National Infrastructure Plan

Forward Guidance for Infrastructure

Summary of results and findings

NEW ZEALAND INFRASTRUCTURE COMMISSION
Te Waihanga

NZ Infrastructure Commission

February 2026

Te Kāwanatanga o Aotearoa
New Zealand Government

Purpose of this document

- The **National Infrastructure Plan** shows how to efficiently meet long-term infrastructure needs. It contains recommendations and advice for the Government to improve the infrastructure system.
- Our **Forward Guidance** provides forecast investment levels for different infrastructure sectors, grounded by what is sustainable and affordable for New Zealanders.
- This document explains the results and development of our Forward Guidance, which is covered in Section 3 of the National Infrastructure Plan *(Planning what we can afford).*

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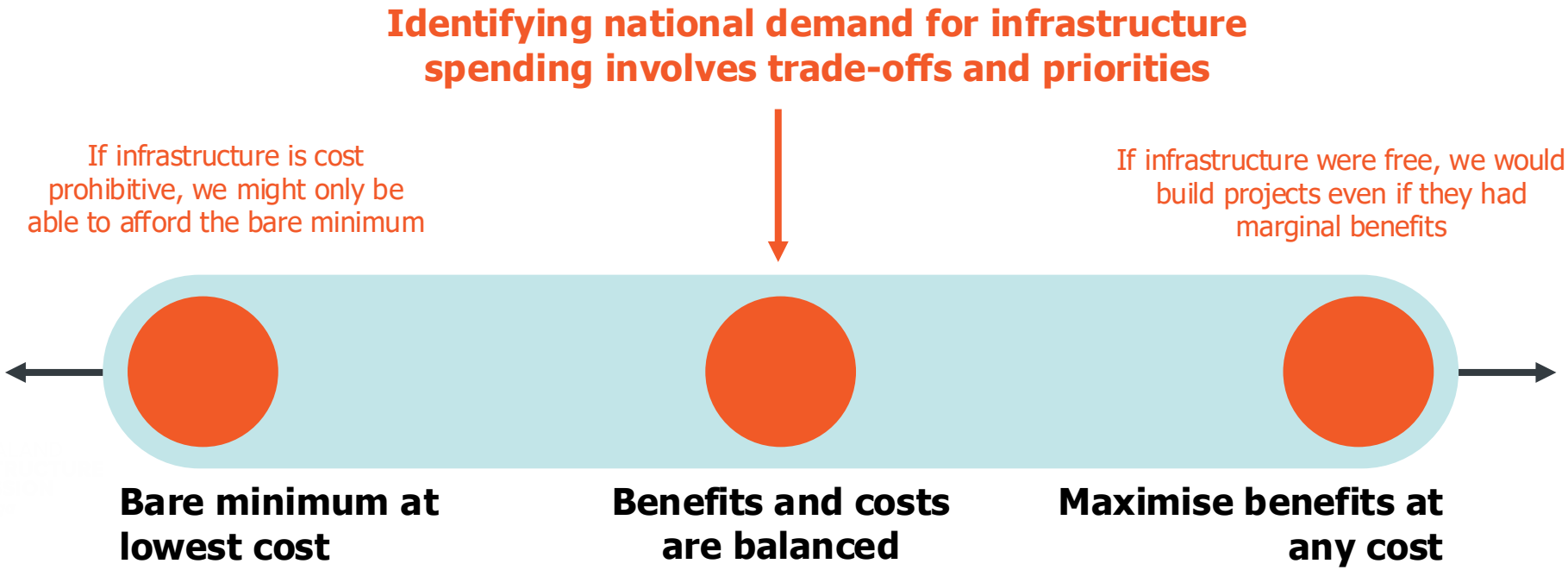
Cut to the chase:
Summary of our key results

What is a sustainable level of investment?

The importance of considering trade-offs

- The Commission has developed a way of forecasting future infrastructure investment demand called Forward Guidance. It involves understanding what New Zealanders are willing to spend on infrastructure, the constraints we face as a country, and the need to prioritise across sectors.
- Our approach focuses on sustainability, affordability, and prioritisation.



High-level Forward Guidance

Investment demand will increase in sectors like health and electricity and moderate in transport and education

Sector	Recent investment trends, % of GDP (2010–2022)	Forecast future investment demand, % of GDP (2024–2055)	Countries that currently invest similar shares of GDP as our forecast	Key drivers of future investment
Network Infrastructure				
Land Transport Roads, Public Transport, Rail	1.3%	1.0% ↓	Portugal, Finland, Sweden	Decarbonisation, slowing income and population growth
Electricity and Gas	0.8%	1.3% ↑	Iceland, Costa Rica, Australia, Latvia	Decarbonisation, renewals
Water and Waste	0.6%	0.5% ↓	Denmark, Estonia, Slovakia, Poland	Renewals and natural hazards
Telecommunications	0.7%	0.7%	NZ amongst highest in the world, with Chile, Costa Rica, Slovenia, and Canada	Renewals, stable outlook
Social Infrastructure				
Primary/Secondary Education	0.4%	0.3% ↓	Sweden, Czechia, Germany (primary, secondary, and tertiary combined)	Demographic change
Tertiary Education	0.6%	0.5% ↓		Demographic change
Hospitals	0.2%	0.4% ↑	Sweden, Netherlands, Czechia, Finland	Demographic change and renewals
Public Administration and Safety	0.9%	0.8%	N/A	Renewals, stable outlook
Social Housing	0.3%	0.3%	N/A	Population growth, catchup investment
Other Public Capital	0.2%	0.2%	N/A	Renewals, stable outlook

International Benchmarking

High spending, mixed results

	NZ difference from comparator country average (based upon simple average of multiple measures)					
Network	**Investment levels**	**Quantity of infrastructure**	**Usage**	**Quality**	**Comparator countries**	**Notes**
Roads	+34%	-13%	-33%	-13%	CZE, CAN, FIN, SWE, ISL, NOR	High investment levels, low usage, high amount of fatalities on the network
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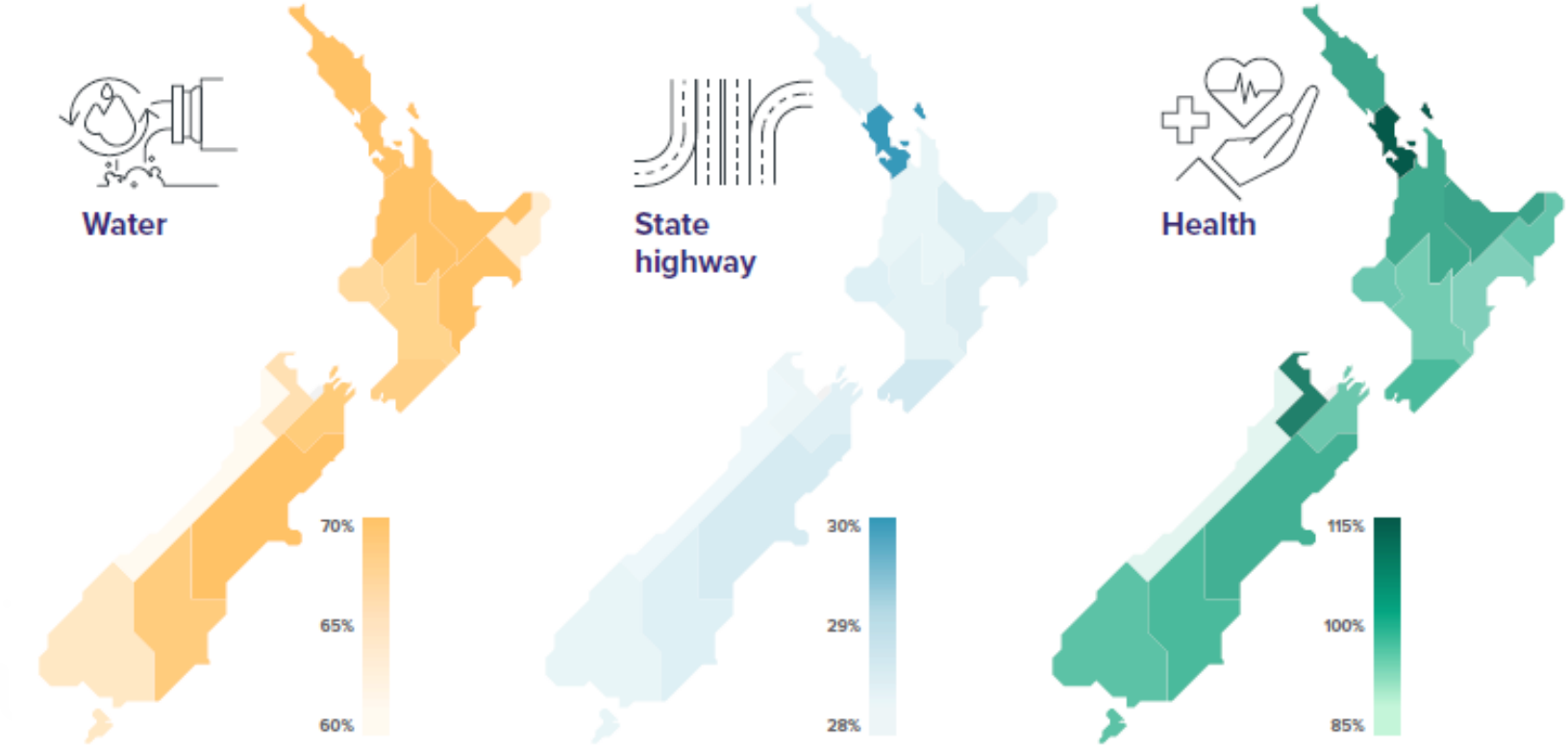
Health	-25%	-10%	-2%	-13%	UK, AUS, SWE, DEN, ISL, NOR	Low amounts of some medical equipment, some higher wait times, and older hospitals
Education	+1%	-10%	+6%	+4%	CHL, FIN, AUS, ISL, NOR, USA, IRL	No clear deficits or shortages
Telecommunications	+28%	-12%	+3%	-4%	COL, CRI, CHI, CAN, FIN, SWE, ISL, NOR	High investment levels, developed fixed broadband but underdeveloped mobile broadband
Water	+70%	-3%	+99%	+9%	CHL, GRC, ESP, CZE, CAN, FIN, SWE, ISL, NOR	High levels of investment, very high usage, average levels of leakage.

Note: the metrics and methodology for the figures in this table are available in the attached technical report on our international benchmarking work.

Regional Forward Guidance

By 2050, every region will have more infrastructure, but growth won't be evenly distributed

Expected regional variation in infrastructure network growth, 2025 to 2050



Some infrastructure networks will have widespread demand growth, although growth will be stronger in regions with fast-growing and ageing populations. This is the case for hospitals.

Regional demand will likely be less responsive to population growth for other networks. State highways, which have traditionally connected cities and towns, are a good example.

Even in networks where there is projected to be less overall demand, like primary schools, there will still be hotspots of local demand.

Source: National Infrastructure Plan. Note: Percentage changes represent the estimated change in asset values in each region

Introduction:

Forward Guidance underpins the National Infrastructure Plan

The Plan's Four Themes

Applying these themes would make a material difference to how we plan, fund and deliver infrastructure

1

Planning what we can afford

The Plan provides national and sector-level guidance on sustainable and affordable infrastructure investment levels for the next 30 years. It also contains advice on how to price and fund different types of infrastructure, ensuring we only spend what we can afford.

2

Looking after what we've got

Most of the infrastructure we will need in 30 years already exists. The Plan makes maintenance and renewals a priority. Several recommendations focus on strengthening asset management practices, ensuring capital-intensive central government agencies are looking after what they own.

3

Prioritising the right projects

The Plan lays out a vision for improving project planning and assurance to make sure New Zealand is addressing the right problems with right-sized solutions. To align investment with demand, the Plan provides advice on prioritising low-cost, incremental upgrades ahead of more risky megaprojects.

4

Making it easier to build better

New Zealand spends a large share of its GDP on infrastructure, but we don't always get 'bang for buck'. The Plan spells out the importance of having stable, enabling legislation and regulation to facilitate investment. It recommends improved spatial planning and land-use regulations to make sure infrastructure is well used.

The Plan's Four Themes

Where our Forward Guidance fits in the Plan

1

Planning what we can afford

The Plan provides national and sector-level guidance on sustainable and affordable infrastructure investment levels for the next 30 years. It also contains advice on how to price and fund different types of infrastructure, ensuring we only spend what we can afford.

Our Forward Guidance

- Our Forward Guidance is advice on what an affordable, sustainable level of infrastructure investment would look like over the long term.
- It includes a view on the investment mix needed to meet long-term demands across sectors. This is based on several drivers of demand, including renewing assets as they wear out, population and income growth, and resilience investments to address natural hazards.
- It should be taken as 'guidance' on the long run direction for infrastructure investment, rather than a precise estimate on what we should spend.

Our approach: How do we define meeting our infrastructure needs in a sustainable and affordable way?

Te Waihanga Act 2019

The Commission has a requirement to think long term

9 Main function of Commission

The main function of the Commission is to co-ordinate, develop, and promote an approach to infrastructure that encourages infrastructure, and services that result from the infrastructure, that improve the well-being of New Zealanders.

10 Additional functions of Commission

The Commission has the following additional functions:

Strategy and planning functions

(a) to develop broad public agreement on the approach under section 9 and the strategy reports provided under subpart 3:

(b) to provide advice in relation to infrastructure, including (without limitation) advice in relation to—

(i) the ability of existing infrastructure to meet community expectations; and

(ii) current and future infrastructure needs; and

(iii) the priorities for infrastructure; and

(iv) matters that prevent, limit, or promote the efficient and effective delivery of infrastructure, and services that result from the infrastructure:

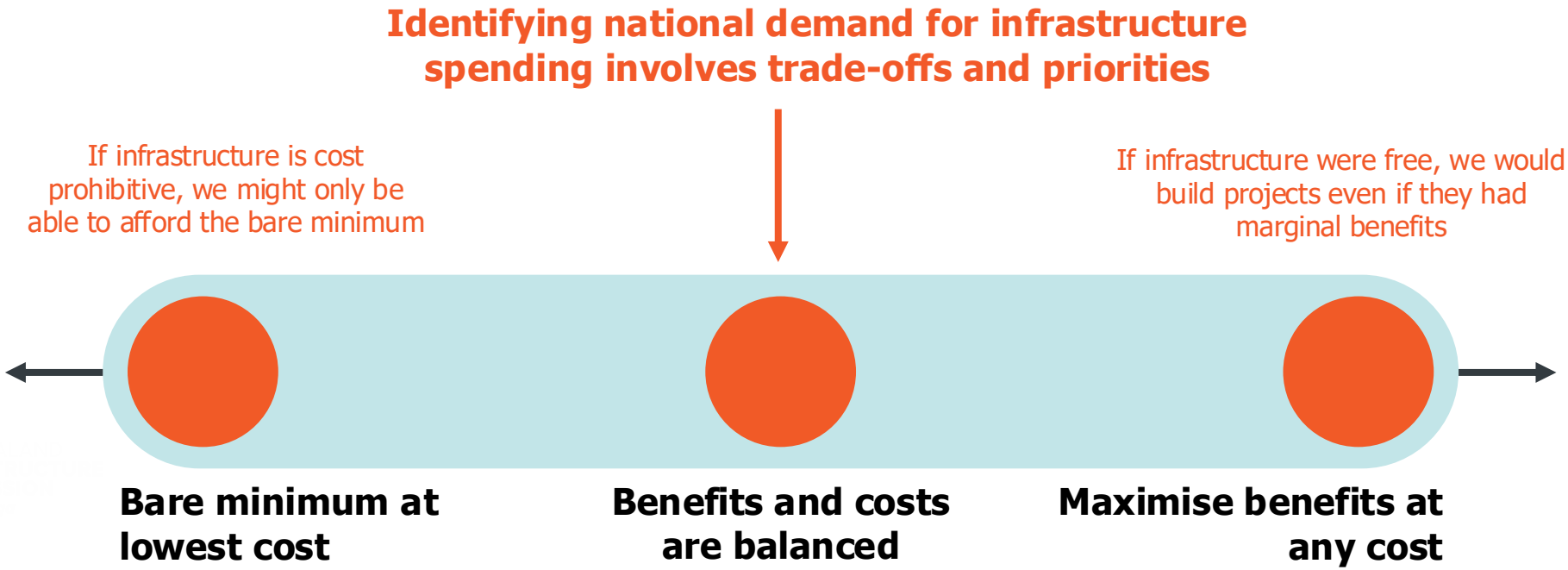
Our legislation requires us to think about long-term needs.
But how do you define an "infrastructure need?"

Source: https://www.legislation.govt.nz/act/public/2019/0051/latest/whole.html#LMS155600

Key question 1: How do you define "need"?

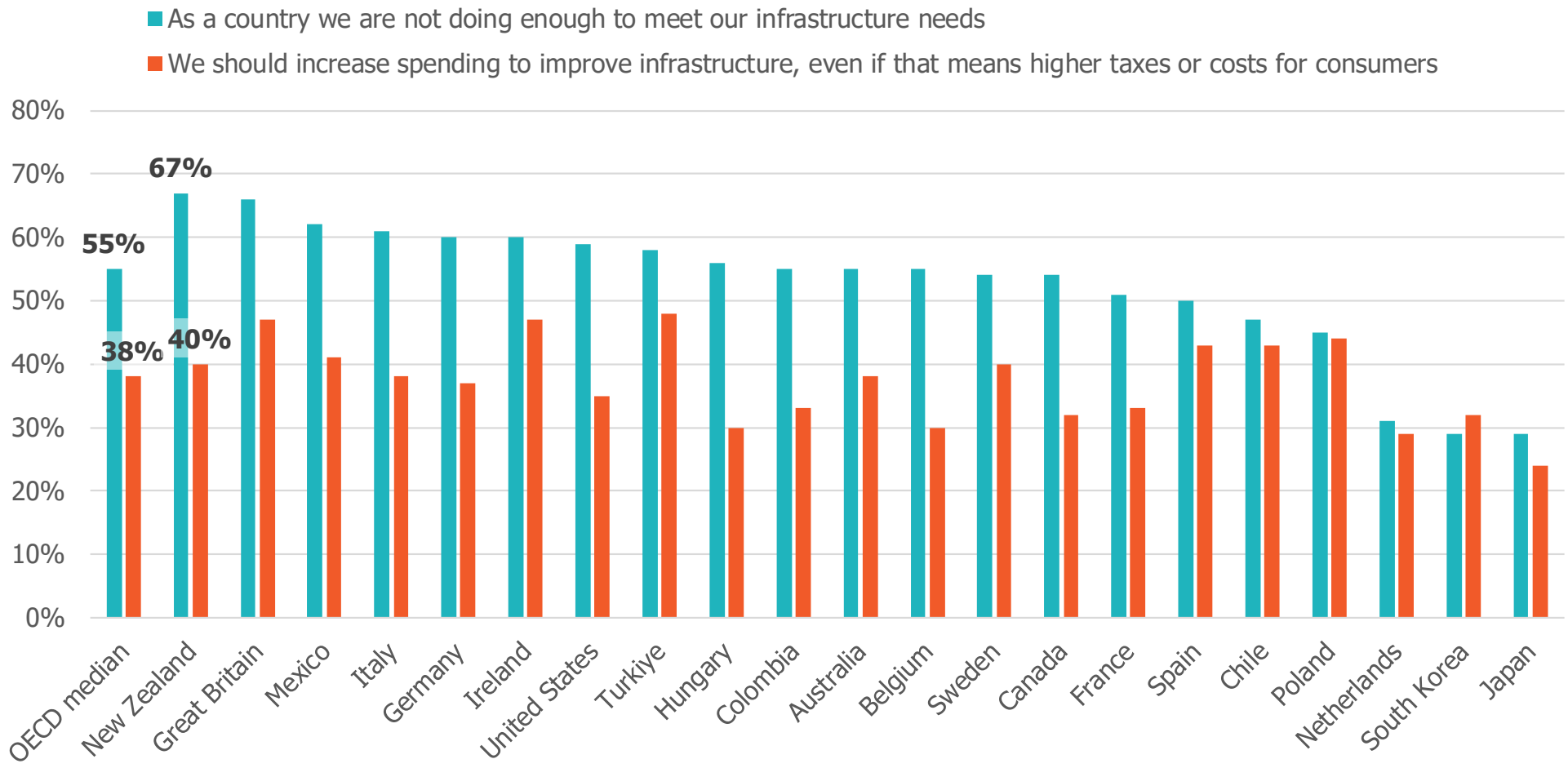
The importance of considering trade-offs

- The Commission has developed a way of forecasting future infrastructure investment demand called Forward Guidance. It involves understanding what New Zealanders are willing to spend on infrastructure, the constraints we face as a country, and the need to prioritise across sectors.
- Our approach focuses on sustainability, affordability, and prioritisation.



Constraints help clarify needs

NZers want more infrastructure, but not the costs

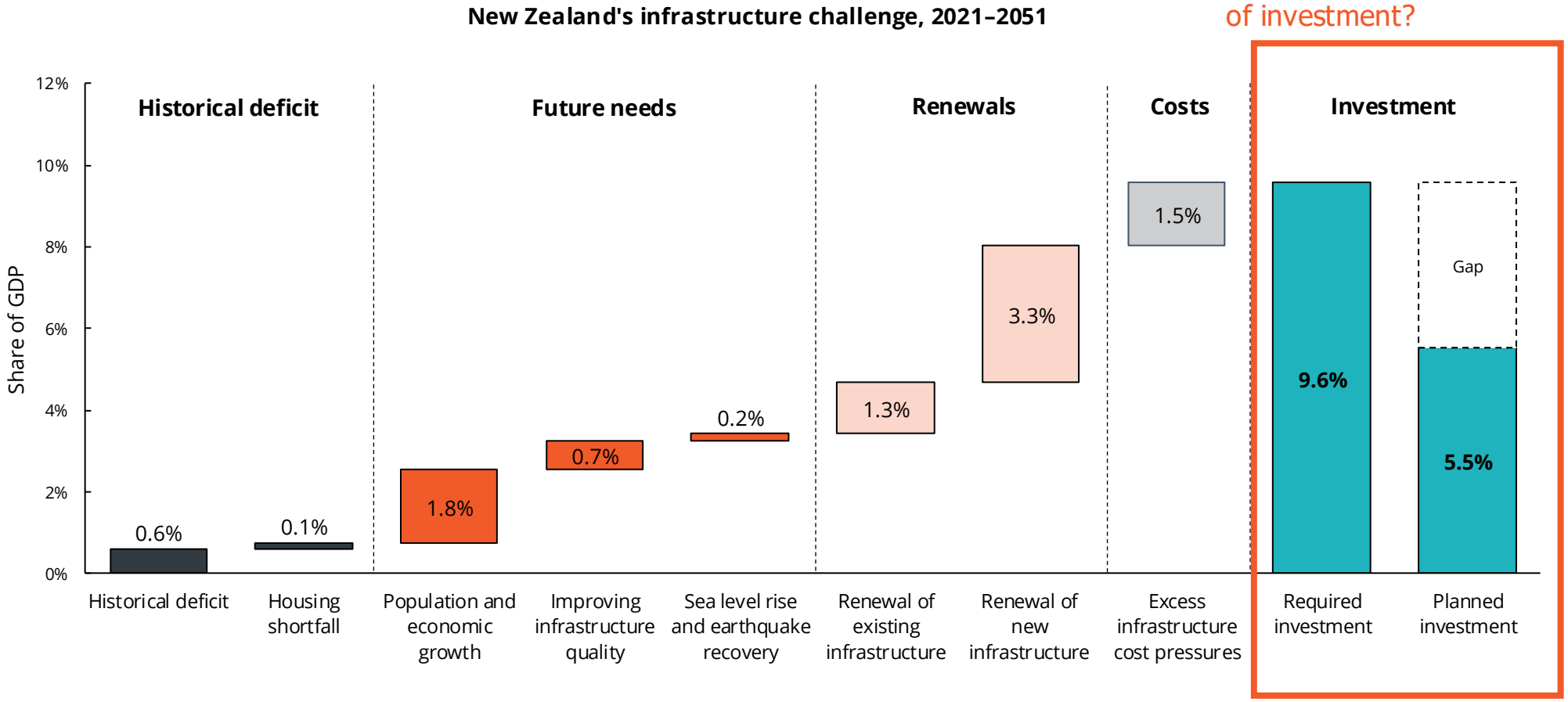


Source: Ipsos Global Infrastructure Index Survey, 2024. Note: Height of bars shows the share of respondents that strongly/tend to agree with this statement.

Our first attempt at forecasting needs

The Infrastructure Challenge Report

This approach was unconstrained.
Would we be willing to pay for this level of investment?



Paying for this investment would require a:

- **38% increase** in user charges; or a
- **21% increase** in income taxes; or a
- **98% increase** in debt-to-GDP ratio

Source: New Zealand's infrastructure challenge: Quantifying the gap and path to close it. Sense Partners report commissioned by the Infrastructure Commission. 2021. https://tewaihanga.govt.nz/our-work/research-insights/new-zealand-s-infrastructure-challenge-quantifying-the-gap-and-path-to-close-it

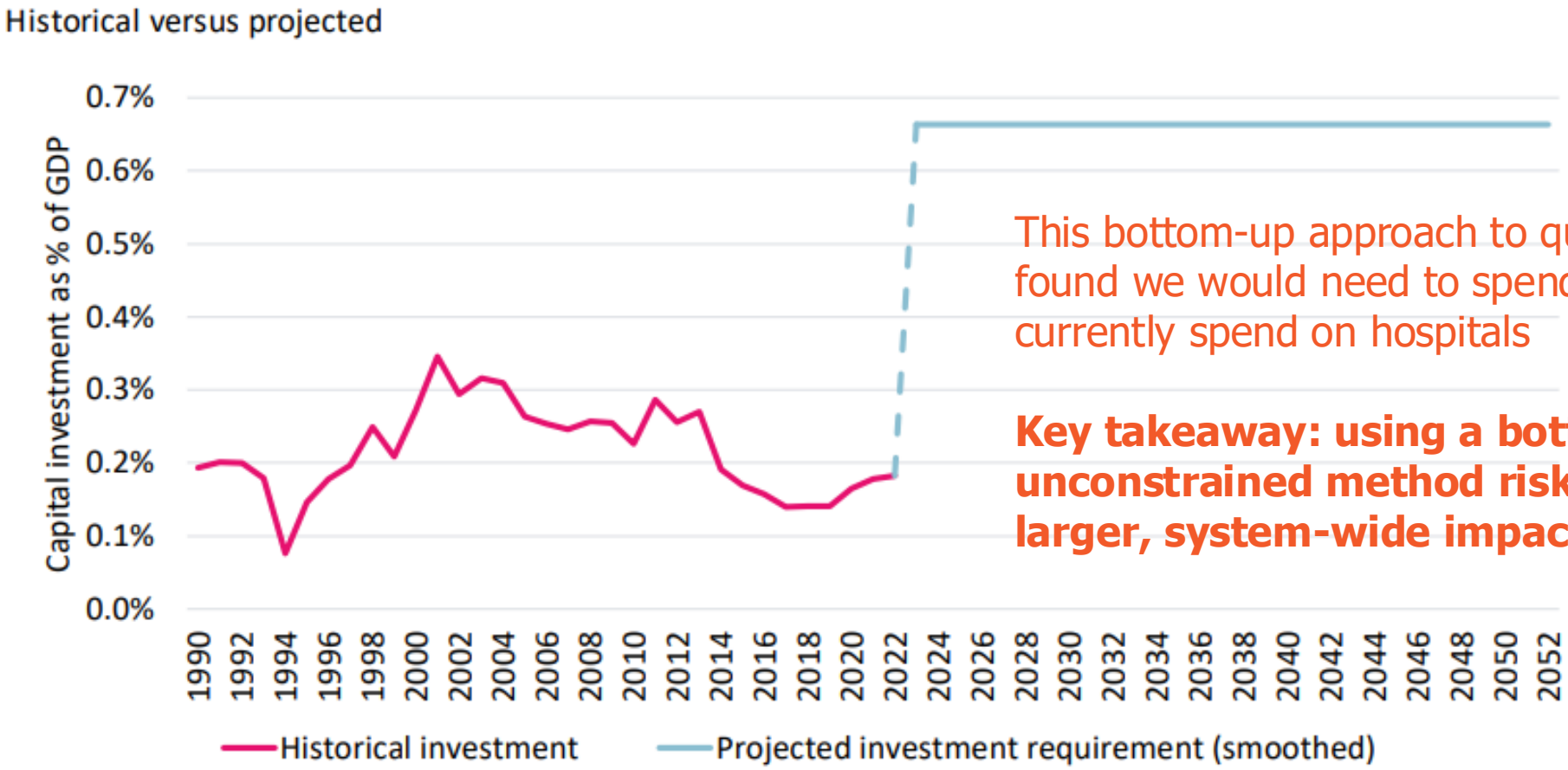
Key question 2: How do you quantify long-term needs?

Top-down versus bottom-up approaches

	Bottom-Up	Top-Down
Approach	Sector-by-sector, region-by-region survey of investment intentions/needs	Identifying what has been spent in the past and forecasting future changes
Key information	Outcomes-based assessments of needs, asset management plans, public consultation	High-level data on sector investment and depreciation levels, other key economic and demographic variables
Output	An aggregation of sector-by-sector surveys of need	A forecast of projected investment demand
Examples	*Australian Infrastructure Audit* (Infrastructure Australia)	*Global Infrastructure Outlook* (Oxford Economics/Global Infrastructure Hub, 2017)

Our second attempt at forecasting needs

Building a Healthy Future on hospital requirements



This bottom-up approach to quantifying need found we would need to spend triple what we currently spend on hospitals

Key takeaway: using a bottom-up unconstrained method risks missing the larger, system-wide impacts of spending

Source: '*Building a healthy future*'. Infrastructure Commission Research Insights report. November 2023. https://media.umbraco.io/te-waihanga-30-year-strategy/qckkkx12/building-a-healthy-future.pdf

Forward Guidance for investment

The pillars of our approach

- **We consider the constraints we can expect to face when investing in infrastructure.**
  - A definition of needs requires understanding trade-offs and what we are prepared to spend.
  - This approach leads us towards a path of sustainable and affordable investment levels.

- **We take a system-wide, top-down view of infrastructure spending requirements.**
  - This puts different investment needs in context, allowing decision-makers to prioritise scarce resources between sectors.

The three aspects of our Forward Guidance

Our forecast is informed by international comparisons and community expectations

What is the state of our current networks?

Motivation:
To understand future investment needs, we first need to know where we stand.

Key output:
A comprehensive international benchmarking analysis of our networks to identify any deficits.

Where or how should we invest in the future?

Motivation:
A long-term view of the level of investment in infrastructure.

Key output:
A quantitative forecast of infrastructure investment needs, informed by drivers of demand.

What are the community's expectations?

Motivation:
A view of what people say they want to invest in.

Key output:
An analysis of stated preference survey data to understand areas of consistent public demand.

Forward Guidance Modelling

Our forecast quantifies these drivers of demand

Renewal of existing infrastructure

Demographic change

Economic / income growth

Construction price inflation

Resilience to natural hazards

Decarbonisation / net zero

Technology change

Shortage of existing infrastructure

These investment drivers were identified through a literature review, stakeholder engagement, and the Commission's research. A summary of our review for this work can be found in our Research Insights report *Paying it Forward: Understanding our long-term infrastructure needs (2025)*

Our Forward Guidance

Frequently asked questions

- **Does the forecast tell us how much and when we should be spending to meet infrastructure needs?**
  - The forecast is the Commission's Forward Guidance on a sustainable mix and level of infrastructure investment. It is designed to provide guidance, rather than prescribe investment decisions. Overall investment decisions are not expected to follow our forecasts exactly. Our Forward Guidance will help decision-makers and infrastructure providers consider relative priorities across sectors and user/taxpayer willingness to pay.

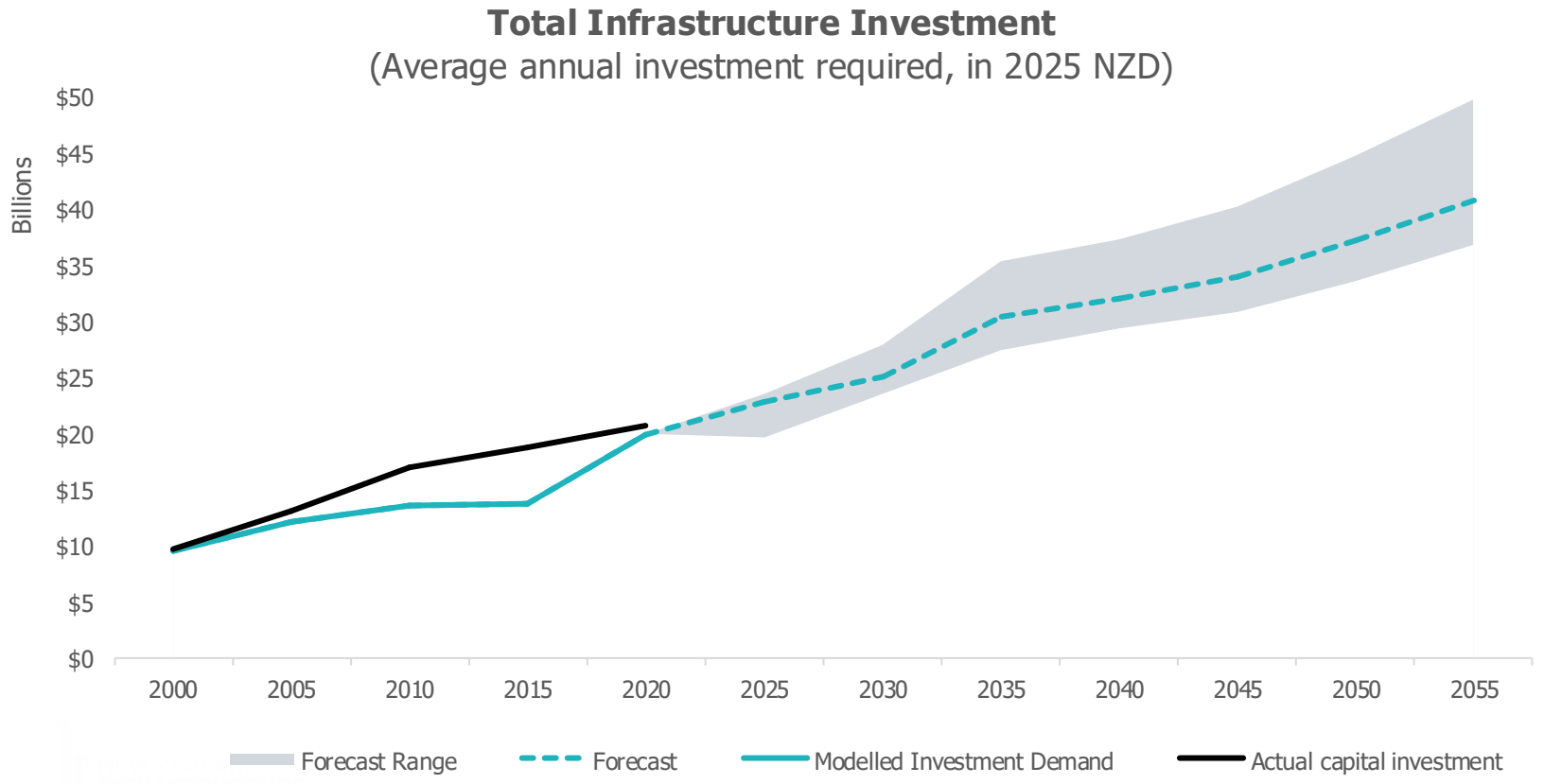
- **Does the forecast reflect increases in service level expectations or improvements in standards for infrastructure?**
  - Yes. As infrastructure networks become more mature, people tend to be willing to pay for higher levels of service or quality improvements. We reflect this in our forecast through multiple drivers of demand. For instance, the income demand driver is designed to inform infrastructure providers about people's demonstrated willingness to pay for more or better infrastructure as their incomes improve.

- **How does the international benchmarking relate to the forecast?**
  - One way to identify needs is to compare the quality of New Zealand's infrastructure relative to its peers. The benchmarking is designed to give us a more holistic view of needs, alongside our forecast. For example, if our forecast identifies a sector with needs, we might also see this manifest as a network that is behind our peers.
  - It is important to note that the international benchmarking analysis does not assume that other countries have the optimal or most efficient approach to infrastructure in any given sector.

High-level overview of our Forward Guidance

Our Forward Guidance for investment

Infrastructure investment demand rise in dollar terms



Our investment forecast projects total annual infrastructure capital investment rising from about $18 billion in 2022, to almost $43 billion by 2055.

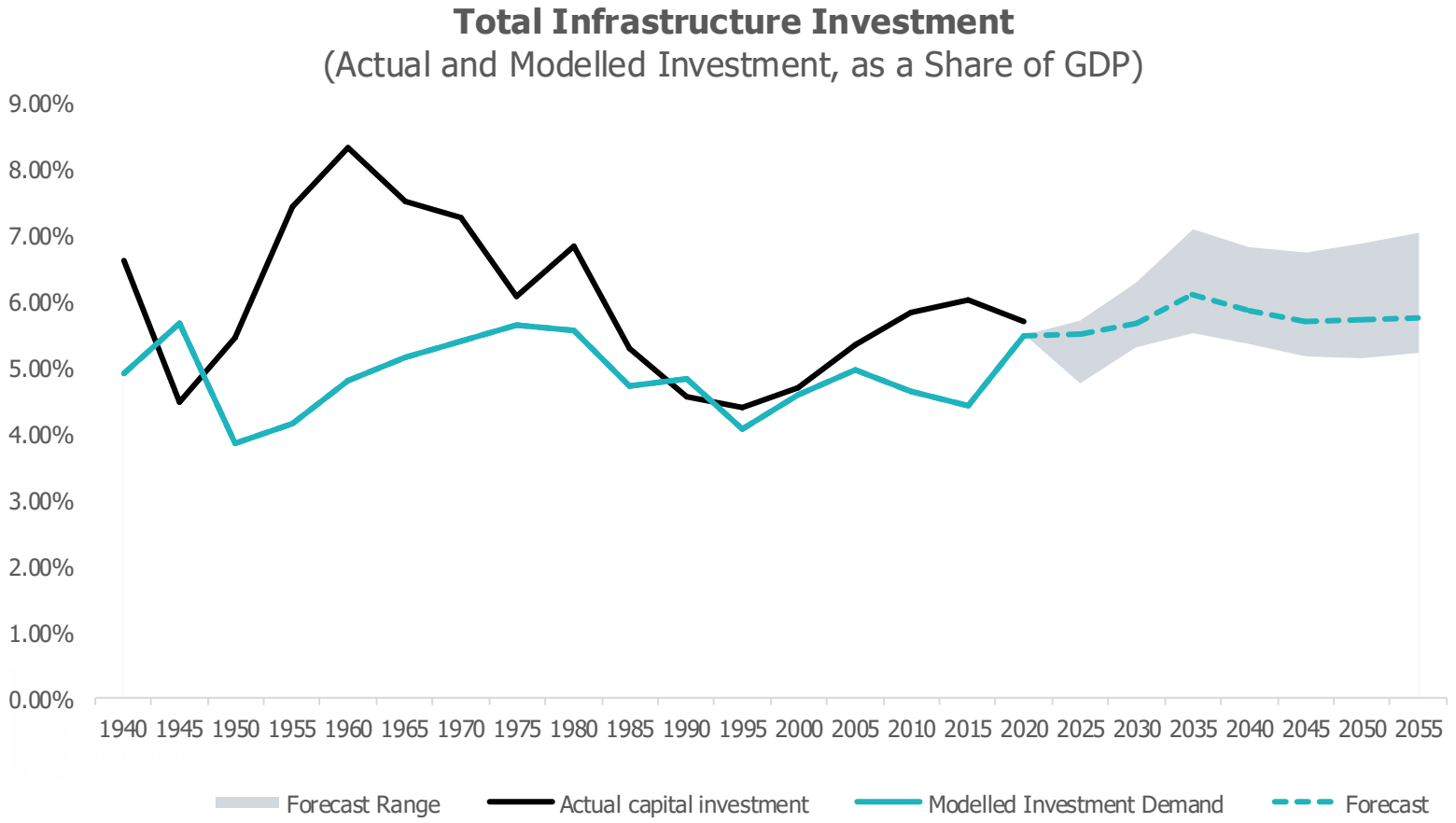
Forecasts are inherently uncertain. Investment could be higher or lower than our central scenario. However, we expect that by 2055, investment will fall somewhere between $30 and $57 billion.

The upper bound of our forecasts represents a scenario with fast population growth, higher income growth, rising quality expectations, and growing natural hazard risk.

The lower bound, on the other hand, represents slower population growth, lower income growth, little change in quality expectations, and steady natural hazard risk.

Our Forward Guidance for investment

Long-term investment is forecast to be stable as a share of GDP



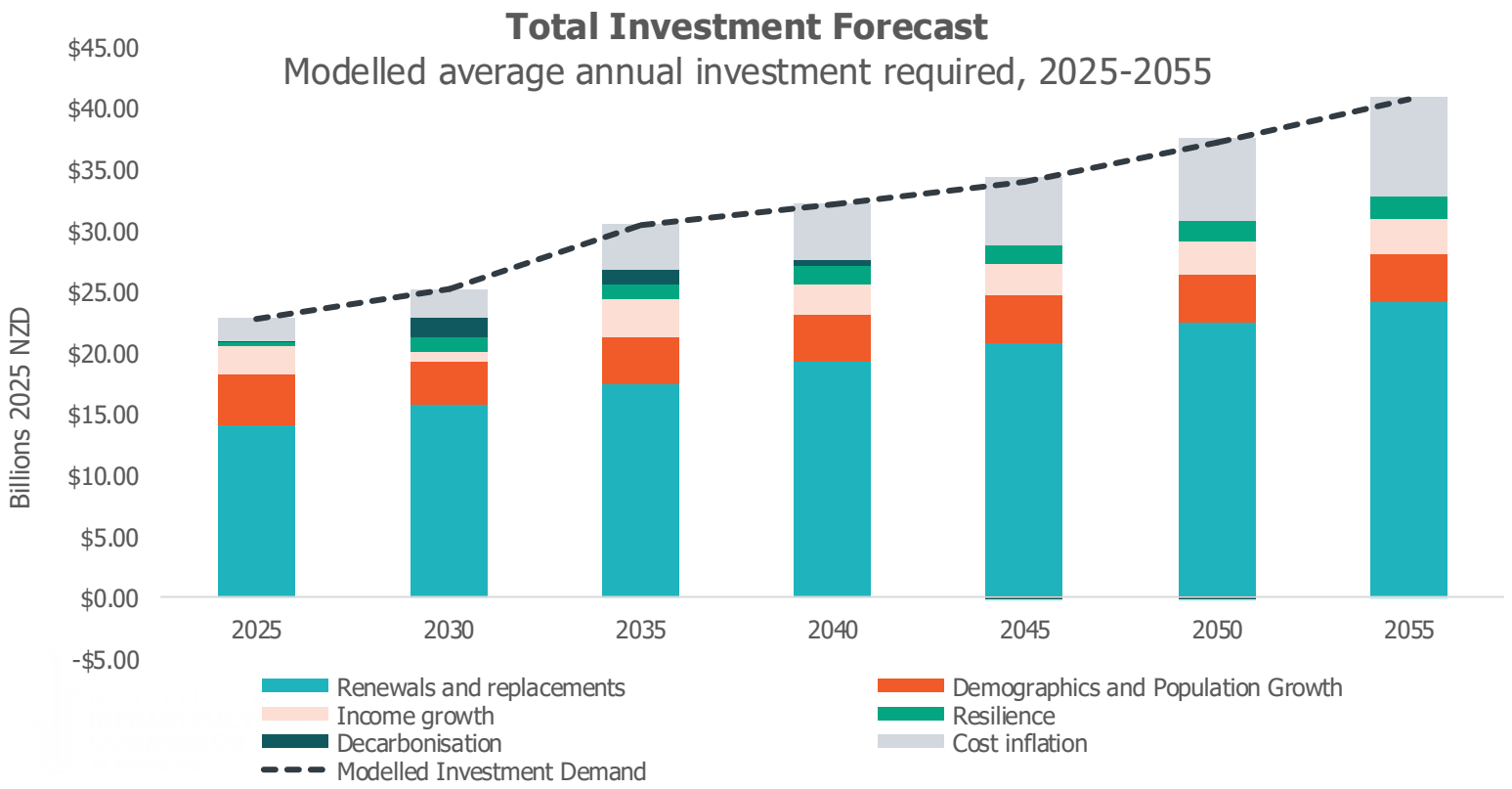
While our investment forecast rises in dollar terms, as a share of GDP, it is relatively steady as a share of GDP.

We forecast that investment as a share of GDP should range between 5% to 7% for the next 30 years, with a central estimate of 6.0% of GDP.

This is roughly in line with what we've spent on infrastructure over the past 150 years (5.6% of GDP).

Our Forward Guidance for investment

Renewing what we have will be the biggest need



Our investment forecasts investment rising from about $18 billion a year in 2023 to over $40 billion per year in 2055, in inflation-adjusted terms.

We forecast that simply replacing what we have will consume more than 60% of total investment required. This speaks to the scale of the infrastructure networks we have built-up over time, a direct result of our relatively high levels of investment as a share of GDP compared to other countries.

Our modelling also suggests there are significant gains to be made if we can improve overall construction productivity and 'bang for buck'. If recent trends continue, cost inflation for delivering infrastructure needs will require a substantial amount of money (up to one-fifth of our future forecast spending in later years).

Finally, we expect New Zealanders' willingness to pay for improvements in service levels or standards improvements to be subdued, as slower income growth leads to concerns about affordability.

High-level results across sectors

Investment needs will be higher in some sectors, lower in others

Sector	Recent investment trends, % of GDP (2010–2022)	Forecast future investment demand, % of GDP (2024–2055)	Countries that currently invest similar shares of GDP as our forecast	Key drivers of future investment
Network Infrastructure				
Land Transport Roads, Public Transport, Rail	1.3%	1.0% ↓	Portugal, Finland, Sweden	Decarbonisation, slowing income and population growth
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Hospitals	0.2%	0.4% ↑	Sweden, Netherlands, Czechia, Finland	Demographic change and renewals
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High spending, mixed results

	NZ difference from comparator country average (based upon simple unweighted average of multiple measures)					
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Source: Benchmarking our Infrastructure: Technical Report. Infrastructure Commission 2025. https://media.umbraco.io/te-waihanga-30-year-strategy/2q0jeqxb/international-benchmarking-technical-report-for-draft-plan.pdf

Sector-by-sector results and discussion

Road Transport

Investment will need to moderate to maintain sustainability

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$1.89	$2.20	$2.48
Demographics	$0.79	$0.81	$0.76
Income growth	$0.48	$0.61	$0.66
Resilience	$0.25	$0.29	$0.33
Decarbonisation	-$0.12	-$0.37	-$0.60
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	-$0.39	-$0.43	-$0.46
Cost inflation	$0.36	$0.58	$0.82
Total	**$3.27**	**$3.68**	**$3.98**
Average 2010–2022	$3.32		

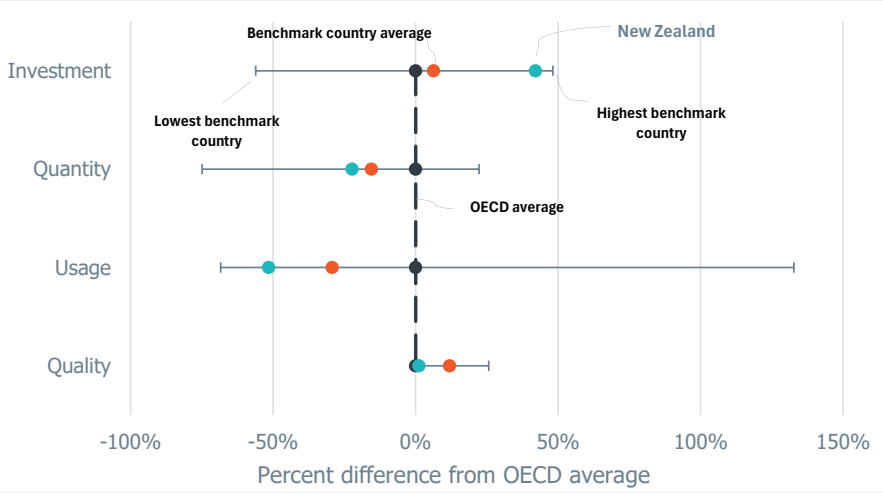
After more than a decade of elevated land transport spending (>1% of GDP), meeting long run road investment needs will mean a normalisation of spending, towards about 0.7% of GDP (or approximately $3.5 billion per year). This is a similar level of roading investment as Sweden or the United States, and what we spent in the early 2000s.

The investment wave over the last 15 years will drive large renewal needs over the next 30 years. Over the same period, base willingness to pay for new roads (population growth, income growth driving higher levels of service) is expected to be subdued.

The need to decarbonise our economy will put downward pressure on new road investment. From 2025 to 2055, we estimate that the network-wide need to relieve congestion (from population growth) will be almost entirely offset by the impacts of decarbonisation. This means future travel demand will need to be accommodated by demand management (congestion charging) or shifting modes of transport, rather than additional road capacity. This is particularly true for state highway investment, which has been historically much more sensitive to increases in travel demand than local roads.

International benchmarking of road networks

Comparator countries: CAN, CZE, FIN, ISL, NOR, ESP, SWE



While New Zealand has a roughly average-sized road network, our investment levels are comparatively high: more than our average comparator country, and well above the OECD average.

New Zealand's roads are sparsely used, overall, for both freight and passenger travel. For instance, on a per kilometre of road basis, passenger volumes in New Zealand are almost a third of the average OECD country, and freight volumes are about half. But this is also the case with our comparator countries.

Across several different metrics of quality, including congestion, speeds and road smoothness, our network is about average. Where we are behind is the safety of our roads, which have notably higher fatality rates than our peer countries, although addressing this isn't necessarily solved entirely with infrastructure.

Rail Transport

If we want to keep what we have, it will require investment

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$0.49	$0.74	$0.94
Demographics	$0.10	$0.12	$0.13
Income growth	$0.05	$0.09	$0.11
Resilience	$0.08	$0.16	$0.20
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.05	$0.19	$0.31
Total	**$0.76**	**$1.29**	**$1.70**
Average 2010-2022	**$0.48**		

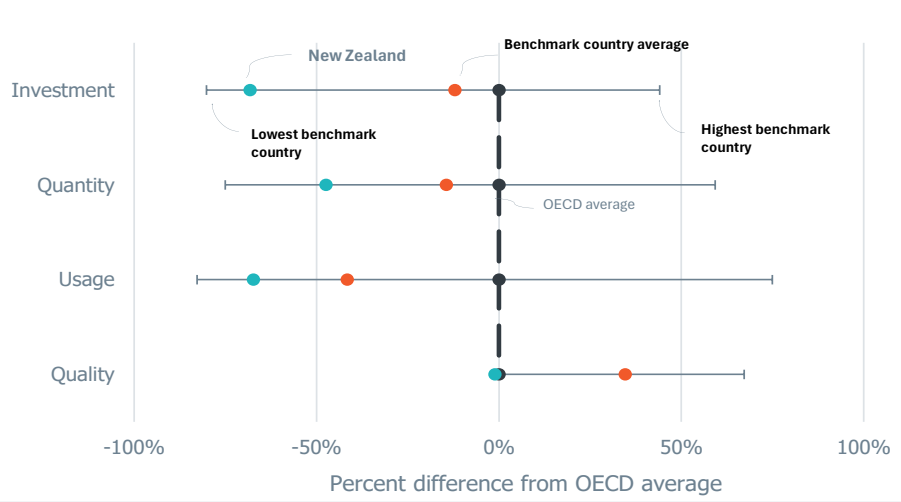
Investment in New Zealand's rail network peaked just before the turn of the 20th century, with investment falling below depreciation in subsequent years. This trend accelerated after the expansion of the road network in the 1940s and 1950s as rail freight demand fell as a result of enhancements to the road network. However, rail investment in recent years is the highest it has been since the 1970s, partly due to the $5.5 billion City Rail Link.

Our modelling of investment demand across all sectors assumes existing assets will be renewed. As such, our rail network investment forecast is almost entirely driven by renewal needs and the need to protect the network from natural hazard risk. Investment is forecast to grow in dollar terms, but it is still just over half the level observed in recent years as a share of GDP.

We also forecast relatively subdued willingness to pay for new rail investment as a result of future population and economic growth (manifesting largely as increased freight volumes). It is important to note that our forecast does not delineate between freight and metro rail networks. Since both are network infrastructure, optimal investment between those parts of the network should be guided by prices and user willingness to pay.

International benchmarking of rail networks

Comparator countries: CHL, FIN, GRC, ISL, JPN, NOR, ESP, SWE



New Zealand's rail network is characterised by very low levels of investment. In terms of length of track, it is similar to its peer countries, but the share of the network which is electrified is by far the lowest.

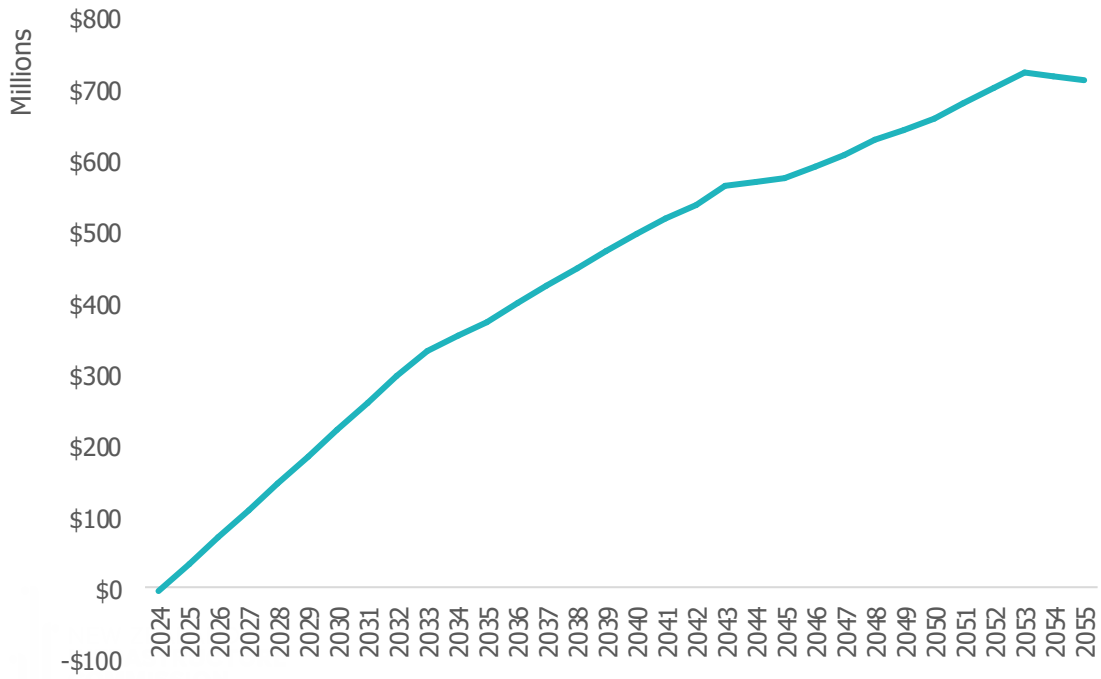
The rail network carries hardly any passengers relative to our peers, and freight volumes are below average. Other countries, such as Norway and Sweden carry similar amounts of freight, but they carry more passengers on a per kilometre of track basis.

World Economic Forum surveys rate the quality of New Zealand's rail services relatively poorly, although we are not the worst in our comparator set of countries. However, emissions per capita emitted by locomotives in New Zealand are the highest amongst our comparator countries by a large margin.

Public Transport and Active Modes

Increasing investment needed to meet decarbonisation goals

Annual public transport/active mode investment required above baseline levels to meet decarbonisation needs



Source: Motu Research modelling of Climate Change Commission scenarios for the New Zealand Infrastructure Commission.

Land transport is a large contributor to carbon emissions, from internal combustion vehicle use. The Climate Change Commission's (CCC) scenarios include electric vehicle uptake, which will reduce emissions from driving, but the pace at which the fleet electrifies is too slow to meet net zero emissions targets. As a result, the CCC also models the impact of other policies that shift demand from driving to public and active transport or to digital alternatives.*

We quantified this shift and its implications for infrastructure investment. In short, over the 30-year period, we forecast that over $14 billion (in 2025 NZD) will need to be spent on new public transport or active mode infrastructure, an annual average of approximately $453 million per year (Figure left). This is over and above business-as-usual levels of investment.

Based upon scenarios provided by the Climate Change Commission, this steadily growing investment requirement closely aligns with the downward investment effect of decarbonisation on road investment. In fact, the increased investment requirements for public transport and active modes are almost completely offset by downward investment pressure for roads.

To mitigate the costs of decarbonisation on households, this implies that central and local government will need to shift the mix of land transport investment from roads to other modes of transport or manage demand for growing road capacity.

*See Final reports and modelling on the Fourth Emissions Budget: https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/preparing-advice-on-emissions-budgets/advice-on-the-fourth-emissions-budget/modelling-and-data-final-report/

Electricity and Gas

Technology change and decarbonisation will lift investment

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$2.40	$3.44	$4.31
Demographics	$0.93	$1.09	$1.11
Income growth	$0.35	$0.52	$0.64
Resilience	$0.28	$0.40	$0.50
Decarbonisation	$1.46	$0.56	$0.47
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.68	$1.09	$1.71
Total	**$6.09**	**$7.11**	**$8.74**
Average 2010–2022	**$2.60**		

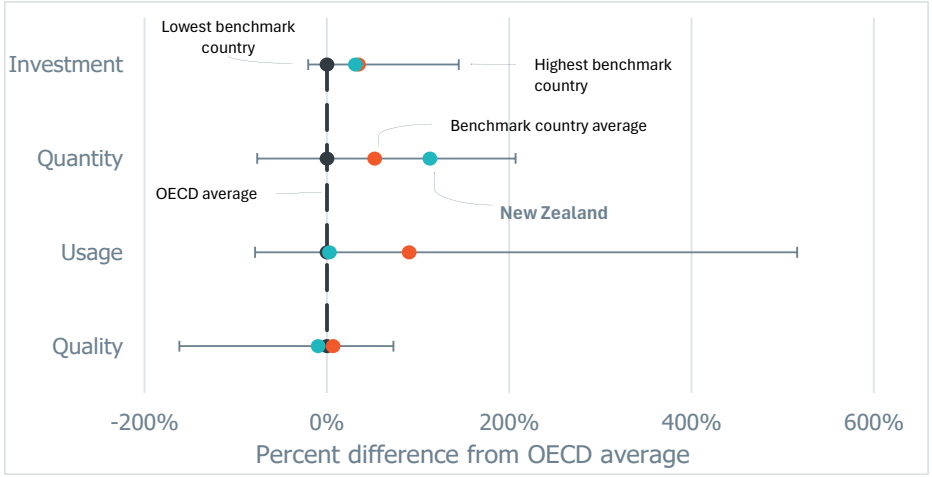
Decarbonising our economy is expected to require a sizeable, but not insurmountable, uplift in electricity investment. Based upon Climate Change Commission pathways, we estimate that this will require approximately $26 billion worth of capital investment above base level demand, or $835 million a year on average, over the 30-year period. Most of this investment (90%) will be in new generation, while the rest will be in the transmission and distribution networks. Investment will be front-loaded over the next 10 to 15 years of the forecast period, with the remaining years requiring significantly less. The uplift in investment will lead to increased renewal requirements, particularly over the latter part of the forecast. This will require a lift in investment, but as a share of GDP it is similar to what we were investing in the 1980s – well below our historical peak (the 1960s and 1970s).

Setting predictable and aligned energy and climate policies will be important to achieving this pathway but also lead to a smoother transition for consumers and businesses.

Absent the requirement to decarbonise, capital investment requirements in the sector are forecast to be relatively muted. We estimate that non-decarbonisation-related demand for electricity investment and subsequent renewal requirements would total between $2 to $4 billion each year, which is only modestly higher than our average annual investment over the last 10 years.

International benchmarking of electricity networks

Comparator countries: CAN, CHL, COL, CRI, FIN, ISL, NOR, SWE



New Zealand's electricity network is somewhat unique. Our investment levels are about average compared to our peer countries. However, we have a very large transmission network (reflecting the large distances between where we generate and use electricity) and average sized distribution networks. New Zealand also does not export any electricity, leading to average levels of energy generation on a per capita basis.

Reliability is a key quality metric for electricity. On this measure, outages in New Zealand appear to be more frequent in number and duration than peer countries and among the highest in the OECD. However, electricity generation in New Zealand produces very low emissions relative to the OECD average and its comparator countries.

Water and Waste

An area to monitor

Forward Guidance

Average annual investment requirement, billions in 2025 NZD			
Driver of demand	**2025–2035**	**2035–2045**	**2045–2055**
Renewals	$1.34	$1.58	$1.85
Demographics	$0.38	$0.40	$0.41
Income growth	$0.09	$0.12	$0.14
Resilience	$0.24	$0.28	$0.33
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.25	$0.43	$0.65
Total	**$2.31**	**$2.82**	**$3.38**
Average 2010–2022	**$1.91**		

Investment in water and waste infrastructure has been elevated as a share of GDP for the last 20 years (about 0.6% of GDP on average), following a period of clear underinvestment that occurred during the 25-year period from 1975 to 2000.

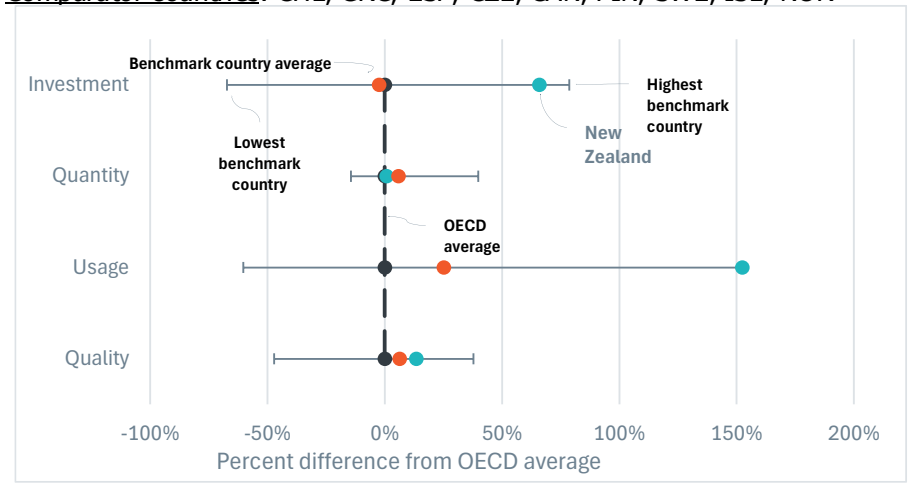
Over the next 10 years, councils are planning to spend close to $50 billion renewing and expanding their water networks. For context, we estimate that New Zealand spent about $50 billion cumulatively on water and wastewater infrastructure from 1885–2012, even after adjusting for inflation. Some of this is in response to backlogged renewal requirements, but a majority appears to be in response to increasing quality standards and population growth.

Our modelling projects renewals to be the largest driver of future demand. Expanding water networks to meet population growth will be a large driver in the near term but this becomes less important over time. Water infrastructure is relatively exposed to natural hazard risk, particularly from flooding and earthquakes, requiring resilience investment.

Overall, our Forward Guidance suggests that to maintain affordability and a sustainable network for residents and businesses, councils will need to put greater emphasis on exploring low-cost and non-built solutions, such as volumetric charging.

International benchmarking of water networks

Comparator countries: CHL, GRC, ESP, CZE, CAN, FIN, SWE, ISL, NOR



After being one of the lowest spending countries among its peers from 1980 through 1995, New Zealand's investment in water networks has been one of the highest in the OECD since 2013 – much higher than most of our comparator countries.

New Zealand's water network is appropriately sized in terms of length, but despite high investment levels it has relatively few connections. Only 88% and 86% of New Zealand's population is connected to public water and sewerage respectively, which is low compared to its peers.

The average New Zealander uses 253 cubic metres of water per year, which is the second highest in the OECD and higher than almost all peer countries by a considerable margin.

While the network has reasonably high leakage rates, it isn't any worse than the average comparator country. Leakage rates vary considerably across urban and rural areas, with rural areas having much higher leakage.

Primary and Secondary Education

Subdued investment need aside from renewals of existing schools

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$0.92	$0.95	$1.04
Demographics	-$0.12	-$0.02	$0.18
Income growth	$0.15	$0.17	$0.18
Resilience	$0.04	$0.04	$0.04
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.12	$0.21	$0.35
Total	**$1.11**	**$1.36**	**$1.80**
Average 2010–2022	**$1.16**		

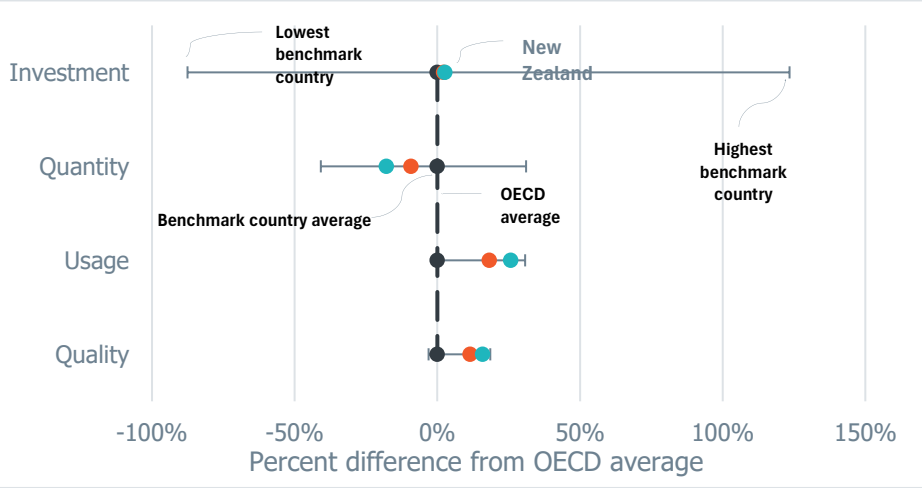
Historically, investment in schools has been closely linked to demographic trends. From the mid 1950s through the late 1970s, the number of school-aged children grew from about 360,000 to 756,000. To accommodate this growth, New Zealand invested record amounts on building over 200 schools. As the number of children dropped through the 1980s and 1990s, spending dropped and many schools closed.

New Zealand's ageing population is reflected in our Forward Guidance for primary and secondary school investment. We forecast investment pressures for new or expanded schools to be concentrated in specific locations experiencing high population growth (see subsequent slides on regional forecasts), but subdued for the country as a whole. Demographic trends mean that Māori students will make up a rising share of all students.

While this demographic shift is happening, many primary and secondary schools built during the 1970s will need to be renewed, making renewal needs relatively high over the first 10 years of our forecast. Once this wave of renewals ends, overall demand for capital investment is expected to remain modest due to demographic trends.

International benchmarking of primary and secondary education

Comparator countries: CHL, FIN, AUS, ISL, NOR, USA, IRL



New Zealand spends a slightly higher share of its GDP investing in school infrastructure than our peer countries, similar to Nordic countries like Norway and Finland. On a per-student basis, we spend approximately the average.

The average New Zealand primary and secondary school has 358 students, slightly above the OECD average and in the middle of our comparator countries.

The overall quality of school infrastructure does not appear to be affecting the quality of education in New Zealand relative to other countries. The share of school principals reporting a lack of, or poor quality, infrastructure affecting students' education is relatively low in New Zealand, in line with our peer countries and lower than the average OECD country.

Tertiary Education

Ongoing renewals, but modest demand for investment otherwise

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$1.84	$2.05	$2.17
Demographics	$0.18	$0.00	$0.02
Income growth	$0.10	$0.12	$0.12
Resilience	$0.02	$0.02	$0.02
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.26	$0.40	$0.56
Total	**$2.40**	**$2.58**	**$2.89**
Average 2010–2022	**$1.76**		

Like primary and secondary schools, investment in tertiary education facilities is closely linked to demographic trends. The same demographic wave that saw primary school numbers increase during the 1950s through 1970s continued into the 1990s as public tertiary education rolls greatly expanded. There was a corresponding increase in the level of investment into tertiary education institutions. Enrolment numbers peaked in the early 2000s (430,635 students in 2005) before slowly declining (326,875 students in 2023). Unlike primary and secondary education, where investment rates have declined from historic peaks, investment in tertiary education has stayed relatively steady at 0.6% of GDP despite the drop in demand.

Demographic trends suggest this decline in tertiary students will continue, putting downward pressure on investment demand over the next 30 years. Most demand will come from the need to renew existing stock built during the 1990s and early 2000s. Tertiary education infrastructure has a higher depreciation rate than primary schools, which means that buildings and facilities are not nearly as long-lived, and require earlier replacement or renewal.

International benchmarking of tertiary education

We did not complete full international benchmarking for tertiary education infrastructure. Information on education infrastructure that shows tertiary-only infrastructure is relatively limited in international databases like the OECD.

Over the last 10 years, New Zealand has invested about 0.6% of its GDP in tertiary education infrastructure, which is higher than the share of GDP invested in primary and secondary education infrastructure. There are eight universities in New Zealand and over 240 tertiary education organisations, according to the Tertiary Education Commission.

As part of our benchmarking for primary and secondary education, we gathered information on student numbers in tertiary education. Initial results show that the share of New Zealand's population enrolled in tertiary education is relatively average for its peers.

Telecommunications

Stable investment demand with technological uncertainties

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals/replacements	$2.47	$2.95	$3.44
Demographics	$0.25	$0.27	$0.27
Income growth	$0.19	$0.24	$0.28
Resilience	$0.00	$0.00	$0.01
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.35	$0.59	$0.89
Total	**$3.26**	**$4.05**	**$4.88**
Average 2010-2022	**$2.35**		

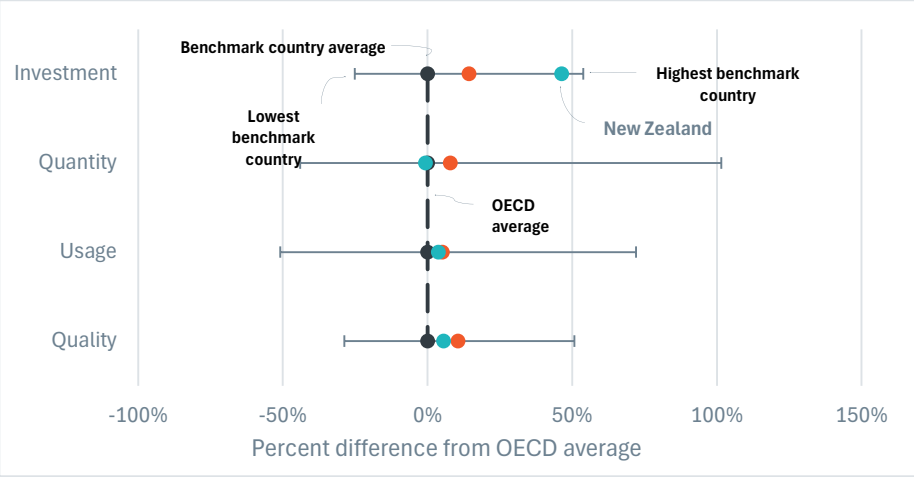
The telecommunications sector is characterised by technological innovations leading to rapid deployments of new networks and the retirement of existing technologies. Telegraph networks gave way to landline telephones which gave way to mobile telephone and broadband networks. The sector has been in an investment boom since the 1980s, although peak levels of investment occurred in the 1990s and early 2000s. Rapid technological progress makes forecasting investment demand challenging.

Innovations in artificial intelligence (AI) and mobile phone technologies suggest that technology will continue to drive elevated investment in the sector.

Telecommunications is a sector with high depreciation rates reflecting obsolescence due to technological change. Replacements of existing stock as technologies mature and emerge are likely to drive a significant amount of future investment. Outside of that, a slower growing and ageing population might be a headwind for overall investment demand.

International benchmarking of telecom networks

Comparator countries: COL, CRI, CHL, CAN, FIN, SWE, ISL, NOR



Over the past 10 years, New Zealand has been one of the highest spending countries on telecommunications infrastructure as a share of GDP in the OECD, even when compared to our peer countries.

On fixed broadband, we perform roughly average against peer countries. New Zealand ranks tenth in the OECD for fibre uptake, although this position has slipped since the completion of the Ultra-Fast Broadband programme as other OECD countries, including our comparators, have continued to invest in digital networks.

However, our mobile broadband networks appear underdeveloped. This is particularly true of our 5G network, with only 40% of our population covered. This is well behind our peers and one of the lowest coverage rates in the OECD, possibly due to delayed spectrum auctions in 2020. This is reflected by the fact New Zealanders use a very low amount of mobile data compared to our peers.

Notwithstanding the relatively underdeveloped nature of our mobile broadband networks, internet speeds on our broadband networks are on par with our peers.

Hospitals

Rising investment required to meet ageing population needs

Forward Guidance

Average annual investment requirement, billions in 2025 NZD

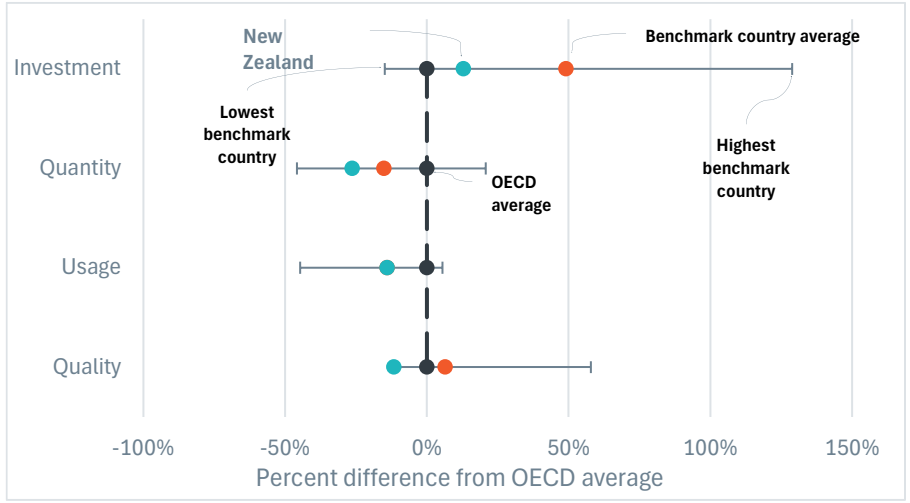
Driver of demand	2025–2035	2035–2045	2045–2055
Renewals/replacements	$0.86	$1.12	$1.36
Demographics	$0.38	$0.41	$0.34
Income growth	$0.09	$0.13	$0.15
Resilience	$0.02	$0.03	$0.03
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.14	$0.14	$0.12
Cost inflation	$0.18	$0.31	$0.45
Total	**$1.68**	**$2.13**	**$2.46**
Average 2010–2022	**$0.80**		

Investment in health infrastructure is driven by several factors, including population and demographics, income and standards growth, technological change and systems for health delivery. Hospital investment in New Zealand experienced a boom from 1945 through the mid-1980s. At first this was in response to population growth, but over time these elevated investment levels were driven by improving the quality of existing capacity, which may be a response to medical innovations. Over the past 10 years, hospital investment has slowed to near-historical lows.

We forecast a significant uplift in investment to meet demand, largely driven by two factors. First, renewals of existing stock built during the boom period will drive a large portion of demand. Second, a rapidly ageing population is expected to put upward pressure on hospital investment demand. Technological change and more efficient delivery systems may reduce this future need, although the degree to which this happens is uncertain. In the absence of different models of care, we estimate our Forward Guidance translates to an additional 4,500 hospital beds to meet rising demand.

International benchmarking of health infrastructure

Comparator countries: UK, AUS, SWE, DEN, ISL, NOR



Our benchmarking analysis focused largely on health infrastructure measures, rather than overall health system measures. New Zealand generally underperforms its peer countries across the four key areas we studied, but not to a large degree.

On a per-person basis, our level of infrastructure spending is below average relative to our peers. New Zealand has a relatively low number of hospital beds, although this may reflect how other countries deliver healthcare.

We also appear to have low amounts of some medical equipment, like PET scanners or gamma cameras, compared to our peer countries. Waiting times for elective surgeries, which could reflect infrastructure availability (e.g., operating theatres, equipment), are higher than most of our peer countries.

Hospital usage in New Zealand is relatively low and the rate of in-hospital infections is low. There is also evidence that our hospitals are older relative to the UK, one of our comparator countries.

Public Administration and Safety

Renewal requirements, but stable investment demand otherwise

Forward Guidance for Public Administration and Safety

Average annual investment requirement, billions in 2025 NZD			
Driver of demand	**2025–2035**	**2035–2045**	**2045–2055**
Renewals	$2.65	$3.09	$3.46
Demographics	$0.31	$0.21	$0.13
Income growth	$0.19	$0.24	$0.26
Resilience	$0.13	$0.16	$0.17
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.40	$0.64	$0.91
Total	**$3.68**	**$4.33**	**$4.93**
Average 2010–2022	$2.63		

Public administration and safety is a broad category of infrastructure that includes central and local government administration buildings, courthouses, prisons, and defence infrastructure. It is a large sector, composed of over $35 billion worth of assets (excluding land). Subsectors such as defence and corrections are significant in and of themselves, with non-land assets worth over $9 billion and $5 billion, respectively.

These sectors are grouped together in our analysis as this was the way historical statistics used to inform this forecast, were compiled and reported. The table above shows our forecast for the entire sector. Overall investment demand is stable, although there are large renewal requirements. This annual investment forecast (about 0.8% of GDP over the long term) is very close to the 150-year historical average (0.7% of GDP). We consider this forecast to be largely a business-as-usual level of investment. Key drivers of demand, such as the need for greater investment in defence given the global security environment, or policy-driven increases in prison investment, are missing. We note, however, that over the last 150 years, investment in this large sector has been relatively steady at between 0.7% and 1.0% of GDP, indicating that even when there are non-modelled shifts in demand in one subsector, they have been historically met by decreased investment elsewhere.

The Commission attempted to disaggregate this category by using information from various annual reports. Using this information, we created forecasts for each subsector based upon their historical share of total asset value or investment over the last 10 to 20 years. These forecasts (presented on the next page) should be thought of as long-run indicative targets, rather than prescriptive views about the correct level of investment.

The Commission did not complete any international benchmarking of public administration and safety infrastructure.

Public Administration and Safety

Indicative long-run forecasts for each subsector

Average annual investment requirement, 2025–2055
(Indicative long run forecast)

	Justice	Police	Corrections	Fire and Emergency	Defence
Billions of 2025 NZD	$0.15-$0.17	$0.06-$0.19	$0.35-$0.52	$0.09-$0.12	$1.36-$1.89
Percent of GDP	0.03%	0.01%-0.02%	0.06%-0.09%	0.02%	0.2%-0.3%
Historical Average	**$0.11**	**$0.11**	**$0.33**	**$0.07**	**$0.59**

Note: Ranges are based upon each subsector's estimated relative share of total public safety and safety infrastructure over the past 10 to 20 years. These forecasts have been derived from the estimated share of capital stock and investment over the period. Data on asset values and investment was collected by the Commission from agency annual reports.

The following forecasts should be treated as long-run, steady state investment levels for each sector. This means they reflect renewal needs and general growth in demand from domestic factors. They don't reflect "shocks" in demand for investment, such as heightened global uncertainty requiring more defence investment or shifts in law and order policy requiring greater policing and corrections investment. Additional commentary on these forecasts can be found in Appendix One of the National Infrastructure Plan.

Our subsector forecasts suggest that capital investment in Defence and Fire and Emergency New Zealand (FENZ) will need to lift relative to recent years. For FENZ, evidence from annual reports suggests that investment was particularly low during the 2000–2010 period (prior to its formation in 2017, when it was New Zealand Fire Service) relative to the size of the sector's asset base and the relatively high depreciation rates of FENZ assets. There is also evidence of underinvestment in renewing Defence assets, particularly the Defence estate. Investment levels were very low in the wake of the Global Financial Crisis but have picked up in recent years. For both sectors, short-term lifts in investment above this long-term target may be required to address backlogged renewals.

Across the subsectors we explored, Corrections appears to have benefitted the most from investment in new assets. The value of the capital stock increased rapidly in the early 2000s, with capital investment averaging over $600 million in real terms per year from 2005 through 2008. Four prisons opened during this period, expanding total spaces by over 2,500 beds. Despite the expansion of facilities and high level of investment, the overall condition of existing assets appears to be on a downward trend. For example, 81% of prisons are in 'good' or 'very good' condition against a Corrections' target of 85%. Our long-run forecast does not make any assumptions or projections about the need to expand prison space. Forecasting capacity requirements has proven to be highly unpredictable due to changing law and order policy settings.

Social Housing

Investment demand that reflects overall housing needs

Forward Guidance

Average annual investment requirement, billions in 2023 NZD			
Driver of demand	**2025–2035**	**2035–2045**	**2045–2055**
Renewals	$0.72	$0.92	$1.11
Demographics	$0.33	$0.37	$0.32
Income growth	$0.10	$0.14	$0.16
Resilience	$0.07	$0.09	$0.11
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.10	$0.19	$0.18
Cost inflation	$0.16	$0.27	$0.40
Total	**$1.47**	**$1.97**	**$2.27**
Average 2010–2022	**$0.71**		

Producing forecasts for public housing investment is difficult because it relies upon assumptions about the composition of overall housing stock (privately versus publicly provided), and how different Governments respond to housing need.

What is clear is that the New Zealand public sector's position in the overall housing market has changed dramatically over the past 80 years. In the immediate post-war period (1945–1955), the Government was spending more than 1.2% of GDP on social housing, similar levels to what we currently spend on transport infrastructure. Investment declined rapidly over the following 20 years. Since 2019, however, New Zealand started investing substantially more in social housing again. Annual investment averaged over 0.5% of GDP.

Our modelling suggests that the recent period of elevated investment is catching up on low investment levels in the 20 years prior. To meet renewal needs and population growth, we forecast that approximately 0.3% of GDP will be required each year for the next 30 years.

International benchmarking of social housing infrastructure

After some initial investigation, we did not complete a comprehensive international benchmarking exercise for public housing. There are numerous ways that the public sector can assist individuals with housing cost burdens. This includes building and owning social housing with subsidised rents, but it could also include providing subsidies or transfers to individuals to use in the private market.

Based upon information from the OECD's Questionnaire on Affordable and Social Housing (QuASH), New Zealand's recent post-2019 surge in capital investment in social housing is the highest as a share of GDP compared to other OECD countries. Spending on rent subsidies is also comparably high.

The share of our housing stock that is public housing (3.8%) is low compared to the OECD average (7%), but higher than Canada and Australia.

Other Public Capital

Stable investment demand

Forward Guidance

Average annual investment requirement, billions in 2023 NZD

Driver of demand	2025–2035	2035–2045	2045–2055
Renewals	$0.55	$0.66	$0.78
Demographics	$0.12	$0.13	$0.13
Income growth	$0.06	$0.07	$0.08
Resilience	$0.04	$0.05	$0.06
Decarbonisation	$0.00	$0.00	$0.00
Technology and other	Not quantified	Not quantified	Not quantified
Shortages/Surpluses	$0.00	$0.00	$0.00
Cost inflation	$0.09	$0.16	$0.24
Total	**$0.86**	**$1.07**	**$1.28**
Average 2010–2022	**$0.61**		

Other public capital is a sector that encompasses a wide range of public assets. These include government-owned digital infrastructure (servers), community and sports facilities, childcare and social assistance facilities, museums, stadiums, and convention centres.

Over the past 20 years, investment as a share of GDP has averaged about 0.2% of GDP, without much volatility. Our forecast continues this trend, with the increased investment in dollar terms largely reflecting growth in the economy.

International benchmarking of other capital networks.

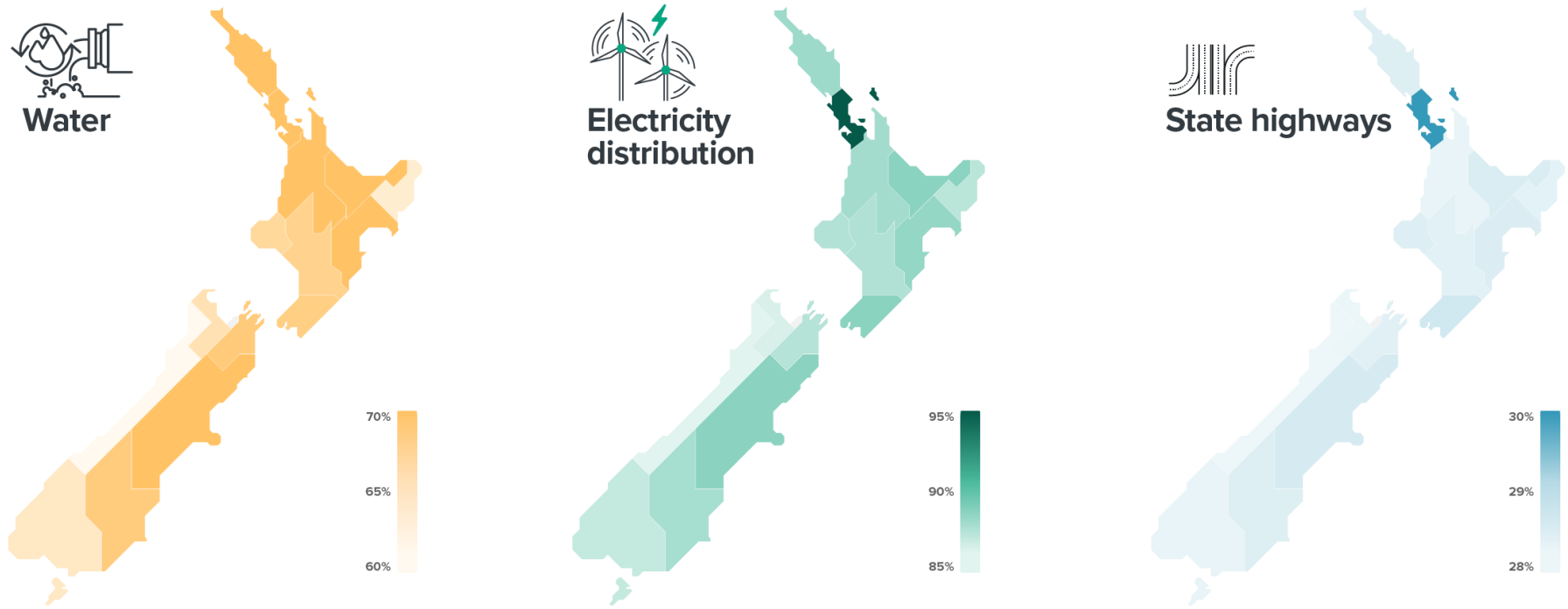
We did not complete international benchmarking for this network. This is due to the wide range of asset types in this sector.

Regional and household impacts of our Forward Guidance

Regional Forward Guidance

Infrastructure networks will grow unevenly

Expected regional variation in infrastructure network growth, 2025 to 2050



Source: National Infrastructure Plan. Note: Percentage changes represent the estimated change in asset values in each region

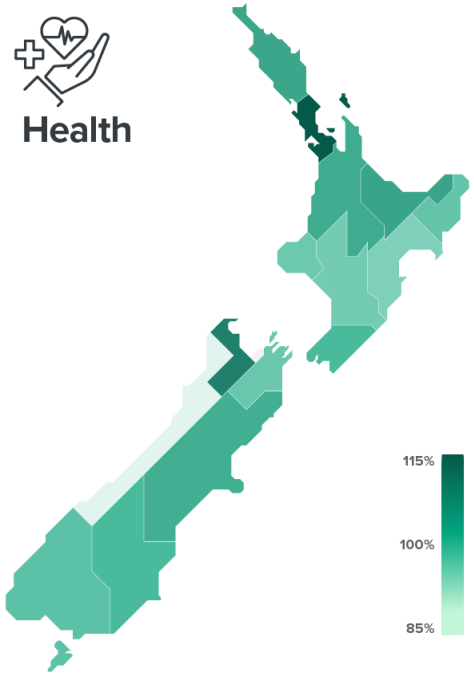
The Commission carried out high-level regional modelling to understand how infrastructure networks might grow and evolve over time. To do this, we modelled how infrastructure has been supplied historically in response to population and income growth in a given area. We then used projections of population growth by councils and regions to estimate where infrastructure pressures may be stronger over time. More details can be found in the accompanying technical report.

Every region will have more infrastructure by 2050 than they do now, but growth won't be evenly distributed. We also found that some networks are much more responsive to population growth than others. For instance, when populations grow, water and local road networks expand to meet that demand. Conversely, state highways, which have typically been built to provide access between regions and towns, are relatively insensitive to population growth. This makes forecasting future infrastructure investment requirements for these networks more challenging.

Regional Forward Guidance

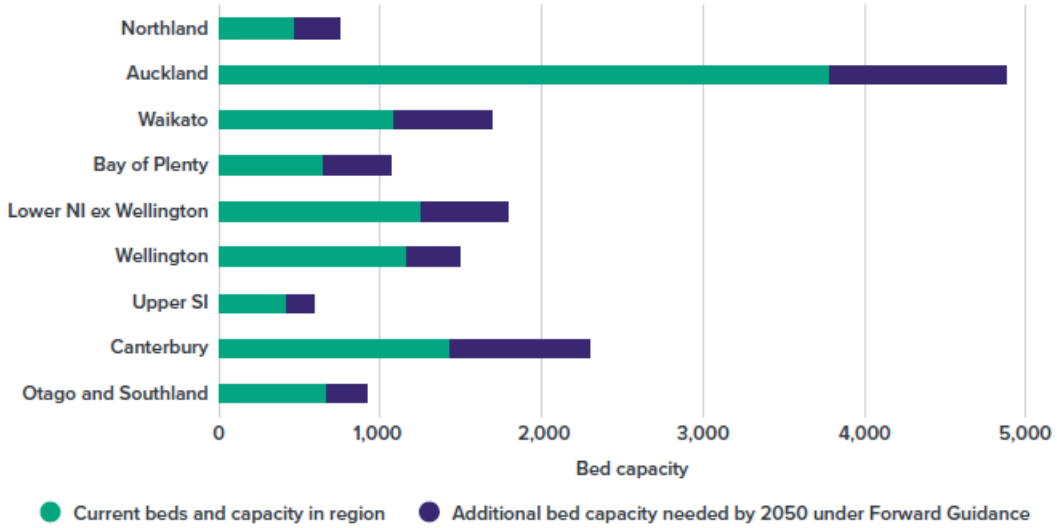
What does this mean for specific networks?

Expected regional variation in hospital network growth, 2025 to 2050



Note: Percentage changes represent the estimated change in asset values in each region.

Expected growth in hospital beds and capacity under Forward Guidance, by region, 2025–2050



Note: Estimated increase in bed capacity includes physical beds and allows for additional healthcare facilities to support them, such as administrative space, parking, and utility buildings. **Source:** 'Forward Guidance on Infrastructure Investment regional modelling'. New Zealand Infrastructure Commission. (2026).

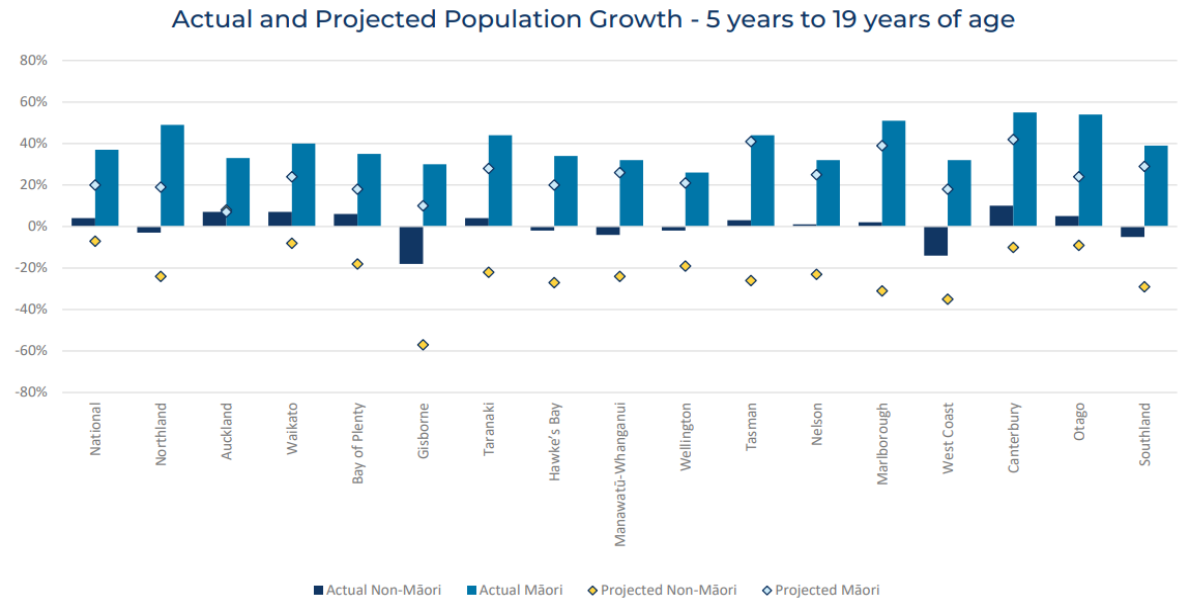
We used this modelling to help us understand what regional variation means for growth in physical infrastructure stock needs. For instance, using information on future hospital network growth across regions, and estimates for the cost of supplying hospital beds and associated facilities, we estimate that New Zealand will need to add over 4,500 new hospital beds to meet demand by 2050, absent a change in delivery methods of care. In Auckland alone, an additional 1,100 beds and other facilities would be required to meet the needs of a rapidly growing population. This is equivalent to building another Auckland City Hospital, the largest in the country.

Regional Forward Guidance

Local demographics will affect future infrastructure needs

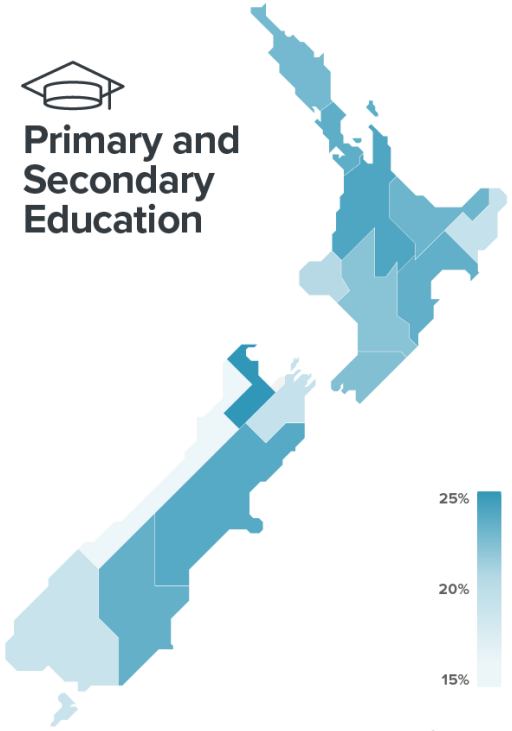
Māori will have greater primary school needs than the overall population

Māori are a much younger population



Note: Actual population growth reflects growth between 2013 and 2023 Censuses. Projected growth is from Stats NZ 2018–2043 population projections.
Source: 'Analysing the Impact of Long-term Investment Drivers on Māori', Nicholson Consulting. Commissioned by the New Zealand Infrastructure Commission, March 2025.

Expected regional variation in school network growth, 2025 to 2050



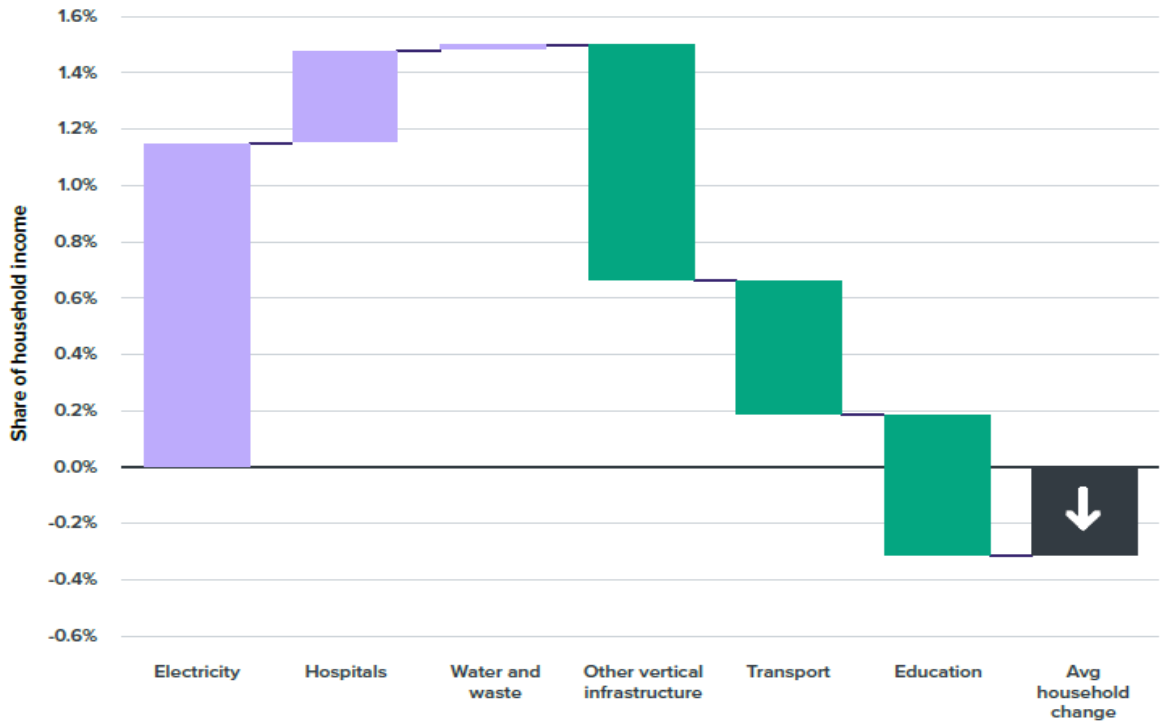
Note: Percentage changes represent the estimated change in asset values in each region.

While our forecasts present the overall picture of investment needs across sectors, we recognise that the story could be quite different locally. For example, Māori are a younger and faster-growing population than the national average (Figure left). This creates greater demand for schools in regions with higher Māori populations, such as Hawke's Bay and the Waikato, both to accommodate student growth and to expand access to Māori immersion education and kura (Figure right).

What does this mean for households?

Overall, similar or lower levels of charges and taxes

Forward Guidance: Annual Changes in household infrastructure costs, 2035–2040
(relative to year 2019)



New Zealand has choices about how we fund and finance our forecast infrastructure needs. But New Zealanders will still have to pay, either through taxes, rates, or user charges. To understand whether our investment forecasts are likely to be affordable for New Zealanders, the Commission has modelled household budget impacts based on scenarios for the mix of user charges and taxes typically used to pay for investment.

Our Forward Guidance would require households to pay slightly lower levels of charges and taxes as a share of income in the medium term than they have in recent years. However, the composition will change. We expect higher overall electricity charges to fund new generation required to meet greater electricity demand in the next 10 to 15 years, but per-unit charges might be the same or lower. Critically, to ensure the long-run affordability of this increase in electricity investment, central government will need to pull back investment levels in land transport and education in response to lower overall demand. We also expect that rising charges to fund investment in electricity generation will be offset by lower household expenses on goods such as petrol, which we do not model.

Notes: For more details on this modelling, please refer to the accompanying technical report, *Household costs of infrastructure model guide: Effects of sector-level infrastructure investment programs for household budgets,* Crow Advisory, for the New Zealand Infrastructure Commission. September 2025.

What do households say they need?

Health and education are enduring priorities

Sector or Topic	Summary
Health	The health system (healthcare and health infrastructure) is a consistent concern and enduring top priority for New Zealanders, across a range of surveys and over time
Housing	Housing supply, affordability and quality are consistently and increasingly very important
Water	Having enough clean water, particularly safe drinking water, appears to be very important and a priority for New Zealanders
Education	The education system (education and school infrastructure) is consistently important
Climate change and natural hazards	Multiple sources show that many New Zealanders are concerned, and increasingly so, about climate change, and are concerned about vulnerability to natural hazards
Transport	While there generally seems to be agreement that the performance of New Zealand's land transport system is not always meeting New Zealanders' expectations, views on the best ways to improve performance are diverse. It appears that perceptions of the best solutions are sensitive to framing, which means, what we ask about and how we ask it
Waste	Reducing the production of, and appropriately dealing with, waste is a priority for New Zealanders
Electricity	In general, New Zealanders' expectations for the reliability of electricity seem to be well met. However, New Zealanders do seem to be concerned about the competitiveness of the sector and there is a perception that pricing is not fair. New Zealanders are increasingly concerned about the sector's ability to ensure electricity supply will be sufficient in the future
Telecommunications	In general, digital telecommunications services in New Zealand appear to be meeting New Zealanders' expectations

Source: *Getting what we need: public agreement and community expectations around infrastructure.* New Zealand Infrastructure Commission, 2025.

We analysed the available survey evidence about New Zealanders' stated infrastructure priorities. We used only high-quality surveys which gave respondents a sense of trade-offs, which framed questions objectively, and used representative samples.

Survey findings show that New Zealanders want infrastructure in place to meet their everyday needs, while also ensuring we are investing enough for future generations.

Charging more for infrastructure doesn't appear to be a top priority for most people, with the exception of:

- spending on service-improving health or education infrastructure.
- or, where spending on infrastructure provides tangible value, for example, making it easier to meet living costs or to ensure access to core necessities and modern living standards.

New Zealanders also appear to prioritise ensuring that the money we are already spending on infrastructure is being spent well, and that the charges they pay are transparent and fair. Although most New Zealanders don't want to spend (much) more on most infrastructure and services, it appears that very few would want us to spend less overall or reduce levels of service. Looking after what we already have is seen as an important focus area.

Conclusions and future work

Using Forward Guidance

Our forecasts can be used for Government capital planning

Recommendation 1

Needs-based capital allowances

Ensure fiscal strategy and capital allowances are informed by the Commission's independent assessment of long-term needs and agencies' infrastructure asset management and investment plans.

Responsible agencies: The Treasury, New Zealand Infrastructure Commission, capital-intensive agencies

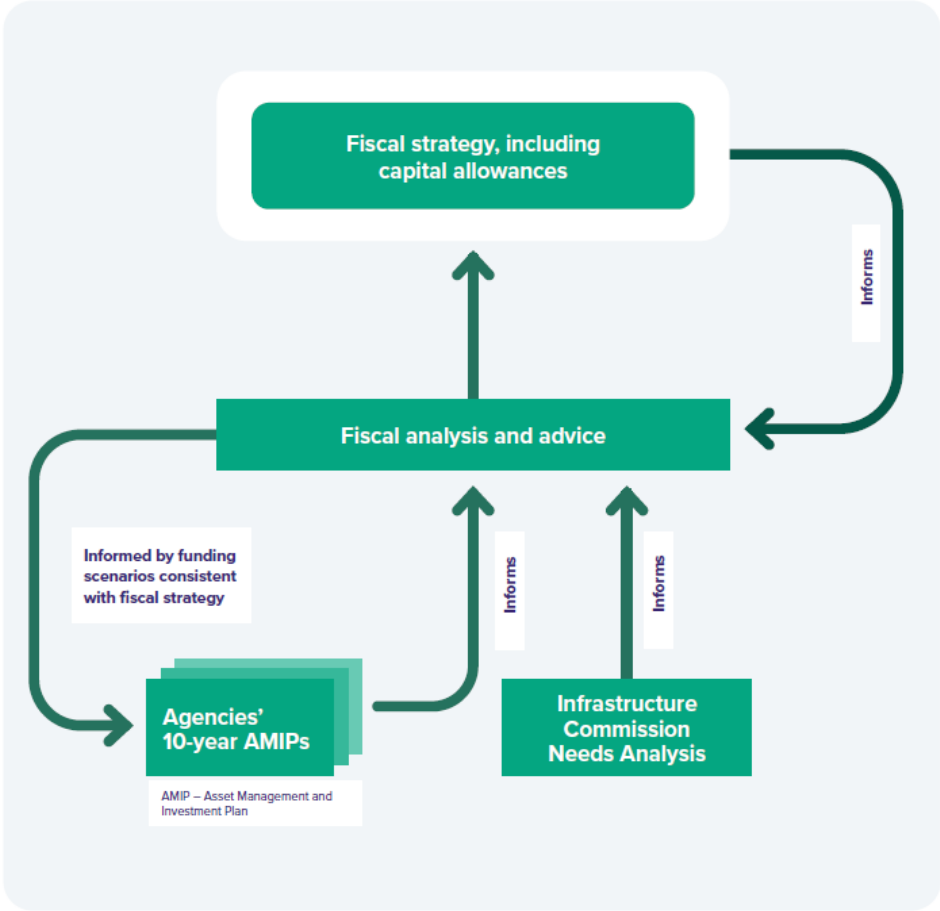
Timeframe: 2026 onwards.

Implementation Pathway

This could be implemented by:

- The Commission providing the Treasury with periodic forecasts of central government infrastructure needs.
- Incorporating these forecasts into fiscal strategy advice and decisions on future capital and operating allowances.
- Using agency asset management and investment plans to inform indicative allocation of future capital allowances across sectors and agencies.

The National Infrastructure Plan recommends that the Government uses our Forward Guidance to help set capital allowances for infrastructure investment.



Conclusion

Key lessons from our Forward Guidance

1

Renewing and replacing what we have will be the most important investment driver over the next 30 years

New Zealand has large and developed infrastructure networks, thanks to decades of sustained investment. Much of the infrastructure we have today was built by previous generations. This infrastructure serves as the foundation of our economic prosperity and well-being.

Over the next 30 years, our Forward Guidance projects that around 60 cents in every dollar of infrastructure investment should go towards maintaining and renewing existing assets. For networks with less population-driven demand, the ratio could be even higher.

2

Prioritisation and choosing high-value projects will be as important as ever

New Zealand has an array of formidable challenges to address over the next three decades. If the population ages and economic growth slows, as forecasts suggest, infrastructure providers will face even greater competition for capital to fund their projects.

Getting 'bang for buck' from our infrastructure dollar will take on even greater importance, requiring better planning and project evaluation. If our spending and project selection doesn't become more efficient, we risk allocating scarce resources to projects which don’t deliver maximum value, or worse, diverting resources away from high priority needs like renewals and maintenance.

3

A consistent flow of investment is the best way to meet long-term needs

For most sectors, our Forward Guidance does not predict rapid upswings or downswings in investment.

Instead, it is characterised by steady annual investment, anchored by renewals. While some areas might require large demand-driven investments to increase capacity, this should be the exception, not the rule. This is reinforced by separate research by the Commission, which found that investment booms are usually driven by large technological innovations.

A steady, predictable pipeline of work means the market can invest with confidence, resulting in greater delivery certainty.

Future work for our Forward Guidance

Potential extensions for future versions

- This work represents our latest attempt forecasting future infrastructure investment demand. But we recognise that more can be done.
- The Commission has plans to iterate and improve our Forward Guidance over time, updating it with new research and information.
- Areas for future work include:
  - Considering complementary or substitutability between types of infrastructure types (i.e., is it more efficient to meet freight needs with road, rail, or shipping?)
  - A physical asset view on investment needs (i.e., how many hospitals will we need?), rather than investment spending
  - Forecasting maintenance and operation costs in addition to capital investment costs
  - Better forecasting methods of the various drivers of demand

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Questions or feedback? Contact:

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Resources and References

- The full suite of technical reports that support the analysis for our Forward Guidance can be found on the Forward Guidance section of our website: https://tewaihanga.govt.nz/our-work/research-insights/forward-guidance
- Other reports that supported the conclusions of our Forward Guidance, but also the National Infrastructure Plan:
  - *Benchmarking our infrastructure: technical report.* New Zealand Infrastructure Commission, June 2025.
  - *Infrastructure Needs Analysis- Decarbonisation.* Motu Research, for the New Zealand Infrastructure Commission. June 2025.
  - *Analysis of long-term drivers on Māori.* Nicholson Research, for the New Zealand Infrastructure Commission. June 2025.
- Other key research papers that supported this work:
  - *Paying it forward: Understanding our long-term infrastructure needs.* New Zealand Infrastructure Commission, 2025
  - *Getting what we need: public agreement and community expectations around infrastructure.* New Zealand Infrastructure Commission, 2025
  - *Nation Building: A Century and a Half of Infrastructure Investment in New Zealand.* New Zealand Infrastructure Commission, 2025
  - *New Zealand's Infrastructure Challenge: quantifying the gap and path to close it.* Sense Partners, for the New Zealand Infrastructure Commission. October 2021
  - *Building a healthy future: the potential scale of investment in Crown-owned health infrastructure over the next 30 years.* NZIER, for the New Zealand Infrastructure Commission. November 2023