

# WELLINGTON REGIONAL RAIL STRATEGIC DIRECTION 2020



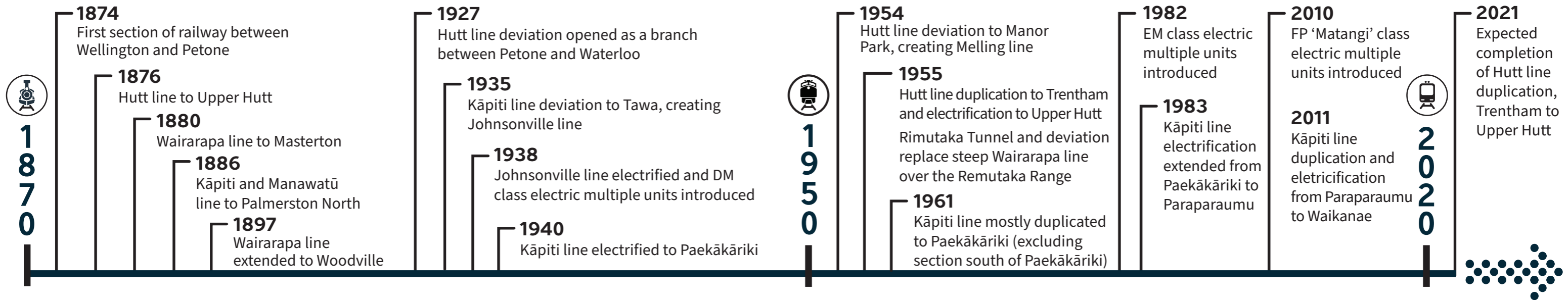
# Where we've come from

Rail has been a key component of the Wellington Region's transport network for more than 150 years. The first rail line was built in the 1870s between Wellington and Wairarapa. What is now known as the North Island Main Trunk followed in the 1880s, providing a more direct route to Manawatū and the north. Two branch lines were later added.

The region has grown around the rail network, as villages have turned into towns and cities. Much of it was actively built around rail as transit-oriented development. Rail has become an increasingly important way for people to move about, particularly to Wellington's CBD, and services and infrastructure have been continuously expanded and improved to serve an ever-growing population. The region is a leader in per capita use of public transport.



## Wellington Region Rail Timeline

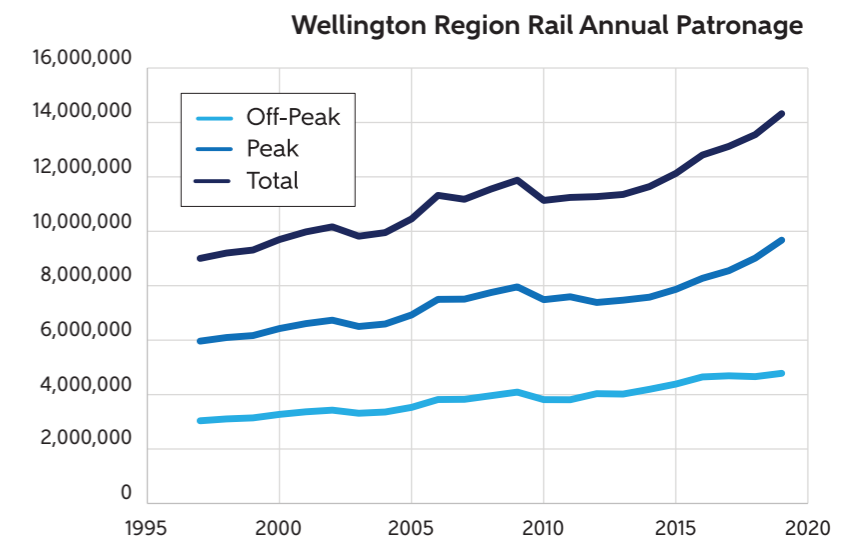




# Where we are now

The Wellington Region Rail map (previous page) shows the main elements of today’s network, which includes the Wairarapa and Hutt lines, the Manawatū and Kāpiti lines as part of the North Island Main Trunk, and branches to Johnsonville and Melling. This network is electrified south of Upper Hutt and Waikanae, providing a low carbon transport option.

About 75 percent of Wellington Region’s population lives north of the Wellington CBD. The rail network forms the backbone of their public transport network and a key link to Wellington’s CBD. **425,000 residents** of this area are served by 2,250 Metlink commuter trains in a typical week. They make about **42,000 trips per weekday (at peak)** and more than **14.3 million passengers per year**. Rail currently accounts for **41 percent of peak trips from the north** (18 percent of all peak trips) to the Wellington CBD where 40 percent of jobs are located.



More than 100 KiwiRail freight trains and 16 inter-regional passenger trains also use the rail network in a typical week, connecting Wellington with points to the north, the port, and the South Island via interisland ferry connections.

This regional rail system is critical to the regional and national transport systems providing:

- A primary means of access for many people
- Significant transport system capacity
- Transport system resilience
- Freight connections that are vital to the national rail system

Rail’s importance has been demonstrated by several low frequency, high consequence events over the last decade, where temporary closure of rail lines had significant and widespread transport system and economic impacts.

The regional rail system has been the subject of significant investment in the last decade, primarily to address underinvestment in the previous 20 years, including:

- Replacement passenger rolling stock (electric multiple units and locomotive-hauled carriages)
- Double tracking and electrification to Waikanae
- Track and signal upgrades
- Station upgrades
- Improved Smarter Connections - particularly increased park & ride, and cycle storage facilities and capacity

This investment has resulted in **substantial patronage growth** – more than **20 percent** over the last decade (twice the rate of population growth) and nearly **6 percent** in the 2018-19 year alone.

Investment continues, including further replacement of life-expired assets, capacity/ resilience upgrades, further double tracking, and other infrastructure improvements to enable peak frequency improvements and optimise fleet utilisation. However, much more needs to be done to allow rail to support regional growth.



# Where we're headed

The new Wellington Regional Growth Framework (RGF) spatial plan developed by territorial authorities in the region, Horowhenua District Council, central government and iwi shows a population growth scenario of 200,000 over the next 30 years.

The RGF indicates that over 75 percent of this increase is likely to occur along the eastern and western growth corridors north of the Wellington CBD, which extend to Masterton and Levin (in the Manawatū-Whanganui region), respectively.

The growth corridors reflect the primary rail corridors, as shown in the table on the right.

Rail, as a rapid transit service, is identified as a key enabler of regional growth, through intensification around railway stations and improved connections to stations.

The RGF recognises that rail capacity upgrades will be necessary to enable and meet the resulting demand and identifies access improvements at Wellington Station, elimination of the single track section between Pukerua Bay and Paekākāriki and service improvements north of Waikanae as being key.

Waka Kotahi NZ Transport Agency recently completed a draft Regional Mode Shift Plan (MSP), which has been endorsed by the Regional Transport Committee. The MSP seeks to increase the combined active and public transport mode share of journey to work trips by 40 percent (from 31 percent to 45 percent) by 2030, which reflects the draft Regional Land Transport Plan (RLTP) 2021 targets. This includes a 30 percent reduction in transport-generated carbon emissions over that period. Rail currently accounts for 30 percent of all active mode and public transport journey to work trips.

## Rail Catchment Population

Rail Line	Journey Duration	2018 Actual	2051 Forecast	Growth
Manawatū and Kāpiti	30 plus*	154,200	222,200	44%
Porirua and Tawa	under 30	67,600	85,000	26%
Wairarapa and Upper Hutt	30 plus	109,100	130,500	20%
Lower Hutt	under 30	85,000	99,600	17%
Johnsonville	under 30	38,800	45,200	16%
<b>Total</b>		<b>454,700</b>	<b>582,500</b>	<b>28%</b>

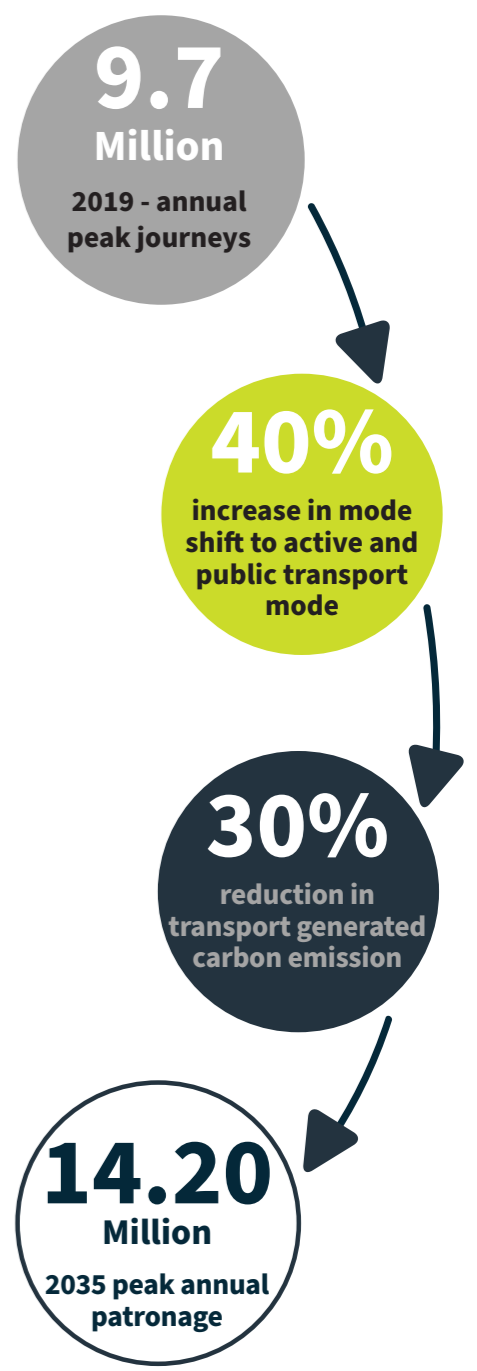
\*in minutes

Rail capacity and service levels will need to increase to respond to the RLTP targets. To do this, the MSP anticipates that current initiatives will need to be completed, including proposed improvements to signalling and longer distance services to Masterton and Palmerston North. The MSP supports detailed planning of further rail network improvements.

The RLTP targets equate to 13.6 million peak passengers by 2030 (compared to 9.7 million in mid-2019). This is considered a stretch target due to COVID-19 impacts and long lead times for infrastructure and rolling stock. However, the Let's Get Wellington Moving (LGWM) initiative, which focuses on the area south of Wellington Station, includes plans to increase system-wide demand for public transport. Modelling undertaken by LGWM assumes peak rail patronage will rise to 14.2 million by 2035. This target is achievable if the planning process starts soon.



Investment logic mapping for the new Regional Rail Plan (RRP) identified the following issues that must be addressed to support these objectives:





# What we need to address

To make this a reality, the following improvements, and steps to get there are required to provide the needed capacity and make rail the preferred choice of travel:

Improvements	Steps to Improvements
Improvements to peak and off-peak frequency to make rail more convenient and accessible	Renew behind-the-scenes rail network infrastructure to enable more frequent services
Improvements to rail capacity to make rail more comfortable	Buy more trains to operate at higher frequencies and bigger trains at peak times
Improvements to rail reliability to make it more dependable	Reduce the probability of disruptions and cancellations
Improvements to overall access and station facilities to make the end to end experience more enjoyable	Station improvements that include easier access by a range of modes, such as better access for those less able and expanded shelter during poor weather

Addressing these issues will enable us to achieve our vision of a rail system that provides safe, customer focused and efficient rail passenger and freight services, and supporting infrastructure, to drive the region’s economic development and social wellbeing in an environmentally and socially sustainable and resilient manner.

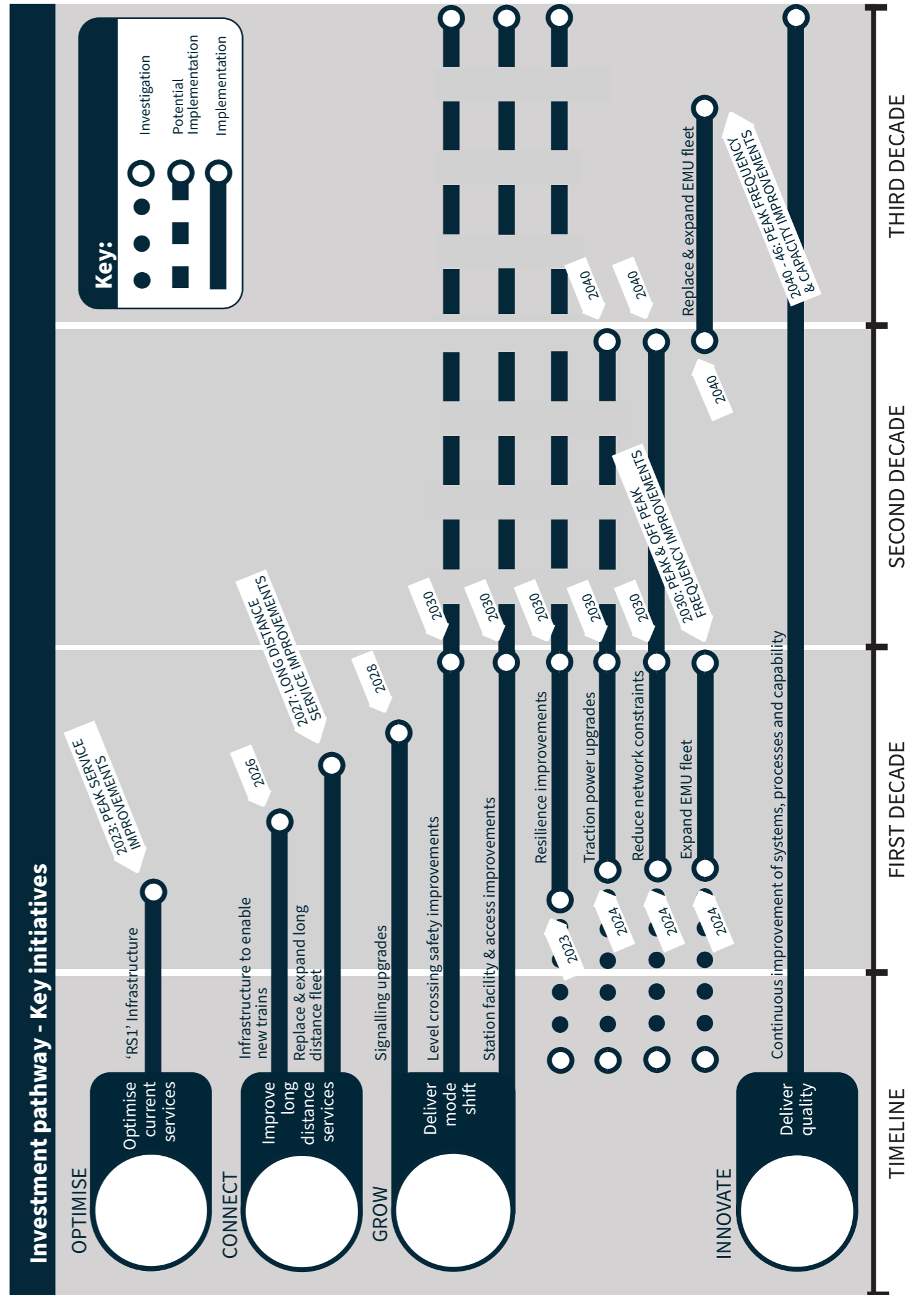
The ultimate goal is to make rail the main way for people to move between communities north of and into the Wellington CBD by providing:

- Highly connected stations in communities where people work, live, play and learn
- Accommodating stations that make any wait both pleasant and productive
- Payment options that make for a seamless travel experience
- Frequent services that are faster and more convenient than by car
- Reliable services that recover quickly from disruption
- Links that facilitate convenient connections for national freight customers
- Infrastructure and safety systems that enable transport without undue conflict
- An overall package that exceeds customer expectations, providing high satisfaction

To support this, we propose the following investment pathway for the new RRP:

- Aid mode shift, through capacity improvements and increased service frequency by:
  - Completing planned network capacity and frequency improvements in 2023, to provide short term capacity increases
  - Replacing aging trains and refining service levels on long distance Masterton and Palmerston North services by 2027, to meet customer demand and service expectations (fleet decarbonisation will also be a consideration)
- Improve network safety by upgrading the signalling system to meet modern safety standards and enable future frequency by 2028
- Minimise transport conflicts and safety risks by undertaking a level crossing programme from 2021 – 2030
- Upgrade customer experience to aid mode shift through station facility and access improvement programme from 2021 – 2030
- Provide value for money operational and asset management and planning through continuous improvement of systems, processes and capability.

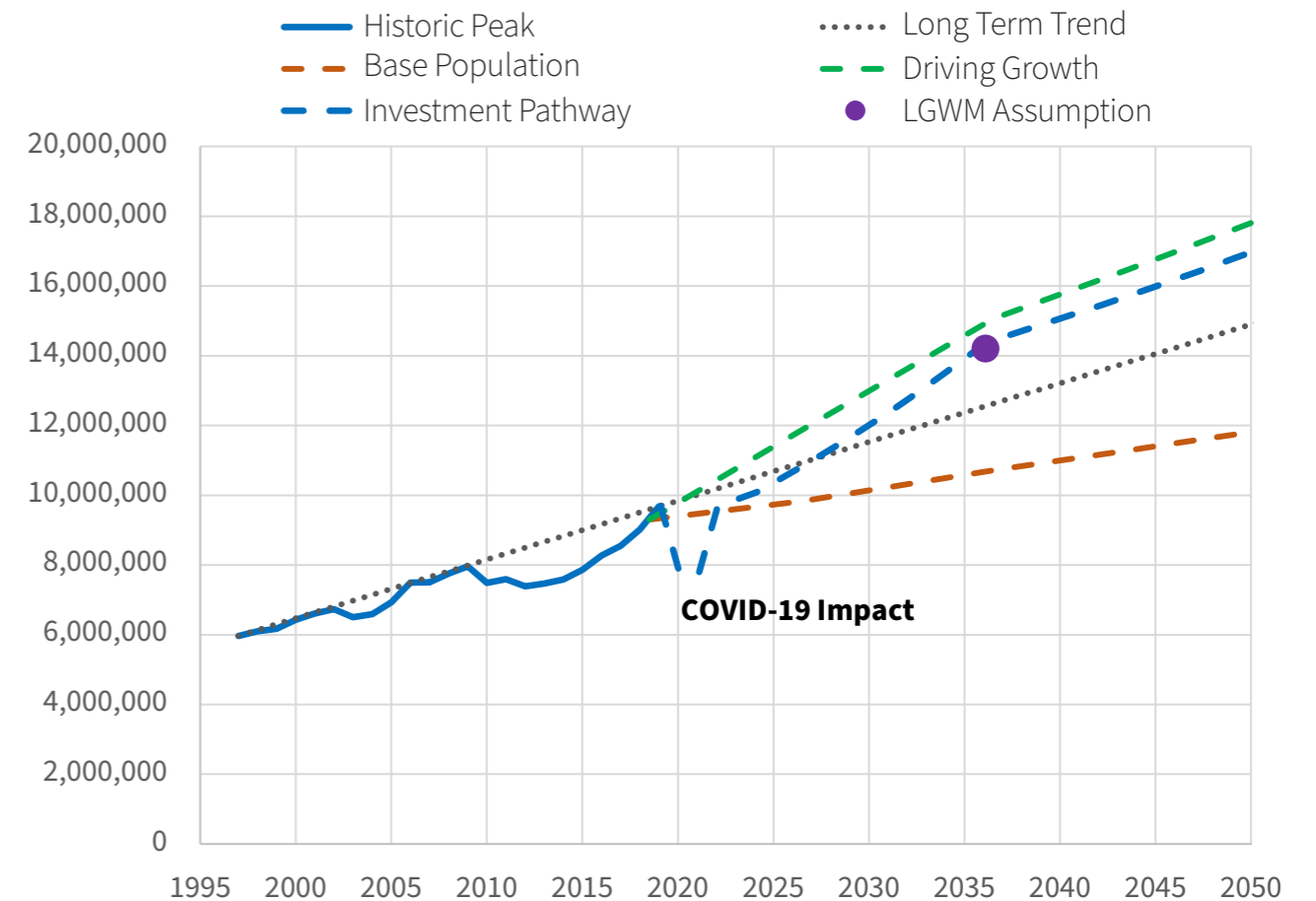
- Complete the following investigations by 2024, to ensure that improvements can be delivered within the required timeframes:
  - Capacity improvements to meet and encourage anticipated mode shift - will require changes in capacity and frequency in 2030 and 2040. Key areas of focus are likely to be:
    - ⊙ Traction power supply to facilitate and enable future peak train demand
    - ⊙ Remaining sections of single track to unlock passenger and freight capacity on Kāpiti line to Waikanae and between Pukerua Bay and Paekākāriki (10 year lead time, earliest 2030)
    - ⊙ Track capacity and flexibility at Wellington Station and the freight terminal junction at Kaiwharawhara (10-year lead time, earliest 2030)
    - ⊙ The electric multiple unit fleet needed to aid capacity and frequency by 2030 and 2040 as part of the existing Matangi fleet replacement
    - ⊙ Future freight frequency and capacity needs
  - Operational reliability and resilience requirements to meet customer expectations
  - Lifeline resilience requirements to support risk management
  - Service level needs outside peak periods for increase in mode shift and transport system decarbonisation
  - Network access opportunities through additional stations and/or station optimisation, including the Melling Line
  - Opportunities to assist with regional urban development as identified in the RGF by supporting transit orientated development
- Deliver preferred solutions identified through the investigation and business case processes outlined above.





The investment pathway will meet the 2035 LGWM rail patronage target despite the expected short-medium term impact of COVID-19.

**Investment Pathway Projected Peak Patronage**



These investments have long lead times between 6-10 years, so planning needs to start now if they are to be available when needed to support regional (and national) growth, decarbonisation and mode shift objectives.

Affordability for key funding stakeholders is likely to be an issue. The proposed investment pathway has been staged to provide service improvements when required, and infrastructure improvements only when needed to support service improvements.

Further work is underway to determine the detail of the investment programme, including costs.

This investment pathway supports the strategic direction laid out in the:

- Government Policy Statement of Land Transport 2021-31
- National Land Transport Plan 2018-21 (currently being updated)
- Draft New Zealand Rail Plan 2019
- Wellington Regional Land Transport Plan 2018 (currently being updated)
- Wellington Regional Public Transport Plan 2014 (currently being updated)
- Draft Wellington Regional Growth Framework 2020
- Wellington Regional Mode Shift Plan 2020
- Previous Wellington Regional Rail Plans



The RRP and its outcomes are summarised below:

