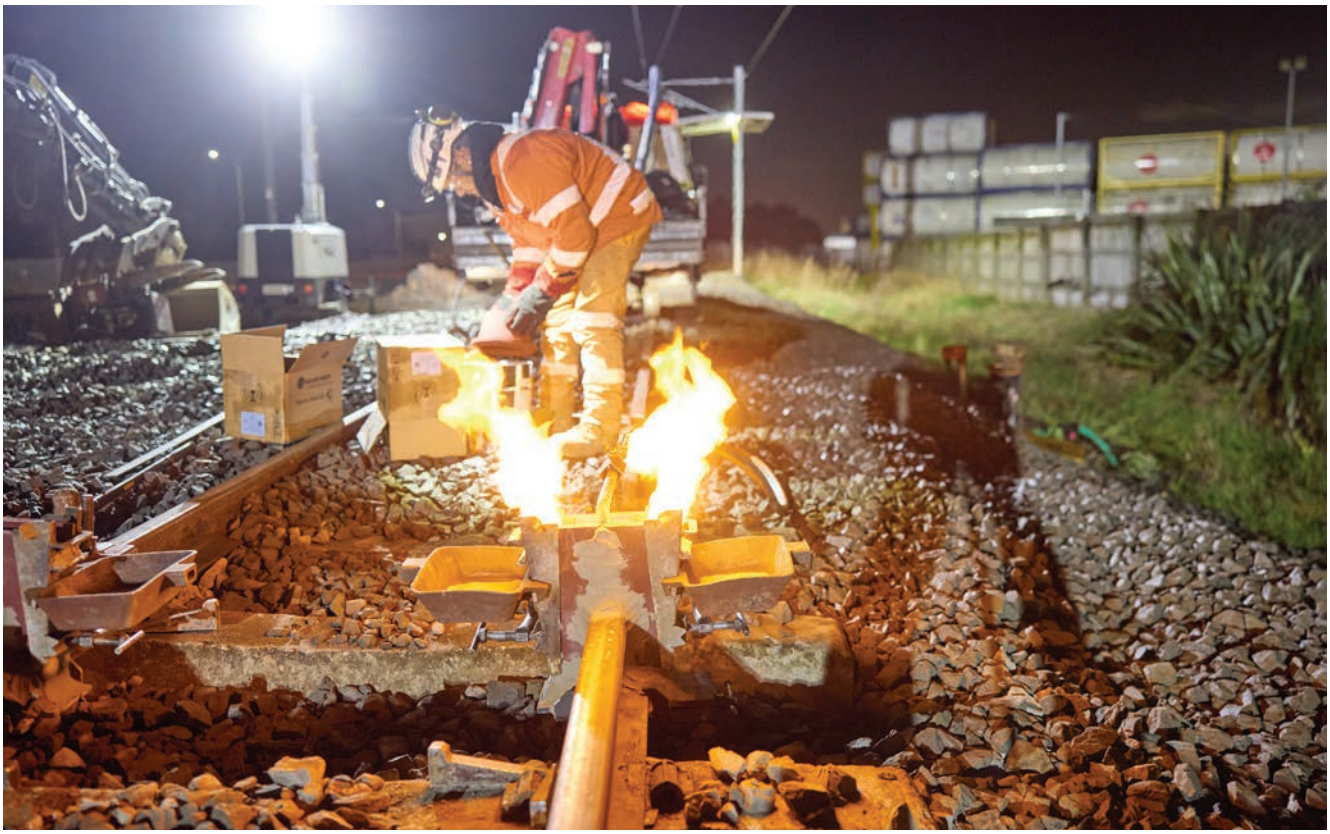
The majority of the RNIP work undertaken on the rail network is to renew existing assets. These renewals are described as like-for-like replacements, but in many cases, such as bridges, the replacement (modern equivalent) asset is quite different from the asset it replaced.

4.5 – IMPROVEMENT PROJECTS

Improvement projects can be undertaken to support innovation and future proofing as well as improve resilience, capacity, reliability and safety. A project is considered an improvement when the primary purpose of investment is an entirely new asset or a step change in an existing asset's level of service e.g. double tracking to increase capacity.

This is distinct from renewals where the primary purpose of investment is to replace an existing asset at the end of its functional life e.g. replacing a bridge with a modern equivalent that happens to allow increased axle loading.

In general, investment for improvement projects is limited, and depending on their expected cost, typically require a separate business case to support the investment.



Work on the network improves resilience, reliability, capacity and safety

4.6 – CURRENT STATE OF THE NATIONAL RAIL NETWORK

Prior to the RNIP, investment was below sustainable levels for decades. Under the first RNIP, it has been at levels that could be said to hold overall network condition, other than specific areas where it was unwarranted. This long period of underinvestment resulted in the degradation of the rail network and a large backlog of overdue renewals.

The substantial overdue renewals mean, in some instances, KiwiRail must undertake additional reactive maintenance, less economical asset life-extending works, and emergency repairs at increased costs. Inspection demand also increases to monitor higher levels of risk, putting pressure on limited resources.

To ensure the network has continued to operate safely (and, in some instances, to manage lines where freight traffic has a finite life and there is not credible passenger opportunity, meaning long-term investment is not warranted) operational measures, such as reduced speed or lower axle load tolerances, are put in place to manage risk and the cost of deferred renewals. This can result in reduced reliability of the network and customer levels of service (although these types of lines are monitored as being safe and fit for purpose, and KiwiRail can respond to any changes in circumstances).

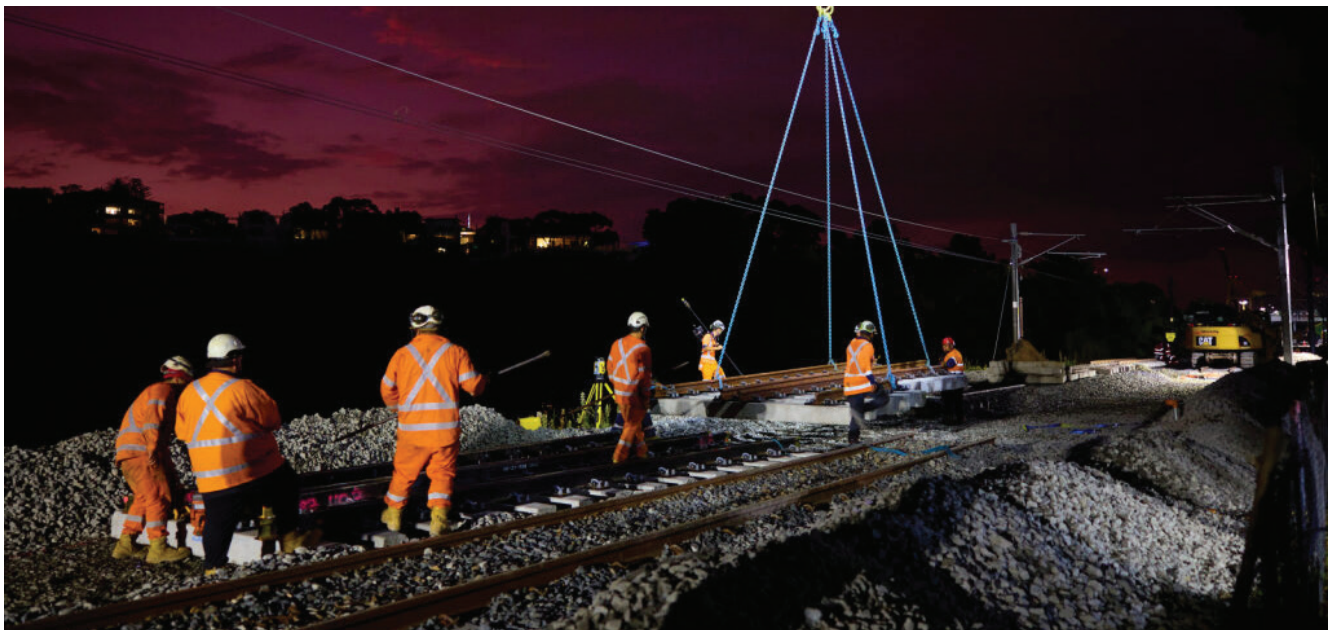
Despite these challenges and the investment requirements, the rail network continues to offer significant economic value to New Zealand, estimated at $3.3 billion per annum as outlined in Section 2. The benefits of rail would be even greater with a more resilient and reliable network.

The first RNIP provided the initial investment to allow KiwiRail to begin addressing the overdue renewals and to improve its operational efficiency and asset management maturity. This included investing approximately $340 million on track-focused renewals and starting the long-term journey to shift the network to a more reliable state.

EXAMPLE OF THE FACTORS THAT DRIVE ASSET DETERIORATION

Assets deteriorate with usage over time, and many factors can impact the rate of deterioration including levels of maintenance, construction methodology and axle loadings.

An example of this is the rails that trains run on. Since the mid-1970s, KiwiRail has used standard rail that weighs 50kg/m. On straight track and under moderate rail traffic, well-maintained 50kg/m rails with appropriate sleepers, ballast and formation can be expected to last over 80 years and carry up to 600 million gross tonnes (a level of traffic only generated on the busiest of KiwiRail's priority routes).



Track renewal in Auckland is part of preparing the network for the opening of the City Rail Link

However, around a third of track is curved and the forces exerted on curved sections of track result in increased wear. The tighter the curve, the faster the rate of deterioration. KiwiRail estimates that rail on a moderate curve[1] may last about 40 years with appropriate maintenance, half the expected life of track on a straight section.

Bridges are more susceptible to other factors. Wooden materials rot, sometimes from the inside out, and steel spans rust (but are painted to slow this), while piers and abutments can be damaged or destroyed by river flows. Floods can carry debris that may damage the bridge and flood waters can erode the riverbed, potentially undermining the bridge foundations. A key driver of deterioration is the weight of the trains they carry and especially the individual axle loads, which stresses the bridge materials.

Like many assets, bridges can be maintained to, and in some cases well beyond, their expected service life, by monitoring performance, replacing worn components, and refurbishing (and strengthening) if appropriate. However, at some point, these interventions are no longer effective, and a full renewal will be needed. Since the Government resumed ownership of the rail network more than 150 bridges have been renewed, but there are still many more overdue for renewal, and these require monitoring and substantial maintenance.

HISTORIC AND FORECAST FREIGHT TRAFFIC DRIVING INVESTMENT

Following land transport deregulation in the 1980s, rail tonnage dipped by a third and didn't begin to recover until the mid-1990s. However, rail traffic experienced sustained growth between 1993 to 2000 to reach a new record of 4 billion NTK[2]. Since 2004, the annual rail task has averaged 4.4 billion NTK.

Underinvestment in both the service business and infrastructure parts of KiwiRail's business is a major factor in capping the rail task below 5 billion NTK. Current investment, both service business and infrastructure, will provide the platform for growth in rail volumes to be achieved as these investments improve rail's efficiency and increase reliability where it is needed most. Long-term rail freight growth depends on a variety of factors including:

- New Zealand's economic growth
- rail's efficiency and attractiveness versus other modes
- differential growth between ports, and policies to direct where this growth occurs
- Government policy settings in relation to carbon pricing and other directives.

KiwiRail's latest freight growth forecast estimates an increase to 5 billion NTK by 2029.

1 A 500-metre radius curve.

2 NTK is the net tonnage multiplied by distance travelled and is considered the best measure for the rail task.

5 – Planning and Prioritising Investment

5.1 – ASSET MANAGEMENT PLANNING

It is critical that we invest prudently to ensure our networks support safe and reliable services, both now and in the future. Our proposed investments have been selected and prioritised using our refined asset management planning process.

Over the last three years, we have been able to materially advance asset management planning, significantly improving our supporting tools, data and processes, including prioritisation models and cost-estimation techniques. While there are still improvements to be made, these initiatives contribute to a more in-depth understanding of asset health and associated risk on our below-rail network, supporting our ongoing transition to a more proactive approach to planning and delivering our work programmes.

As we prepare for the next three years, this refined approach, coupled with the lessons we have learned, will support further improvements to our asset management planning and work management. We remain focused on continuous improvement, and we continue to drive progress in this area. Our intention is to broaden our use of innovative modelling approaches and analytics, ensuring we sustain the momentum gained to date.

5.2 – PRIORITISING EXPENDITURE

KiwiRail has processes to select and prioritise investment needs e.g., determine what work needs to be done, and when. These processes are consistent with recognised asset management practices.

KiwiRail has also worked with NZTA to map the rail network using the principles of the One Network Framework (ONF). More information can be found in Appendix A.

For the metropolitan areas of the network, decisions on the priority of investments are made jointly between KiwiRail and the organisation's regional partners through joint planning processes. Our co-development of the Auckland Rail Programme Business Case being a recent example of this.

IDENTIFYING NECESSARY INVESTMENTS

Building on the approaches used over the last triennium in developing our forecasts for the next triennium, we have considered:

- risk modelling reflecting the health and criticality (where available) of our assets
- cost pressures, inflation and foreign-exchange risks
- safety and compliance requirements
- levels of service to meet the current and future needs of our freight, tourism, and metro customers
- performance and obsolescence issues.

The key investment driver in the coming years remains the need to renew our assets. This will focus on the efficient renewal of assets in poor condition, using criticality which considers customer needs for prioritisation.

We continue to adopt an uncompromising approach to safety and will act when we believe there are safety risks for the public, our service providers, or staff.

The detailed planning and analysis we have undertaken to support our future investment programmes clearly shows a continuing need for elevated maintenance and renewal expenditure across our rail networks.

IDENTIFYING WHEN WORK WILL BE UNDERTAKEN

The initial outputs of our asset management planning process are prioritised into draft work banks, which set out planned works and their timing. We need to ensure these work banks are well planned to improve productivity, ensure these are achievable and make efficient use of plant and network access. Reflecting this, they have been tested for deliverability and further prioritised, considering factors such as:

- risk – safety risks in relation to service type and potential impacts of failure
- asset health – based on asset condition, relative age, and performance
- network criticality – how important a section of line is to the network, in terms of factors such as train usage, service levels, and total tonnage
- individual asset criticality – reflecting the consequence of the asset's potential unavailability to the operations it supports
- required levels of service and capacity – ability to meet current and future operating needs in terms of axle load, vehicle dimensions, and train speed
- asset fault and performance history.

We are continuing our asset management improvement initiatives. We will further improve our scheduling capability and delivery processes to ensure we continue to cost-effectively deliver our work programmes. This requires that we invest in the capability of our people and ensure that our systems, supporting data, and processes are consistent with good practice.

As we deliver the programme, unforeseen events may occur that impact work priorities, requiring emergency maintenance to make the site safe before further works are undertaken. Between 2021 and 2024 emergency maintenance expenditure increased by a third due to the condition of network assets and weather events. KiwiRail's Board convenes regularly to assess the impacts of these events and may adjust the priority within the overall work programme. When certain projects cannot be progressed or resourced, we ensure that appropriate strategies and mitigation measures are in place to safely maintain an acceptable level of performance until the required work can be undertaken. Significant changes to RNIP delivery are reported to monitoring and partner agencies in a timely manner.

5.3 – STRATEGIC APPROACH FOR THE RAIL NETWORK

To ensure KiwiRail determined the best approach for the Rail Network Programme over the next 10 years, KiwiRail assessed various options based on achieving the investment objectives, priorities and outcomes outlined in the GPS, NZ Rail Plan and KiwiRail's SCI.

The Rail Network Rebuild is designed to deliver a decade's worth of work in 18 months

KiwiRail's asset management modelling has indicated potential for assets being in a worse condition than previously estimated and therefore the backlog is greater than was forecast. In response to this, the following 10-year options were shortlisted for further analysis:

Option 1 Unconstrained ($10B+) – Address all life-expired assets on the network

This option represents a comprehensive investment strategy that addresses all current (and future) life-expired assets. This is an asset needs-based assessment using overdue renewal definitions and asset models to identify and programme renewals.

Option 1a Deliverable uplift ($7-8B) – Deliverability constrained programme to improve resilience and reliability over the next 10 years

This option targets life-expired assets throughout the network within a deliverable package of works. This is a subcategory of Option 1 but would take a longer period to deliver.

Option 2 Network upkeep ($6-7B) – Programme of works to maintain safety compliance and make modest improvements to network reliability and resilience

This option represents a comprehensive investment strategy that lifts the performance of the network to a resilient and reliable state. This option accepts some life-expired assets can be managed rather than replaced, resulting in a lower service level on some lines.

Option 3 Priority lines focus ($5-6B) – Prioritised investment to support current volumes and future growth

This option prioritises investment in lines with high volumes and that KiwiRail believes will produce the most future growth within an affordable funding envelope. This will maintain the state of the network where demands are higher while limiting investment in low-demand lines to maintain compliance.

Option 4 Minimum services ($4-5B) – Prioritising investment to keep all lines open with lower service levels

This option attempts to keep all lines open but accepts there is potential for some line closures. It first prioritises compliance work across the whole network before investing to improve network performance and safety in priority routes.

Following a Multi-Criteria Assessment, and considering the cost trade-offs, Option 2 was selected as the preferred way forward for this RNIP. This delivers significant safety, sustainability and economic outcomes within a deliverable package of works that offers improved value for money. Critically, this option would make modest improvements to the reliability and resilience of the rail network and deliver on the Government's strategic priorities for rail over time.

Whilst Option 1a also scored highly, further work is needed to fully validate the overdue renewals and assess investment necessary to deliver value-for-money levels of service across the network.

5.4 – SELECTED OPTION

While Option 2 emerged as the preferred way forward, the final selection was informed by available funding. As a result, KiwiRail has selected Option 4, with an expectation to maintain a safe and compliant national network and deliver prioritised investment to support current volumes within the funding envelope available.

Option 4 addresses some life-expired assets to maintain efficiency and reliability on selected priority routes, particularly within the Auckland, Hamilton and Tauranga Golden Triangle. The remaining network will be maintained to ensure safety and compliance standards are met (which is a more reactive approach) with varied route-specific service level impacts. This approach will also see the rail network shift in service offering, with cost-benefit analysis informing viability decisions on some tertiary lines.

As a result, the network will be able to:

- maintain competitive and consistent services in metros and on Golden Triangle priority routes
- ensure efficient and reliable priority freight operations with minimal decline in performance
- maintain volumes on rail, thereby retaining economic performance and VKT reduction that lowers emissions and reduces pressure on our roads
- deliver expected safety levels for passengers, train crews, the public, and maintenance staff
- support the delivery of transport outcomes within the available funding.

Option 4 has informed the investment programme outlined in Section 6.

6 – Investment Programme - National Network

6.1 – INVESTMENT PRIORITIES

Customers place a high value on the reliability of services. KiwiRail has ramped up activity significantly during the 2021-24 RNIP. Continued progress is needed over the next decade and beyond, to meet the goal of bringing the existing national rail network up to an efficient and reliable level. This stable foundation is critical to securing the full benefits from the investment in renewing KiwiRail's Services business assets and for supporting current freight volumes and future growth.

Over this RNIP triennium, KiwiRail is focused on efficiency and productivity improvements to maximise delivery and targeting maintained service reliability in Golden Triangle priority routes. KiwiRail also plans to maintain safety and compliance in remaining freight routes.

These investment priorities over the next three-year period are:

- improved efficiency and productivity of works delivery
- maintaining asset condition/service level ratings in Golden Triangle priority routes)
- safety and compliance with minor decline in service levels (remaining priority network routes)
- safety and compliance with moderate decline in service levels (secondary routes)
- safety and compliance with significant decline in service levels (tertiary routes)
- improved asset management maturity and data quality to support decision making
- maintaining freight volumes on rail
- supporting growth of metro passenger volumes.

KiwiRail's overall investment priorities over the 10-year period are:

- investing in the national rail network to support an efficient supply chain and freight growth, meaning:
  - a primary focus (and majority of spend) on the continuous programmes of maintenance, management and renewal
  - targeted spend to maintain asset condition/ service levels on Golden Triangle priority routes
  - a reduction in service outages and time to recover in Golden Triangle priority routes
  - an allowance for high priority improvement projects which will offer improved efficiency, reliability and safety in the most critical and busiest areas of the network.
- investing in metropolitan rail to support the efficient movement of people in New Zealand's largest cities, meaning:
  - a focus on completing the programmes which align with the RLTPs
  - a programme in both metros to address overdue renewals
  - a reduction in unplanned disruptions to commuters
  - projects for growth and to support VKT reduction and reduce congestion points on the rail network.

These investment priorities are aligned with the investment focus outlined in the GPS.

Further information on some of KiwiRail's efficiency and productivity initiatives are outlined in Section 1.1.

Work schedules are focused on delivering as effectively and efficiently as possible to minimise disruption

6.2 – NETWORK MAINTENANCE, OPERATIONS AND MANAGEMENT

FINANCIAL SUMMARY – NETWORK MAINTENANCE, OPERATIONS AND MANAGEMENT

KiwiRail plans to deliver $867.5m across the three-year National Land Transport Programme (NLTP) period, which has factored in planned efficiency savings. There are additional risks of increased maintenance needs from the reduction in the renewals and improvements programme that KiwiRail will continue to assess. Overall we forecast $487.1m of investment from the Rail Network activity class as shown below:

Programme ($m)	2024/25	2025/26	2026/27	3-Year Total
Gross maintenance	134.5	141.2	149.9	425.6
Gross operations, insurance, and management	141.9	148.2	151.8	441.9
Total network, operations, maintenance, insurance, and management	**276.4**	**289.4**	**301.7**	**867.5**
AT-funded maintenance	(30.1)	(30.9)	(34.7)	(95.7)
AT-funded operations and management	(27.1)	(37.3)	(41.6)	(106.0)
GWRC-funded maintenance	(15.8)	(17.0)	(17.9)	(50.7)
GWRC-funded operations and management[1]	(26.7)	(28.7)	(31.0)	(86.4)
Other funded maintenance, operations and management	(14.3)	(13.4)	(13.9)	(41.6)
Total KiwiRail operations, maintenance, insurance, and management	**162.4**	**162.1**	**162.6**	**487.1**

Council contributions for network maintenance, operations and management are funded separately and outside of the Rail Network activity class.

The 10-year forecast is shown in Schedule One.

1 Including traction, excluding performance fees

NETWORK MAINTENANCE

Inspections and monitoring

A large focus over this period is continuing to improve the quality of information that is collected and used to support asset management and data-quality objectives as well as developing future investment programmes.

To deliver this, KiwiRail will deliver new inspection tools and equipment, such as semi-autonomous track inspections to assess the network more efficiently (with track data being collected day-to-day from equipment mounted on in-service rail vehicles). This will first be carried out in the metropolitan areas before rolling out across the wider national rail network.

KiwiRail's Track Evaluation Car (TEC) and non-destructive testing (NDT) inspections form a major part of track asset inspections. The new TEC is a long lead-time procurement and will be fitted with the latest technology will improve the analysis and detection of track issues, enabling early interventions and maintenance. Orders for this were placed during the previous 2021-24 RNIP triennium and it is expected to be commissioned by early 2028.

Mobility upgrades will be carried out to digitalise inspections and asset updates which will improve efficiency and productivity. Real-time data collection and analysis enable faster identification of asset issues, allowing for prompt interventions and improved reliability with fewer unplanned disruptions. This is essential to enable the shift to smarter predictive maintenance strategies as outlined below.

As part of control system renewals, level crossing safety impact assessments are being undertaken to ensure the protection provided at existing active crossings is adequate for the current site conditions and/or identify if an upgrade is required. There is a rolling programme to assess all active crossings, including additional assessments triggered by site condition changes.

Maintenance

Within the maintenance programme, KiwiRail has allowed for:

- predictive maintenance – in the longer term, using the condition data collected to anticipate deterioration of assets and perform regular targeted maintenance based on the analysis.
- preventive maintenance – focus on regular scheduled activities to prevent asset deterioration or failure, improving the life of assets, e.g. lubricating track (greasing curves so there is less friction and therefore less wear and tear as trains go around curves); cleaning and greasing moving parts of turnouts; friction modifiers to reduce friction between rail head and wheels, regular checks and replacement of fastenings (which connect rails to sleepers and can loosen over time); bolt runs (checking bolts on structures such as bridge spans to ensure they are tight), regular drain and culvert cleaning etc.
- corrective maintenance – fixing faults identified, including with the TEC, and NDT inspections, and other asset inspections.
- an increased emergency works and maintenance regime for assets needing immediate attention, e.g. weather-related repairs, fixing broken rails and sleepers, buckles, obstructions found on track, points machine failures, signalling faults and bridge strikes etc.

NETWORK OPERATIONS AND MANAGEMENT

Train control and network operations

KiwiRail now has two national train control centres and two separate off-site data centres which ensure the safe passage of train movements throughout the network. KiwiRail relocated the Wellington Train Control Centre to Wallaceville and opened the Auckland Integrated Rail Management Centre in the last triennium. This is a major resilience improvement to KiwiRail's train control operations, allowing train movements to continue if one of the centres is temporarily inoperative. In Auckland, KiwiRail is joined by Auckland One Rail with the aim to improve service delivery through enhanced collaboration. In Wellington, a lease has been offered to GWRC to allow Transdev to join KiwiRail at Wallaceville.

This programme includes the necessary funding for operating the centres, train control staff, training, facilities, equipment, and software. During this triennium, KiwiRail will complete its replacement of the out-of-support train control system (Realflex) with the new system (ICONIS). We will also commence replacement of the out-of-support traction control system and introduce ICONIS to Auckland, replacing R9000.

Asset Management

KiwiRail has already made significant progress in asset management through the first RNIP, including the modelling completed to inform work banks and overdue renewals, robust change management processes, data quality enhancements, asset management planning documentation and enhanced work management standards. KiwiRail has undertaken an independent review with a lead asset management organisation to validate the progress made over the past triennium and inform the next phase of improvements.

KiwiRail's new DM locomotives will mean greater reliability for freight customers, which, along with an efficient network, is crucial for growing rail

This RNIP directs investment to this next phase where KiwiRail aims to embed the improvements made. This will include further work on understanding the overdue renewals and assessing efficiency and effectiveness of investments to provide improved value for money and service-level outcomes for customers. In many cases, the initiatives to be implemented reflect approaches used by leading rail businesses overseas.

We will maintain our focus on asset management capability to further lift our maturity over the coming years.

Our ongoing progress in delivering this will be part of our RNIP network measures, discussed in Section 9.3.

Network management and overheads

The focus over the next three years is on more efficient support functions for the continuous renewals and maintenance programmes, including indirect management costs (such as production teams, the engineering team and other management) and corporate support for the network function and enhanced monitoring/reporting capability.

Insurance

This covers the premiums to insure the rail network, which have more than doubled between 2021 and 2023. Premiums increased following significant replacement value increases, inflationary pressures, North Island weather events, increase in natural catastrophe losses globally and a change in risk appetite towards natural catastrophe risk.

Recently, insurance has provided significant benefit to KiwiRail and the government with reinstatement claims following major damage in the Kaikoura earthquake event in 2016 and the severe North Island weather events in early 2023.

Despite this, KiwiRail has faced significant escalation in premiums and has had to enter alternative risk-transfer arrangements, including increasing deductibles, which results in more financial risk, to mitigate some of this escalation. In the most recent renewal, premiums have decreased but will continue to face upward pressure. Over the next three years KiwiRail intends to engage with government to assess alternatives as insurance premiums take away from other critical renewals work that could be carried out on the network.

6.3 – NETWORK RENEWALS

FINANCIAL SUMMARY – NETWORK RENEWALS

KiwiRail plans to spend $827.8m on network renewals across the three-year NLTP period, with $738.6m from the Rail Network activity class as shown below:

The 10-year forecast is shown in Schedule One.

Description ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
Track	68.8	70.3	74.2	213.2
Structures	69.1	56.1	41.7	166.9
Civil	25.7	30.4	24.4	80.5
Signals	9.8	10.0	7.2	26.9
Telecommunications	23.3	16.1	13.8	53.2
Traction & Electrical	4.1	5.7	3.2	12.9
Active Level Crossings	4.6	3.0	3.5	11.1
Plant & Fleet	37.4	55.2	30.3	122.9
Yards	2.9	4.2	4.9	12.0
Otira Tunnel	1.5	1.0	1.0	3.5
Other	2.1	1.3	-	3.4
Incidents and unplanned works	2.2	3.6	3.7	9.5
Contingency	-	-	-	-
Auckland metro renewals	13.2	12.5	33.3	59.0
Wellington metro renewals	16.0	19.5	17.2	52.7
Total KiwiRail Renewals	**280.7**	**288.8**	**258.3**	**827.8**
AT-funded renewals	(10.9)	(10.0)	(24.5)	(45.4)
GWRC-funded renewals	(13.1)	(16.3)	(14.4)	(43.8)
Net KiwiRail Renewals	**256.7**	**262.5**	**219.4**	**738.6**

TRACK

What KiwiRail will deliver

Track and ballast programme with a focus on packaging work for best whole-of-life outcomes.

Planned investment in specific components within this asset class

Rail

- three-year programme to replace rail at an average of 19km of track per year where the rail is aged, in poor condition or not suitable for current or future traffic
- undertake a national rail-grinding programme to ensure rail reaches its expected life, and wear on rolling stock is minimised
- track renewals include resurfacing and relaying of track at level crossings.

Sleepers

- programme to replace sleepers at an average of around 12km of track per year on average in the triennium with longer-lasting materials such as concrete and composites, and mainly on priority lines
- removing the remaining prematurely decayed sleepers, generally Peruvian hardwood, which have proven to be less durable than other types of sleepers.

Relay

- programme to concurrently replace 6km of rail and sleepers on average per year in the triennium, mainly on priority lines.

Turnouts

- over the three years, replace an average of 21 life-expired turnouts per year with longer-life modern designs.

Ballast

- implement a remediation programme to address ballast deficiencies as required, prioritised in areas where we are undertaking other track renewals.

STRUCTURES

What KiwiRail will deliver

Strengthen and improve the performance, condition, reliability and resilience of key structures.

Planned investment in specific components within this asset class

Bridges

- Over the three years, a programme to replace an average of three high-risk bridges per year with modern bridges using modern materials such as concrete and steel
- Implement partial renewals (components) across the triennium informed by risk prioritised work banks.

Tunnels

- use preventive measures to address issues such as:
  - deterioration of tunnel linings
  - accumulation of debris or contamination from coal or log trains
  - water ingress and drainage (which can also affect the track system – rail, ballast, formation)
  - portal detachments (where the entrance or exit is failing).

Lighting towers

- replace lattice lighting towers within yards.

CIVIL

What KiwiRail will deliver

Improve the condition of civil assets (including formation, culverts, slopes and river and coastal protection) that protect and support the rail infrastructure – particularly the track system.

Planned investment in specific components within this asset class

Culverts

- over the three years, a programme to replace an average of seven culverts per year with modern concrete equivalents, prioritised for priority or secondary lines where:
  - failure of the culvert would directly impact the reliable operation of the track (e.g., through collapse or slumping) and subsequently disrupt services; or
  - drainage is critical to ensure resilience during storm events by preventing washouts or flooding
  - a retrofit or upgrade is required to meet environmental compliance on fish-passage requirements.

Slopes

- a risk-based programme to renew or remediate an average of five slope sites per year over the next three years
- replace life-expired retaining wall structures in critical locations with more resilient and engineered/designed structures or solutions.

River and coastal protection

- a programme to renew river-protection and coastal-protection assets
- construct new assets in accordance with more reliable modern design standards and take other measures to future-proof assets against long-term environmental changes.

Formation and drainage

- implement a remediation programme to address formation and drainage, giving priority to renewing formation alongside other works such as track renewal sites for best whole-of-life cost and outcomes.

SIGNALS

What KiwiRail will deliver

Improve the reliability of signals and control systems.

Planned investment in specific components within this asset class

Control and lineside systems

- renewal programme for control systems and lineside equipment that provide train detection, train protection and route management (specialised equipment such as interlocking relays, points equipment, train detection circuits/ axle counters etc.).

TELECOMMUNICATIONS

What KiwiRail will deliver

Renew the telecommunications network, systems and assets that enable trains and train control to communicate with each other.

Planned investment in specific components within this asset class

Train control and Traction control systems

- renewal of the out-of-support Realflex train control signalling software (commenced in 2021 and continuing this triennium)
- renewal of the out-of-support Realflex traction control software
- begin to replace R9000, the Auckland control system, with ICONIS through the PTI activity class.

Investment in signals and control systems will deliver improved reliability

TRACTION AND ELECTRICAL

What KiwiRail will deliver

Renew traction assets.

Planned investment in specific components within this asset class

- overhead line equipment is generally in good condition, but some smaller components will require renewal to ensure the ongoing performance of the overhead system. Minor expenditure is also required on substations.

The investment levels in this renewal programme assume the following items are, or remain, funded from other sources:

- the replacement of all remaining wooden traction poles and legacy tension systems in the Wellington metro area funded under the Wellington Metro Upgrade Programme
- additional substations in the Wellington metro area are funded through PTI
- additional traction power supply and overhead line equipment in the Auckland metro area for:
  - Papakura to Pukekohe Electrification
  - Third substation to the west (PTI activity class)
  - CRL investments.

ACTIVE LEVEL CROSSINGS

What KiwiRail will deliver

Renewal/replacement of protection and control assets on public level crossings with active protection. Note that the track element of level crossings is included in track renewals.

Level crossings investment is shared between KiwiRail, local authorities and the NLTF. The final programme is dependent on KiwiRail funding and delivery capacity through this RNIP and local authorities' affordability for their share of costs.

Planned investment in specific components within this asset class

Protection and control systems

- renew or replace protection and control assets that are at end of life or affected by performance issues which includes fully replacing four existing active level crossings.

This investment is focused on larger elements such as control systems, train detection systems and barrier mechanisms, and is prioritised towards higher usage priority lines and sites with increased risk.

KiwiRail has been renewing its overhead traction systems, used to power commuter trains

PLANT AND FLEET

Investing in new or replacing age-expired plant and equipment is critical to improving efficiency, productivity and safety. The next triennium will see:

- commissioning of the plant procured in the first triennium, including 4 new tampers and regulators, and 25 rail wagons
- retention of the newest track machines (e.g. tampers, ballast regulators and dynamic stabilisers) and overhaul them as they fall due for refurbishment in future years
- implementation of the best whole-of-life cost option for providing rail-grinding capacity.

YARDS

Efficient operation of KiwiRail yards is critical for on-time reliable freight services. Yard congestion and unplanned outages, caused by derailments and other asset failures, can seriously impede on-time delivery to customer sidings and container-transfer sites.

Over the 2021-24 RNIP KiwiRail completed a business case for yards investment which has assessed and identified a prioritised yards programme aimed at significantly improving aspects of yard safety, reliability, and capacity. Over the next triennium, investment will be focused on renewal of points machines, track and turnout replacement, lighting, drainage and formation works.

Focus will be given to the points machine renewals programme. Operating manual points machines are one of KiwiRail's largest causes of workplace injuries. However, further investment and significant planning is required to minimise disruption to operations and deliver the full preferred programme.

OTIRA TUNNEL

The Otira Tunnel is an 8.6km long tunnel on the Midland Line which joins the West Coast to Canterbury and is critical for coal exports and the TranzAlpine (amongst other traffic). In the next three years, the focus will be on maintaining current safety and compliance. A single-stage business case was completed in 2023, identifying a preferred option for improving the safety, resilience and reliability of rail operations through the tunnel. KiwiRail is not yet funded to complete the preferred option. During this triennium KiwiRail will be implementing a holding strategy, focusing on critical renewals.

INCIDENTS AND UNPLANNED WORKS

KiwiRail has allowed a small amount of funding for incidents, which typically include damage from extreme weather events and in some instances, derailments.

Unplanned works and contingency

Unplanned works are typically small-to-medium additional projects that arise from the premature and unexpected failure of infrastructure assets (to deliver the required level of service) or opportunities for additional works.

KiwiRail currently does not have a contingency allowance, with investment focused on identified works. KiwiRail will continue to assess options to build a contingency allowance, respond through additional reprioritisation and monitor commitments.

FINANCIAL SUMMARY – IMPROVEMENTS

KiwiRail's planned improvements programme across the three-year GPS period is shown below.

Description ($m, inflated)	2024/25	2025/26	2026/27	3-year total
North Island Electrification DBC	3.4	-	-	3.4
IT Systems (Asset Management, Zero Harm, Digital Engineering)	2.9	0.6	1.0	4.6
Efficiency and reliability improvements	4.2	1.0	0.3	5.5
Total KiwiRail Improvements	**10.5**	**1.7**	**1.3**	**13.5**

To determine the improvements programme, KiwiRail often prioritises using the same factors for renewals (see Section 5.2). In addition, through the 2021-24 RNIP KiwiRail completed business cases for yards, resilience and Otira Tunnel, where targeted analysis was used to inform investment needs.

NORTH ISLAND ELECTRIFICATION

KiwiRail completed an indicative business case in 2023 for decarbonising the locomotive fleet. On the back of this work KiwiRail commenced a detailed business case for North Island Electrification in 2023. During this RNIP, the business case and conceptual design will be completed to better inform the pathway for KiwiRail to further electrify sections of the network, with connecting Pukekohe to Hamilton and Hamilton to Tauranga, expected to be the priorities.

EFFICIENCY AND RELIABILITY IMPROVEMENTS

Efficiency and reliability improvements in the next triennium include KiwiRail digital improvements, such as use of drones for inspections, mobility software to improve field data, asset management planning tools, and active level crossing monitors. Some other non-digital improvements are included, such as adding cooling systems to substations and signals cabinets.

KiwiRail has completed a resilience programme business case, identifying a preferred programme that aims to enhance the resilience of the KiwiRail network by prioritising interventions that address the most significant risks and hazards. KiwiRail has not listed specific resilience improvement projects during the 2024-27 RNIP. However our approach is to initially focus on delivery of an extensive renewals programme and reap resilience and wider benefits through that work.

6.4 – WEATHER EVENTS RECOVERY

On 29 January 2023 the Auckland Anniversary Weekend storms and, from 12 -14 February 2023, Cyclone Gabrielle caused significant damage to the national rail network. The areas of damage can be broken into four main sections of the rail network – Northland, Hawke's Bay, Auckland Metro Network, and other affected lines.

There were 858 damage sites caused by the North Island Weather Events (NIWE), of which 16 were extreme, 151 were major, 207 were moderate, and 484 were minor. The Palmerston North to Gisborne Line (PNGL) remains closed between Napier and Wairoa.

Flood Damage: For Northland and Auckland Metro, the most significant damage was caused by the floods, which also impacted the East Coast Main Trunk (ECMT). While the cyclone caused further damage to these sites, it is less significant.

Cyclone Damage: For the Lower North Island, while damage occurred on the North Island Main Trunk (NIMT) and Wairarapa Line, the main damage occurred on the PNGL, with the worst damage occurring north of Hastings.

$264 million of reinstatement funding has been received with $200 million allocated in Budget 2023, and $64 million received from insurance proceeds. In addition, $16.0 million of funding for make-safe works and options development for the Napier to Wairoa section of line and $17.3 million of resilience improvements funding has been received from the National Adaptation Plan. Negotiations with insurers are continuing.

Description ($m, inflated)	2024/25	2025/26	2026/27	3-year Total
Weather Events reinstatement and improvement works*	96.2	25.0	-	121.2
Total Weather Events reinstatement and improvement works*	**96.2**	**25.0**	**-**	**121.2**

* This excludes insurance contributions

6.5 – FUTURE OPPORTUNITIES

There are many opportunities for investment to enable increased levels of service across the network. KiwiRail will continue to consider these as part of future programmes, with regard to levels of growth in demand for rail services and/or any other policy imperatives.

Future opportunities include:

- removing overdue renewals on most priority routes
- increasing capacity where demand is beginning to cause congestion, or where future traffic growth is expected to approach or exceed capacity
- raising the Principal Operating Parameters (POPs) within specific corridors to either cater for a known customer demand, or to stimulate latent demand by improving our service offering (POPs include amongst other things: maximum axle load; line speed; wagon dimensions; and train length)
- increasing the efficiency of our yards
- identifying potentially viable curve-easing programmes to improve average speeds
- identifying potentially viable network extensions to reach industrial sites, loading points or port facilities that are currently unserved by rail
- identifying potentially viable bypasses for shortening the rail distance between key locations (like the Kaimai deviation reduced the distance from Kinleith and Hamilton to the Port of Tauranga)
- works on the NAL to mitigate risks associated with Tunnels 2 and 7.

KiwiRail is focused on delivering an extensive renewals programme to deliver resilience and reap wider benefits

7 – Investment Programme Metropolitan Rail

7.1 – INVESTMENT PRIORITIES

Investment in Auckland and Wellington metro areas will increase economic growth and productivity by allowing people and freight to be moved as efficiently, quickly and safely as possible. This programme aims to efficiently deliver on this priority by completing upgrades already underway and preparing the networks for growth in services. These programmes have substantially increased from the previous RNIP on the back of long-term investment business cases in both regions. These business cases have identified the role rail plays in supporting government objectives, such as economic growth and reduced congestion in our largest cities.

Significant investment has already been made, and work is underway to further develop commuter services in these areas. Once completed, the projects will:

- support preparedness for the opening of the CRL
- provide a better customer experience for the commuters who already make 22 million journeys on the network each year
- ease congestion on the busiest parts of the network and allow for increased future demand
- deliver a modern network that is more reliable and can be efficiently maintained.

7.2 – AUCKLAND METROPOLITAN NETWORK INVESTMENT

AUCKLAND METRO MAINTENANCE AND RENEWALS

The base maintenance and renewals programme have been developed through the ANAA process. This is shown in the tables below.

Programme ($m)	2024/25	2025/26	2026/27	3-Year Total
AT-funded network maintenance	30.1	30.9	34.7	95.7
AT-funded network management & operations	27.1	37.3	41.6	106.0
KiwiRail share of Auckland maintenance[1]	10.0	10.3	11.6	31.9
AT-funded network renewals	10.9	10.0	24.5	45.4
KiwiRail-funded network renewals	2.3	2.5	8.8	13.6
ANAA excluding performance fees and pass-through costs	**80.4**	**91.0**	**121.2**	**292.6**
Auckland metro overdue renewals	**25.9**	**46.3**	**26.0**	**98.2**

The above tables outline what KiwiRail has proposed to AT through the ANAA process (still being finalised). Budget 2024 has allocated funding in FY25 and FY26 for overdue renewals.

1 KiwiRail's share of network maintenance and operations is funded via KiwiRail's gross maintenance and operations.

AUCKLAND METRO IMPROVEMENTS - PUBLIC TRANSPORT INFRASTRUCTURE

Project ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
Auckland Metro Area				
Projects already funded/underway				
Fencing and Security	2.7	-	-	2.7
CRL Day One – Infrastructure package – Additional traction feed (West)	31.8	-	-	31.8
CRL Day One – Resilience and asset maintenance programme – Integrated rail management centre and emergency management systems	3.5	1.2	-	4.7
CRL Day One – Resilience and Asset Maintenance Programme Infill Signalling	1.3	3.6	-	4.9
ETCS Level 2 – Business case	1.6	2.0	-	3.6
Rail Network Rebuild	121.9	105.1	17.1	244.1
Overdue Renewals	25.9	46.3	26.0	98.2
Traction control software system renewal	1.1	2.2	2.3	5.6
Auckland area train control software upgrade (TMS R9K)	-	5.5	5.7	11.2
Single-line running switches business case	1.1	-	-	1.1
Total funded projects	**190.9**	**165.9**	**51.1**	**407.8**
New projects (unfunded until NLTP/Minister approved)				
Single-line running switches – Implementation	-	3.5	2.3	5.8
Avondale to Southdown – Indicative Business Case and planning	-	-	4.1	4.1
4-tracking Westfield to Pukekohe – Property and consenting P2P	-	-	3.9	3.9
Total unfunded projects	-	3.5	10.3	13.8
Auckland Metro Total	**190.9**	**169.4**	**61.4**	**421.6**

The 10-year forecast for the Auckland PTI projects is provided in Schedule Two.

Auckland Rail projects funded from other sources are included in Section 10, with associated financial information provided in Schedule Five.

IMPROVEMENT PROJECTS ALREADY FUNDED/UNDERWAY

Fencing and Security

The fencing and security programme is an ongoing project that enables KiwiRail to identify, prioritise and address fencing and security issues across the network, reducing harm to third parties and lessening disruption to services. This is the portion of work that is continuing from the first RNIP that is already funded.

Additional traction feed (West)

The new traction power supply in West Auckland is required to support the additional services from CRL and is already in contract.

Infill signalling

Installs additional signals to improve network resilience and reliability and is a component of the Resilience and Asset Maintenance Programme required to support CRL.

Integrated rail management centre and emergency management systems

The integrated rail management centre opened in 2024 offering a major resilience and reliability improvement to train control. The remainder of this programme is to complete the remaining fitout (including additional information communication technology) and undertake alterations and maintenance while the centre is open.

ETCS Level 2 – Business Case

ETCS technology improves safety and allows more frequent trains. This project undertakes an investigation of the next phase of implementing the ETCS Level 2 which is required to support the full benefits of CRL. This includes engagement with the Wellington resignalling project. The next phase (in years 4 – 10) will be the implementation of ETCS Level 2 signalling improvements in Auckland to maximise productivity of the existing system and support resilience.

Rail Network Rebuild

Also known as the RNGIM cost scope adjustment, this is the remaining, funded value required to complete the first phase of the historic overdue renewals resulting from legacy underinvestment in the Auckland network. This has been funded through Budget 2024.

Overdue renewals

Commencement of a programme to address the overdue renewals resulting from the legacy of underinvestment in the Auckland network to achieve the service levels expected from a modern metropolitan railway. This is the funding allocated[1] through Budget 2024 and Budget 2025. This is planned to be delivered over the two decades to minimise disruption to the public.

Traction control software system renewal

Renewal of the out-of-support Realflex system that controls the Auckland electrical network to enable its safe and efficient operation.

Auckland area train control software upgrade (TMS R9K)

Upgrading Auckland's train control system (R9000) to optimise planning and management of train operations and integrate this as part of KiwiRail's wider national train control software renewal (ICONIS).

Single-line running switches – business case

Commencement of the business case to investigate the continuation of a switch implementation programme started by Wiri to Quay Park (W2QP) and RNGIM that allows single-line running during maintenance windows. This is necessary to extend the maintenance windows and improve productivity on the Auckland Network.

NEW PROJECTS OR PROJECT PHASES

The development of the Strategic Rail Programme (Auckland Rail Programme Business Case) and RLTP process has identified what we need to deliver over the next 30 years and has included the below-rail projects to commence in this triennium.

Single-line running switches – Implementation

Continuation of a switch implementation programme that allows single-line running during maintenance windows. This is necessary to extend the maintenance windows and improve productivity on the Auckland Network.

Avondale to Southdown – Indicative Business Case and planning

This project enables investigation and planning in the corridor which KiwiRail has designated and owns but has not yet developed.

4 tracking Westfield to Pukekohe – Property and consenting P2P

4 tracking Westfield to Pukekohe commences the planning for alleviating the critical capacity constraint on the network, to achieve more competitive and reliable services for metropolitan, interregional and freight, along the Southern corridor and at the Westfield Junction bottleneck.

1 The final funding amount for overdue renewals is subject to Minister of Transport approval.

7.3 – WELLINGTON METROPOLITAN NETWORK INVESTMENT

WELLINGTON METRO MAINTENANCE AND RENEWALS

The base maintenance and renewals programme has been developed through the WNAA process.

Programme ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
GWRC-funded network maintenance	15.8	17.0	17.9	50.7
GWRC-funded network management & operations	26.7	28.7	31.0	86.4
KiwiRail share of Wellington maintenance	2.8	3.1	3.3	9.2
GWRC-funded network renewals[1]	13.4	16.3	14.4	44.1
KiwiRail-funded network renewals	2.6	3.2	2.8	8.7
WNAA excluding performance fees and pass-through costs	**61.3**	**68.3**	**69.4**	**199.0**
Wellington metro overdue renewals	**52.9**	**38.3**	**61.9**	**153.1**

The above tables outline what KiwiRail has proposed to GWRC through the WNAA process (still being finalised). Budget 2024 has secured funding in FY25 for the overdue renewals and a portion of the GWRC contributions stated above.

WELLINGTON METRO IMPROVEMENTS – PUBLIC TRANSPORT INFRASTRUCTURE

Project ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
Wellington Metro Area				
Projects already funded/underway				
Wellington ETCS – Rail Network Resignalling business case	3.8	9.8	-	13.6
Overdue Renewals	49.9	41.3	61.9	153.1
KiwiRail's Infrastructure Elements of the LNIRIM Project	23.8	21.3	30.0	75.1
Unlocking Capacity & Improving Resilience – Infrastructure (Substation upgrade)	25.2	42.1	44.5	111.8
Total funded projects	**102.7**	**114.5**	**136.4**	**353.6**
New projects (unfunded until NLTP/Minister approved)				
Wellington ETCS – Rail Network Resignalling trial and pre-implementation works	-	-	30.4	30.4
Total unfunded projects	-	-	30.4	30.4
Wellington Metro Total	**102.7**	**114.5**	**166.8**	**384.0**

The 10-year forecast for the Wellington PTI projects is provided in Schedule Two.

A number of other rail projects underway (funded from other sources) are included in Section 10.

1 KiwiRail's share of network maintenance and operations is funded via KiwiRail's gross maintenance and operations.

IMPROVEMENT PROJECTS ALREADY FUNDED/UNDERWAY

Wellington ETCS – Rail Network Resignalling

KiwiRail is continuing the metro network resignalling detailed business case which assesses options for replacing Wellington's mixed signalling and train control systems with one that will provide the levels of safety, capacity and resilience required to support the growth in passengers and freight.

Overdue renewals

Commencement of a programme to address the overdue renewals resulting from the legacy of underinvestment in the Wellington network to achieve the service levels expected from a modern metropolitan railway. This is the funding allocated[1] through Budget 2024 and Budget 2025. This is planned to be delivered over two decades to balance disruption to the public and the need for this to be addressed.

KiwiRail's Infrastructure Elements of the LNIRIM Project

This investment relates to the infrastructure elements that will be delivered by KiwiRail within the LNIRIM project. This includes stabling, stations (below platform), track infrastructure and passing loops.

Unlocking Capacity and Improving Resilience – Infrastructure (Substation upgrade).

Infrastructure network capacity improvements (including sub stations) on the Wellington Metro Railway Network (over the next 4 years) to remove key network constraints, improve peak service frequency and capacity and provide a higher quality passenger rail service, cater for forecast peak passenger demand through to 2030, and ensure balanced mode share between road and rail during peak periods to increase the resilience of the wider transport network.

NEW PROJECTS OR PROJECT PHASES

Wellington ETCS – Rail Network Resignalling

This programme replaces Wellington's mixed signalling and train control systems with one that will provide the levels of safety, capacity and resilience required to support the growth in passengers and freight. This project includes a trial of potential solutions before implementation.

1 The final funding amount for overdue renewals is subject to Minister of Transport approval.

Upgrading the Wellington Metro signalling system is part of readying the network for the faster, more frequent trains planned by Greater Wellington in coming years

8 – Delivering on this programme

8.1 – ROLES AND RESPONSIBILITIES

Roles and responsibilities are set out in the LTMA and NZ Rail Plan.

Under the LMTA, KiwiRail must prepare a rail network investment programme that must take into account the purpose of the LTMA (to contribute to an effective, efficient, and safe land transport system in the public interest) and the GPS.

The planning and funding framework requires KiwiRail to work together with the MoT, NZTA, The Treasury, Auckland Council, AT and GWRC to plan and fund New Zealand's rail network infrastructure. KiwiRail also continues to work with other councils which have responsibilities for inter-regional rail services.

Planning, operating, and maintaining the rail network and providing the associated freight, tourism and property services remain the core business and responsibility of KiwiRail.

AT and GWRC remain responsible for planning and operating the metropolitan passenger services in their regions.

MoT continue to provide strategic policy advice to the Minister of Transport on rail. The Ministry plays an important role in coordinating the planning and funding framework.

NZTA is responsible for advising the Minister whether the RNIP, and the rail activities to be funded under it:

- contribute to the purpose of the LTMA
- are consistent with the GPS
- takes into account relevant RLTPs.

With respect to rail activities to be funded, NZTA also provides advice as to whether:

- the activities are efficient and effective
- take into account any national energy efficiency and conservation strategy; and any relevant national planning framework or plans in force under the Natural and Built Environment Act 2023.

NZTA is also responsible for monitoring KiwiRail's delivery of the RNIP.

The Railways Act 2005 establishes NZTA as the rail safety regulator.

The Treasury monitors KiwiRail as a State Owned Enterprise (SOE) in relation to the expectations of the Minister of Finance and the Minister of State Owned Enterprises as Shareholding Ministers.

8.2 – RISKS AND CHALLENGES

KiwiRail has significantly increased capacity and delivery of the continuous programmes during the past three years. Over the next triennium, KiwiRail will focus on improving productivity and efficiency within the programme, largely using existing resources.

A viable rail network is necessary for KiwiRail's core business, including its tourism services

The key risks and challenges to the programme that KiwiRail has identified and will be managing during the 2024-27 RNIP include:

- uncertainty over funding for the overdue renewals in the metro areas, along with inconsistency between service level expectations and available funding (discussed in Section 3)
- global context (geopolitical, economy) and supply-chain disruption
- construction cost escalation
- competing demands for labour, materials, and equipment due to local and international large-scale infrastructure projects
- impacts of climate change and unexpected weather events
- limited access for maintenance of the network, while usage increases
- developing asset management maturity, procedures and systems
- impacts resulting from the quantum of overdue renewals.

While options for managing some of these risks are limited and rely on the cooperation and understanding of others in the transport sector, KiwiRail has undertaken steps to mitigate and reduce risks. These include:

- establishing internal oversight and direction over the investment packages in order to achieve the outcomes outlined in the RNIP and approved business cases
- developing a robust change-request process to ensure the work bank is amended as required to respond to new information, such as accelerated deterioration, capacity constraints or unexpected events
- enhanced assurance and risk procedures
- purchasing materials in advance (rather than a just-in-time approach) to reduce the effects of supply-chain disruptions.

8.3 – ENSURING THERE IS CAPABILITY AND CAPACITY TO DELIVER THE PROGRAMME

During the first RNIP, KiwiRail significantly increased delivery capacity, recruiting approximately 339 staff including:

- 48 in engineering
- 279 in infrastructure
- 12 in asset management.

The impacts of this have already been demonstrated with a 114% increase in KiwiRail's renewals programme over the previous RNIP triennium. The next three years will be supported by the arrival of new production and measurement equipment, including procurement of:

- four new tampers and regulators which will be commissioned in Jan 2026
- a new Track Evaluation Car which will be commissioned in early 2028

KiwiRail significantly increased its delivery capacity during the first RNIP

- 25 new rail transportation wagons which will be commissioned in 2026.

To deliver the 2024-27 RNIP, KiwiRail will rely on existing resources and improved efficiencies.

KiwiRail has been able to effectively manage the competing demands between RNIP and the broader investment in rail (such as major improvements like the Papakura to Pukekohe Electrification project, weather events reinstatement and resilience works, and PGF/Kānoa funded projects). This includes lifting our capacity to meaningfully engage with mana whenua (supported by our Rautaki Māori strategy) and with our union partners.

GROWING KIWIRAIL'S IN-HOUSE CAPABILITIES

KiwiRail is growing its people and organisation, and transforming the way work is done.

Our core strategies to plan, and grow the skills needed, for the future include:

- talent attraction – including key collaborations with the Ministry of Social Development, local Iwi and community groups
- growing the next generation of railway professionals through more apprenticeships, graduates and interns – KiwiRail has been investing in and growing 160 apprentices in the business and is committed to providing further opportunities as we grow this talent pipeline
- developing our leaders to achieve operational excellence, improve safety and deliver great outcomes to our customers
- union partnerships – better engagement with staff through representative unions (High Performance High Engagement programme) means better relationships, collaborative solutions and commitment by everyone in rail to get the work done
- inclusion, diversity & belonging – future sustainability depends on a diverse workforce supported by a value based, inclusive culture
- building relationships with the wider market – KiwiRail will work closely with external contractors to ensure the right resources and expertise to get the job done are available. A pipeline of funding with longer-term funding certainty allows the market to commit and scale up and helps grow the industry.

8.4 – SUSTAINABILITY AND REDUCING EMISSIONS FROM DELIVERY

KiwiRail is continuing to explore ways to reduce emissions from the construction and maintenance of its network. Our Rautaki Whakauka: Sustainability Strategy 2022-2025 aims to reduce whole-of-life carbon from capital projects.

KiwiRail will leverage off capital projects that have made advancements in carbon emissions reduction to incorporate these into the ongoing maintenance, renewals and improvements to the national rail network where possible.

For example, on the Papakura to Pukekohe electrification project, KiwiRail has used driven all-steel piles as an alternative to concrete and steel piles. This change reduced the volume of concrete used, led to a more efficient construction process, saved money and saved around 400 tonnes of carbon from materials alone, a 13% reduction in emissions from materials.

KiwiRail is also investigating possible changes to the materials we use to reduce embodied carbon from the assets we construct. For example, in the South Island our supplier has made sleepers using a lower carbon concrete. These are expected to save 300t CO^2-e over 5 years, just in the South Island. Over time, we expect all our concrete sleepers to be made in a way that reduces greenhouse gas emissions. With regards to rail steel, when rail is replaced, KiwiRail continues strategies to cascade rail to less intensive parts of the rail network.

For smaller projects, KiwiRail is working with our construction contractors to encourage them to adopt more efficient practices, minimising their use of fuel and power, and using renewable energy on site and electric vehicles where possible.

Further savings have been made possible by reviewing construction standards, and these savings will continue into the future. For example, a recent revision to our bridge standards has resulted in the use of approximately 30% to 50% less materials per bridge in some cases. Since bridges are made of carbon intensive materials such as steel and concrete, this change will reduce greenhouse gas emissions.

8.5 – ADDRESSING CLIMATE CHANGE PRIORITIES & DECARBONISATION

Rail transportation produces around 70 per cent less emissions than long-haul heavy truck vehicles. Even with advancements in zero-emission truck technology, rail provides a cost-efficient and effective way to reduce transport emissions now and in the future.

While further mode-shift can be met within existing and planned network capacity, this is ultimately enabled by improving service reliability which cannot currently be achieved in all areas of the network within funding constraints. KiwiRail has prioritised investment in the busiest, most productive areas of the network to support our growth aspirations.

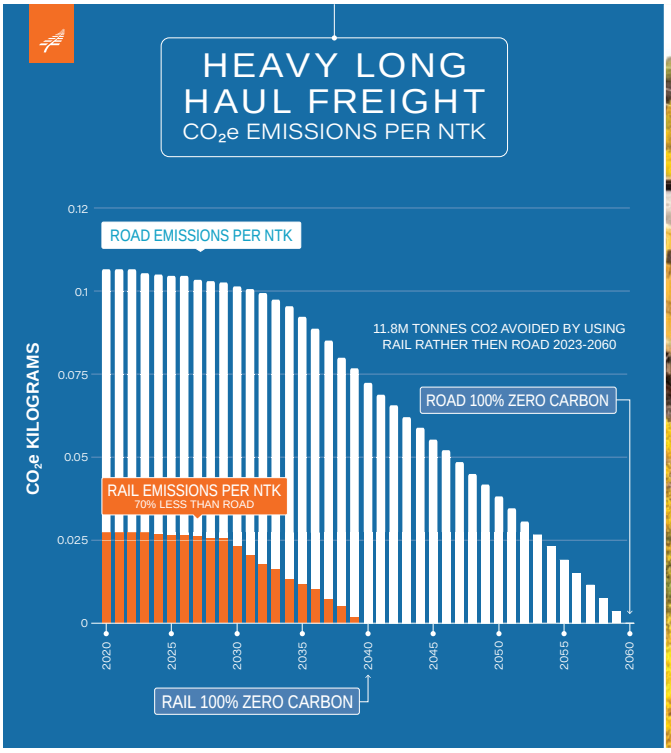
If rail can achieve a higher freight mode share, this will lower supply chain emissions for New Zealand and enable KiwiRail to contribute to the emissions reduction plan freight target of a 35 per cent reduction by 2035, even with the continued use of diesel locomotives.

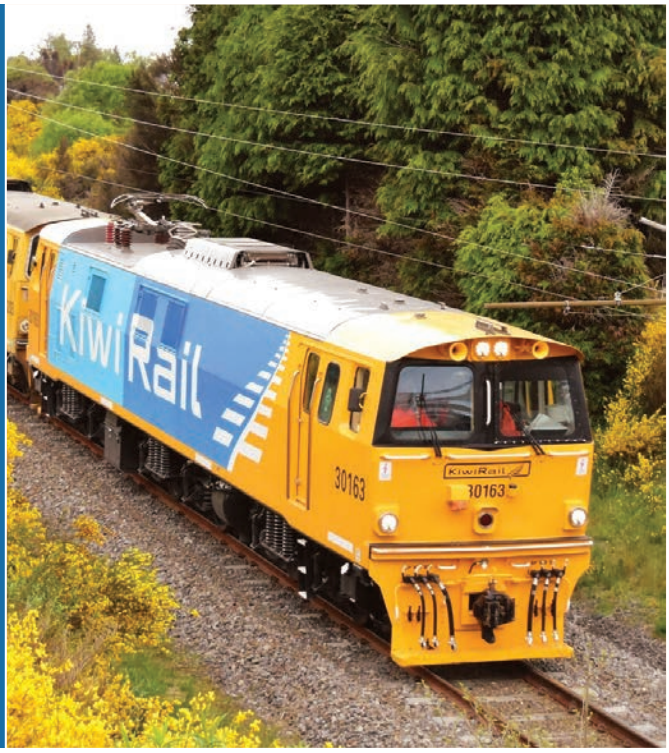
But this would still leave rail creating greenhouse gas emissions, albeit fewer than road. Rail's full contribution can be achieved only by decarbonisation of its locomotives.

KiwiRail has completed an indicative business case which has assessed potential freight scenarios, motive power types, and fuel sources. The options have then been modelled for the relative costs and benefits in transforming the railway to net zero emissions.

Of the options, the two assessed as most likely to succeed are battery electric and a mix of this with overhead line electrification. On the back of this work and through the RNIP, KiwiRail is completing a detailed business case for North Island electrification on parts of the NIMT and ECMT.

KiwiRail is committed to increasing the mode share of rail and will continue to pursue commercial opportunities to achieve this and to work with responsible Ministers and agencies to provide options for further investment to accelerate modal shift.





Projected heavy long haul freight CO2 emissions per NTK road compared to rail from 2023-2060

8.6 – PROGRAMME GOVERNANCE

The programme of work in the RNIP is significant and requires strong governance.

As an SOE, KiwiRail has a Board of Directors appointed by Shareholding Ministers of the Government and is accountable to those Ministers for KiwiRail's performance.

The role of the Board is to guide the strategic direction of KiwiRail and to direct and oversee management. It does this by establishing objectives, setting strategies and monitoring performance, within the context of approved policy, risk and compliance frameworks.

The Board has delegated the day-to-day management of KiwiRail to the Chief Executive.

The Board meet regularly during the year. Oversight and advice for significant capital investment programmes is provided by the Executive Capital Committee (ECC) and Programme Governance Boards. These are management-level committees which in some cases include external members such as independent experts, government agency and council representatives.

The diagram below outlines the current RNIP governance structure.

KiwiRail Board

Executive Capital Committee

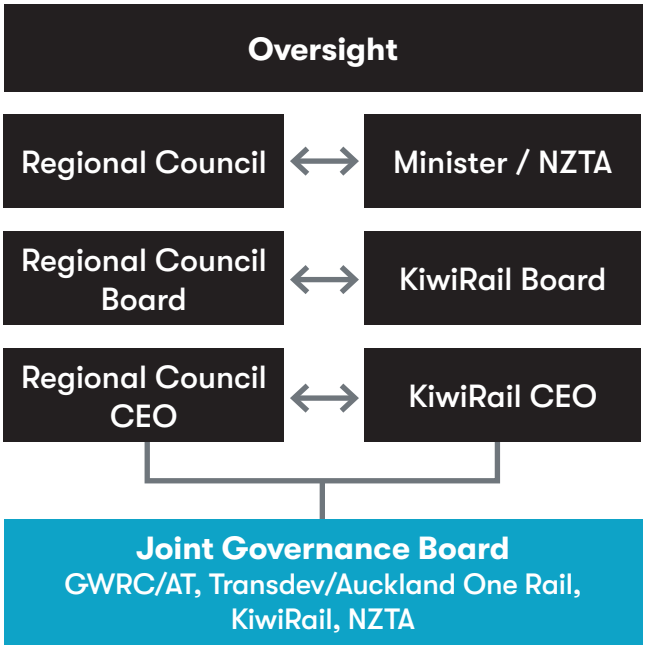
RNIP Governance Board

KiwiRail relies on its network to move around 15 million tonnes of freight a year

The RNIP Governance Board (RGB) was formed to maintain programme-wide oversight and direction over the investment packages (sub-programmes) to achieve the objectives defined in the RNIP. The ECC is the governance body responsible for monitoring progress and resolving issues that may compromise delivery and benefit realisation. They resolve escalated programme matters and support organisational directives through effective engagement across the business.

The diagram to the right shows the current structure for both Auckland and Wellington metros.

The Joint Governance Groups (JGGs) provide the governance function and act as the point of escalation for the joint KiwiRail and GWRC or AT operational groups, respectively. They also manage the relationship with the oversight functions associated with each organisation, keeping them informed and escalating any issues as required. A number of delivery groups report through to the Auckland and Wellington JGGs. These are respectively Access Control, Network Agreement, Investment & Delivery, Network Management Reset, Investment Programme, and Inter-regional Services.



The electrified metro networks KiwiRail provides support more than 25 million commuter trips each year

9 – Measuring success

9.1 – OVERVIEW

The success of this investment programme is critical to New Zealand's future, and also represents a considerable financial commitment on behalf of all New Zealanders.

For these reasons, regular reporting and monitoring of the RNIP has occurred since its inception.

The GPS and NZ Rail Plan have guided KiwiRail's outcome measures which assist NZTA's responsibility for monitoring rail activities and assessing how the RNIP delivers land transport outcomes.

KiwiRail established network measures that are beyond these to report on both the actual improvements to the network itself, as well as the improved transport and economic outcomes that those technical improvements have helped and will continue to deliver.

It is important to note the interdependencies across the package – as rail is an interconnected system, both the service business and infrastructure investment is required to deliver on the desired outcomes.

9.2 – MEASURING THE ACHIEVEMENT OF OUTCOMES

Outcome Measures	Metric	Target
Grow volumes on rail to increase productivity	Freight Net Tonne kms carried	As per KiwiRail Statement of Corporate Intent
	Metro patronage enabled	As per AT and GWRC Regional Public Transport Plans
Improved KiwiRail commercial performance	Above rail operating surplus	As per KiwiRail Statement of Corporate Intent
	Above rail operating surplus ratio	
Avoided emissions and harmful pollutants	Reduced emissions/harmful pollutants from rail freight	30% reduction in carbon emissions (scope 1 and 2) by 2030 against FY12 baseline
Improve the Value of Rail	Value of Rail ($)	Increase from $1.7b in 2020 to $3.5b by 2030
	Truck journeys avoided	As per KiwiRail Statement of Corporate Intent

The investment in rail will contribute to the overall outcomes that the government is aiming to achieve through the transport system.

9.3 – MEASURING IMPROVEMENTS TO THE NETWORK

ASSET AND SERVICE-LEVEL MEASURES

KiwiRail has identified a number of infrastructure and asset management targets which coincide with the programme outlined in this RNIP.

The following measures will be tracked and reported by KiwiRail:

Outcome	Key Performance Indicator (KPI)	FY 25	FY 26	FY 27
Zero Injuries Every Day (Reduced fatalities and incidents)	Total Recordable Injury Frequency Rate (TRIFR)	19	15	12
	Number of public passive level crossings in service	Decreasing number of level crossings	Decreasing number of level crossings	Decreasing number of level crossings
	Number of mainline derailments due to infrastructure defects	Less than 5	Less than 5	Less than 5
	Number of Signals Passed at Danger (SPAD B) due to infrastructure defects	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs
Reliability (National Network service level measures[1])	% On time performance – Freight Premier	As per SCI	As per SCI	As per SCI
	% On time performance – Scenic	As per SCI	As per SCI	As per SCI
	TSRs within target(s) for priority routes	40%	40%	40%
	TSRs within target(s) for secondary routes	80%	70%	50%
	Heat 40 length (km) within target(s) for priority routes	80%	80%	70%
	Heat 40 length (km) within target(s) for secondary routes	80%	70%	60%
	% On time EM80 assessment	100% within allocated timeframe	100% within allocated timeframe	100% within allocated timeframe
	% On time NDT assessment	100% within allocated timeframe	100% within allocated timeframe	100% within allocated timeframe
	% of priority routes within their respective TQI limits	100% within target(s)	100% within target(s)	90% within targets (s)

Each line has a unique TSR target based on service requirements. This measure presents the percentage of lines that are within our TSR targets.

1 Reliability and on-time performance are an amalgamation of KiwiRail services business (above rail) and infrastructure (below rail).

Outcome	Key Performance Indicator (KPI)	FY 25	FY 26	FY 27
Reliability (National Network asset level measures)	% of secondary routes within their respective TQI limits	70% within target(s)	70% within target(s)	60% within target(s)
	Track quality – number of Star (Class 1) faults on priority routes	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs
	Track quality – number of Class 1 faults on priority routes	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs	Reducing trend measured as a rolling average over 3 yrs
	% of condition 5 (very poor) sleepers workbank completed	20%	55%	100%
	% of condition 5 (very poor) rails workbank completed	20%	55%	100%
	% Bridges with one or more critical components in condition 4 (poor) or condition 5 (very poor)	No more than 10%	No more than 10%	No more than 10%
	Number of infrastructure related delay incidents	Reducing (metro, Golden Triangle) Maintained (priority routes)	Reducing (metro, Golden Triangle) Maintained (priority routes)	Reducing (metro, Golden Triangle) Maintained (priority routes)
	Auckland Metro Meet Completed Trips KPI by year end	85%	85%	90%
Reliability (Metro Network service level measures – excluding construction impacts)	Wellington Metro Meet Completed Trips KPI by year end	85%	90%	95%
	% Reliability – Auckland Metro	97%	97%	97%
	% Reliability - Wellington Metro	97%	97%	98%
	% Punctuality – Auckland Metro	90%	90%	95%
	% Punctuality – Wellington Metro	92%	95%	97%
	TQI within limit for Auckland Metro	<35	<35	<35
Reliability (Metro network asset level measures)	TQI within limit for Wellington Metro	<41	<41	<41
	Unplanned infrastructure outages for Metros (total minutes across services)	<1000 mins (annual average)	<1000 mins (annual average)	<1000 mins (annual average)
	Off-site overhead (excluding insurance)	[10%] reduction from FY24	[No cost increase]	[No cost increase]

Outcome	Key Performance Indicator (KPI)	FY 25	FY 26	FY 27
Efficiency and Productivity (Delivery of investment is more efficient)	Average nominal unit rate ($/m) for rerail increases by less than CPI	Metro $447 Non-metro $422	Metro $451 Non-metro $425	Metro $456 Non-metro $431
	Average nominal unit rate ($/m) for relay increases by less than CPI	Metro $919 Non-metro $795	Metro $927 Non-metro $802	Metro $938 Non-metro $811
	Average nominal unit rate ($/m) for resleeper increases by less than CPI	Metro $530 Non-metro $427	Metro $535 Non-metro $430	Metro $541 Non-metro $435

For the Outcomes that mention Metro, the achievement of the KPIs in outer years is conditional on ongoing catch-up renewal funding.

REPORTING AND MONITORING

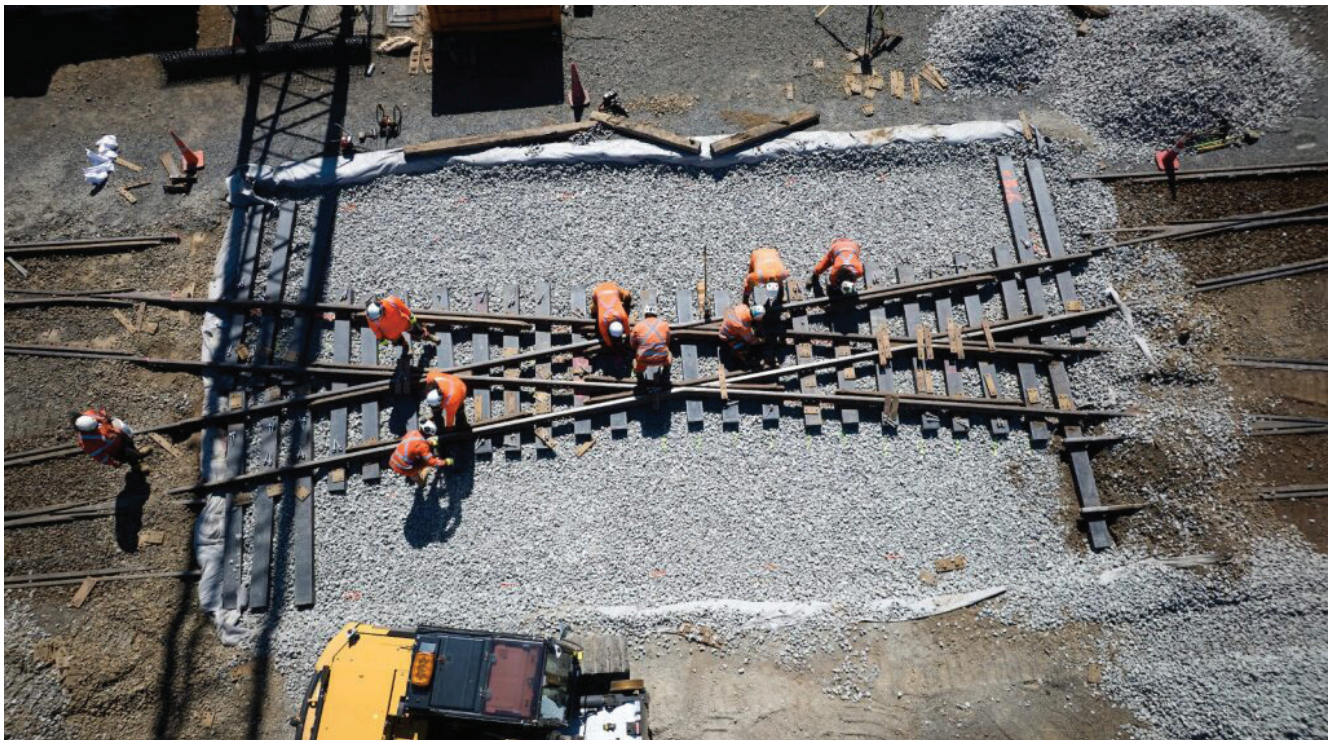
The roles and responsibilities of Government agencies (MoT, NZTA and The Treasury) are outlined in Section 8.1.

To assist the above agencies with their respective roles KiwiRail provides a range of reporting on a regular cycle. KiwiRail also reports semi-annually against the network measures and transport outcomes outlined in Sections 9.2 and 9.3 above.

NZTA prepares an RNIP Annual Report[1] to the Minister of Transport which includes its findings as the monitor of approved rail activities. Further information is also reported through KiwiRail's Annual Integrated Report[2].

1 https://www.nzta.govt.nz/resources/rail-network-investment-programme-annual-reports/

2 https://www.kiwirail.co.nz/who-we-are/publications-and-resources/annual-reports



KiwiRail maintains around 3800km of track throughout the country, along with 105 tunnels and 1367 bridges

10 – Other investments

10.1 – WIDER FUNDING LANDSCAPE

There is a range of other projects underway or planned that are aimed at revitalising rail in New Zealand or improving the reliability and resilience of the rail network, which are funded outside of the RNIP.

This section provides an overview of these projects and funding sources to deliver a complete view of the work being done to secure the future of rail in New Zealand.

10.2 – MAJOR IMPROVEMENT PROJECTS

As outlined in Schedule Four, almost $1 billion has been approved to support (primarily metro) rail projects over the next three years.

This includes:

- building a third rail line between Wiri and Westfield, improving Westfield to Wiri Junction, increasing capacity and improving rail access to the Ports of Auckland at Quay Park
- electrifying the line between Papakura and Pukekohe, including installation of overhead line equipment, new traction power supply, upgrades at Pukekohe station and provision for construction of the three new stations
- building three new stations at Drury Central, Drury West and Paerātā in South Auckland
- making ongoing improvements to support growth, resilience and safety on the Wellington metropolitan rail network
- upgrading the rail line between Whangārei and Kauri to 18-tonne axle load and providing improvements including yards and improvements to container transfer sites and log loading areas
- undertake a detailed engineering design for building a rail spur between Oakleigh and Marsden Point in Northland.

10.3 – LEVEL CROSSINGS

KiwiRail will continue to invest to improve the safety of two or three of the highest risk level crossings per year through the government funded Public Policy programme. This programme also enables KiwiRail to undertake research and develop standards and guidelines relating to level crossing safety. Direct government funding (Public Policy appropriation) has enabled KiwiRail to conduct level crossing safety impact assessments to identify the highest risk level crossings. This will complement planned upgrades of crossings to active protection as identified in the improvement programme.

KiwiRail also delivers a number of level crossing upgrades initiated and driven by the projects of other organisations. Examples include upgrades to support pedestrian or cycle paths that are adjacent to, or cross, the rail network, subdivision developments that increase the use of a crossing, road improvements or changes that impact the safety

The KiwiRail network has 1444 public level crossings

of a crossing and require improvements to reduce the risk. Demand for this work currently outstrips the capacity of our specialist resource.

In the Auckland metro area, decisions will need to be taken on how a long-term programme of closures and grade separations are to be funded and delivered. This is an integrated transport issue rather than a rail-only issue. Substantive progress needs to be driven from an Auckland entity, either part of existing structure or a new agency akin to the Melbourne model.

10.4 – REGIONAL PASSENGER RAIL

KiwiRail operates two regional rail passenger services under contract from regional councils, who provide the services. These services are Te Huia and Capital Connection.

Te Huia connects Waikato and Auckland, allowing a congestion-free and low emission transport option for those travelling between Hamilton, Huntly and Auckland. Te Huia has a five-year operational contract and carries around 200 to 300 passengers per day, with the capability of carrying around 500 passengers per day.

The Capital Connection connects Palmerston North with Shannon, Levin, Ōtaki, and Waikanae before reaching its destination at Wellington Railway Station. GWRC is purchasing new long-distance rolling stock with Budget 2023 funding (confirmed in Budget 2024), and KiwiRail has refurbished interim carriages and modified four station platforms to improve service and safety in the period up to the new trains.

KiwiRail is the operator of Te Huia on behalf of the Waikato Regional Council and the Capital Connection on behalf of GWRC and Horizons (Manawatū/ Whanganui) Regional Council.

KiwiRail believes there may be opportunities for more regional passenger services, but further assessment would be required by councils, NZTA and KiwiRail.

10.5 – KIWIRAIL SERVICES BUSINESS INVESTMENT

The RNIP is complemented by Government funding commitments for our Services business.

More than $1 billion is funded over the next six years to continue the replacement of locomotives and wagons, as well as the modernisation of maintenance facilities.

KiwiRail's ability to reliably deliver for the freight and tourism sectors depends on the quality of our service business's assets, and this investment is pivotal to help address the aged nature of the assets inherited when KiwiRail was formed.

Successful rail services rely heavily on the interdependence of the services and infrastructure businesses, so the investment will play a crucial part in enabling KiwiRail to meet customers' needs and support the growth of freight and passenger services in the future. Investment is essential in both areas for improved service delivery and the benefits which arise on the back of this.

Other funding by the Government, including for the refurbishment of electric locomotives, complements the RNIP

Investment programme schedules

The following schedules are attached:

Rail Network Investment Programme[1]

- Schedule One – Rail Network activity class
  - Infrastructure Continuous Programmes – Renewal, maintenance and management of the network
  - Infrastructure Improvement projects
  - Weather Events reinstatement and improvement works
- Schedule Two – Public Transport Infrastructure activity class
  - Auckland metro
  - Wellington metro
- Schedule Three – Investment Management activity class

Other Rail Investment (included for information only)

- Schedule Four – KiwiRail Services business investment
- Schedule Five – Rail infrastructure projects outside of this RNIP
  - Major Improvement Projects
  - City Rail Link projects
  - Provincial Growth Fund projects

1 Inflated as per the Rider Levett Bucknall non-residential building cost index, Q1 FY24.

KiwiRail's cutting-edge Automated Track Inspection System (ATIS) enhances track maintenance and safety through advanced diagnostics and measurements on the Auckland metro network

Maintaining the overhead is vital to the smooth running of the commuter networks

SCHEDULE ONE: NATIONAL FREIGHT AND TOURISM NETWORK – RAIL NETWORK ACTIVITY CLASS

As noted throughout the RNIP, the primary focus for the Rail Network activity class is to fund the continuous programme of investment needed to maintain level of service in priority routes and maintain safety and compliance in secondary routes.

Table 1: Summary – three-year investment programme

Description ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
Net KiwiRail renewals	256.7	262.5	219.4	738.6
Net KiwiRail improvements	10.5	1.7	1.3	13.5
Net KiwiRail maintenance, operations, insurance and management	162.4	162.1	162.6	487.1
Weather Events reinstatement and improvement works	96.2	25.0	-	121.2
Total	**525.8**	**451.3**	**383.3**	**1,360.4**

The Rail Network activity class is funded from NLTF revenue (which includes track user charges) and Government top up.

Table 2: Summary – 10-year forecast

Description ($m, inflated)	2024/25	2025/26	2026/27	2027/28- 2029/30	2030/31- 2033/34	10-Year Total
Net KiwiRail renewals	256.7	262.5	219.4	950.5	1,372.8	3,061.9
Net KiwiRail improvements	10.5	1.7	1.3	6.1	8.7	28.4
Net KiwiRail maintenance, operations, insurance and management	162.4	162.1	162.6	537.1	762.6	1,786.8
Weather events reinstatement and improvement works	96.2	25.0	-	-	-	121.2
Total	**525.8**	**451.3**	**383.3**	**1,493.7**	**2,144.2**	**4,998.3**

Table 3: Renewals – 10-year forecast

Description ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Track	68.8	70.3	74.2	331.0	498.3	1,042.6
Structures	69.1	56.1	41.7	216.1	309.4	692.4
Civil	25.7	30.4	24.4	124.2	186.0	390.7
Signals	9.8	10.0	7.2	52.6	81.1	160.6
Telecommunications	23.3	16.1	13.8	9.1	7.4	69.7
Traction & Electrical	4.1	5.7	3.2	2.2	17.4	42.6
Active Level Crossings	4.6	3.0	3.5	19.0	24.4	54.5
Plant & Fleet	37.4	55.2	30.3	55.2	71.6	249.8
Yards	2.9	4.2	4.9	44.2	58.9	115.1
Otira Tunnel	1.5	1.0	1.0	12.3	17.6	33.5
Other	2.1	1.3	-	-	-	3.4
Incidents and unplanned works	2.2	3.6	3.7	20.2	28.8	58.5
Contingency	-	-	-	29.0	41.5	70.5
Auckland metro renewals	13.2	12.5	33.3	70.3	88.9	218.2
Wellington metro renewals	16.0	19.5	17.2	51.6	69.8	174.1
Total KiwiRail Renewals	**280.7**	**288.8**	**258.3**	**1,047.1**	**1,501.1**	**3,376.0**
AT-funded renewals	(10.9)	(10.0)	(24.5)	(55.0)	(72.8)	(173.2)
GWRC-funded renewals	(13.1)	(16.3)	(14.4)	(41.6)	(55.5)	(140.9)
Net KiwiRail Renewals	**256.7**	**262.5**	**219.4**	**950.5**	**1,372.8**	**3,090.3**

Table 4: Maintenance, operations and management – 10-year forecast

Description ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Gross maintenance, operations, insurance and management	276.4	289.4	301.7	972.3	1,406.2	3,246.0
Council, AT and other revenue	(114.0)	(127.3)	(139.1)	(435.2)	(643.6)	(1,459.2)
Total KiwiRail maintenance, operations, insurance, and network management	**162.4**	**162.1**	**162.6**	**537.1**	**762.6**	**1,786.8**

Table 5: Improvements – 10-year forecast

Description ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Level crossing improvements	-	-	-	6.1	8.7	14.9
North Island Electrification DBC	3.4	-	-	-	-	3.4
IT Systems (Asset Management, Zero Harm, Digital Engineering)	2.9	0.6	1.0	-	-	4.6
Efficiency and reliability improvements	4.2	1.0	0.3	-	-	5.5
Total KiwiRail Improvements	**10.5**	**1.7**	**1.3**	**6.1**	**8.7**	**28.4**

Table 6: Weather Events reinstatement and improvements – 10-year forecast

Description ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Weather Events reinstatement and improvement works	96.2	25.0	-	-	-	121.2
Total Weather Events reinstatement and improvement works	**96.2**	**25.0**	**-**	**-**	**-**	**121.2**

SCHEDULE TWO: METROPOLITAN NETWORKS – PUBLIC TRANSPORT INFRASTRUCTURE ACTIVITY CLASS

Table 7: Summary – three-year investment programme

Project ($m, inflated)	2024/25	2025/26	2026/27	3-Year Total
Auckland Metro Area – Improvements	190.9	165.9	51.1	407.8
Wellington Metro Area – Improvements	102.7	114.5	136.4	353.6
Public Transport Infrastructure projects	**293.6**	**280.4**	**187.5**	**761.4**

Table 8: Auckland Metro Area – three-year investment programme

Project ($m, inflated)	Project Description	2024/25	2025/26	2026/27	3-Year Total
Auckland Metro Area					
Projects already funded/underway					
Fencing and Security	Continuation of fencing of the network to support efficient network operation by increasing the safety and security of the network and reducing the risk of track incursions that can create disruptions.	2.7	-	-	2.7
CRL Day One – Infrastructure package – Additional traction feed (West)	Completion of an additional traction feed in the West to power additional trains. A component of the Infrastructure Package required to support CRL.	31.8	-	-	31.8
CRL Day One – Resilience and asset maintenance programme – Integrated rail management centre and emergency management systems	Enabling completion of an Auckland Control Centre for all aspects of the Auckland network to be managed from Auckland improving coordination, resilience and reliability.	3.5	1.2	-	4.7
CRL Day One – Resilience and Asset Maintenance Programme Infill Signalling	Installs additional signals to improve network resilience and reliability. A component of the Resilience and Asset Maintenance Programme required to support CRL.	1.3	3.6	-	4.9

Project ($m, inflated)	Project Description	2024/25	2025/26	2026/27	3-Year Total
CRL Day One – ETCS Level 2 – Business case	Initiating an investigation of the next phase of electronic train control (ETCS Level 2). A component of the Infrastructure Package required to support CRL.	1.6	2.0	-	3.6
Rail Network Rebuild	Also known as the Rail Network Growth Impact Management cost scope adjustment. This completes the first phase of the historic renewals backlog resulting from legacy underinvestment in the Auckland network. This includes the remaining funding to complete the project, which AT was previously delivering as the approved organisation.	121.9	105.1	17.1	244.1
Overdue Renewals[1]	Commencement of a programme to address the overdue renewals for the Auckland network, due to both historic underinvestment and more recent funding shortfalls.	25.9	46.3	26.0	98.2
Traction control software system renewal	Commencement to completion of renewing the system that controls the Auckland electrical network to enable its safe and efficient operation.	1.1	2.2	2.3	5.6
Auckland area train control software upgrade (TMS R9K)	Commencement to completion of upgrading Auckland's traffic management system to optimise planning and management of train operations.	-	5.5	5.7	11.2
Single-line running switches	Business case work for the continuation of a switch implementation programme started by W2QP and RNGIM that allows single-line running during maintenance windows. This is necessary to extend the maintenance window and improve productivity.	1.1	-	-	1.1
Total funded projects		190.9	165.9	51.1	407.8

1 The final funding amount for overdue renewals is subject to Minister of Transport approval.

Project ($m, inflated)	Project Description	2024/25	2025/26	2026/27	3-Year Total
New projects (unfunded until NLTP/Minister approved)					
Single-line running switches – Implementation	Continuation of a switch implementation programme started by W2QP and RNGIM that allows single-line running during maintenance windows. This is necessary to extend the maintenance window and improve productivity.	-	3.5	2.3	5.8
Avondale to Southdown – Indicative Business Case and planning	Investigation and planning to protect the existing designation and progress activation of the Avondale-Southdown rail corridor to create greater long-term segregation of all-stop and non-stop train services for both freight and metro passengers, and new cross-isthmus connectivity options	-	-	4.1	4.1
4-tracking Westfield to Pukekohe – Property and consenting P2P	First phase of investigation and design, route protection and initial construction of additional track, to increase capacity for expected growth, resulting in competitive and reliable services for freight, regional, and metro passengers along the Southern corridor and at the Westfield Junction bottleneck.	-	-	3.9	3.9
Total unfunded projects		**-**	**3.5**	**10.3**	**13.8**
Auckland Metro Total		**190.9**	**169.4**	**61.4**	**421.6**

Table 9: Wellington Metro Area – three-year investment programme

Project ($m, inflated)	Project Description	2024/25	2025/26	2026/27	3-Year Total
Wellington Metro Area					
Projects already funded/underway					
Wellington ETCS – Rail Network Resignalling business case	Continuation of a programme to replace Wellington's near end of life signalling and train control systems with one that will provide the levels of safety, capacity and resilience required to support the growth in passengers.	3.8	9.8	-	13.6
Overdue Renewals – FY25[1]	Commencement of a programme to address the overdue renewals resulting from the legacy of underinvestment in the Wellington network.	49.9	41.3	61.9	153.1
KiwiRail Infrastructure elements of the LNIRIM project	This relates to the infrastructure elements that will be delivered by KiwiRail within the LNIRIM project. This includes stabling, stations (below platform), track infrastructure and passing loops.	23.8	21.3	30.0	75.1
Unlocking Capacity & Improving Resilience – Infrastructure (Substation upgrade)	Continuation of the substations component of WMUP 3 and 4 which was unable to be funded due to wider cost pressures in the programme. This project will renew existing and add additional substations to provide resilience and enable KiwiRail to meet Greater Wellingtons RS1 timetable requirements.	25.2	42.1	44.5	111.8
Total funded projects		**102.7**	**114.5**	**136.4**	**353.6**
New projects (unfunded until NLTP/Minister approved)					
Wellington ETCS – Rail Network Resignalling trial and pre-implementation works	Continuation of a programme to replace Wellington's near end of life signalling and train control systems with one that will provide the levels of safety, capacity and resilience required to support the growth in passengers.	-	-	30.4	30.4
Total unfunded projects		**-**	**-**	**30.4**	**30.4**
Wellington Metro Total		**102.7**	**114.5**	**166.8**	**384.0**

1 The final funding amount for overdue renewals is subject to Minister of Transport approval.

Table 10: Auckland Metro Area – 10-year forecast

Project ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Auckland Metro Area						
Fencing and Security	2.7	-	-	-	-	2.7
CRL Day One – Infrastructure package – Additional traction feed (West)	31.8	-	-	-	-	31.8
CRL Day One – Resilience and asset maintenance programme – Integrated rail management centre and emergency management systems	3.5	1.2	-	-	-	4.7
CRL Day One – Resilience and Asset Maintenance Programme Infill Signalling	1.3	3.6	-	-	-	4.9
CRL Day One – ETCS Level 2 – Business case	1.6	2.0	-	-	-	3.6
Rail Network Rebuild	121.9	105.1	17.1	-	-	244.1
Overdue Renewals[1]	25.9	46.3	26.0	78.0	92.5	268.7
Traction control software system renewal	1.1	2.2	2.3	-	-	5.6
Auckland area train control software upgrade (TMS R9K)	-	5.5	5.7	-	-	11.2
Single-line running switches	1.1	3.5	2.3	5.2	4.6	16.7
Avondale to Southdown – Indicative Business Case and planning	-	-	4.1	4.2	-	8.3
Avondale to Southdown – Design and pre-implementation	-	-	-	28.9	31.7	60.6
4-tracking Westfield to Pukekohe – Property and consenting P2P	-	-	3.9	15.9	43.4	63.2
4-tracking Westfield to Pukekohe – IBC full corridor	-	-	-	4.1	-	4.1
4-tracking Westfield to Pukekohe – Detailed business cases	-	-	-	17.9	-	17.9
4-tracking Westfield to Pukekohe – Implementation	-	-	-	23.0	1,782.6	1,805.6
ETCS Level 2 – implementation and signalling optimisation	-	-	-	131.9	73.0	204.9

1 The full escalated Auckland overdue renewals programme cost is estimated to be $594m and is envisioned to be delivered over 20 years.

Project ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Southern power feed upgrade	-	-	-	17.6	81.0	98.6
Mid-zone power feed replacement	-	-	-	-	25.6	25.6
New southern power feed	-	-	-	-	15.1	15.1
Property for passenger fleet stabling	-	-	-	-	20.8	20.8
Auckland metro plant and equipment	-	-	-	6.4	219.1	225.5
Auckland metro network maintenance depots and access tracks	-	-	-	2.4	118.2	120.6
Auckland Metro Total	**190.9**	**169.4**	**61.4**	**335.5**	**2,507.6**	**3,264.7**

Table 11: Wellington Metro Area – 10-year forecast

Project ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Wellington Metro Area						
Wellington ETCS – Rail Network Resignalling business case	3.8	9.8	-	-	-	13.6
Wellington ETCS – Rail Network Resignalling trial and pre-implementation works	-	-	30.4	63.5	-	93.9
Wellington ETCS – Rail Network Resignalling implementation	-	-	-	281.3	397.4	678.7
Overdue Renewals[1]	49.9	41.3	61.9	203.9	169.6	526.6
KiwiRail Infrastructure elements of the Lower North Island Rail Integrated Mobility project	23.8	21.3	30.0	97.3	-	172.4
Unlocking Capacity & Improving Resilience – Infrastructure (Substation upgrade)	25.2	42.1	44.5	25.4	-	137.2
Wellington Metro Total	**102.7**	**114.5**	**166.8**	**671.4**	**567.0**	**1,622.4**

1 The full escalated Wellington overdue renewals programme cost is estimated to be $951m and is envisioned to be delivered over 20 years.

SCHEDULE THREE: INVESTMENT MANAGEMENT ACTIVITY CLASS

Project ($m, inflated)	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Auckland and Wellington Metro Area						
KiwiRail strategic future planning	4.3	5.0	4.0	15.6	22.2	51.1
Auckland and Wellington Metro Total	**4.3**	**5.0**	**4.0**	**15.6**	**22.2**	**51.1**

SCHEDULE FOUR: KIWIRAIL SERVICES BUSINESS INVESTMENT

Table 14: KiwiRail above rail financial summary

Project ($m, inflated)	Description	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Future of Rail investments to support a resilient and reliable freight system							
Rolling stock replacement and mechanical depots $1,631.6m	Replacement of locomotives, shunts and wagons and modernisation of mechanical depots.	278.2	353.2	217.4	109.9	0.0	958.7
New Interislander Ferry assets ($435m Equity funding plus grant funding for winddown TBC)	Two new rail-enabled ferries and upgraded port side infrastructure in Wellington and Picton.	TBC	0.0	0.0	0.0	0.0	0.0
Mechanical facilities $207.6m	Upgrades to KiwiRail's mechanical maintenance facilities.	28.4	5.4	0.0	0.0	0.0	33.8
Total		**306.6**	**358.6**	**217.4**	**109.0**	**0.0**	**992.5**
Provincial Growth Fund and other investments to support regional economic development							
Hillside Assembly Workshop $85.0m	New wagon assembly plant	11.9	7.8	11.2	0.0	0.0	30.9
Tourism – Passenger service refresh – $24.0m	New premium tourism carriages and Greymouth platform extension	1.5	0.0	0.0	0.0	0.0	1.5
Total		**13.4**	**7.8**	**11.2**	**0.0**	**0.0**	**32.4**

SCHEDULE FIVE RAIL INFRASTRUCTURE PROJECTS OUTSIDE OF THIS RNIP

Table 15: Major Improvement Projects

Project ($m, inflated)	Description	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Auckland Metro Area							
Wiri to Quay Park $328.5m	Provides a third rail line (third main) to ease the bottleneck between Wiri and Westfield, increase capacity around Westfield Junction and improve rail access to the Ports of Auckland at Quay Park.	47.4	0.0	0.0	0.0	0.0	47.4
Papakura to Pukekohe Electrification $451.2m	Electrification of 19km of track between Papakura and Pukekohe, including installation of overhead equipment, a new traction power supply and signalling upgrades.	29.5	25.4	33.4	0.0	0.0	88.3
Drury Stations $470.7m	Construction of three new rail stations at Drury Central, Drury West and Paerātā and the associated bus interchange, park and ride facilities and connecting roads.	67.1	260.8	20.0	0.0	0.0	347.9
Rail Network Growth Impact Management $322.9m	RNGIM is the Catch-Up Renewals Programme to address a backlog of formation, drainage, and track work and bring the network up to a modern metro standard.	13.4	0.0	0.0	0.0	0.0	13.4
Total Auckland projects		**157.4**	**286.2**	**53.4**	**0.0**	**0.0**	**497.0**
Wellington Metro Area							
WMUP 6a – Entrance into Wellington Station $114.4m	Infrastructure improvements to enable a safe and reliable increase in the frequency of train services.	36.7	13.0	0.0	0.0	0.0	49.7

Project ($m, inflated)	Description	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
WMUP 6b – Wairarapa line capacity upgrades for passengers and freight $142.4m	Infrastructure upgrades to increase capacity and support a planned increased frequency of passenger services.	41.3	37.7	25.8	0.0	0.0	104.8
WMUP III – Catch-up Renewals $181.6m	Track renewals with a primary focus on Wairarapa line and Wellington tunnels. Other slope stability work and removal of timber bridge structural elements.	39.3	10.6	0.0	0.0	0.0	49.9
WMUP IV – Capacity & Resilience $154.4m	Integrated package of network improvements to enable increased capacity and frequency, with resilience.	8.8	0.0	0.0	0.0	0.0	8.8
Total Wellington projects		**126.1**	**61.3**	**25.8**	**0.0**	**0.0**	**213.2**
Other							
Northern Package – Marsden Point Rail Link – $65.0m	Detailed design for rail link between Northport and the North Auckland Line (NAL). Design stage only.	5.7	35.8	19.7	0.0	0.0	61.2
Northern Package – Whangārei to Otiria – $60.9m	Upgrading line between Whangārei and Otiria to 18-tonne axle capacity and system improvements including yard/CT sites and log loading areas.	11.6	0	0.0	0.0	0.0	11.6
Total Other		**17.3**	**35.8**	**19.7**	**0.0**	**0.0**	**72.8**

The above tables exclude programme contingency.

Table 16: City Rail Link projects

Project ($m, inflated)	Description	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Auckland Metro Area							
Total CRL Delivery Programmes	Improvements across the Auckland metro network to accommodate increased traffic once the CRL is opened. Includes work at: Ōtāhuhu, The Strand, Mount Eden, Britomart, Newmarket.	9.8	3.2	2.3	0.4	0.0	15.6
Be Ready & Be Prepared – $21.6m	Transition activities and business improvement initiatives necessary to ensure KiwiRail is operationally ready for the CRL.	7.1	3.6	0.0	0.0	0.0	10.7
Total CRLL projects*		**16.9**	**6.8**	**2.3**	**0.4**	**0.0**	**26.3**

*This excludes the Henderson project that is still being negotiated between CRLL and KiwiRail.

Table 17: Provincial Growth Fund Projects outside of this RNIP

Project ($m, inflated)	Description	2024/25	2025/26	2026/27	2027/28-2029/30	2030/31-2033/34	10-Year Total
Marsden Point Line land acquisition $40.0m	Land purchase for Marsden Point Rail Link.	11.4	0.0	0.0	0.0	0.0	11.4
Total PGF projects		**11.4**	**0.0**	**0.0**	**0.0**	**0.0**	**11.4**

Appendix A – One Network Framework

KiwiRail has worked with NZTA to map the rail network using the principles of the One Network Framework (ONF). The ONF is a classification tool that brings together transport and land use. KiwiRail has previously used its own classification system (classified as metro, priority, secondary, tertiary) and this has guided previous investment programmes.

Aligning KiwiRail with the new ONF facilitates the use of one common language to support better design, planning and delivery of a modern transport system. This highlights the vital role of rail in facilitating the efficient movement of freight and people in New Zealand. This understanding, and the fostering of collaboration across the transport sector, is essential for attaining improved safety, sustainability, accessibility, and economic outcomes in New Zealand.

The ONF considers place and movement. Place is the extent to which a corridor (and its adjacent land use) is a destination in its own right. Movement relates to the strategic importance of a corridor for moving people and freight, across all modes, and the scale of movement it intends to accommodate.

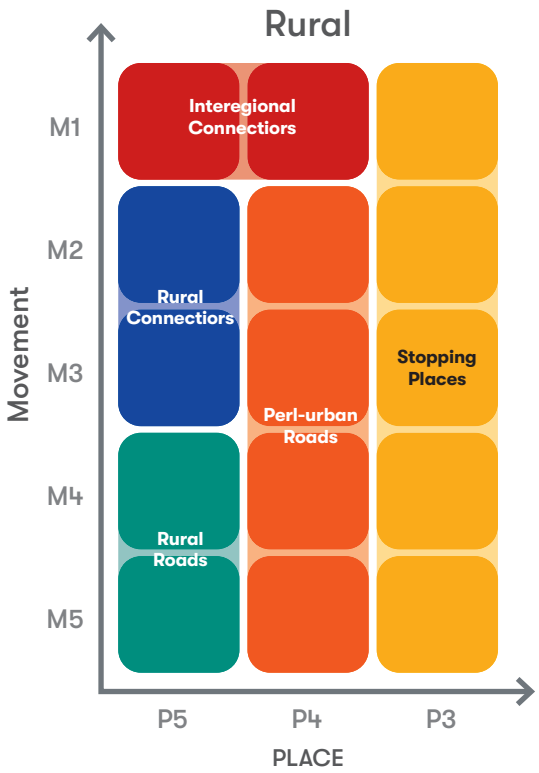
The rail network primarily falls within public transport and freight modal classification, due to the dedicated nature of the rail transit corridors and mass movement of people and freight.

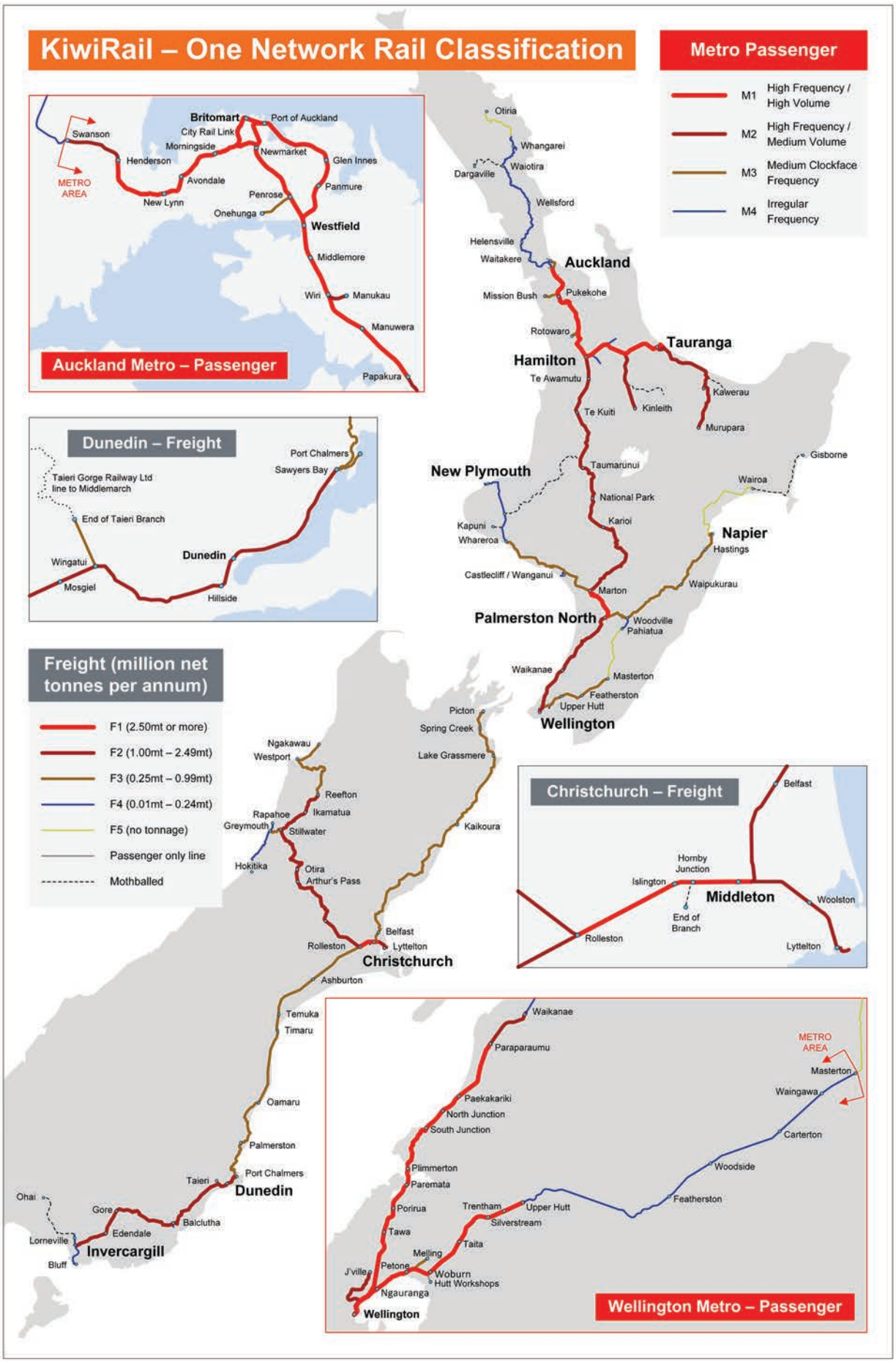
The national freight network has been considered under the rural street family and classified as either inter-regional or secondary connectors (based on their KiwiRail classification of priority, secondary or tertiary). The line sections have been categorised from F1 to F5 to reflect the freight volumes carried by rail, with F1 representing the highest freight volumes.

The metro networks have been considered under the urban street family. They have been classified as transit corridors due to their separated nature and mass transit function. The line sections have been categorised from M1 to M4 to reflect volume and frequency of passenger movements, with M1 representing the highest passenger movements.

However, these two categories exclude some of the benefits of the rail network. For instance, the rail network serves as a crucial connection for some active modes (walking and cycling). Additionally, train stations are a destination and provide access to adjacent land that may be close to facilities, businesses, or homes.

The map over the page, shows how the rail network has been classified under ONF.




KiwiRail – One Network Rail Classification
Metro Passenger
M1 High Frequency / High Volume
M2 High Frequency / Medium Volume
M3 Medium Clockface Frequency
M4 Irregular Frequency
Auckland Metro – Passenger
Swanson
METRO AREA
Henderson
Avondale
New Lynn
Morningside
City Rail Link
Britomart
Port of Auckland
Newmarket
Glen Innes
Panmure
Penrose
Onehunga
Westfield
Middlemore
Wiri
Manukau
Manuwera
Papakura
Dunedin – Freight
Taieri Gorge Railway Ltd line to Middlemarch
End of Taieri Branch
Wingatui
Mosgiel
Hillside
Dunedin
Port Chalmers
Sawyers Bay
Freight (million net tonnes per annum)
F1 (2.50mt or more)
F2 (1.00mt – 2.49mt)
F3 (0.25mt – 0.99mt)
F4 (0.01mt – 0.24mt)
F5 (no tonnage)
Passenger only line
Mothballed
Otiria
Whangarei
Waiotira
Dargaville
Wellsford
Helensville
Waitakere
Auckland
Mission Bush
Pukekohe
Rotowaro
Hamilton
Te Awamutu
Te Kuiti
Tauranga
Kawerau
Kinleith
Murupara
Gisborne
Wairoa
New Plymouth
Taumarunui
National Park
Kapuni
Whareroa
Karioi
Napier
Hastings
Castlecliff / Wanganui
Marton
Waipukurau
Palmerston North
Woodville
Pahiatua
Waikanae
Masterton
Featherston
Upper Hutt
Wellington
Picton
Spring Creek
Lake Grassmere
Ngakawau
Westport
Reefton
Rapahoe
Ikamatua
Greymouth
Stillwater
Kaikoura
Hokitika
Otira
Arthur's Pass
Belfast
Rolleston
Lyttelton
Christchurch
Ashburton
Christchurch – Freight
Belfast
Hornby Junction
Islington
Middleton
Woolston
End of Branch
Rolleston
Lyttelton
Temuka
Timaru
Oamaru
Palmerston
Taieri
Port Chalmers
Dunedin
Ohai
Gore
Balclutha
Edendale
Lorneville
Invercargill
Bluff
Waikanae
Paraparaumu
METRO AREA
Masterton
Waingawa
Paekakariki
North Junction
South Junction
Carterton
Woodside
Plimmerton
Paremata
Featherston
Porirua
Trentham
Upper Hutt
Silverstream
Tawa
Taita
Melling
J'ville
Petone
Woburn
Hutt Workshops
Ngauranga
Wellington
Wellington Metro – Passenger

FREIGHT

Class	Related ONRC Class	Strategic Significance
F1	F1 (2.50mt or more)	Very-high-volume movement of freight
F2	F2 (1.00mt - 2.49mt)	High-volume movement of freight
F3	F3 (0.25mt - 0.99mt)	Medium-volume movement of freight
F4	F4 (0.01mt - 0.24mt)	Low-volume movement of freight
F5	F5 (0.00mt)	Passenger only (or currently unused)

Class	Line code	Section
F1	ECMT	Hamilton-Tauranga
F1	MSL	Christchurch-Rolleston
F1	MTMNG	Mt Maunganui Branch
F1	NIMT	Hamilton-Auckland
F1	NIMT	Palmerston North-Marton
F2	ECMT	Tauranga-Kawerau
F2	KNLTH	Kinleith Branch
F2	MDLND	Rolleston-Stillwater
F2	MSL	Lyttelton-Christchurch
F2	MSL	Sawyers Bay-Wingatui
F2	MSL	Wingatui-Invercargill
F2	MUPRA	Murupara Branch
F2	NIMT	Marton-Hamilton
F2	NIMT	Wellington-Palmerston North
F2	SNL	Stillwater-Reefton
F3	MDLND	Stillwater-Greymouth
F3	MISBS	Mission Bush Branch
F3	MNL	Christchurch-Picton
F3	MNPL	Easttown-Whareroa
F3	MNPL	Marton-Easttown

Class	Line code	Section
F3	MSL	Rolleston-Timaru
F3	MSL	Timaru-Sawyers Bay
F3	NIMT	Westfield-Port of Auckland
F3	NPRPT	Napier Port Branch
F3	PNGL	Palmerston North-Woodville
F3	PNGL	Woodville-Napier
F3	PTCHS	Port Chalmers Branch
F3	SNL	Reefton-Ngakawau
F3	TRIIE	Taieri Branch
F3	WRAPA	Wellington-Masterton
F4	BLUFF	Bluff Branch
F4	CASLF	Castlecliff & Whanganui Branches
F4	GRCFD	Gracefield Branch
F4	HKTKA	Hokitika Branch
F4	HTAPU	Hautapu Branch
F4	MNPL	New Plymouth-Port Taranaki
F4	MNPL	Whareroa-New Plymouth
F4	NAL	Auckland-Whangārei
F4	NAL	Whangārei-Kauri
F4	NWMKT	Newmarket Branch
F4	OHAI	Invercargill-Nightcaps
F4	PNGL	Napier-Wairoa
F4	RPHOE	Rapahoe Branch
F4	WITOA	Waitoa Branch
F4	WRAPA	Pahiatua-Woodville
F4	WRIPT	Port Whangārei Branch

PUBLIC TRANSPORT

Class	Considerations to determine Movement Significance	Nature of Movement
M1	High Frequency / High Volume	High Frequency (6 commuter trains per peak hour or greater) High Volume (core network where patronage is highest)
M2	High Frequency / Medium Volume	High Frequency (6 commuter trains per peak hour or greater) Medium Volume (peripheral sections of network where patronage is generally lower)
M3	Medium Clockface Frequency	Medium Clockface Frequency (2-4 commuter trains per peak hour at regular intervals)
M4	Irregular Frequency	Irregular Frequency (1 or more commuter trains during peak, but at irregular intervals)
M5	One Train Per Day	Long distance scenic trains

Class	Line code	Section
M1	NIMT	Quay Park-Britomart
M1	NWMKT	Newmarket-Quay Park
M1	NAL	Newmarket-Swanson
M1	NAL	Penrose-Newmarket
M1	NAL	Westfield-Penrose
M1	NIMT	Quay Park-Westfield
M1	NIMT	Wiri-Westfield
M1	NIMT	Papakura-Wiri
M1	NIMT	Paraparaumu-Waikanae
M1	NIMT	Plimmerton-Paraparaumu
M1	NIMT	Porirua-Plimmerton
M1	NIMT	Kaiwharawhara-Porirua
M1	NIMT	Wellington-Kaiwharawhara
M1	WRAPA	Kaiwharawhara-Petone
M1	WRAPA	Petone-Taita
M1	WRAPA	Taita-Upper Hutt
M2	NAL	Newmarket-Swanson

Class	Line code	Section
M2	MANUK	Wiri-Manakau
M2	NIMT	Pukekohe-Papakura
M2	JVILL	Wellington-Johnsonville
M3	ONHGA	Penrose-Onehunga
M3	MLING	Petone-Melling
M4	NIMT	Hamilton-Pukekohe
M4	NIMT	Waikanae-Palmerston North
M4	WRAPA	Upper Hutt-Masterton
M5	NIMT	Palmerston North-Hamilton
M5	MNL	Christchurch-Picton
M5	MSL	Christchurch-Rolleston
M5	MDLND	Rolleston-Greymouth

Acronyms and definitions

Term	Definition
Above rail	Commercial services and associated locomotives, wagons and ferries and other assets for commercial purposes
AMP	Asset Management Plan
AMR	Auckland Metro Remediation
ANAA	Auckland Network Access Agreement
AT	Auckland Transport
ATAP	Auckland Transport Alignment Project
BOL	Block of Line – section of the rail network that is non-operational for a period of time to allow for either repair and/or remedial work
CAPEX	Capital expenditure
CIP	Crown Infrastructure Partners
CNI Hub	Central North Island Hub
CPAD	Capital Projects and Asset Development
CRL	City Rail Link – 3.5km twin-tunnel underground rail link below the Auckland City centre which will at least double rail network capacity
CT (Site)	Container Transfer Site
DBC	Detailed Business Case
DRS	Drury Rail Station, the programme for 3 new south Auckland stations
ECC	Executive Capital Committee
EM80	Track inspection vehicle which records the track condition
ERP	Emissions Reduction Plan
ESV	Electric Shunt Vehicle, used for pulling locomotives and wagons in depots and freight yards
ETCS	European Train Control System (including the programme to install systems on locomotives to reduce freight/passenger collision risk)
GPS	Government Policy Statement on Land Transport 2024
GWRC	Greater Wellington Regional Council
Infrastructure	Includes tracks, bridges, maintenance machinery and equipment. This was previously called Below Rail
KR	KiwiRail
LEs	Locomotive Engineers

Term	Definition
LNIRIM	Lower North Island Rail Integrated Mobility
LoS	Level of Service
LTMA	Land Transport Management Act
MoT	Ministry of Transport
MPRL	Marsden Point Rail Link – Proposed 19km rail line to connect Northport to the North Auckland Line
MROM	Metro Rail Operating Model
NAL	North Auckland Line
NDT	Non-Destructive Testing
NIMT	North Island Main Trunk
NLTF	National Land Transport Fund
NLTP	National Land Transport Programme
NOR	Notice of Requirement – allows KiwiRail to designate land for public works. This means that KiwiRail may undertake work without a resource consent as long as the works are those intended in the purpose of the designation (i.e., Railway / freight yard)
NZ Rail Plan	New Zealand Rail Plan
NZRP	New Zealand Rail Plan
OPEX	Operational expenditure
On-time performance	Is the percentage of train services that arrived within the scheduled tolerance. This does not factor in reliability
Overdue Renewals	An overdue renewal is defined as an existing asset that is life expired but has been maintained in service beyond its preferred lifespan. These commonly have operational restrictions put in place until they are addressed
P2P	Programme to extend electrification from Papakura to Pukekohe (approx. 19km)
PBC	Programme Business Case
PGB	Programme Governance Board
PGF	Provincial Growth Fund
PNGL	Palmerston North to Gisborne Line
POPs	Principal Operating Parameters
PSR	Programme/Project Status Report
PT	Public Transport
PTI	Public Transport Infrastructure

Term	Definition
Punctuality (KPI)	Is the percentage of train services that arrived within the scheduled tolerance. This does not factor in reliability
Reliability (KPI)	Is the percentage of completed train services compared to the timetable. This does not factor in punctuality
RGB	RNIP Governance Board
RLTP	Regional Land Transport Plan
RNGIM	Rail Network Growth Impact Management (Auckland) – see RNR
RNIP	Rail Network Investment Programme
RNR	Rail Network Rebuild – also known as the RNGIM cost scope adjustment, this is the remaining, funded value required to complete the first phase of the historic overdue renewals resulting from legacy underinvestment in the Auckland network
RSAS	Rolling Stock Asset Services – KiwiRail's business unit responsible for procuring and maintaining KiwiRail's rolling stock
SCI	Statement of Corporate Intent
Services Business	This is the business services provided by KiwiRail. This was previously called Above Rail
SOE	State Owned Enterprise
TCS	Train Control System
TEC	Track Evaluation Car (currently designated EM80)
TMITP	Tāmaki Makaurau Integrated Transport Plan
TMTP	Tāmaki Makaurau Transport Plan
TOF	Transport Outcomes Framework (as set in June 2018)
UGL	Part of ASX Listed CIMC Group supplying wagons and wagon assembly support to KiwiRail
VKT	Vehicle Kilometres Travelled
W2QP	Wiri to Quay Park – new 3rd main between Westfield and Wiri, Auckland's and NZ's busiest part of the network to ease congestion, provide faster train journeys and reduce delays, plus improvements at Quay Park to improve access to the Port of Auckland
WCC	Wellington City Council
NZTA	New Zealand Transport Agency Waka Kotahi
WMUP	Wellington Metro Upgrade Programme – comprises several sub-programmes to renew existing network infrastructure and add capacity to deliver the proposed RS-1 timetable (2023)
WNAA	Wellington Network Access Agreement
Work bank	The collection of planned works to be undertaken. Each task within the work bank represents a specific undertaking related to maintenance, renewal or improvement

KiwiRail