

December 2019

The Draft New Zealand Rail Plan

2019





Ko te pae tāwhiti, whāia kia tata
Ko te pae tata, whāia kia tīna!

Seek out the distant horizons, while holding
fast to those achievements at hand.

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Foreword

Kupu Whakataki

This draft New Zealand Rail Plan outlines the Government's vision and priorities for rail. Our long-term vision is for New Zealand's national rail network to provide modern transit systems in our largest cities, and to enable increasing volumes of freight to be moved off the roads and onto rail.



Rt Hon Winston Peters
Minister for State
Owned Enterprises



Hon Grant Robertson
Minister of Finance



Hon Phil Twyford
Minister of Transport



Hon Shane Jones
Minister for Regional
Economic Development

Enabling alternative transport options for people and freight is a key part of providing a multi-modal transport system. It will support us to achieve the Government's objectives to reduce carbon emissions, the numbers of deaths on our roads, and congestion, as well as delivering jobs and economic development in our cities and regions.

The freight task in New Zealand is growing, and will continue to grow in nearly all regions. We expect freight tonnage in New Zealand to increase more than 55 percent by 2042, and all parts of the freight system will need to play their part to support this growth. The network has suffered from under-investment and significant parts of the network are facing a state of managed decline. Over the next decade we need to invest to retain the current level of service from our national network and achieve a reliable and resilient national freight rail network. This will provide a platform for further investment to support growth in rail freight. This requires a long-term commitment to investment in the national freight rail network.

We have already begun the investment required with \$1.042 billion of funding to the rail freight network in the Wellbeing Budget 2019. \$741 million of that funding is the first phase of investment required to start restoring a reliable, resilient and safe freight and tourism network. The Provincial Growth Fund (PGF) is also contributing funding for regional rail projects to support growth and jobs in the regions.

In our biggest cities we are already seeing the benefits of earlier investment in rail. Significant investment has been made in our metropolitan rail networks in Auckland and Wellington. Passenger growth has continued to outstrip expectations. Increased capacity in Auckland is being provided through \$4.4 billion in funding from the Government and Auckland Council in the City Rail Link (CRL) to transform the Auckland network. This is in addition to the funding we have put aside in the current Government Policy Statement on Land Transport. We have allocated \$815 million in funding from the National Land Transport Fund (NLTF) to improve our urban rail passenger networks in Auckland and Wellington, and support inter-regional passenger services. The investments we are making in Auckland will help deliver on the Auckland Transport Alignment Project.

With this investment, over the next decade, rail patronage in the Auckland metro network is expected to more than double to over 46 million passenger trips per annum by 2028. Wellington's public transport is expected to reach 20 million passenger trips by 2030.

However, what is clear is that funding alone will not be sufficient to improve the outcomes we want to see, particularly in freight rail. While the passenger network is already supported through the National Land Transport Fund, the freight rail network has continued to suffer from under-investment and short-term decision-making. We cannot continue to take the current approach to planning and

funding rail. This draft Plan is the first product of a new long-term planning and funding system for rail. We are also making changes to the Land Transport Management Act 2003, which will improve integrated planning and investment decisions across road and rail.

This is a significant programme of change for the land transport system. It is important that we start on this journey now to build a better and more integrated transport system.

We welcome your views on this draft Plan through the engagement process in 2020 on the draft Government Policy Statement on Land Transport 2021. Rail is a significant long-term asset, and changes now will positively influence the future of our transport system and the wellbeing of all New Zealanders.

Overview of the draft New Zealand Rail Plan

This is the first draft New Zealand Rail Plan [the draft Plan]. It outlines our long-term commitment to the significant investment needed to achieve a reliable, resilient and safe rail network.



Our strategic priorities for rail are in two parts:

- Part A: Establishing a new long-term planning and funding framework under the Land Transport Management Act
- Part B: Investment priorities for a reliable and resilient rail network
 - Strategic Investment Priority: Investing in the national rail network to maintain freight rail, and provide a platform for future investments for growth
 - Strategic Investment Priority: Investing in metropolitan rail to support growth in our largest cities.

Separate lead investments are being made in regional rail to support regional development and jobs through the Provincial Growth Fund.

This draft Plan is a product of the Future of Rail Review [the Review]. The Review recognised that significant parts of the national rail network are facing a state of managed decline. Investment alone will not allow rail to play the role the Government wants to see it play in the transport system. Alongside remedial investment, a new long-term integrated land transport planning and funding framework for rail is required.

This draft Plan is the first component of the new planning and funding framework for rail. In the past, investment in rail has been made on a year-by-year basis. This is not sufficient when making investments in long-life infrastructure assets such as rail. The draft Plan sets out our intentions for the first decade of investment needed to achieve a reliable, resilient and safe rail network. Our investment priorities will inform the development of the draft Government Policy Statement on Land Transport 2021/22–2030/31 [GPS 2021].

In order to better integrate long-term planning on road and rail investments, we are also making changes to the Land Transport Management Act 2003 [the LTMA]. The investment priorities outlined in the draft Plan and GPS 2021 will inform the detailed investment decisions as part of the new planning and funding framework for rail. They will also underpin future Budget considerations for Crown investment. The draft Plan does not provide a definitive list of investments for rail over the next decade, nor does it provide a funding commitment for any of the projects outlined. However, it does send a strong signal of this Government's commitment to rail to inform future funding decisions.

The Auckland Transport Alignment Project and the Wellington Regional Rail Plan have provided the basis of the investments outlined for the metropolitan rail networks. We will be seeking feedback on this draft Plan as part of the engagement on the draft GPS 2021, which will take place in the first half of 2020. This will allow you to see where funding for rail sits within the overall priorities for the land transport system. It also allows time for councils to consider the priorities we have outlined for rail against their regional priorities. We are also continuing work on the Future of Rail Review, which will support the final Plan.

We will issue the final Plan, alongside the final of GPS 2021, in the second half of next year. We will refresh and update this Plan alongside the GPS in future years. This will enable us to reflect changes in investment priorities for rail as required. As this is our first draft Plan, we expect it to evolve and develop over time.

The draft Plan has four sections:

- 1** **Section 1: Strategic Context** – this outlines the contribution of rail to our transport system and broader outcomes, the Future of Rail Review, and why changes are required to our current system
- 2** **Section 2: Strategic Priorities for Rail** – this outlines the new planning and funding framework for rail and the investment required to achieve a reliable, resilient and safe rail network, as well as future investment opportunities
- 3** **Section 3: Measuring the benefits of investment** – this outlines how we will monitor performance in delivering these investments to ensure they are achieving the outcomes
- 4** **Section 4: What next?** – this outlines how these changes will be implemented.

Remedial funding, alongside a new integrated land transport planning and funding framework for rail, will enable rail to play its role in the land transport system and achieve positive social, economic, and environmental benefits for New Zealand. These changes will also provide a platform for KiwiRail to grow as a commercial business.

This Plan and the new planning and funding framework applies to the heavy rail network in New Zealand. It does not apply to light rail investments.

This is the draft New Zealand Rail Plan. We have timed release of this Plan prior to the engagement on the draft of the next GPS, to ensure that our vision for rail can be considered in GPS 2021 and future Budget decisions. We welcome your feedback on the draft Plan. We will be undertaking formal engagement on the draft Plan as part of the engagement on the draft of GPS 2021, which will take place in the first half of 2020. Your feedback will help inform the final Plan and GPS, which are due out in the second half of 2020.

Alongside engagement on the draft Plan, we are also progressing amendments to the Land Transport Management Act 2003 [LTMA]. The legislative process will allow for public feedback on the changes proposed to the LTMA to enable the new planning and funding framework outlined in Section 2, Part 2.

If you would like to provide feedback ahead of the formal engagement in 2020 you can email:
DraftNZRailPlan@transport.govt.nz.

The Ministry will update its website regarding the formal engagement process through the GPS and timelines for formal feedback.



Section one

Strategic Context

Ko tō te Rautaki Horopaki

Rail is an integral part of the transport system in New Zealand

Rail transports people and goods to where they need to go, supporting productivity and business growth, reducing emissions, congestion and road deaths, and strengthening social and cultural connections between communities. It is a key part of a multi-modal transport system for both freight and passengers in New Zealand.

This section outlines the contribution the current rail network makes to New Zealand and why change is required to support the Government's vision for rail.

Rail contributes significant value to New Zealand

Rail has a long and proud history in New Zealand, stretching back over 150 years. Today, the national rail network consists of 3,700 km of track, covering 18,000 hectares of land, crosses more than 1,300 bridges and includes almost 100 tunnels. The network links most major cities, ports and freight hubs and connects the North and South Islands through the Cook Strait ferries.



KiwiRail owns and operates the rail network in New Zealand and provides freight, tourism and property rail services. KiwiRail has 3,700 staff operating in more than 50 towns and cities across the country; it is a significant employer in New Zealand.

The following types of traffic use the network:

- ▶ import-export freight to and from major ports
- ▶ domestic freight between major cities
- ▶ bulk commodities for processing or export, such as logs and coal
- ▶ passengers on the Auckland and Wellington metropolitan networks
- ▶ freight and passengers across the Cook Strait
- ▶ tourism and other passenger services.

Rail is a key part of New Zealand's freight supply chain and supports distribution of high volumes of goods between key transport nodes. It is also well suited to support mass transit of people in urban areas, and provides rapid transit links as part of our public transport networks in dense urban environments. It serves freight customers, commuters and tourists.

Urban passenger rail services operate in Auckland and Wellington. In these metropolitan rail networks, urban passenger, inter-regional passenger and freight trains all share the same rail network.

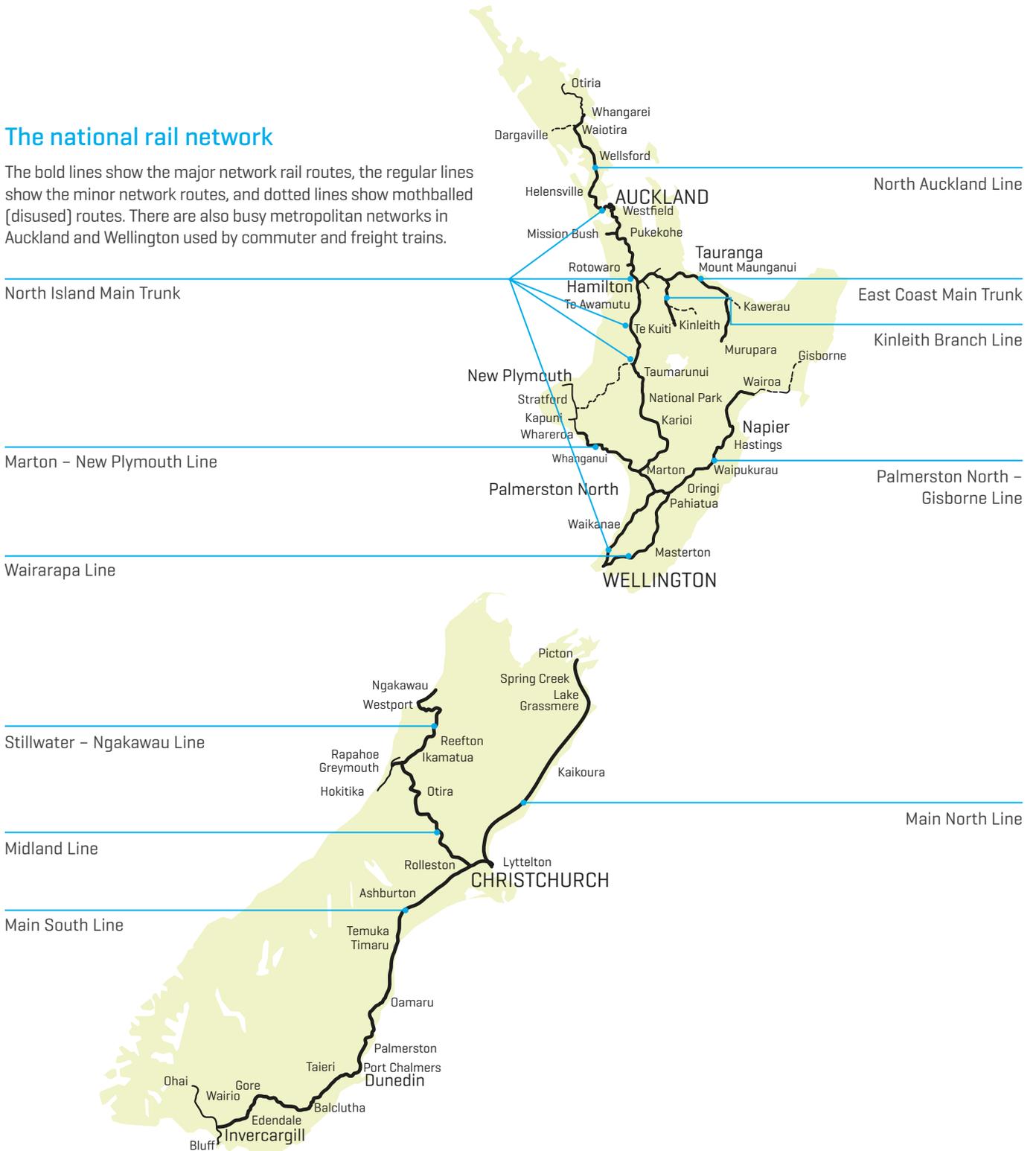
Rail provides the rapid transit backbone of the public transport systems in these cities, providing access to jobs and shaping urban development and future growth. Auckland Transport [AT] and Greater Wellington Regional Council [GWRC] are responsible for planning and funding metropolitan rail services in these regions. They own the passenger rolling stock and related infrastructure required to support passenger operations (i.e. station buildings and maintenance depots), and are responsible for procuring the operator of passenger services. Transdev Wellington and Transdev Auckland are currently contracted to provide passenger rail services. KiwiRail owns and maintains the network.

KiwiRail provides tourist-oriented passenger services, including the TranzAlpine, Coastal Pacific and the Northern Explorer. Dunedin Railways operates tourist trains, and a number of heritage operators run charter specials across the national rail network. KiwiRail also operates the inter-regional passenger services between Wellington and Palmerston North, and will operate the Hamilton to Auckland service when it is expected to begin next year.

KiwiRail has **3,700** staff operating in more than **50** towns and cities across the country; it is a significant employer in New Zealand

The national rail network

The bold lines show the major network rail routes, the regular lines show the minor network routes, and dotted lines show mothballed (disused) routes. There are also busy metropolitan networks in Auckland and Wellington used by commuter and freight trains.



North Island Main Trunk

Marton - New Plymouth Line

Wairarapa Line

Stillwater - Ngakawau Line

Midland Line

Main South Line

North Auckland Line

East Coast Main Trunk

Kinleith Branch Line

Palmerston North - Gisborne Line

Main North Line

Rail delivers positive social, economic and environmental benefits

Rail contributes to the overall wellbeing of New Zealanders, by helping deliver the following outcomes.¹



Environmental sustainability

- ▶ Moving more people and products by rail will help the transport system play its part in reducing carbon emissions, supporting the Government's objectives to reduce green house gas emissions overall.
- ▶ On average, every tonne of freight moved by rail produces 66 percent less carbon emissions compared with heavy road freight.
- ▶ The electrified commuter rail networks in Auckland and Wellington also deliver emissions savings from the efficient mass movement of people and avoided car trips.
- ▶ Even greater environmental benefits can be achieved through further investment in rail, for example new modern rolling stock and ferries and further electrification of the rail network.

Healthy and safe people

- ▶ The wellbeing of every New Zealander is at the heart of this Government's vision, and healthy and safe people is a critical outcome for the transport system.
- ▶ Increased use of rail transport for passengers and freight will support the Government's Road to Zero Strategy and aid in reducing road deaths by lowering the number of trucks on the road and by individuals choosing to use public transport as opposed to driving.
- ▶ In its 2016 study, EY has estimated that rail eliminates around 271 safety incidents per year by reducing the volume of heavy transport on the road.³

- ▶ Investment in rail safety enhancements including level crossing improvements and automatic train protection is expected to further reduce the risk of deaths and serious injuries on our rail network.
- ▶ Higher levels of physical activity are associated with public transport use than with trips by private vehicles, supporting healthier travel patterns.

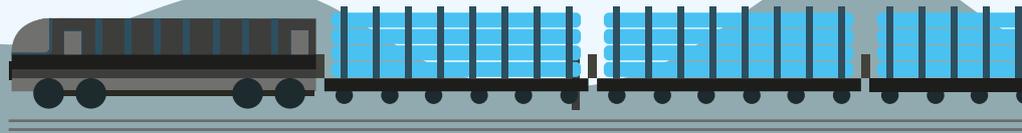
"In 2016, **two or three trains a week** were moving containers to and from Midland to the Port. Now, KiwiRail operates up to **16 return services a week** from Midland. Not only is this taking at least **120 trucks** off the road each day, it is ensuring that containers are moved to and from the Port efficiently without traffic delays and at lowest cost to customers. A number of containers moving through Midland Port never touch the road, making Midland Port a key part of reducing our customers' carbon emissions and providing a sustainable logistics solution."

Simon Munt, Marketing Manager, Lyttelton Port Company, 2019

¹ These five outcome areas are based on the Transport Outcomes Framework, which identifies what Government is seeking to achieve through the transport system. This framework is available on the Ministry of Transport's website via the following link: <https://www.transport.govt.nz/multi-modal/keystrategiesandplans/transport-outcomes-framework/>.

² The Value of Rail in New Zealand, EY for the Transport Agency [2016].

\$1.5 BILLION
RAIL CONTRIBUTES MORE
THAN \$1.5 BILLION PER
YEAR IN BROADER BENEFITS



Economic prosperity

- ▶ Rail enables the efficient movement of large volumes of goods and people. Rail enables people in our cities to commute and engage in employment opportunities. Rail connects our ports to regions, enabling goods to get to international markets. This contributes to both national economic productivity and regional economic growth, supporting people, businesses, producers and tourism.
- ▶ The freight task in New Zealand is growing, and will continue to grow in nearly all regions. We expect freight tonnage in New Zealand to increase by 55 percent by 2042.³ This will impact all transport modes.
- ▶ At present the national freight rail network is facing managed decline in many areas, making it difficult for it to support this growth. Rail hauled 3.5 billion tonne kilometres of goods in 2017/18; this is approximately 12% of the total freight task [based on tonne kilometres].⁴ In recent years rail's mode share has been impacted by the Kaikōura earthquake, and a reduction in coal traffic.
- ▶ Investment in a reliable and resilient rail network will enable it to continue to provide freight services at current levels. It provides a platform for future investment to support growth in freight rail and enable KiwiRail to grow commercially in the long-run.
- ▶ In certain sectors, rail's contribution is significantly higher. KiwiRail hauls 26 percent of all exports, playing a significant role in the movement of dairy products, meat, pulp and paper exports, coal and logs.⁵
- ▶ Rail makes a significant contribution to the functioning of our biggest cities with the metropolitan rail networks in Auckland and Wellington providing more than 35 million passenger trips a year.⁶
- ▶ Congestion in cities, particularly Auckland, constrains national productivity, reduces people's access to job markets, and affects people's health and quality of life. Moving more people and goods by rail will help us to manage congestion across the transport system and mitigate these problems. In particular, in Auckland and Wellington, where passenger rail provides an alternative to car journeys for commuters.
- ▶ Over 1 million tourist passengers also use the rail network each year, contributing to jobs and prosperity in our regions.⁷
- ▶ In addition in financial year 2019, more than 825,000 passengers and 260,000 cars were also carried across Cook Strait on the Interislander ferries. The Interislander also carried nearly 1.2 million lane metres of trucks and 560,000 lane metres of rail freight, including road bridged freight.⁸

Inclusive access

- ▶ Metropolitan passenger trains play an important role in providing people with access to places for learning, earning, and participating in society. Rail is one of the most efficient and sustainable forms of mass transit. There has already been significant investment to support patronage growth in Auckland and Wellington over the last decade and we expect this growth to continue.
- ▶ Rail networks shape cities, encouraging urban intensification along rail corridors and around passenger rail stations.
- ▶ Better long-term planning of rail will support more integrated land-use and transport planning.

Resilience and security

- ▶ Rail supports resilience in the transport network and can provide an alternative transport option for both goods and passengers in emergency situations.
- ▶ This was highlighted following the Kaikōura earthquake, where the rail line was re-opened first and was able to transport supplies needed to reinstate State Highway One.
- ▶ The Interislander ferries also provide a vital lifeline connection for the transportation of people and goods between the North and South Islands.

As part of the new planning and funding framework for rail, we will be monitoring and measuring the benefits of our investments in line with these outcomes. This is discussed further in section 3.

³ Ministry of Transport, Transport Outlook Future State (November 2017). The Ministry is in the process of updating these projections based on the National Freight Demand Study 2017/18.

⁴ Ministry of Transport, National Freight Demand Study 2017/18 (September 2019).

⁵ KiwiRail Integrated Annual Report 2019.

⁶ KiwiRail Integrated Annual Report 2019, with data from Auckland Transport and Greater Wellington Regional Council.

⁷ KiwiRail Integrated Annual Report 2019.

⁸ KiwiRail Integrated Annual Report 2019.

In 2016, an EY report quantified the non-monetary societal benefits of rail.⁹ This study looked at the benefits generated by rail, including reduced congestion (in Auckland and Wellington), lower emissions, fewer road accidents, and less road damage from heavy vehicles. The value of these benefits was conservatively estimated at \$1.5 billion per annum as outlined below:

The Ministry of Transport is working with EY to update the Value of Rail report to take into account changes in the rail and road network since 2016. The Ministry is also updating previous work on domestic costs and charges of transport.



⁹ The Value of Rail in New Zealand, EY for the Transport Agency (2016).

Why change is needed

The railway system in New Zealand has faced a number of long-term challenges

The Government is committed to ensuring a resilient and reliable rail network as an integral part of the transport system. A resilient and reliable railway is the first step towards achieving the transport and wider outcomes for New Zealand, and providing a platform for KiwiRail to grow as a commercial business.

The realisation of these benefits has been hampered by a lack of long-term sustainable investment in rail, and inadequate planning and funding frameworks. While there has been past investment in both rail freight and passenger networks, it has not been consistent or sustainable.

This has resulted in a backlog of deferred maintenance and renewals, with significant parts of the national freight rail network facing a state of managed decline.

The history of the railway in New Zealand has also created challenges

Over the last 40 years, rail has experienced a series of changes, which has affected its ability to provide services to support growing freight and passenger demands. Rail has changed ownership models from Government to private and back again:



From the late 1800's to 1982

Rail in New Zealand was mostly controlled by the central Government under the Railways Department

82

1982

Railways Corporation created as statutory corporation from Railways Department

93

1993

The rail network was sold for \$328 million to a joint New Zealand-US private consortium, led by New Zealand merchant bank Fay Richwhite

02

2002

Auckland metro rail – bought back by the Government for \$81 million

04

2004

Toll takes over Tranz Rail, selling the track infrastructure back to the Government for \$1

08

2008

The Government buys Toll's rail and ferry assets for \$690 million, and reintegrates the business with the rail network infrastructure

Today KiwiRail operates as a commercial State-Owned Enterprise. KiwiRail has been unable to fully fund the level of investment needed to sustain the full national rail freight network. Many core operational assets are at the end of their economic lives and need to be replaced, for example Interislander ferries, rolling stock and maintenance depots.

Operational restrictions, increased failure rates across the network and unplanned disruptions limit rail's contribution to the transport network. The full potential for commercial growth in freight and logistics propositions has not been able to be realised. Despite these challenges, the commercial disciplines and focus of KiwiRail have been important to support efficiency in asset management, and to drive commercial returns from the provision of freight, property and tourism services to customers.

In metropolitan areas, demand for passenger rail services has been increasing. Previous investment in rail in Auckland and Wellington has successfully delivered the intended outcomes, and rail patronage growth has continued. Investment in the metropolitan rail networks is now moving on to the next phase of expansion, as well as addressing any remaining legacy issues.

The Future of Rail Review considered the challenges faced by rail

The Future of Rail Review [the review] considered these challenges and recommended significant changes to the way we plan, fund and invest in rail.

The review recognised that our current planning and funding framework for the rail network:

- involves short-term funding decisions, which are inadequate for long-lived assets
- isolates road and rail infrastructure decisions from each other, which makes it difficult to deliver a coordinated land transport investment programme.

To realise the wide-ranging and long-term benefits of rail, the review recognised that there needed to be remedial investment, and that this investment should be accompanied by a substantial change to the existing planning and funding frameworks for rail.

The review recommended that rail network investment should be planned and funded under the long-term land transport planning and funding framework in the LTMA. This change will mean a long-term approach to funding the rail network. It will enable rail network investments to be considered as part of a more integrated approach to land transport investment decisions. Over time this will allow better investments in complementary modes.

Section Two of this plan outlines the new planning and funding rail framework for rail, and the investment priorities for a remedial investment programme over the next 10 years.



SECCO

HAMBURG SÜD

MAERSK SEALAND



Section two

Strategic priorities for Rail

Ko ngā tino whāinga a te rautaki tereina

The Government is committed to making the changes that are required to recognise the role of rail in a multi-modal transport system. Our first priority for rail is to achieve a resilient and reliable rail network over the next decade. Investment in a reliable and resilient rail network will take it out of a state of managed decline and enable it to continue to provide services at current levels. It provides a platform for future investment to support growth in passenger and freight rail services.

Our strategic priorities are in two parts:

- ▶ Part A: Establishing a new long-term planning and funding framework under the Land Transport Management Act
- ▶ Part B: Investment priorities for a reliable and resilient rail network
 - Strategic Investment Priority: Investing in the national rail network to maintain freight rail, and provide a platform for future investments for growth
 - Strategic Investment Priority: Investing in metropolitan rail to support growth in our largest cities.

This section details each of these strategic priorities.

Part A

Establishing a new long-term planning and funding framework under the Land Transport Management Act 2003

We are changing the way we plan and fund rail in New Zealand by moving from a short-term to a long-term focus

The new approach will see rail network investment decisions taken under the LTMA. This will result in the national rail network being planned and funded alongside the rest of the land transport system, including the road and public transport networks.

These significant changes to the land transport system will take until 2021 to implement and will require amendments to the LTMA. Further information about the timing of implementing the new framework is outlined in Section 4.

The following sections outline how the new planning and funding framework will work in practice, including the roles and responsibilities of key organisations in the framework.



This approach provides **greater certainty** for KiwiRail, local government and other rail participants to enable long-term planning and **investment in rail**.

Integrated and long-term planning

Integrated and long-term planning and funding of road and rail investments will:

- ▶ improve the transparency of Government investment decisions on the land transport network
- ▶ see investments being made on a more mode-neutral basis, for example, road and rail projects will be assessed on a similar national benefits basis
- ▶ facilitate a medium to long-term approach towards investment in rail, consistent with other land transport networks, reflecting that rail investment provides benefits long into the future.

This approach provides greater certainty for KiwiRail, local government and other rail participants to enable long-term planning and investment in rail. It should also enable increased customer confidence to support increased volumes on rail, providing commercial and wider benefits.

Agencies with rail responsibilities

The new planning and funding framework will require the Ministry of Transport, Waka Kotahi NZ Transport Agency (the Transport Agency), KiwiRail, Auckland Council, Auckland Transport and Greater Wellington Regional Council to work together to plan and fund New Zealand's rail network infrastructure. This includes working with other councils who have responsibility 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.

Auckland Transport and Greater Wellington Regional Council will remain responsible for planning and operating the metropolitan passenger services in their regions.

The Ministry of Transport will continue to provide strategic policy advice to the Minister of Transport on rail. This role will include developing the New Zealand Rail Plan (this document) on behalf of the Minister of Transport. The Ministry will also play an important role in coordinating the implementation of the Future of Rail Review, including the new planning and funding framework.

The Transport Agency will be responsible for advising the Minister of Transport on how rail network activities align with the outcomes in the GPS and fit with the overall land transport investment programme. The Transport Agency will be responsible for advising the Minister that the activities represent good value for money. The Transport Agency will also continue to be the rail safety regulator.

The following sections describe the key components of the new framework.

The New Zealand Rail Plan

The Rail Plan is a non-statutory planning document that will guide investment for the rail system over the longer-term by setting out the Government's strategic vision and priorities over a 10-year investment programme.

The Rail Plan will guide investment in the overall rail system, including future National Land Transport Fund (NLTF) and Crown funding decisions. The Rail Plan will also influence the GPS, which the Minister of Transport issues under the LTMA. The GPS is an important strategic document that governs investment made from the NLTF.

A new funding model for rail

Under the new framework, rail network funding will be channelled through the NLTF, with funding coming from NLTF revenue, track users and the Crown. This will support rail to be funded on the same basis as other land transport modes. This funding will be spent on continuous programmes of maintenance, renewal and management of the network with additional improvement projects considered where an investment case is demonstrated. Rail network activities will be outlined in a Rail Network Investment Programme.

Further work is underway to establish track user charges to ensure KiwiRail and other track users contribute to the cost of the rail network in a fair and transparent way.¹⁰ KiwiRail's freight and tourism services and ferries will continue to be funded as they are now, from commercial revenue and financing, and Crown investment.

Auckland and Wellington passenger trains and services will also continue to be supported by a number of funding sources, including passenger and council contributions and funding for public transport that comes from the NLTF.

The Crown may also invest for outcomes outside of transport and purchase those directly from KiwiRail or other providers; for example, investing through the Provincial Growth Fund to support regional economic development outcomes, or as the owner of KiwiRail.

Rail Network Investment Programme

Under the proposed planning and funding changes, KiwiRail will be required to develop a 3-year investment programme for the rail network.¹¹ The Rail Network Investment Programme (RNIP) will also include a 10-year forecast. The Rail Plan, and the funding envelope and signals in the GPS, will guide development of the RNIP.

The Minister of Transport will approve the RNIP. This enables Ministers to take a holistic view of rail investment to ensure it achieves their goals around the restoration of rail. This is particularly important at present, while the Crown is investing separately in KiwiRail to enable intergenerational replacement of key assets, such as locomotives and ferries.

The Transport Agency will be responsible for advising the Minister of Transport on how the proposed RNIP, and the activities under it, fit with its broader land transport investment programme under the National Land Transport Programme. This involves confirming that the rail network activities are aligned with the LTMA's purpose, and the GPS. The Transport Agency will also monitor the delivery of the RNIP.

Funding for continuous programmes, such as renewals and maintenance, will be approved via the RNIP. Assessment of this programme will include consideration of key documents including KiwiRail's asset management plan. In the near term, the focus of funding is likely to be on continuous maintenance and renewal.

Any significant improvement projects in the RNIP will be assessed by the Transport Agency as they become ready to progress and will then be submitted for Ministerial sign off. This process will help to ensure value for money.

Auckland and Wellington

Auckland Transport and the Greater Wellington Regional Council are major users of the rail networks in Auckland and Wellington because they operate extensive urban passenger rail services, and own rolling stock and station assets. It is essential that investments in the rail network take into account the needs of these urban passenger rail services, as well as freight and inter-regional passenger services that also use the networks. To recognise the need for integrated rail planning in these regions, regional rail network activities will go through their regional land transport planning processes before they are included in the RNIP.

KiwiRail will work jointly with Auckland Transport, Auckland Council and Greater Wellington Regional Council to agree a programme of proposed rail network investment and these activities will be included in each region's Regional Land Transport Plan (RLTP). This will create a formal opportunity for the Auckland and Wellington Regional Transport Committees to provide a regional view on priorities before the RNIP is finalised, and provide for public consultation on the proposals. KiwiRail will become a non-voting member of these Committees.

This approach to rail investment in the Auckland and Wellington regions will support the development of a better-integrated regional view of transport investments in these metropolitan areas, considering passenger, freight, and inter-regional needs. It is important that the metropolitan networks are planned and funded considering all demands on the network.

The proposed legislation will allow the Auckland and Wellington planning approach to be extended to other regions in future on a case-by-case basis.

The following diagram outlines the new planning and funding framework.

¹⁰ We recognise that there are existing track access arrangements in place in Auckland and Wellington. The intention is not to make changes to these arrangements in the near term.

¹¹ Rail network activities refers to what is commonly referred to as "below rail", such as track, overhead power supply, signals and platforms.

New Planning and Funding System for Rail

New Zealand Rail Plan Non-statutory – New

- Sets out Government's 10-year vision and investment priorities for rail
- Issued by the Minister for State Owned Enterprises, the Minister of Finance, the Minister of Transport and the Minister for Regional Development

Government Policy Statement on land transport (GPS) Land Transport Management Act

- Sets out the strategic direction for land transport investment, including allocating the National Land Transport Fund to different types of land transport investments
- Approved by the Minister of Transport



Rail Network Investment Programme (RNIP) Land Transport Management Act – New

- KiwiRail's 3-year investment programme for the rail network
- Prepared by KiwiRail and approved by the Minister of Transport after considering the Transport Agency's advice
- Includes Auckland and Wellington network proposals informed by RLTPs



Auckland and Wellington Regional Land Transport Plans (RLTP) Land Transport Management Act

- Sets out the proposed land transport activities for Auckland and Wellington regions
- Prepared by the Auckland and Wellington Regional Transport Committees and, for the relevant region, approved by Auckland Transport and Greater Wellington Regional Council

Part B

Investment priorities for rail

The new planning and funding framework will support significant investment in rail over the next decade and beyond



The Government's investment priorities centre on restoring a resilient, reliable and safe freight and passenger rail network for New Zealand over the next decade. This means first focusing our investment on restoring our existing rail network in order to maintain freight rail and passenger rail, and provide a platform for future investment to support growth. This investment is vital to provide confidence and support customer needs in freight and passenger markets, and to enable continued growth in rail.

The focus of our investment for restoring a resilient and reliable network is:

- ▶ Strategic Investment Priority: Investing in the national rail network to maintain freight rail, and provide a platform for future investments for growth
- ▶ Strategic Investment Priority: Investing in metropolitan rail to support growth in our largest cities.

These priorities will guide investment considered through the new planning and funding framework, and the development of the rail network investment programme.

In addition, there is investment in some inter-regional services provided from the NLTF, specifically for the Capital Connection from Wellington to Palmerston North, and the Hamilton to Auckland start-up service. Crown funding has also been provided to the mandated 'Hamilton to Auckland Intercity Connectivity business case', which will consider the potential for rapid rail between the two cities.

There are also lead investments through the PGF, including in Northland rail, and tourist rail expansion through the TranzAlpine and Coastal Pacific.

This will drive a balanced programme to:

- ▶ restore resilience and reliability to core rail freight assets as a foundation for future investment to support growth in the level of freight being carried on the national network, and to enable KiwiRail's commercial growth
- ▶ support current and future growth in Auckland and Wellington metropolitan rail networks by first completing the programme of rail investments committed through ATAP and the NLTF transitional rail funding, and then considering the next tranche of projects
- ▶ support growth in the regions through completing rail investments committed through the Provincial Growth Fund, particularly investments in Northland rail, and then considering the next tranche of projects
- ▶ ensure that safety is enhanced throughout the freight and passenger networks, and health and safety obligations continue to be met.

The following section provides further detail on our investment priorities to restore a reliable and resilient rail network, and potential future opportunities.

Strategic Investment Priority

Investing in the national rail network to maintain freight rail and provide a platform for future investments for growth

Rail is an integral part of freight supply chains in New Zealand and has potential to play a greater role

Rail is an important part of New Zealand's freight supply chain and helps ensure resilience by providing an alternative transport option for distributors and exporters.

Freight tonnage in New Zealand is expected to increase more than 55 percent by 2042 [from 237 million tonnes in 2012/13 to 366 million tonnes by 2042/43]¹², and all parts of the transport will need to play their part.

Rail plays a major role transporting New Zealand's exports, hauling 26 percent of exports to ports.¹³ Rail makes a critical contribution to particular sectors, and in particular regions of New Zealand.

In 2017/18, for example, some 40 percent of dairy product export movements were hauled by rail, mostly for export. For meat, the figure was slightly higher at 43 percent. In addition, 76 percent of all pulp and paper exports were carried by rail, as well as 100 percent of export coal.¹⁴ Rail also makes a significant contribution in other areas, such as logs, wood panels and steel.

Rail moves significant freight between the Ports of Tauranga and Auckland, lessening the load on the roads. Up to 3 million tonnes flow between the two regions, both imports and exports.¹⁵ It also handles containers to and from all major container ports in New Zealand [except Nelson and NorthPort], reducing the demands on the road network and alleviating congestion.

Despite performing well in certain areas, significant parts of the network are facing a state of managed decline.

We need to invest to provide a reliable and resilient rail freight rail network to enable rail to maintain its current services at a reliable level. This investment will provide a platform for future investment to support growth in freight rail. This will take time given the state of the current network and significant investment is required over the next decade, and beyond.

In the long-run shifting freight off the roads and onto rail will have significant safety, congestion and environmental benefits. In particular in terms of environmental benefits, on average every tonne of freight moved by rail delivers a 66 percent reduction in carbon emissions compared with heavy road freight.

"With rail infrastructure built into many of our manufacturing sites and distribution centres, **shifting freight from road to rail** is an important aspect of our strategy to **reduce carbon emissions** from freight transport."

Brendan Miller, GM Global Supply Chain Network, Fonterra, 2019

¹² Ministry of Transport, Transport Outlook Future State (November 2017). The Ministry is in the process of updating these projections based on the National Freight Demand Study 2017/18.

¹³ KiwiRail Integrated Annual Report 2019.

¹⁴ KiwiRail data and the National Freight Demand Study 2017/18 (September 2019).

¹⁵ Ministry of Transport, Freight Information Gathering System.

Case Study Kaimai Tunnel



The Kaimai Tunnel is an example of the benefits of past transformational investment in the rail network. Opened in 1978, and the longest tunnel in New Zealand at 8,879 metres, the Kaimai Tunnel links the Bay of Plenty to the Waikato, Auckland and beyond. It is an essential component of the East Coast Main Trunk rail route between Hamilton and Tauranga, linking key customers such as Fonterra and the Port of Tauranga, and is essential to support KiwiRail's freight business.

Before the tunnel opened in September 1978, the East Coast Main Trunk route, which passed through the Karangahake and Athenree Gorges, was constrained by its length, difficult grades, and inadequate rail, which prohibited the use of the more powerful diesel locomotives.

The Kaimai Tunnel was constructed to service this increasing traffic between Hamilton and Tauranga. The rail link has brought significant change in the distribution economics of the North Island, conferring regional economic

benefits through direct, shortened and speedier rail links. It has reduced travelling times between Hamilton and the Port of Tauranga by approximately an hour and a half, and has enabled heavier trains, running at greater frequencies. This is much safer than putting all this traffic on road, and avoids the use of the difficult road over the Kaimai range.

Today, there are up to 25 weekday freight train movements per day through the Kaimai Tunnel, and up to 19 movements per day during the weekends. Freight transported includes inter-port container traffic, timber and timber products, coal, manufactured goods, and petroleum. The volume of freight goods has grown significantly since its opening, and has now increased to over 5 million net tonnes in 2018/2019, a rise of almost four times the volume the old route handled in 1978.



25

UP TO 25 WEEKDAY FREIGHT TRAIN MOVEMENTS PER DAY THROUGH THE KAIMAI TUNNEL

19

UP TO 19 MOVEMENTS PER DAY DURING THE WEEKENDS

5,000,000+

OVER 5 MILLION NET TONNES OF FREIGHT IN 2018/2019

4

A RISE OF ALMOST FOUR TIMES THE VOLUME THE OLD ROUTE HANDLED IN 1978

Investment pipeline

Over the next decade, the key investment priority will be to restore the freight network to a resilient and reliable state. This will enable a better service offering to freight customers, supporting increased volumes and providing a platform for KiwiRail to grow as a commercial business over time. Intergenerational asset investment is required to address areas of decline and to support a resilient and reliable level of service.

Investment will be required to support a longer-term sustainable programme of maintenance and renewal of the national rail network. Funding will come through the NLTF under the new planning and funding framework, with support from the Crown and track users.

In addition, the Crown and KiwiRail will continue to invest in the programme of intergenerational replacement of locomotives, interisland ferries, wagons and shunts, and modernisation of maintenance facilities reaching end of life.

The key priorities for investment over the next decade are:¹⁶

- network renewals and maintenance programme – investment in tracks, bridges, tunnels and signals across the national network to improve service levels
- level crossing safety improvements
- locomotive and wagon replacement programme – replacing end of life locomotives and wagons with a modern, reliable and efficient fleet
- installation of automatic train protection for all trains operating in metropolitan rail areas and supporting alignment between Auckland and Wellington systems
- mechanical depot upgrades and renewals – improved workshop layouts, safety and productivity enhancements and seismic strengthening of a number of maintenance facilities, including Hutt Valley, Auckland and Christchurch
- design and procurement of two ferries to replace the ageing Interislander fleet and associated landside assets, enabling greater reliability, efficiency and resilience for this vital link in the freight supply chain between the North and South Islands
- core asset renewals, such as mechanical overhauls and parts replacement for the existing fleet of locomotives and wagons, freight handling equipment, hoists, generators, and enabling technology.

These investments will be the core focus over the next decade.

Investments that relate to Auckland and Wellington metropolitan areas are primarily outlined in the next section.



¹⁶ This investment will be aligned with asset management plans and will support the principal operating parameters for the network (e.g. axle load, line speed etc.). This covers the current network only, and does not cover extensions to the rail network or major upgrades such as the expansion of rail in Northland. These types of projects will require separate funding beyond the resilient and reliable investment scenario, potentially through the Provincial Growth Fund, which recognises the enabling role of rail in the regions.

Future opportunities

There are many opportunities for investment in growth and transformation, to support an increased role for rail in the freight and tourism sectors. Future priorities could include:

- ▶ more regional routes and improved logistics hubs
- ▶ improved integration and greater resilience in ferry terminals and ports, which could include considering moving the Wellington Ferry Terminal from Kaiwharawhara to a more resilient site
- ▶ additional infrastructures and rolling stock to support growth opportunities and regional initiatives
- ▶ more extensive network upgrades to enable accelerated and increased levels of service including:
 - Upper North Island – double track Auckland to Hamilton, re-open Stratford to Okahukura line, increase axle weight to 20 tonnes plus Auckland to Tauranga and 18 tonnes plus elsewhere, complete upgrade of rail in Northland
 - Lower North Island – standardise loop lengths from Palmerston North to Waikanae
 - South Island – increase axle weight to 18 tonnes plus
- ▶ further investments to support the Government’s commitment to emissions reduction, such as further electrification (as discussed in the Case Study).



Case Study

Electrification for a lower carbon future



The transport sector, and rail in particular, presents a huge opportunity to help meet the Government's commitment to transition to a carbon neutral economy by 2050.

At present, freight carried by rail saves approximately 66 percent of the carbon emissions compared to heavy road transport, so each tonne of freight that moves from road to rail makes a tangible difference to New Zealand's carbon footprint. There is much more that could be achieved, and choices to be made on whether to pursue a more aggressive carbon reduction strategy.

At present, the most credible low carbon alternative to diesel for mainline long-haul freight is electrification. Further electrification of locomotives requires investment in electrification of

the track infrastructure. Due to the cost involved, this kind of investment can generally only be justified on high volume routes, such as the heavily utilised routes of the North Island Main Trunk (NIMT) between Auckland and Wellington, and the East Coast Main Trunk (ECMT) between Auckland and Tauranga. The section of the NIMT between Hamilton and Palmerston North is already electrified.

Outside of these areas, alternative zero-emissions propulsion systems will be considered as the technology and necessary infrastructure develops. Low particulate emission diesels are the only option currently available for KiwiRail's upcoming South Island locomotive replacement programme. For replacement shunt fleets some sites can consider battery technology.



2050

GOVERNMENT'S COMMITMENT TO TRANSITION TO A CARBON NEUTRAL ECONOMY BY 2050

66%

FREIGHT CARRIED BY RAIL SAVES APPROXIMATELY 66% OF THE CARBON EMISSIONS COMPARED TO HEAVY ROAD TRANSPORT

Strategic Investment Priority Investing in the national rail network to support growing freight demand

Key Priority
Restore resilience and reliability to freight and tourism rail assets as a platform for growth

Above or below rail

Investment Priorities 2019-21

Above rail



- ▶ Start locomotive and wagon replacement programme (900 wagons)
- ▶ Start mechanical depot upgrades programme
- ▶ Refurbishment of electric fleet
- ▶ Core asset capital renewals

Below rail



- ▶ Renewals and maintenance programme for existing network
- ▶ Complete Main North Line reinstatement and resilience

Benefits of investment

Provides platform for growth:

- ▶ Improved resilience, reliability and safety
- ▶ Must secure core network first as foundation to add new services
- ▶ Provides better service level for customers
- ▶ Moves more freight by rail with benefits of reduced congestion, improved safety and lower emissions

Supports Transport Outcomes Framework:

- ✔ Economic Prosperity
- ✔ Environmental Sustainability
- ✔ Healthy and Safe People
- ✔ Resilience and Security

Investment Priorities 2021-31

- ▶ Intergenerational replacement of Interislander ships and landside facilities
 - ▶ Replacement of locomotives and wagons
 - ▶ Implement automatic train protection
 - ▶ Mechanical depot upgrades and renewals – including Hutt, Christchurch, and Auckland
 - ▶ Core asset capital renewals (e.g. facilities, technology, ship and rolling stock renewals, plant and machinery)
-
- ▶ Build resilience and reliability in existing network through expanded renewals and maintenance programme. Investment in tracks, bridges, tunnels and signals across the existing network. Supports uplift in performance against the Asset Management Plan targets over 10 years.
 - ▶ Public safety – level crossing improvement programme

Future opportunities

Future opportunities may include considering:

- ▶ more regional routes and improved logistics hubs
- ▶ improved integration and greater resilience in ferry terminals and ports
- ▶ additional infrastructure and rolling stock to support growth opportunities and regional initiatives
- ▶ more extensive network upgrades to enable accelerated and increased levels of service
- ▶ further investments to support the Government's commitment to emissions, such as further electrification.

Strategic Investment Priority Investing in metropolitan rail to support growth in our largest cities

Rail can provide modern transit systems in our largest cities

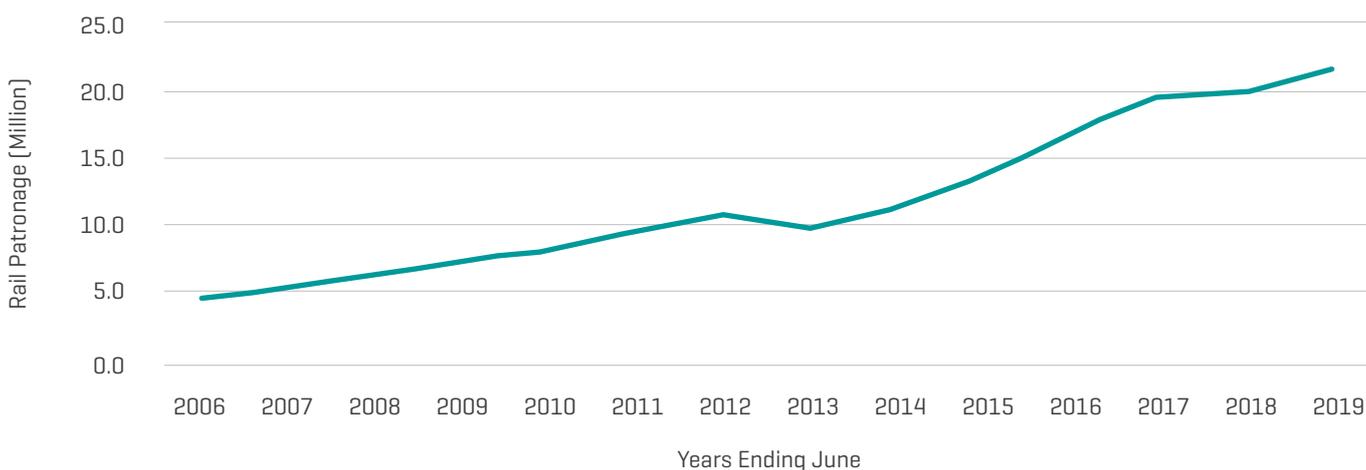
The metropolitan rail services in Auckland and Greater Wellington provide vital support for their significant commercial, government and professional services industries. They also provide important connections for freight, with key connections to the ports.

In these metropolitan rail networks, urban passenger, inter-regional passenger and freight trains all share the same rail network. As use of the network increases, there will be increasing capacity constraints and competing demands for train paths.

The Auckland and Wellington networks have seen unprecedented growth over the last decade, primarily driven by increased use of passenger rail. Between June 2009 and June 2019, total patronage on the Auckland metro network grew from over 7.65 million to 21.39 million per annum – a 180 percent increase in patronage in 10 years.¹⁷

Increased capacity in Auckland is being provided through the construction of the CRL and investments planned through the Auckland Transport Alignment Project. These investments, including the third main line between Westfield and Wiri, will allow more trains to operate efficiently and reliably on the Auckland rail network and reduce challenges associated with accommodating passenger and freight trains. As a result of these investments, over the next decade, rail patronage in the Auckland metro network is expected to more than double to over 46 million trips per annum by 2028.¹⁸

Auckland Rail Network Patronage Growth



¹⁷ Auckland Transport rail patronage data and forecasts.

¹⁸ Auckland Transport rail patronage data and forecasts.

Case Study City Rail Link (CRL)



CRL is New Zealand's largest public transport infrastructure project – a \$4.4 billion investment jointly funded by Auckland Council and the Crown. CRL is currently under construction and is scheduled to open in 2024.

CRL will provide a step-change in the capacity of the rail system. When operational, CRL will increase capacity on the entire rail network at least twofold, carrying up to 54,000 passengers an hour at peak times through the CRL tunnel linking Britomart with Mt Eden. This is the equivalent of three Auckland Harbour Bridges or 16 extra traffic lanes into the city at peak times. CRL stations are now being future proofed to accommodate nine-car trains to meet the demands of future growth and passenger numbers.

Passengers will benefit from improved connections to bus services, more frequent trains and reduced journey times. Rail has the ability to move more people more efficiently than other modes during peak traffic periods when congestion is at its highest. In addition, the benefits of CRL go beyond just transport; with job creation, new station development and place-making, Auckland and New Zealand are set to benefit from a world-class infrastructure that supports a growing population and economy.

For more information on CRL visit <https://www.cityrailink.co.nz>



\$4.4 BILLION

A 4.4 BILLION DOLLAR INVESTMENT JOINTLY FUNDED BY AUCKLAND COUNCIL AND THE CROWN

54,000

CRL WILL INCREASE CAPACITY, CARRYING UP TO 54,000 PASSENGERS AN HOUR AT PEAK TIMES

2024

SCHEDULED TO OPEN IN 2024

9

STATIONS ARE NOW BEING FUTURE PROOFED TO ACCOMMODATE NINE-CAR TRAINS

The Wellington metropolitan network has also seen growth over the past decade, from a higher base. Between June 2008 and June 2019, rail patronage grew from 11.8 million trips to more than 14.3 million. Over the last 5 years peak growth has risen by over 25 percent. If this trend continues, and sufficient capacity is provided, patronage will reach 20 million trips by 2030.

Wellington patronage growth was driven by a mix of population growth and from strategic investments, including a number of significant investments to improve passenger experience. A key future consideration is the impact of the Let’s Get Wellington Moving (LGWM) investment programme, which includes a range of active mode, public transport and road-based initiatives that are expected to appreciably increase rail network demand.

Improving the attractiveness of public transport is key to achieving mode shift and reducing dependency on private vehicles in our large and fast-growing cities. Rapid transit is the backbone of public transport systems, providing fast, frequent, high-capacity services along corridors that are separated from general traffic and therefore unaffected by road congestion. Aside from Auckland’s Northern Busway, rail makes up the entire rapid transit networks of Auckland and Wellington.

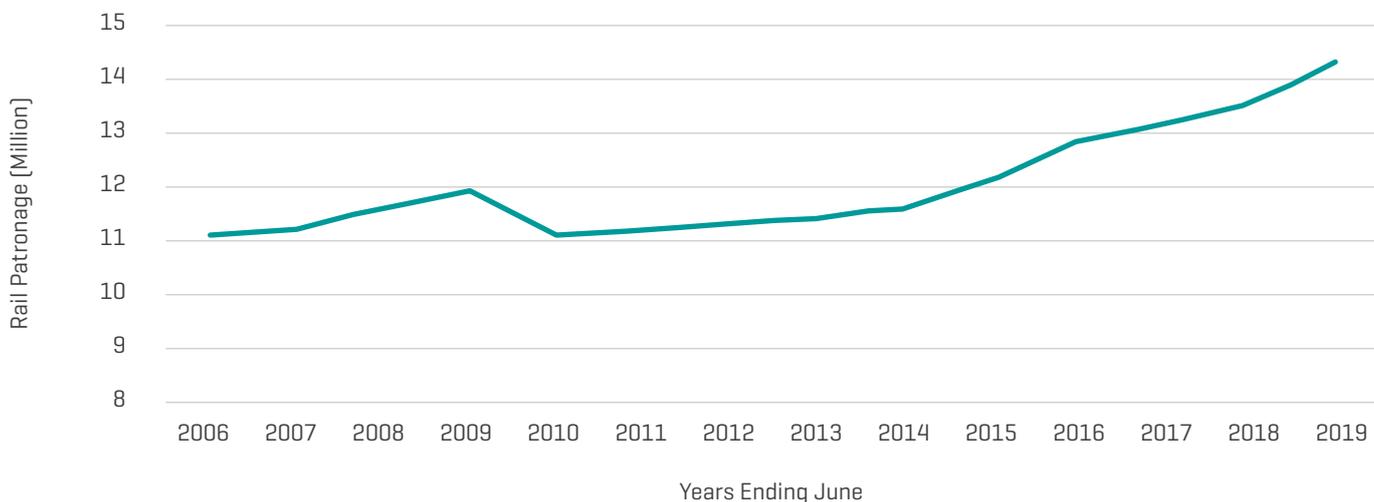
There is also growing demand for inter-regional passenger services between our largest urban centres, particularly Hamilton to Auckland and Wellington to Palmerston North, as well as for expanded metro services connecting cities to their surrounding regions. These also impact on the urban networks and what needs to be provided for.

Increasing the capacity and resilience of metropolitan rail networks, while preserving existing access arrangements, is vital to drive more efficient and liveable urban forms. It will help make room for growth and promote active travel. The role of rail in improving our urban areas is more important than ever before.

Spatial planning will play an increasingly important role in ensuring that future growth strategies for cities and regions is led by transport investment. The impacts of spatial planning activities are likely to be seen in the second and third decades, and will be important for considering future opportunities for investment.

In order to address the current and future growth there are a range of options. However, all of the options ultimately require investment. Where investment is made it often can benefit both passenger and freight traffic.

Wellington Rail Network Patronage Growth



Investment pipeline

There has been substantial investment committed to the metropolitan rail networks in recent years to enable resilient, reliable and safe metropolitan rail networks in Auckland and Wellington.

This includes investment from Auckland Council and Auckland Transport, Greater Wellington Regional Council, and the Crown. Most recently \$815 million in funding has been set aside through the NLTF in the Transitional Rail Class in the current GPS.

In line with our commitment to resilience and reliability, our strategic focus for the next decade is to deliver on this programme of investments. Our first priority is to deliver existing committed projects in the NLTF for Auckland and Wellington, and the already committed inter-regional passenger services. Following this, we will consider what more is required to support and enable growth in our urban networks.

This means the investment pipeline for the next decade will focus on delivering:

- ▶ the rail programme outlined in the Auckland Transport Alignment Project (ATAP)
- ▶ the Wellington Metro Upgrade programme (WMUP)
- ▶ enhanced regional services – Hamilton to Auckland and the Capital Connection.

Auckland Metropolitan Network

Auckland Council and the Government have worked together with other key stakeholders to develop an aligned strategic approach to planning and investing in Auckland's transport system. The ATAP package identified investment in Auckland's rail network (in addition to CRL) over the next decade of approximately \$1.4 billion. This comprises rail network upgrades with an estimated combined cost of \$940 million, plus \$500 million for new trains and stabling.

Investment Priorities

Completion of the CRL will continue to be the top priority for Auckland. The Council and the Crown have jointly set aside \$4.4 billion for investment in the CRL. This investment is outside of the new planning and funding framework.

The following other key priorities for rail investment in Auckland metro area were identified in ATAP and are priorities for investment to realise the benefits of the CRL:

- ▶ electrification of the line from Papakura to Pukekohe. This will allow the old diesel fleet to be replaced by electric trains, removing the need for passengers to change trains at Papakura. It is also a critical component of investment to facilitate urban development in the Southern Growth Area
- ▶ the provision of a third main rail line between Westfield and Wiri and an upgrade of Westfield rail junction to better separate passenger and freight services, enabling higher frequencies and improved reliability

- ▶ a programme of works to improve safety, resilience and performance of the Auckland rail network, including crossovers, line speed improvements, and remedial track, formation and drainage works.

There are a number of additional priority projects identified in ATAP that will need to be considered to support growth.

These include:

- ▶ provision of an Integrated Rail Management Centre incorporating Auckland Train Control to ensure there is capacity to manage a greater number of services
- ▶ progressive improvement and removal of road/rail level crossings to better manage safety risks and address road congestion
- ▶ a further order of new trains and stabling, cleaning, and maintenance facilities planned for later in the decade to provide additional capacity, improve train frequencies and to cater for the growth that is expected to follow the opening of the CRL.

These improvements are essential to accommodate increased train frequencies and reduce conflicts between passenger and freight services.

The Council and the Crown have jointly set aside **\$4.4 billion** for investment in the CRL. This investment is outside of the new planning and funding framework

Future opportunities

The investments identified above are essential and help to complete much of Auckland's rapid transit network over the next decade. However, with the exception of CRL, these projects do not get rail ahead of the demand curve and further improvements will be required in the medium term.

General enhancements which have a system/network-wide benefit

Ultimately the capacity constraint is the number of train paths available, which in Auckland's case means train paths shared between freight, metro, and long-distance trains. The options for creating capacity range from:

- ▶ creating new lines to support express passenger services and further separate passenger and freight trains – for example third and fourth main lines.
- ▶ reducing the number of locations where slower freight trains conflict with faster metro trains.
- ▶ operating more and longer metro trains (for example 9-car units). This will include consideration of corresponding upgrades of stations to provide capacity for additional passenger numbers, in particular key stations such as Newmarket. There will also need to be consideration of additional shelters and grade separated access to provide for all users at stations.
- ▶ running trains closer together – which is influenced by the signalling systems and the ability to get people on and off trains quickly.

With growth and increased pressure on capacity, additional investment will need to be considered to support:

- ▶ platform capacity – extending platforms to accommodate longer trains, potentially up to the equivalent of 9-car units with associated alterations to track, signalling and overhead lines
- ▶ signalling capacity and safety – ETCS level 2 and beyond will be required in future decades to operate trains closer together to increase capacity without diminishing safety
- ▶ traction system resilience and stability – providing additional capacity to support overall network resilience and change some elements of the system operation
- ▶ further level crossing grade separation and closure
- ▶ progressive fencing and security of the corridor
- ▶ additional rolling stock and related storage across the network
- ▶ consideration of land purchase to support expansion of existing or future rail corridors, including consideration of grade separation of level crossings.

Support for other potential network enhancements

Investment may need to be considered in the Auckland metropolitan rail area to support forecasted growth from investment north and south of the Auckland network, depending on the outcomes of current studies.

For example, depending on decisions taken following the Upper North Island Supply Chain Study (UNISCS), there will be implications for the Auckland network. This includes upgrades to the North Auckland Line beyond Swanson, likely extra tracks between Swanson and Avondale, and potentially construction of the long-planned rail freight bypass route between Avondale and Onehunga.

The Southern Growth Alliance is also considering what is required to support substantial urban growth in southern Auckland and the northern Waikato. The rail network may require new stations between Papakura and Pukekohe, as well as potentially extending urban passenger rail services beyond Pukekohe to Tuakau/Pokeno.

Wellington metropolitan network

The Wellington metropolitan network has had a series of investments between 2013 and 2017 to replace aging assets. This included the Matangi Electric Multiple Units (EMUs), a new EMU Maintenance Depot and associated aspects of the signalling and power systems to make them "modern EMU capable".

Since 2014 there has been a series of programmes funded and delivered to improve resilience and enable growth in line with the Wellington Metropolitan Rail Upgrade Programme (WMUP). Concurrently there has been other significant complementary investment by GWRC and others in recent times, positioning the rail network as a key part of Wellington's integrated public transport system.

Investment Priorities

Significant progress has already been made on the Wellington network, including recent investment from the Crown and through Transitional Rail funding from the NLTF. The following programmes (totalling approximately \$300 million) are currently funded and underway in the Wellington metropolitan area:

The investments above will deliver capacity and resilience improvements and in particular remove the network's long-standing vulnerability from the state of the overhead traction system. They create a sound foundation for growth investments. These projects have already been funded through the Crown and the Transitional Rail Activity Class in the NLTF. Delivering these projects is the key investment priority in the Wellington metro area.

Programme	Primary Scope Overview
WMUP II	<ul style="list-style-type: none"> ▶ Renewal of traction overhead on Hutt Valley and Johnsonville Lines ▶ Replacing all remaining 3.3kV signals power supplies with low voltage power
WMUP III	<ul style="list-style-type: none"> ▶ Catch-up track renewals formation upgrade and drainage upgrade, primarily on Wairarapa Line ▶ Remutaka and Tawa Tunnels catch up track renewal ▶ Re-sleepering twelve short tunnels ▶ Slope stabilisation ▶ Bridge replacement
WMUP IV	<p>Capacity and resilience upgrades</p> <ul style="list-style-type: none"> ▶ Trentham – Upper Hutt double track ▶ Plimmerton Turn back ▶ Wellington Station approaches – improvements to increase capacity ▶ Traction Power Supply Upgrade

In addition, a further emerging resilience and safety investment requirement relates to the Wellington Railway Station building (owned by KiwiRail). The station building is a listed heritage building, but despite some strengthening works over the last 20 years, is currently considered earthquake prone. The likely investment required to bring it much closer to 100% code compliance will be significant and is currently under review.

The role of the station and its potential development as a hub supporting rail, bus and future rapid transport solutions will also need to be considered in light of Let's Get Wellington Moving. The investment needed to support that will also need to be considered.

Future opportunities

To accommodate current growth and safety expectations the following additional investments will need to be considered in the medium term:

- ▶ New trains for Wairarapa and Capital Connection and increase in service frequency (including a new depot and Wairarapa Line capacity and safety upgrades)
- ▶ WMUP V – Signalling improvements and automated train protection
- ▶ WMUP VI – Re-modelling rail approaches to Wellington Station to add capacity

These investments would be paralleled by GWRC-led improvements to platforms and station facilities coupled with greater integration with other modes of transport.

Beyond that, with growth and increased pressure on capacity, additional investment may need to be considered to support:

- ▶ reduce length of Kāpiti Line North – South junction single track
- ▶ provide an additional platform at Waikanae
- ▶ new Metro EMU fleets
- ▶ further grade separation e.g. Kāpiti Line (NIMT)
- ▶ Wellington Station passenger terminal and building upgrades.



Investing in urban public transport in our cities

Key Priority
 Deliver on ATAP and transitional rail programme to support growth in urban public transport

Location	Investment Priorities
Reliable and resilient networks	
Auckland	<ul style="list-style-type: none"> ▶ Third main line Wiri to Quay Park ▶ Papakura to Pukekohe electrification ▶ Catch up renewals programme to improve network resilience ▶ Asset Management Plan renewals and maintenance ▶ New Auckland train control centre
Wellington	<ul style="list-style-type: none"> ▶ WMUP II – Renewal of traction overhead on Hutt Valley and Johnsonville Lines ▶ WMUP III – Catch up track renewals, formation and drainage upgrades and slope stabilisation ▶ WMUP IV – Capacity and resilience upgrades ▶ Annual scheduled renewals and maintenance ▶ Seismic compliance – Wellington Railway Station

Benefits of investment

Provides platform for growth:

- ▶ Improved resilience, reliability and safety
- ▶ Provides better service level for customers
- ▶ Supports anticipated growth with benefits of reduced congestion, improved safety and lower emissions

Supports Transport Outcomes Framework:

- ✔ Inclusive Access
- ✔ Economic Prosperity
- ✔ Environmental Sustainability
- ✔ Healthy and Safe People
- ✔ Resilience and Security

Location	Investment Priorities
	Capacity for growth
Auckland	<ul style="list-style-type: none"> ▶ Progressive improvement and removal of road/rail level crossings to better manage safety risks and address road congestion ▶ Britomart East remodelling ▶ Pedestrian level crossings ▶ New trains and stabling, cleaning, and maintenance facilities
Wellington	<ul style="list-style-type: none"> ▶ New trains to replace Wairarapa and Capital Connection carriages and provide for metro growth [including a new depot and Wairarapa Line capacity upgrades] ▶ WMUP V – Signalling improvements and automated train protection ▶ WMUP VI – Re-modelling rail approaches to Wellington Station to add capacity

Future opportunities

Auckland

- ▶ Increased platform capacity – e.g. for 9-car units
- ▶ Signalling capacity and safety
- ▶ Traction system resilience and stability
- ▶ Further level crossing grade separation and closure
- ▶ Progressive fencing and security of the corridor
- ▶ Additional rolling stock and related storage across the network
- ▶ Completion of the fourth main line – Westfield to Pukekohe
- ▶ Grade separation Westfield Junction
- ▶ Enhancements North/South NIMT; NAL/Western Line and Southdown to Avondale
- ▶ Hamilton to Auckland service enhancements

Wellington

- ▶ Reduce length of Kāpiti Line North – South junction single track
- ▶ Provide an additional platform at Waikanae
- ▶ New Metro EMU fleets
- ▶ Further grade separation e.g. Kāpiti Line [NIMT]
- ▶ Wellington Station passenger terminal and building upgrades

Enhanced inter-regional services

Investment Priorities

The priority for regional commuter rail will be to support existing regional services between Hamilton and Auckland, and between Palmerston North and Wellington.

Palmerston North to Wellington

KiwiRail operates an inter-city service, the Capital Connection, between Palmerston North and Wellington, with one return service per day on weekdays. KiwiRail has been running the Capital Connection service since 1991, and has had limited funding from councils for the last four years.

The service runs close to capacity, with approximately 135,000 passenger trips per year, but currently uses older rolling stock which is nearing its end of life and needs to be either refurbished or replaced. A current service short life extension has been funded through the NLTF, with two future longer-term alternatives under consideration:

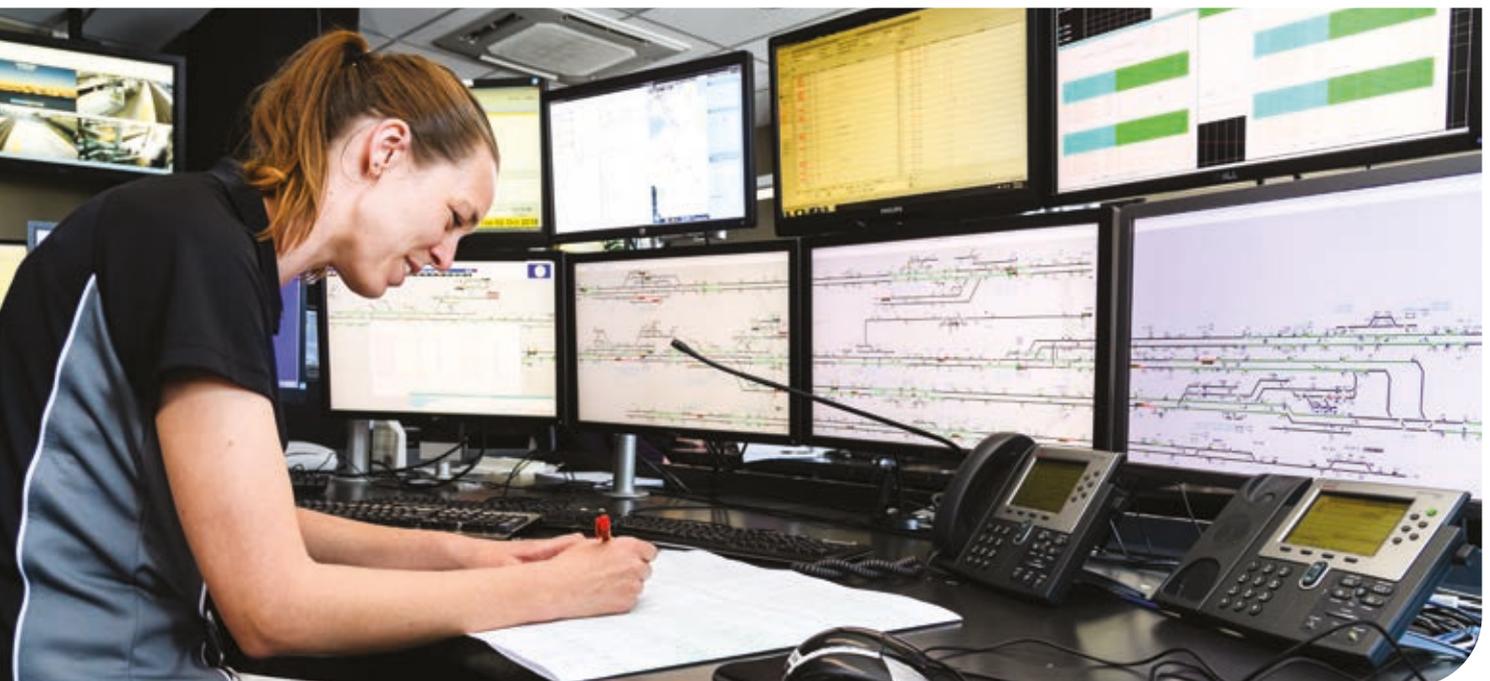
- ▶ replace current assets with Auckland to Hamilton equivalent assets; or
- ▶ purchase new longer distance rolling stock.

Hamilton to Auckland

Funding has been committed to a five-year interim rail service (2 returns per day) starting in mid-2020. It will be operated by KiwiRail.

The services will use re-manufactured diesel-hauled carriages terminating initially at Papakura where passengers transfer to Auckland Metro Services. Extending this service to stop at the Puhinui interchange (and then run on to Westfield for servicing as currently planned) is under investigation. The level of service provided will be akin to the Capital Connection in Wellington, with the Hamilton-Auckland service providing a higher level of amenity offering coffee, food, wine, comfortable seats, Wi-Fi and tables.

Crown funding has also been provided to the mandated 'Hamilton to Auckland Intercity Connectivity business case', which will consider the potential for rapid rail between the two cities. Among other issues, impacts on line operating capacity will need to be assessed, in particular north of Wiri.



Of the PGF funding committed to rail, a balance of **\$172 million** has yet to be assigned to specific projects.

Enabling regional development and connectivity through the PGF

Rail offers benefits to regions through creating jobs, delivering goods to people and ports, moving freight off regional roads and bringing tourists to regions

Regional New Zealand plays an important role, both socially and economically. The regions generate the bulk of New Zealand's commodity exports, such as agriculture products, forestry and manufacturing. The Provincial Growth Fund (PGF) is investing in building the connectivity and economic productivity of regions, and ensuring that regions get their fair share of the opportunities that rail can provide.

In addition to the priority investments that will be considered under the new planning and funding framework above, the Government is separately making lead investment in regional rail projects through the PGF.

Investment in regional rail increases throughput of freight and reduces travel times, while improving the resilience and sustainability of the transport infrastructure that connects regions to one another and their exports to markets. It provides opportunities to bring tourists to our regions, and creates jobs and economic development opportunities for regional New Zealand.

As a key transport mode for bulk exports such as forestry products, investment in rail underpins current and future areas of economic opportunity in the regions. Improved intra- and inter-regional transport links can give businesses and investors confidence that they will have reliable access to markets, enabling accelerated business growth and more, higher-paid jobs in the regions. Multimodal

freight and distribution hubs offer efficiency gains for freight transport and encourage investment from private enterprise.

The regional focus of the PGF means it has been uniquely placed to invest in transport in the regions, and it has made substantial investments in rail to capture the benefits it offers to those areas. This investment has been focused where it will support regions' key sectors and exports and have a significant and sustainable impact on their productivity.

Investment Priorities

To date, over \$560 million from the PGF has been committed to rail projects in the regions. This includes \$300 million for regional rail initiatives announced in the Wellbeing Budget 2019. This investment will drive regional economic development and support local employment through delivery of the PGF-funded rail investment programme.

The investment pipeline so far includes the following projects:

- ▶ adding additional capacity and a new premium service to the TranzAlpine, delivering increased high net worth tourists to the West Coast and supporting local jobs
- ▶ upgrades to the Coastal Pacific, including additional capacity, a new premium service and an expansion to a full 12 month timetable (from existing 7 months)
- ▶ securing land for an intermodal freight hub in Palmerston North – KiwiRail is developing plans for a high-tech, multi-modal freight hub which will help grow Palmerston North's role as a critical freight distribution centre for the lower North Island

- ▶ Whanganui to Castlecliff rail line upgrades to support resilience and reliability and encourage modal shift to rail
- ▶ constructing a log hub in Dannevirke (dependent on the outcomes of an evaluation) and an intermodal distribution hub in Kawerau
- ▶ refurbishing the Hillside heavy engineering workshop in Dunedin
- ▶ North Auckland Line (NAL) repairs and maintenance south of Whangarei to halt the previous state of managed decline and ensure the line remains operational.

Future opportunities

Of the PGF funding committed to rail, a balance of \$172 million has yet to be assigned to specific projects.

The allocation of this balance will be informed by the final report of the UNISCS Working Group. Future opportunities that may be funded by the PGF include:

- ▶ Marsden Point Rail Link
- ▶ NAL Upgrade to allow for growth
- ▶ NAL Upgrade to fully signalled 20 tonne plus axle load.

Enabling regional development and connectivity through the PGF

Drive regional economic development through delivery of PGF funded rail investment programme



1. NORTHLAND RAIL – ESSENTIAL REPAIRS TO NAL

2. CENTRAL NORTH ISLAND FREIGHT HUB LAND PURCHASE AND SITE PLANNING

3. NAPIER TO WAIROA RE-OPENED

4. WHANGANUI UPGRADE WORKS

5. DANNEVIRKE LOGGING SIDING AND KAWERAU DISTRIBUTION HUB

6. SOUTH ISLAND TOURISM – COASTAL PACIFIC AND TRANZALPINE ENHANCEMENTS

7. HILLSIDE HEAVY ENGINEERING CAPABILITY

8. IMPROVEMENTS TO REGIONAL NETWORK RESILIENCE AND CAPABILITY

Remainder of \$300m PGF rail package announced in Budget 2019 – under review

Benefits of investment



Supports PGF criteria, particularly:

- creating jobs, leading to sustainable economic growth
- enabling Māori to realise aspirations in all aspects of the economy
- encouraging environmental sustainability and helping New Zealand meet climate change commitments
- improving resilience, particularly of critical infrastructure and by diversifying our economy.

Focused on opportunities that are sustainable commercially over time

Future regional growth opportunities



- Northland:
 - Marsden Point Rail Link (Phase III)
 - NAL Upgrade to allow for growth (Phase IV)
 - NAL Upgrade to fully signalled 20 tonne plus axle load (Phase V)



Investment in rail is anticipated to deliver rail patronage in the **Auckland metropolitan network** to more than double to over **47 million** passenger trips per annum by 2028

Section three

Measuring the benefits of investment

Me pēhea te whakawāriu i ngā painga huhua noa

We need to monitor our performance in delivering these investments to ensure they are achieving the outcomes of the system

We will be tracking our investments and the outcomes they are achieving for the transport system and New Zealand. We expect to monitor the benefits realised through our investment in a number of ways. Further work is underway on developing the monitoring framework for rail.

Measuring the achievement of outcomes

Investment in rail is anticipated to deliver:

- ▶ increased resilience and reliability of the rail network to enable rail to retain its share of the freight market
- ▶ increased capacity in Auckland and Wellington passenger rail networks to support:
 - ✔ rail patronage in the Auckland metropolitan network to more than double to over 47 million passenger trips per annum by 2028.
 - ✔ rail patronage on the Wellington metropolitan network to reach 20 million trips by 2030.

It will also contribute to transport system outcomes as outlined in Section 1.

We will report investment levels for rail assets including maintenance, renewal and improvement of the network.

Further work will occur on the overall monitoring framework as part of the development of the final GPS, and the final Rail Plan. In order to ensure a cohesive monitoring and performance framework for

the national land transport system, rail activities funding from the NLTF will form part of the GPS monitoring framework in future.

KiwiRail reports its performance as a commercial State Owned Enterprise (SOE) in accordance with the expectations of Shareholding Ministers.

Measuring improvements to the network

At a technical level, the improved resilience and reliability of the network will be tracked and monitored.

Investment will be aligned with asset management plans and will support the principal operating parameters for the network (for example axle load and line speed) which will be outlined in the RNIP. Detailed operational measures will be developed and included in the RNIP, with regular reporting on progress.

These measures will reference required levels of service for the national network and metropolitan areas.



www.kiwirailscenic.co.nz

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If you wish to provide early **feedback on the plan** before the formal engagement in early 2020 you can email: DraftNZRailPlan@transport.govt.nz

Section four

What next?

He aha kei te whai ake?

Feedback on the Plan

Formal feedback will be sought on the draft Rail Plan as part of the engagement process for the draft GPS 2021 which is due to occur in the first half of 2020. We have timed release of this Plan prior to the release of the draft of the GPS 2021, to ensure that our vision for rail can inform its development.

Regions are in the process of updating their key transport planning documents, including their plans for rail. As part of this, they may wish to provide feedback.

We will issue the final Rail Plan alongside the final GPS in the second half of 2020.

The final Plan will also provide further information on funding sources and principles to facilitate the ongoing investment in the development of rail, including track user charges to support the NLTF. The monitoring framework will also be finalised alongside the GPS.

Alongside engagement on the draft Plan, we are also progressing amendments to the LTMA. The legislative process will allow for an opportunity to provide feedback on the changes proposed to the LTMA to enable the new planning and funding framework outlined in Section 2, Part 2.

If you wish to provide early feedback on the plan before the formal engagement process next year you can email: DraftNZRailPlan@transport.govt.nz

The Ministry will update its website regarding the formal engagement process through the GPS and timelines for formal feedback.

Overall implementation

The changes described in this plan are significant and will take until 2021 to implement. The overall programme will require a significant commitment from all parties involved in the rail activity, particularly from the Ministry of Transport, KiwiRail, the Transport Agency, Auckland Transport, Auckland Council and Greater Wellington Regional Council.

The Ministry of Transport will lead the implementation approach and will work collectively with all agencies to support the implementation.

We aim to implement the overall regime in mid-2021 in line with the next National Land Transport Programme. We intend to introduce legislation giving effect to the new planning and funding framework by the end of this year.

KiwiRail will also start working with Auckland Transport, Auckland Council and Greater Wellington Regional Council to develop the Rail Network Investment Programme. This will occur alongside the legislative changes occurring, in order to align with the next National Land Transport Programme timing.

This is an ambitious two-year implementation period. It will take much longer to fully embed such significant changes, and will require continued refinement over time.



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