NEW ZEALAND
INFRASTRUCTURE
COMMISSION
Te Waihanga

Getting what we need

Public agreement and community expectations around infrastructure

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New Zealand Infrastructure Commission / Te Waihanga

The New Zealand Infrastructure Commission, Te Waihanga seeks to transform infrastructure for all New Zealanders. By doing so our goal is to lift the economic performance of Aotearoa and improve the wellbeing of all New Zealanders.

We are an autonomous Crown entity, listed under the Crown Entities Act 2004, with an independent board. We were established by the New Zealand Infrastructure Commission/Te Waihanga Act 2019 on 25 September 2019.

Information on the Commission is available at www.tewaihanga.govt.nz/

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Research Insights series contact

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Cut to the chase

Understanding community expectations enables us to optimise infrastructure services and funding

The point of infrastructure is to support the provision of services to people. These services can enable people to meet their basic needs, as well as have access to aspects of a modern standard of living. If we get it right, infrastructure can set the scene for people to survive and to thrive, now and into the future.

Ultimately, all infrastructure is funded (paid for) by either the people who use it (directly or indirectly), and/or collectively by the people, businesses and organisations who pay taxes and rates. Understanding the expectations, priorities, and needs of the people who *use (or will use) and/or pay (or will pay) for* infrastructure is critical. Table 1 distinguishes the sector, who supply infrastructure, from the community, who *as a whole* use and fund infrastructure assets and services.

Table 1: Conceptual characterisation of providers and users of infrastructure assets and services

"The Sector" Supply infrastructure assets and services	"The Community" Use and fund infrastructure assets and services
Own, regulate, finance, plan, design, deliver, provide and maintain infrastructure assets and services	*Both use (or will use) and/or fund (pay for both directly, indirectly, and collectively) infrastructure assets & services*
Iwi and Māori owned assets and enterprises	Individuals, households, families, whānau, hapū, iwi, civil society, collectives/groups
Trusts (for example, consumer trusts)	Taxpayers and ratepayers
Small, medium, and large enterprises	Across all stages of life (children, adults, and elders)
Private sector (regulated by public sector to varying degrees)	In various geographies (remote, rural, suburban, urban)
Public sector (central and local government, elected representatives, servants, advisors, and agents)	Past[1], current and future generations
	Businesses: agricultural, industrial, and commercial sectors (primary, secondary and tertiary)
	Public services (including health and education)[2]

The provision of infrastructure often involves high fixed costs, opportunities for economies of scale and aspects of a public good (non-rival or nonexcludable). This means that infrastructure is expensive and involves high up-front costs. Because of this, it's harder for several private companies to enter the market and supply it profitably. Further, larger-scale providers can often deliver it more efficiently, spreading significant up-front costs over a wider base of users/customers. This tends to result in infrastructure being either publicly owned or natural monopolies that are regulated. This makes it difficult for market data to 'reveal' preferences, as the community who use and pay for the infrastructure may have little or no market choice. In such situations, it is necessary to collect good quality data that represents what users - and potential or future users - say or indicate are their own preferences, expectations, priorities and needs, as well as what they are willing to pay for.

[1] Past generations no longer use, but have funded, many of New Zealand's existing infrastructure assets and services.
[2] Public services use infrastructure assets and services.

Infrastructure investment and decision making needs to deliver the right services, to the right people and places, for the right price. To get it right, we must include the perspectives of the people who – as a whole - use and pay for our infrastructure.

Asking people about their expectations for infrastructure

In this paper we extend our understanding of what society wants from its infrastructure beyond choices made within the past and current infrastructure system. To do this, we review existing stated preference datasets and research to better understand New Zealanders' infrastructure expectations and willingness to pay, and their perceptions of their own priorities and needs, at a national level.

Who, what and how we ask matters

When asking people about their expectations, needs, priorities and perceptions, who, what, and how we ask can be really important, as it can influence the study findings. The ways people can respond to any questions also matters (question type and framing). Some surveys, for example, may limit peoples' ability to reflect their full preferences due to what questions are asked, and the range of options available to select in response to questions. Sometimes people may be asked what they would like to have, but not necessarily how much they would be willing to pay for it, or other trade-offs associated with their choice.

Given that infrastructure can have large costs associated with investment and maintenance, it is important that people fully understand the problem or opportunity, as well as the options, outcomes and trade-offs of different choices.

New Zealanders want better spending, and (mostly) not more

New Zealanders want to keep a lid on spending, for the most part, and deliver good value for their money. They want us to look after the infrastructure that we already have.

New Zealanders appear to prioritise ensuring that the money already being spent on infrastructure is being spent well, and that the charges they pay are transparent and fair. It seems to be most important to get the basics right and look after what we already have. 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.

New Zealanders want us to get the basics right for everyone, like health and housing, water and education.

Some New Zealanders do appear to be willing to spend more, in certain circumstances:

- Where spending on health or education infrastructure will improve healthcare and education services.

- Where spending on infrastructure will provide tangible value, such as making it easier to meet costs of living for those under financial strain, or when it will ensure (continued) access to basic necessities and to a modern standard of living for everybody (like clean water, affordable and quality homes, and good healthcare and education).

Community expectations by sector or topic

Taken together, the information available has provided a range of insights into community expectations, for various infrastructure sectors and related topics, at a national level. Some sectors had more information, and from a wider range of sources than others. Some sectors had less information. Sometimes different studies had conflicting findings, which may reflect the study design, survey questions or wording, or changes over time (such as specific pain points that are successfully resolved).

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

Infrastructure in a wider context

New Zealanders care about themselves, and they also care about the wellbeing of others, now and into the future. They prioritise looking after the environment and people when we are making decisions that are enduring.

Most New Zealanders appear to want to be able to meet their needs and live well (enough) now, while also ensuring that others' needs are met too, and that we are on course to a future state where people can continue to meet their needs and to live well. For New Zealanders today, this future state would have clean water, have mitigated and adapted to climate change and other hazards and risks, and have systems in place to reduce and manage waste.

Achieving New Zealanders' longer-term priorities is likely to require acting at a system level, and decision making in the interests of both current and future generations. At times, it may also require balancing the interests of different groups, and things we want now with what we may want in the future. It will also require making choices now that align to deliver value and meet needs well into the future.

Limitations

The high-level, nation-wide findings reported here, and the conclusions we have drawn, are supported by the data available to us. Limitations in the quantity, quality and complexity of published studies in the topic area reduce the resolution and interpretation of the review findings. Additionally, there are likely to be variations in the findings across the country, in different types of places, among the range of groups of people and for the different sectors. Investigating and understanding this variation, and how it may be changing over time, will be important to make sure infrastructure services meet New Zealanders' expectations and willingness to pay, in support of their wellbeing, well into the future.

Next steps

The findings from this report will be incorporated into the draft National Infrastructure Plan alongside other information on long-term infrastructure investment needs. Future work is needed to ensure that good quality stated and revealed preference data is available to support infrastructure decision making in New Zealand.

Contents

1. Introduction

1.1. The functions of Te Waihanga

How New Zealand designs its infrastructure, and deliver and fund its services, influences almost every aspect of people's lives. It connects us to the people and places, and good and services that matter to us. It brings water and energy into our homes, schools, hospitals, businesses, and other places where we gather, and it also takes away the waste. It can protect us from flooding and other natural hazard events. It supports the provision of basic services necessary for life, as well as services that can enable us to live well and thrive.

Reflecting this, the main statutory function[3] of Te Waihanga is to develop an approach to infrastructure that improves the well-being of New Zealanders and to develop broad public agreement on this approach. The Commission must also (among other things) provide advice on the ability of existing infrastructure assets and services to meet community expectations[4] and priorities, as well as current and future infrastructure needs.

Te Waihanga is currently preparing Aotearoa New Zealand's National Infrastructure Plan (NIP). We have numerous workstreams coordinating to deliver the NIP and achieve our statutory functions, and the present research complements and adds to this body of work.

1.2. The National Infrastructure Plan

As part of the NIP, Te Waihanga is developing the long-term Infrastructure Needs Analysis (INA). This workstream takes a 'revealed preference' approach to understanding New Zealand's long-term infrastructure needs. This means that it uses past patterns of infrastructure funding and consumption as the basis for understanding needs. It aims to address all major sectors, models demographic patterns and trends, an understanding of hazards and risks, and employs international benchmarking, to generate insights and implications for the future.

1.3. Research purpose and approach

The purpose of this research is to 'take stock' of how well we currently understand **community expectations, and New Zealanders' perceptions of their own priorities and needs** regarding our infrastructure and its service outcomes. It reviews existing 'stated preference'[5] datasets and research to better understand New Zealanders' infrastructure expectations, and their perceptions of their own priorities and needs, at a national level. These insights will be used alongside the findings from the INA to inform advice in the National Infrastructure Plan.

This research will help us to understand where there is **broad public agreement** on an approach to infrastructure, and where community expectations or priorities are diverse or contested. However, this research does not constitute investment advice.

[3] New Zealand Infrastructure Commission/Te Waihanga Act 2019. https://www.legislation.govt.nz/act/public/2019/0051/latest/whole.html

[4] This includes community expectations in relation to benefits and other outcomes that result from the infrastructure or services; and how the services are delivered; and the quality of the services; and how the infrastructure is built and maintained.

[5] 'Stated preference' means it uses data that represents what New Zealanders' say or indicate are their own expectations, including their priorities and needs.

Section 2, the next section, defines what we mean by the 'community', explores how we can understand their expectations, needs, and priorities, and the benefits of doing so.

Section 3 reviews and presents what we know about community preferences for paying for (or funding) infrastructure, including how to ensure it is seen as fair. It also explores community perceptions of a range of major infrastructure sectors, at a national level. It then considers community expectations for infrastructure within the context of other current and future priorities.

Section 4 draws conclusions, outlines limitations and next steps.

2. What does the community have to do with infrastructure?

This section explores the role of the community in infrastructure. It starts by defining the community as those who *as a whole* use and pay (or will use and pay) for infrastructure. It then outlines the types of information that may be used to understand the community's needs for infrastructure, and the benefits of including data that represents what people say or indicate are their own preferences, expectations, priorities and needs.

2.1. But firstly, what is infrastructure?

Infrastructure[6] is made of layers of connected systems and networks. These deliver the services we depend on like power, water, transport, healthcare and education. What's the common factor in all this infrastructure? It allows us to share resources so that we can be more connected, healthier, smarter and innovative. In doing so, it improves our lives in many ways and contributes to the wellbeing of all New Zealanders.

2.2. Who is the 'community'?

The New Zealand Infrastructure Commission/Te Waihanga Act 2019 (the Act) requires us to understand community expectations for a wide range of aspects of infrastructure assets and services[7]. The word 'community' is framed within the Act as those who '*use or will use*' New Zealand's infrastructure and its services. In order to understand community expectations, first we need to understand the characteristics of the community who use or will use New Zealand's infrastructure and its services. Table 1 provides an overview of the roles and parties involved in the supply and use of infrastructure assets and services in New Zealand, breaking them into two main groups: the sector who supply infrastructure and the community who, as a whole, use and fund it.

Table 1: Conceptual characterisation of providers and users of infrastructure assets and services

"The Sector" Supply infrastructure assets and services	"The Community" Use and fund infrastructure assets and services
Own, regulate, finance, plan, design, deliver, provide and maintain infrastructure assets and services	*Both use (or will use) and/or fund (pay for directly, indirectly, and collectively) infrastructure assets & services*
Iwi and Māori owned assets and enterprises	Individuals, households, families, whānau, hapū, iwi, civil society, collectives/groups
Trusts (for example, consumer trusts)	Taxpayers and ratepayers
Small, medium, and large enterprises	Across all stages of life (children, adults, and elders)
Private sector (regulated by public sector to varying degrees)	In various geographies (remote, rural, suburban, urban)
Public sector (central and local government, elected representatives, servants, advisors, and agents)	Past[8], current and future generations
	Businesses: agricultural, industrial, and commercial sectors (primary, secondary and tertiary)

[6] To read more about infrastructure, see https://tewaihanga.govt.nz/the-strategy/1-introduction#intro1
[7] https://www.legislation.govt.nz/act/public/2019/0051/latest/whole.html
[8] Past generations no longer use, but have funded, many of New Zealand's existing infrastructure assets and services.

	Public services (including health and education)[9]

As a whole, the "**community**" suggests a broad group of users (and potential or future users), but the collective varies in size and nature, depending on the infrastructure in question. In instances of (partially) State-owned enterprises, Crown companies, and local government assets, the public (via the state or local government) both (part-)owns and is served by the infrastructure. In all instances, it is the community of users *as a whole* who pay for (or fund) the infrastructure and its services.

Not every individual or sub-group within the community uses and pays for every single part. What is used depends on where one lives and works, what they do, what is available and accessible to them, their stage of life, and many other factors. Past generations built the infrastructure that the current generation uses and maintains, and much of what we build now will be used by future generations.

While a range of different funding and financing mechanisms exist, and this affects who pays and uses services, when, and how, it is always the community *as a whole* who fund infrastructure. The *way* infrastructure is used and paid for is a complex topic[10], with important efficiency, sustainability, distributional and equity considerations. The point this paper is making is that it is always the community *as a whole* who use and fund New Zealand's infrastructure.

The "**sector**" is the provider of infrastructure and services, to the community, under all ownership and operational models. Regardless of financing arrangements, the funding that the sector uses to deliver infrastructure and services is always sourced from within the community.

The importance of the sector acting in the interests of the community who use and pay for their infrastructure services was highlighted in a recent high-profile case where an external review of a public infrastructure provider found a prioritisation of "consultants and contractors over ratepayers"[11]. This factor was one of several identified as a contributing factor behind a pattern of contractor overpayment.

Delivering infrastructure services optimally requires that the sector understands and meets community expectations, including their service expectations and their willingness to pay for, or fund them.

2.3. How can we understand community expectations for infrastructure?

Given the importance of delivering infrastructure and its services in the long-term interests of the community, it is vital to ensure that infrastructure providers understand what those interests are. This means that understanding the expectations, priorities, and needs of the community is critical.

2.3.1. The types of data that can be used

There is a range of data that can be used to gain insights into community expectations, priorities and needs for infrastructure. Broadly speaking, the data can be categorised into two types; revealed or stated preference, as presented in Table 2 below.

As we can see in Table 2, community expectations for infrastructure can be understood using both revealed and stated preference data. Both types of data have inherent strengths and limitations and either type can be of good or poor quality.

[9] Public services use infrastructure assets and services.
[10] https://tewaihanga.govt.nz/our-work/research-insights/network-infrastructure-pricing-study
[11] See page 8, paragraph 1.27(a)(ii) of Project-Kelleher-and-Portland-Final-Report-March-2025-Redacted-1.pdf

Table 2: The types of data that can be used to understand community expectations for infrastructure.

	Revealed preference data (or -'choice')	Stated preference data (or 'voice')
Description	Data about people or that represents people's behaviour (what people are currently doing or have done in the past) Can be measured objectively (human or mechanised observation) or subjectively (user survey) Can be measured at a point or points in time (one-off, irregularly or regularly) or continuously	Data that represents what people say or indicate are their own preferences, expectations, priorities and needs, including potential future behaviour (what they say they would do) Can be measured subjectively Can be measured at a point or points in time (one-off, irregularly or regularly)
Strengths	Tends to be *seen as* accurate and reliable Tends to be more readily available	Useful for testing perceptions, and the potential behavioural response of those people with latent or mismatched demand to past or current options, or to infrastructure that is uncommon or new (so there is little or no data on how it may be used)
Limitations	Of limited value when real choices are constrained (and therefore do not reflect preferences or needs), applied to latent or mismatched demand, or something new Can have limitations in applicability to an unknown future which may involve changing trends and preferences, as well as new technologies	Tends to be *seen as* more likely to be unreliable and prone to bias Tends to be less readily available
Considerations	Data of either type can be of poor or good quality. Collecting any data requires making value judgements around what is worth the effort and cost of collecting, and how often. This means that there can be significant gaps in any dataset (such as certain types of users or uses). Judgement is also required when selecting the data that will be analysed, and how it will be analysed. Additionally, the meaning and presentation of any result is subject to interpretation and potential assumptions. Both types of data may reflect historic and present 'patterns', including past supply decisions, and processes and outcomes that may not be fair, or no longer seen as optimal. Care is required to account for this, to ensure decision making is not unintentionally biased, further compounding or entrenching problems.	

Table source: Beetham et al., (2021)

The provision of infrastructure often involves high fixed costs, opportunities for economies of scale and aspects of a public good (non-rival or nonexcludable). This means that infrastructure is expensive and involves high up-front costs. Because of this, it's harder for several private companies to enter the market and supply it profitably. Further, larger-scale providers can often deliver it more efficiently, spreading significant up-front costs over a wider base of users/customers.

This tends to result in infrastructure being either publicly owned or natural monopolies that are regulated. This makes it difficult for market data to 'reveal' preferences, as the people who use and pay for the infrastructure may have little or no market choice. Additionally, people who *would, could or will use and/or pay for* infrastructure are not represented in revealed preference data. In such situations, it is necessary to collect good quality data that represents what users (or potential users) say or indicate are their own preferences, expectations, priorities and needs, as well as what they are willing to pay for.

Data quality is essential

Stated preference data must be good quality to ensure the benefits of using it are achieved. The quality of stated preference data is determined by a range of factors, including:

- Who participates (self-selected or random sample, sample size, and demographic and statistical representativeness)
- What they are asked about (both the content and framing)

- When they are asked (at what point in a process and any relative contextual factors)
- How they are asked (use of an *appropriate process* for the people, the topic and questions, and context and that point in time)

2.3.2. What are the benefits of using stated preferences to understand the community's expectations for infrastructure?

Using stated preference data and methods to understand community expectations for infrastructure services can offer particular insights and benefits. These insights and benefits are relevant to those involved across the infrastructure sector and system, and include:

- to gain insights into the needs and preferences of different types of users and different user groups
- understanding users' relative priorities, to prioritise investments, across and within sectors (for both renewals and maintenance, levels of service, service characteristics), and over time (short, mid, and long term)
- understanding where there is consensus and divergence in expectation, and the acceptability of trade-offs
- evaluating willingness to pay, and ways of paying, for investments and maintenance
- in case of market failures, qualifying or quantifying latent (unmet, unrealised) demand (categories of service or qualities of service)
- tracking over time:
    - to monitor and anticipate changing needs, values, preferences, and priorities
    - to evaluate shifts in levels of satisfaction
- increasing the odds of project success and public satisfaction
- generating new information and insights that can be used as an evidence base to develop a course of action, thus increasing political certainty and confidence in that course of action (especially in instances where the course of action represents a shift from business as usual)
- creating new inputs for economic or demand models and forecasts, and inputs for project appraisal, business cases, and cost benefit analysis.

2.3.3. The use of both data types is complementary

Revealed and stated preference approaches to understand community expectations are complementary and the use of both is desirable where possible, as each can account for aspects of the shortfall of the other. The use of both types of data can:

- overcome limitations and constraints of using just one type of data
- add contextual information that adds insight or meaning in interpretation
- show where there is more likely to be agreement or consensus
- show where there may be divergence, uncertainty, or unknowns and therefore need for further investigation (which may require additional data collection).

When enough good quality data is available, or collected, and analysed, we can gain meaningful impressions of community needs and expectations by:

- representing past and present infrastructure needs, use and funding patterns
- attempting to represent future infrastructure needs, use and funding patterns, and
- comparing two or more places to gain insights (such as through benchmarking).

As discussed in the introduction to this paper, as part of the National Infrastructure Plan, Te Waihanga is developing the long-term Infrastructure Needs Analysis (INA). This workstream takes a 'revealed preference' approach to understanding New Zealand's long-term infrastructure needs. It aims to address all major sectors, using past patterns of infrastructure funding and consumption, demographic patterns and trends, an understanding of hazards and risks, and international benchmarking, to generate insights and implications for the future.

The next section of this paper reviews existing stated preference datasets and research to better understand New Zealanders' infrastructure expectations, and their perceptions of their own priorities and needs, at a national level. These insights will be used alongside the findings from the INA to inform advice in the National Infrastructure Plan.

3. What we know about community expectations, needs, and priorities

How the community (users) think about infrastructure may relate to their values and preferences, the services they use, their (personal or collective) needs, how well these services meet their needs, and how (and how much) they pay for them. This section reviews and presents what we know about community preferences for paying for (or funding) infrastructure, including how to ensure payments are fair. It then explores community perceptions, priorities and needs of a range of major infrastructure sectors, at a national level. We do this through a desktop review of published stated preference datasets as well as existing research.

3.1. Paying for infrastructure

To understand New Zealanders' views about paying for infrastructure services, we re-analysed a dataset from a survey Te Waihanga commissioned in 2023 and then summarise information from several recent external surveys that asked New Zealanders' their views on paying more for public services and infrastructure.

3.1.1. There's a lot to consider when it comes to paying for infrastructure

The community funds all infrastructure assets and services, through various types of funding mechanisms, either directly such as through use-based charges, or indirectly via collective charges like rates and general taxation. Given the range of users, types of funding, and types of infrastructure assets and services, it's important to understand what people think is fair when it comes to providing and paying for (funding) infrastructure.

A major recent workstream at Te Waihanga has been "What's Fair?", a deep-dive research project into infrastructure and fairness. As part of this workstream, in 2023 Te Waihanga surveyed a representative sample of 3,002 New Zealanders to better understand what people think is fair when it comes to paying for certain types infrastructure[12]. Survey respondents were asked closed questions (multiple choice) about the fairness of different ways of households paying for roads, water, and electricity, which are all forms of network infrastructure. This included whether the amount households pay should differ based on either the cost to supply, or levels of use, or household income. Key findings based on analysis of these questions include that:

- the highest levels of support were for use as a fair way of paying for infrastructure (of the options provided)
- perceptions of fairness varied based on age, gender and ethnicity.

Respondents were also asked an open-ended question at the end of the survey: "*… Are there any other ways that you think would be fair, or would like to comment on?*" Of the 3,002 survey respondents, 647 people commented in response to this question. Presented below is an overview that represents the *range of ways* people described their views on what would be fair that were expressed in the comments. This overview is a starting point that reflects a spectrum of views held in a small sample of the community. More research would be needed to understand how widely held these views are across the

[12] The What's Fair? report can be accessed here: https://media.umbraco.io/te-waihanga-30-year-strategy/nqfm3lif/what-new-zealanders-think-is-a-fair-way-to-pay-for-infrastructure-survey-insights.pdf

New Zealand society, and how they may apply to different infrastructure services and different user groups.

What we can see from the responses is that most respondents who commented saw fairness as a complex topic, meaning more than one aspect needs to be considered in what's fair. For example, for many respondents there were multiple considerations in what makes payment fair, and overall fairness is about more than just payment, and included things like what the services are, and how they are provided and used.

Accordingly, a range of considerations were raised as being important in relation to the fairness of infrastructure services. These included:

- The type of asset or service (commonly framed as necessities and basics versus extras)
- The purpose, type, level, impact, and total cost/value of use (or, all aspects of use)
- How we charge, including the balance of collective (indirect) versus user (direct) payment
- What any new, use-based charges for infrastructure services are used for (which, to some people, relates to who owns and operates the services)
- Managing demand with extra charges rather than other ways (such as incentives, gamification, and education)
- How the system allows for vulnerable users (which may or may not be best accounted for at the point of payment)
- The importance of the value, quality, and efficiency of infrastructure planning, delivery and maintenance.

These points are elaborated on further in Table 3. The points that were most commonly talked about are introduced as being discussed by "more respondents". Where points were raised by fewer than most, but more than a few, are introduced as being discussed by "some respondents". Points that were raised infrequently are introduced as being discussed by "a few" respondents.

Table 3: The range of perspectives a group of survey respondents raised as important when asked to comment with their view on the fair funding and use of infrastructure

Type of asset/service	Some discussed that essential and basic services should be provided in a way that ensures that they are accessible to all people A few preferred that use-based charging at the household level should consider circumstances that affect levels of use (for example, the number of occupants in the household)
Use of asset/service	More respondents raised that any use-based charges should consider some or all aspects and types of use, including, for example, the: • Amount of use • Type of use (domestic/household; commercial or industrial; international tourists; developers) • Consequence of use (high intensity; high impact) • Total economic costs and benefits (rather than just an aspect of it)

How we charge	More people responded with views on the importance of how we charge for infrastructure services, these included:
	• Some preferred a balance of collective (indirect) and user (direct) charging, for example:
	  ○ charging a base rate, with use charging above a certain level
	  ○ using a mix of charge types, rather than just one
	• Some talked about implementing any new use-based charge in a way that allows users to reduce consumption to save money
	• Some thought everyone should pay the same, while others thought those on higher incomes should pay more and/or those on lower incomes should pay less
	• A few raised that charges need to be transparent, consistent and simple so that people can understand what they are paying for (including what is fixed and what is use-based)

The purpose of any new charge	There was a preference by a few respondents for public ownership of public services (due to being seen as more likely to be fair/act in public interest)[13] A few also mentioned the desire to avoid profit driven pricing over meeting community needs for essential services (generating profit vs covering costs) A few also raised the need to ensure charges and fees are reinvested into maintaining and improving services

All forms of demand management	More respondents raised points that related to demand management, such as:
	• charging to reduce peak or overall demand (shift use to other times, or reduce overall use through conservation or alternatives)
	• consider the use of other types of demand management (either alongside or instead of use-based charges), such as:
	  ○ education
	  ○ gamification
	  ○ incentives (refund, rebate, discount for those who use less, fair buy-back prices for distributed solar)

How to allow for vulnerable users	Some respondents raised views on supporting diverse needs, such as: • Ensuring diversity of user-needs and vulnerabilities are considered, not just low income but including those with disabilities, health issues, and elders • Consideration of the best way to support access for vulnerable users and lower income households (which may or may not be via how they pay for infrastructure services)

(Continued overleaf)

[13] No one in the sample explicitly raised the preference for private sector ownership or provision of infrastructure services. In contrast, one survey by Ipsos and the Global Infrastructure Investor Association found that 69 percent of New Zealanders agreed with the statement "I'm fine with companies in the private sector investing money in New Zealand's infrastructure, if it means we get the improvements we need" (Ipsos & GIIA, 2024).

Table 3: The range of perspectives a group of survey respondents raised as important when asked to comment with their view on the fair funding and use of infrastructure (continued)

Ensuring best practice investment and asset management	More respondents raised views of the need to improve public sector practices. These emphasised that before charging more, we need to make sure we are spending better by: • reducing unnecessary spending and improving efficiency of spend • ensuring there is responsibility and accountability in spending • coordinating investment and maintenance • ensuring services are resilient • undertaking long-term planning

Implications

Although these findings are from a small sample and not generalisable to all New Zealanders, they do provide some insight into the types of things people may consider as important regarding the fairness of how we use and fund infrastructure. More research would be needed to understand the relative importance of these views across the New Zealand population, any gaps, and how they would apply to any given context or situation.

Evaluating existing or implementing new charges

These findings have implications for any potential evaluation of existing, and public acceptability of any new, use-based or other charging mechanisms, and provide potential policy pathways to their implementation.

Spend better, and *be seen* to be spending better

The public focus on investment and asset management quality and efficiency represents a preference that we spend better, as a priority, before we spend more and therefore charge more.

Additionally, before people are expected to pay more, there is a need to make sure that the community *are confident* that the money already being spent is being spent well. This may require increased transparency around spending, among other things. Previous research commissioned by Te Waihanga – in this case, document analysis - has found that it's currently not easy for the public to see how large, public infrastructure projects in New Zealand are performing, with key project documents often not being publicly available or being hard to understand (Cordier et al., 2023). It is plausible that this lack of transparency may be contributing to a lack of public confidence in public infrastructure spending.

3.1.2. Who pays? And how? A case study of toll roads

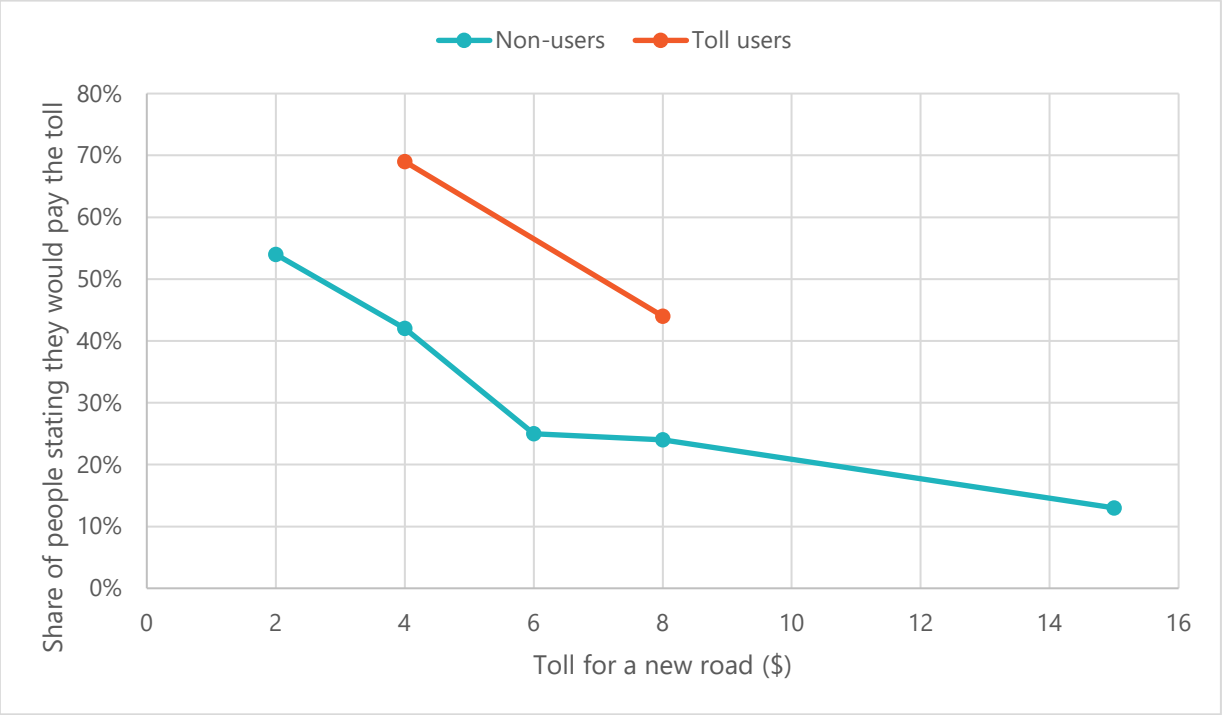
One known example where some people may be willing to change how infrastructure is funded, is direct user charging for roads (also known as toll roads). However, this is only the case *if* the new road is able to provide significant travel time savings.

A Post/Freshwater Strategy Poll[14] survey found that about half of New Zealanders say they would prefer to fund new roads by tolling users directly, while half would prefer conventional public (or collective) funding (Vance, 2024). As shown in Figure 4, to save ten minutes of travel time, 54 percent of respondents said they would be willing to pay a NZD$2 toll, with 42 percent willing to pay a NZD$4 toll (Vance, 2024).

[14] Freshwater Strategy interviewed n=1,150 eligible voters in New Zealand, aged 18+ online, between 26-27 November 2024. Margin of Error +/- 3%. Data are weighted to be representative of New Zealand voters.

However, Figure 4 also shows that among those who already use toll roads, willingness to pay is higher, with 69 percent saying they would be willing to pay NZD$4, and 44 percent willing to pay NZD$8 (Vance, 2024). This stated willingness to pay aligns very closely with Te Waihanga research that estimated revenue-maximising tolls for new roads. We found that for a ten minute travel time saving at NZD$3.80, 74 percent of road users would pay the toll (with 26 percent diverting) (New Zealand Infrastructure Commission, 2024a)[15].

Figure 1 New Zealanders' willingness to pay toll road charges



Data source: (New Zealand Infrastructure Commission, 2024a; Vance, 2024). Note: information on the share of toll users willing to pay a $2, $6 or $15 toll was not publicly reported.

[15] This also reflects that people are more accurately able to predict their behavioural response to a proposed scenario if it is relatable to their lived experience (which in this case means having experience using tolled roads). This is a well-known phenomenon in social and behavioural science and can be accounted for in stated preference research design and analysis.

3.1.3. Spend better, and (mostly) don't spend more

This section reviews several recent, nationally representative surveys that asked New Zealanders about their willingness to pay more for public services and/or public infrastructure. The findings in this section support some findings shown previously in Table 3, particularly the public preference to spend better as a priority.

Table 4 provides an overview of the main sources cited in this section. It shows that all of the data has been collected over the past decade, via surveys and are representative of the New Zealand adult population.

Table 4 Key sources in this section

Citation	**GESIS, ed., 2018**	**Ipsos & GIIA, 2024**	**Wood, 2024**
Institution	International Social Survey Programme[1]	Ipsos and Global Infrastructure Investors Alliance	Tax Justice Aotearoa
Dates	Data collected in 2016, published in 2018	Data collected in 2024, published in 2024	Data collected in 2023, published in 2024
Method	Survey (online and postal)	Survey (online)	Survey (online)
Sample size	N =1,350	N = 1,004	N = 1,154
Representativeness	New Zealand adult population	New Zealand adult population	New Zealand adult population

[1] *New Zealand data was collected by Centre of Methods and Policy Application in the Social Sciences (COMPASS), The University of Auckland.*

Figure 1 presents the findings of the three studies presented in Table 4, across three 'panels' labelled A, B and C. It is important to note that the International Social Survey and Tax Justice Aotearoa surveys focussed on government spending on public services in general, and not specifically on infrastructure. However, some of the services included in these surveys require infrastructure to operate. From a user perspective, it is not always possible to separate infrastructure assets from the services they provide to people, and the operational functions that they enable. The Ipsos & Global Infrastructure Investors Alliance survey did specifically ask about infrastructure, but not all types, with a focus on networked infrastructure.

New Zealanders appear to have low levels of satisfaction with national infrastructure, with research showing that only 27 precent of New Zealanders are satisfied, and 67 percent agree with the statement that "we are not doing enough to meet our infrastructure needs" (Ipsos & GIIA, 2024). However, it also appears that most people do not agree that increasing funding, so we can spend more, is the best solution to our infrastructure problems.

Across these studies, we can see that most New Zealanders (when tallied, between 60 and 86 percent) *do not* prefer to increase *overall* public spending, via increased charges or taxes, on core public

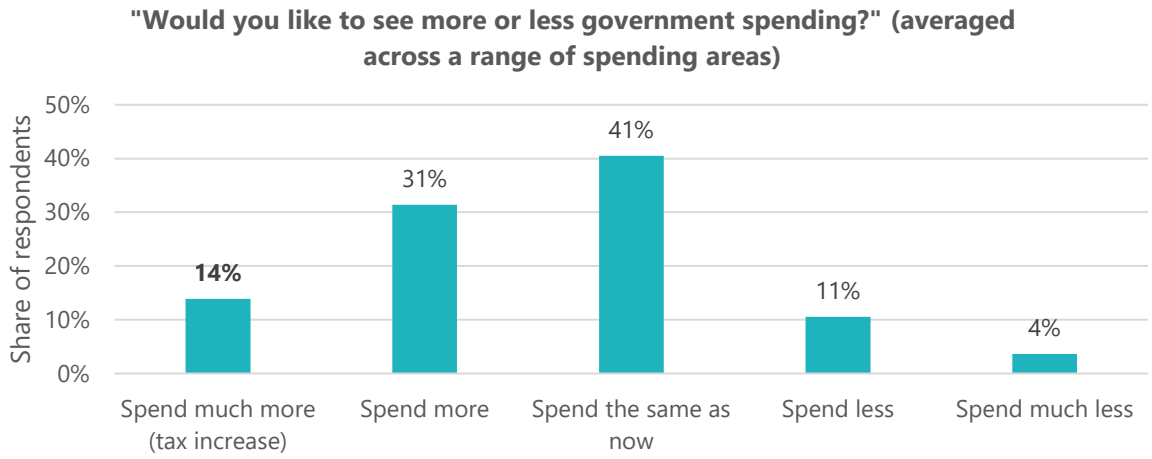
infrastructure and/or public services increases[16,17] (GESIS, ed., 2018; Ipsos & GIIA, 2024; Wood, 2024). Additionally, it appears that very few New Zealanders support spending less overall on core services, with the most recent survey by Tax Justice Aotearoa showing only 2 percent would support this (Wood, 2024).

One recent study[18] by Talbot Mills Research (2025) for Tax Justice Aotearoa asked about support for an increase or decrease in government spending on "key public services such as hospitals, schools, and the police". In this survey 83 percent of respondents indicated a preference for increased spending (48 percent selected 'a lot' and 35 percent selected 'a bit'). Respondents were not asked about their willingness to pay more (via tax or charges) as part of the question, which may be why the preference for increased spending was higher than in the previously discussed surveys[19].

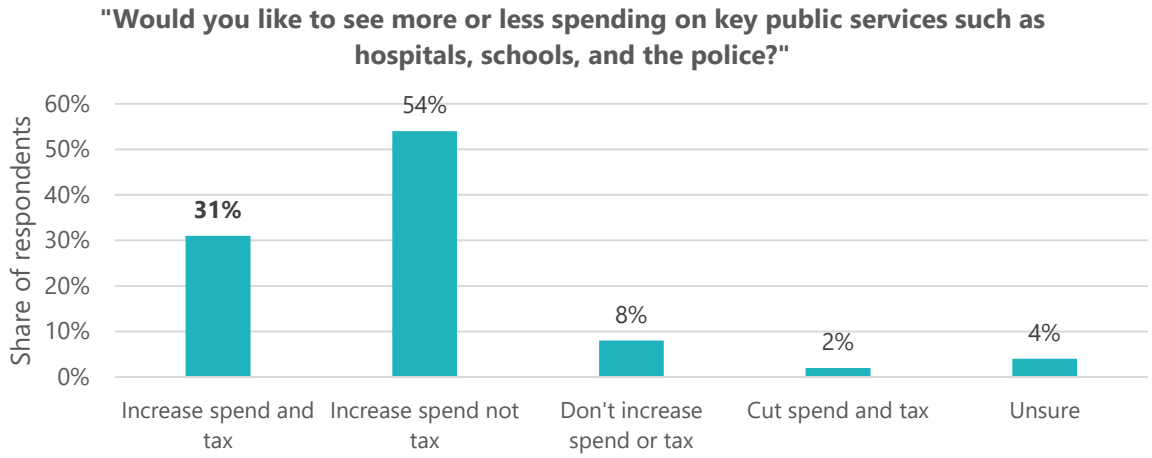
[16] The surveys did not clarify in the question wording whether 'spending' reflected real spending levels over time, as a percentage of government spending, or percentage of GDP.
[17] In the Panel A and B charts "spend more" and "increase spend not tax" speaks to a reprioritisation of spending without increased overall revenue to spend.
[18] Via a nation-wide online survey, with a sample of n=1,252 nationally representative of respondents in New Zealand 18 years of age and over.
[19] This study did ask a separate question "Broadly speaking wealthier New Zealanders (e.g. people who earn over $180,000 per year and/or have assets worth more than $5 million) should pay... (%)", to which 57 percent of respondents agreed with "more tax than they do at present".

Figure 1: Public preference for more/better public infrastructure/services vs increasing charges

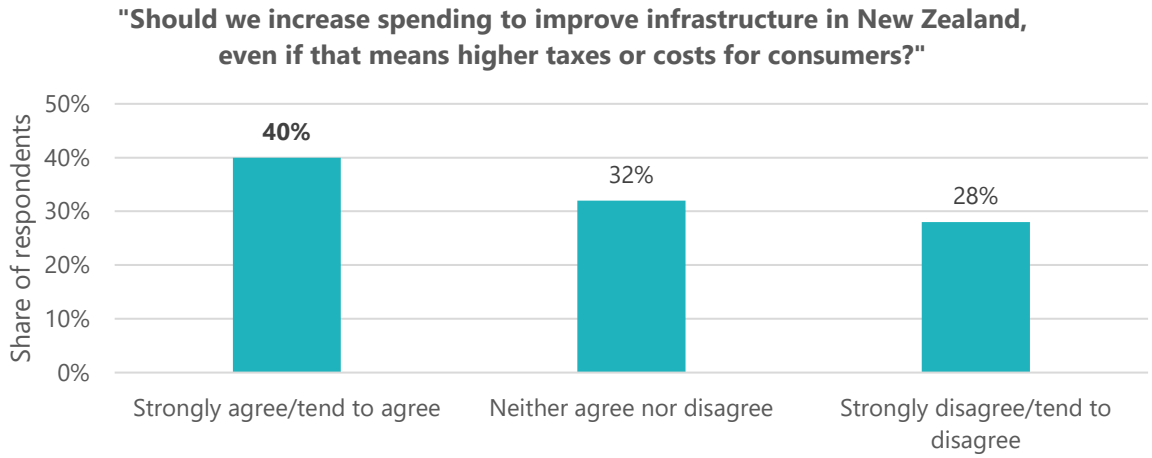
Panel A: International Social Survey Panel "Role of Government" survey, 2016 (GESIS, ed., 2018b)



Panel B: Tax Justice Aotearoa survey (Wood, 2024)



Panel C: Ipsos and Global Infrastructure Investors Alliance survey (Ipsos & GIIA, 2024)



Sources: *(GESIS, ed., 2018; Ipsos & GIIA, 2024; Wood, 2024). International Social Survey Panel data is averaged across questions about health, education, police and law enforcement, environment, old age pensions, military and defence, culture and arts, and unemployment benefits. Ipsos and Global Infrastructure Investors Alliance defined infrastructure as "things we rely on like road, rail and air networks, utilities such as energy and water, and broadband and other communications", excluding social infrastructure.*

Figure 1 also shows that about 30 to 50 percent of New Zealanders indicate that they expect that we should be able to meet our needs by delivering better services and outcomes within current spending levels. This expectation may reflect a public perception that aligns with findings from our previous research, which found that a key issue for New Zealand is not a lack of spending on infrastructure, but problems with *how* we are spending (New Zealand Infrastructure Commission, 2024b). The Ipsos & GIIA (2024) survey found that only 17 percent of New Zealanders agree that we have a good record of delivering national infrastructure projects, placing us last equal among the 32 countries surveyed.

New Zealand's public investment in infrastructure as a share of GDP is close to the top ten percent of high-income countries (New Zealand Infrastructure Commission, 2024b) however, the efficiency of that spend lies in the bottom 10 percent. This means that we seem to get less value from our infrastructure spending than most other developed countries (New Zealand Infrastructure Commission, 2021c). Comparison with other OECD countries highlights that causal factors for this may be related to weaknesses in strategic planning, asset management planning, and the use of evidence (OECD, 2021).

The public perception that we should spend better, before we spend (and therefore charge) more, was also reflected in the importance to New Zealanders of ensuring the provision and funding of infrastructure is fair (see section 3.1.1).

3.2. Priorities for investment

As seen in Figure 1, a minority of New Zealanders do appear to be willing to pay more for improved government services and/or infrastructure in some areas, with several studies showing between 14 and 40 percent say they would prefer this option (GESIS, ed., 2018; Ipsos & GIIA, 2024; Wood, 2024). However, there are limited studies on this topic, so we only know a little bit about this. In one of the studies, 40 percent of people specifically agreed they would be willing to pay higher costs or taxes to improve general infrastructure (Ipsos & GIIA, 2024). However, people's responses to surveys are often affected by how questions are framed and sequenced. In this case, previous questions around unmet infrastructure needs and perceived benefits of infrastructure may have 'primed' respondents to state a willingness to pay higher charge.

3.2.1. Willingness to spend more on health and education

Two surveys investigated in greater depth the priorities for investment. They show that two priority areas where some New Zealanders agree they are willing to spend more; is to improve healthcare and hospitals, and in education. Table 5 provides an overview of the two sources cited in this section. It shows that the data for these studies were collected in 2016 and 2012, via surveys and are representative of the New Zealand adult population.

Table 5: Key sources in this section

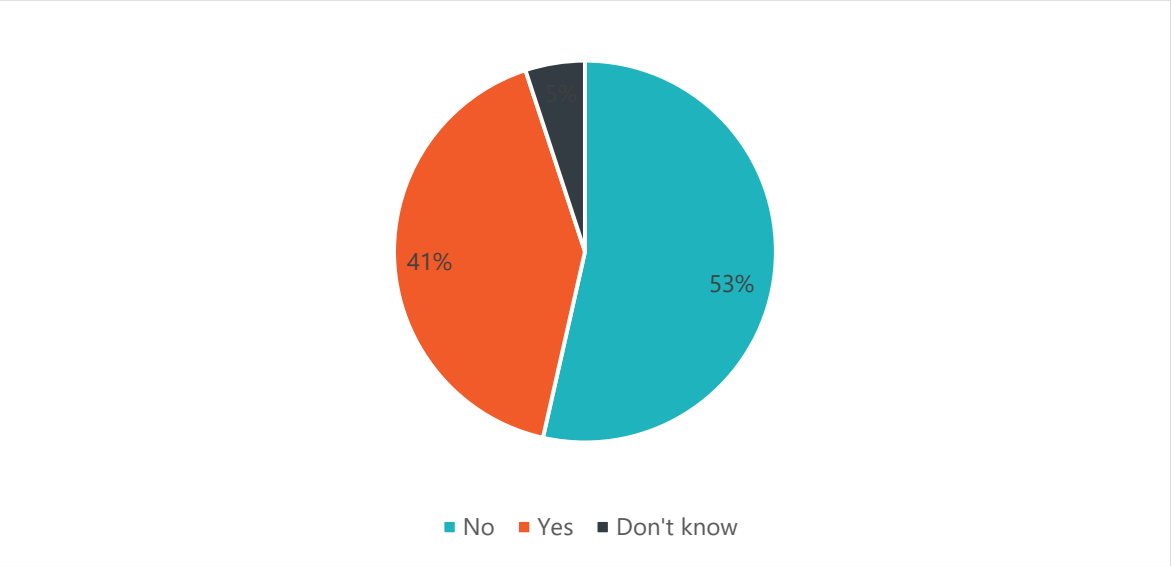
Citation	**GESIS, ed., 2018**	**Colmar Brunton, 2013**
Institution	International Social Survey Programme[1]	New Zealand Treasury
Dates	Data collected in 2016, published in 2018	Data collected in 2012, published in 2013
Method	Survey (online and postal)	Survey (telephone)

Citation	GESIS, ed., 2018	Colmar Brunton, 2013
Sample size	N =1,350	N = 1,000
Representativeness	New Zealand adult population	New Zealand adult population

[1] *New Zealand data was collected by Centre of Methods and Policy Application in the Social Sciences (COMPASS), The University of Auckland.*

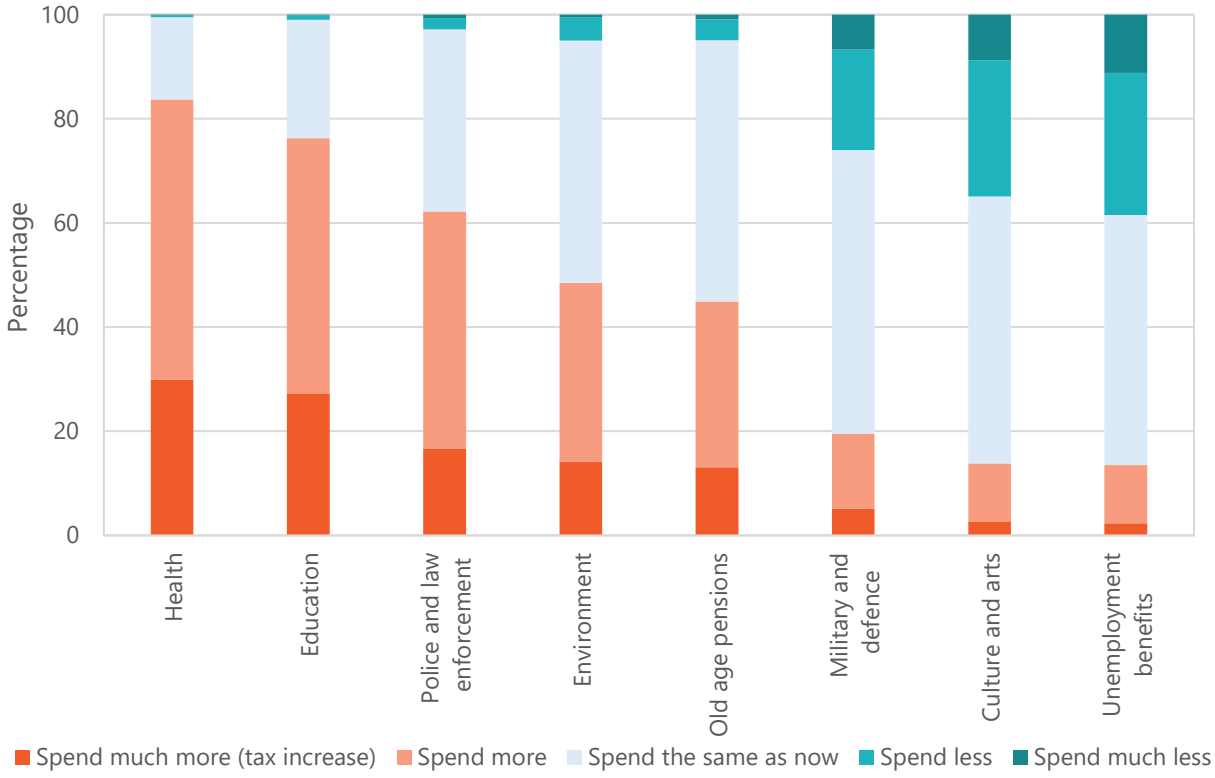
Two public services that require the provision of public infrastructure to operate are health and education. Collectively, Figure 2 and Figure 3 show that between 30 to 40 percent of New Zealanders say they would be willing to pay more to fund improved healthcare/hospitals, and almost 30 percent would pay more to improve education services (Colmar Brunton, 2013; GESIS, ed., 2018).

Figure 2: Public willingness to pay more tax to improve healthcare services



The question asked "Would you be willing to pay more tax so that the government could provide a bigger range of healthcare services?" Source: (Colmar Brunton, 2013).

Figure 3 New Zealanders' preferences for change in government spending, for selected services



Preferences for change in government spending for certain core government services, from a survey taken in 2016. Question asked "Listed below are various areas of government spending. Please show whether you would like to see more or less government spending in each area. Remember that if you say 'much more', it might require a tax increase to pay for it" (GESIS, ed., 2018).

Figure 3 also shows that about half of New Zealanders would like health and education services improved by reprioritising funding from other areas ("spend more"), while most remaining respondents prefer staying within existing funding levels – sixteen and twenty three percent respectively (GESIS, ed., 2018).

In summary, of all the public services included in the surveys, health and education were the public services that people were most willing to pay more for and improve within existing funding levels. These two public services require the provision of public infrastructure to operate. However, many infrastructure categories were not covered in the survey – for example, water, transport, social housing, meaning we do not have data on those categories. Additionally, it's not clear how much the desired improvement relates to the infrastructure required for health and education, versus the operational aspects of these services.

3.3. Expectations, needs, and priorities by sector or topic

This section explores what we know about community perceptions and expectations for infrastructure organised by sector, or topics closely related to infrastructure such as hazards, resilience, climate change and waste.

3.3.1. Findings vary based on who, how, what and when people are asked

When asking people about their expectations, needs, priorities and perceptions, who, what, and how they are asked can be really important, as it can shape how people answer the question. The ways people can respond to any questions also matters (question type and framing). Some surveys, for example, may limit peoples' ability to reflect their full preferences due to what questions are asked, and the range of options available to select in response to questions.

This was seen in many of the surveys discussed below, which tended to focus on immediate priorities, and asked closed questions (gave respondents a limited, pre-set list of options that they could select from). This limits our ability to understand the contextual and explanatory factors around why people have responded the way that they have. This may mean that the underlying problem is unclear, which can make it difficult to assess the value of potential solutions.

Moreover, as with cross-sector data, infrastructure and services are not usually distinguished, reducing the clarity of the findings. However, it is also true that if *services* in a particular sector are considered a high priority (such as health), then people are also likely to place a relatively higher priority on investment in the infrastructure assets required to deliver these services.

Lastly, many questions were posed in an unconstrained way. Many times, people were asked what they would like to have, but not necessarily how much they would be willing to pay for it, or other trade-offs associated with their choice. For example, the Ipsos & GIIA (2024) survey asked "which of these types of infrastructure, if any, do you think should be made a priority for investment in New Zealand?". It then listed 14 categories of network infrastructure, from which respondents could make multiple selections. Notably, health and education infrastructure were not included as infrastructure categories to select from. No corresponding questions were asked about how, and how much, New Zealanders would be prepared to pay to fund these different investment priorities.

A few of the studies referenced applied a range of approaches to overcome these issues. These included providing background and contextual information, as well as using consensus forming and deliberative processes[20]. These processes often require people to consider a range of information about problems and solutions, other people's points of view, and trade-offs associated with any particular choice (including the costs and benefits).

Taken together, the information available has provided a range of insights into community expectations for various infrastructure sectors. Some sectors were covered by a wider range of sources than others, and some studies were more in-depth while others were high level.

Table 6 provides an overview of the characteristics of the studies cited in this section, as well as the infrastructure sectors or related topic areas that they cover.

20 For example, see Bardsley, A., & Harvey, F. (2023). The future of transport in Aotearoa NZ: Who should pay for what? Report on deliberative minipublics (p. 36). Koi Tū: The Centre for Informed Futures, University of Auckland. https://informedfutures.org/wp-content/uploads/2023/09/The-Future-of-Transport-in-Aoteroa-NZ-Minipublics-Report12.pdf

Table 6: Overview of characteristics and coverage of surveys cited in this section

Citation	GESIS, ed., 2018	GESIS, ed., 2019a; ISSP Research Group, 2023	New Zealand Infrastructure Commission, 2021a	Ipsos, 2024	Ipsos & GIIA, 2024	Horizon Research, 2025	OECD 2023	Vance, 2024	Bardsley & Harvey, 2023	AK Research & Consulting, 2024
Institution	International Social Survey Programme[1]: Government	International Social Survey Programme: Environment[1]	Te Waihanga/NZ Infrastructure Commission: Aotearoa 2050	Ipsos: Issues Monitor	Ipsos and Global Infrastructure Investors Alliance	Horizon Poll	OECD (*data collected by Gallup World Poll*)	The Post/ Freshwater Strategy	University of Auckland: Koi Tū: The Centre for Informed Futures	Electricity Authority Te Mana Hiko
Data collected	2016	2010 & 2019	2021	2024	2024	2025	2022	2024	2023	2024
Study published	2018	2021 & 2023	2021	2024	2024	2025	2023	2024	2023	2024
Method	Survey (online and postal)	Survey (online and postal)	Survey (online)	Survey (online)	Survey (online)	Survey (online)	Survey (phone)	Survey (online)	Workshops	Survey
Sample size	N =1,350	N = 993	N = 23,638	N = 1,003	N = 1,004	N = 1,017	N > 1,000	N = 1,150	N = 97	N = 1,033
Representativeness	New Zealand adult population	New Zealand adult population	Diverse (geographically and demographics) but not representative	New Zealand adult population	New Zealand adult population	New Zealand adult population	New Zealand adult population	New Zealand adult population	Diverse (demographics) but not statistically representative	New Zealand adult population

Citation	GESIS, ed., 2018	GESIS, ed., 2019a; ISSP Research Group, 2023	New Zealand Infrastructure Commission, 2021a	Ipsos, 2024	Ipsos & GIIA, 2024	Horizon Research, 2025	OECD 2023	Vance, 2024	Bardsley & Harvey, 2023	AK Research & Consulting, 2024
Sector or topic:										
Healthcare/hospitals	✓	✓	✓	✓		✓	✓			
Water & sewerage			✓		✓	✓ [5]				
Housing			✓	✓	✓	✓				
Education/schools	✓	✓	✓	✓		✓	✓			
Climate change		✓	✓	✓	✓					
Hazards & resilience			✓		✓					
Waste		✓	✓							
Transport			✓	✓ [4]	✓ [3]			✓	✓	
Energy/electricity					✓ [2]					✓
Telecommunications			✓		✓					

[1] *New Zealand data was collected by Centre of Methods and Policy Application in the Social Sciences (COMPASS), The University of Auckland.*

[2] *renewable and nuclear energy only*

[3] *roads, rail, pedestrian, cycling*

[4] *"public transport/transport/infrastructure" and "petrol prices/fuel"*

[5] *water quality in rivers, streams and lakes.*

3.3.2. Community expectations by sector or topic

This section presents a summary of what we know about community perceptions, expectations and priorities organised by sector, or infrastructure-related topic. We have focused on studies that represent New Zealanders at a national level, and not for any particular group of users. There is likely to be substantial variation in expectations across different types and groups of infrastructure users, and in different places.

Healthcare and hospitals

The health system (covering healthcare and hospital infrastructure) is a consistent and enduring top priority for New Zealanders across a range of surveys and over time.

- Healthcare (in general) was identified by respondents as the 'most important issue in New Zealand today' across two time periods (2010 and 2020) in one representative study (GESIS, ed., 2019; ISSP Research Group, 2023).
- Ageing hospitals was the third most important infrastructure priority (along with schools) for New Zealanders responding to the Te Waihanga Aotearoa 2050 survey (New Zealand Infrastructure Commission, 2021a).
- Another regular survey shows that healthcare/hospitals are an enduring and increasingly important top concern for New Zealanders, a trend seen over at least the last seven years (Ipsos, 2024). Additionally, healthcare/hospitals were rated as the top issue facing New Zealand over the next five years by people aged 50+, and the second most important issue for New Zealand over the next five years by people aged 35 to 49 years (Ipsos, 2024).
- One survey taken annually over the past three years found that "improving the health system" was the top issue that New Zealanders want the government to take action on, across all three years (Horizon Research, 2025).
- Another study showed that of eight areas of core government spending, healthcare was chosen as the highest priority for an increase in government spending, with 84 percent of New Zealanders supporting this (GESIS, ed., 2018).
- One survey by the Gallup World Poll for OECD nations found that 64 percent of New Zealanders are satisfied with New Zealand's health care, however, this is below the OECD average level of satisfaction (OECD, 2023).

Housing

A range of studies show that housing supply, affordability, and quality are consistently very important priorities for New Zealanders[21].

- Housing, and the price of housing, was the top issue (alongside inflation/cost of living) selected by New Zealanders, averaged across 24 Ipsos survey waves over seven years (Ipsos, 2024).
- The supply of new housing was rated as poor/very poor by 67 percent of respondents and identified as the top infrastructure priority for New Zealand in a 2024 survey (of the options provided), with 55 percent of respondents selecting it (Ipsos & GIIA, 2024).
- In the Horizon survey, housing affordability was the third top issue that the government should take action on, on average across three years (2023-2025) (Horizon Research, 2025).

[21] Poor quality housing, particularly rental housing, has been identified by the Treasury as a risk to New Zealand's future wellbeing (The Treasury, 2022).

- Housing affordability was the fourth most important priority, and cities not keeping up with growth was also very important for most New Zealanders responding to the Aotearoa 2050 survey of over 23,000 people (New Zealand Infrastructure Commission, 2021a).

Water and sewerage

Having enough clean water, particularly safe drinking water, appears to be very important to New Zealanders. Although the quality of New Zealand's water and sewerage systems are rated about the same as other countries, New Zealanders still see it as an investment priority. It is possible that a lack of adherence to best practice for pricing networked water services may be leading to overconsumption and therefore perceptions of poor service outcomes. It is also possible that this preference reflects real issues in some parts of New Zealand regarding drinking water quality, and infrastructure investment and maintenance (*see footnotes*).

- Safe drinking water was the top priority for most New Zealanders responding to the Te Waihanga Aotearoa 2050 survey of over 23,000 people (New Zealand Infrastructure Commission, 2021a)[22],[23]. Eighty percent of survey respondents agreed that New Zealand should invest in water networks, including by using technology to save water (76%), making better use of water networks (47%) and maintaining the water networks we already have (34%).
- In another study, water supply and sewerage was identified as the second top investment priority for New Zealanders in a 2024 survey, with 50 percent of respondents selecting it (Ipsos & GIIA, 2024).
- However, 56 percent of New Zealanders rated the quality of New Zealand's water supply and sewerage as very or fairly good, which is about the same as the global average (Ipsos & GIIA, 2024).
- Water shortage and pollution was also selected as the most important environmental issue[24] facing New Zealand, across two waves of a survey taken in 2010 and 2020 (GESIS, ed., 2019; ISSP Research Group, 2023), showing this is an enduring top concern for New Zealanders (to view full chart see Appendix: Figure 10).
- Water quality in rivers, streams and lakes was ranked eighth out of the top ten issues for the government to take action on in a Horizon Research (2025) study.

[22] The Aotearoa 2050 survey was live in early 2021. Prior to the survey, in 2016 New Zealand experienced the nationally significant Havelock North drinking water gastroenteritis outbreak, caused by contaminated drinking water wells. During this event thousands were infected, some were permanently injured, and four people died. Preceding and during the survey period there was a high-level of media coverage of NZ's fresh and drinking water quality and safety. These discussed an increased cancer risk in 800,000 people from nitrate contamination in New Zealand's drinking water, nitrate rates exceeding regulated levels in 9 of 15 regions, and regulated nitrate levels being 11 times too high, as well as some Dunedin communities being advised to immediately stop drinking tap water due to high lead contamination levels. For example see:
https://www.rnz.co.nz/news/national/432318/nitrogen-map-reveals-excessive-levels-in-nine-of-15-regions
https://www.rnz.co.nz/news/national/436879/up-to-800-000-new-zealanders-may-have-increased-bowel-cancer-risk-due-to-nitrates-in-water
https://www.rnz.co.nz/national/programmes/checkpoint/audio/2018782858/drinking-water-nitrate-levels-should-be-11-times-lower-expert
https://www.rnz.co.nz/news/national/439451/government-questioned-over-commitment-to-safe-drinking-water
https://www.health.govt.nz/publications/review-of-health-response-into-waikouaiti-water-supply-lead-contamination

[23] New Zealand has the lowest share of households with access to piped drinking water in the OECD (New Zealand Infrastructure Commission, 2024b).

[24] Ten percent of New Zealand's freshwater consumption is by households, about 25 percent is industrial, and about 65 percent is agricultural (World Bank Group, 2025). An increasing share of New Zealand's urban rivers have too much E. coli for safe swimming (The Treasury, 2022).

Education/schools

School infrastructure and education services appear to be a relatively important priority for New Zealanders, typically positioned within the top ten issues depending on the survey. It's position of importance does vary depending on the survey and over time.

- One ISSP survey showed that of eight areas of core government spending, education was the second highest priority for an increase in government spending (after health) (GESIS, ed., 2018).
- Ageing schools were the third most important priority (alongside hospitals) for New Zealanders responding to the Aotearoa 2050 survey (New Zealand Infrastructure Commission, 2021a).
- Multiple other studies identify education as being important to New Zealanders, typically falling somewhere in the top ten issues. It's position of importance is variable between second most important to about eighth most important, depending on the survey and the point in time (GESIS, ed., 2019; Horizon Research, 2025; Ipsos, 2024; ISSP Research Group, 2023).
- One survey by the Gallup World Poll for the OECD found that 66 percent of New Zealanders are satisfied with the education system, in line with the OECD average (OECD, 2023).

Climate change

Multiple sources show that New Zealanders are concerned, increasingly so, about climate change (GESIS, ed., 2019; Ipsos, 2024; ISSP Research Group, 2023; New Zealand Infrastructure Commission, 2021a)[25]. Climate change mitigation and adaptation activities have important and ongoing implications for infrastructure investment and asset management across New Zealand.

- Climate change was selected as the second most important environmental issue facing New Zealand in a recent survey, more than doubling in importance from the previous survey wave (GESIS, ed., 2019; ISSP Research Group, 2023) (to view full chart see Appendix: Figure 10.
- Sixty four percent of respondents to the Te Waihanga Aotearoa 2050 survey also agreed that New Zealand should improve resilience of infrastructure to climate change events, and 65 percent agreed that we should reduce the use of fossil fuels (New Zealand Infrastructure Commission, 2021a).
- Seventy percent of respondents in the Ipsos & GIIA (2024) survey agreed with the statement "I don't think infrastructure in New Zealand has been adapted enough to cope with future changes in the climate", compared to sixty one percent on average in the other countries surveyed.

Hazards and resilience

- Key infrastructure being vulnerable to natural events was identified as very important and a priority area by most New Zealanders responding the Aotearoa 2050 survey of over 23,000 people (New Zealand Infrastructure Commission, 2021a)[26].
- New Zealand's infrastructure to reduce flooding was rated as poor/very poor by 64 percent of respondents, the second lowest category after housing, in a 2024 survey (Ipsos & GIIA, 2024). In the same survey it was identified by respondents as the fourth most selected investment priority for New Zealand, with 47 percent choosing it (Ipsos & GIIA, 2024).

Waste

- Producing too much waste was identified as the second most important priority by New Zealanders responding to the Aotearoa 2050 survey, with 85 percent agreeing that we should definitely produce less waste (New Zealand Infrastructure Commission, 2021a).

[25] The Treasury has identified that climate change is a risk to New Zealand's future wellbeing (The Treasury, 2022).
[26] Exposure to natural hazard events has been identified as a risk to New Zealand's future wellbeing (The Treasury, 2022).

- Another survey found that disposal of waste was seen by New Zealanders as the third most important environmental problem for New Zealand as a whole[27] (GESIS, ed., 2019; ISSP Research Group, 2023) (to view full chart see Appendix: Figure 10).

Transport

There appears to be consensus among most New Zealanders that New Zealand's land transport system is not meeting expectations.

- Taking too long to build new transport options, taking too long to get around, access to public transport in some places, and cities not keeping up with growth were all identified as very important issues for over half of the New Zealanders responding to the Aotearoa 2050 survey of over 23,000 people (New Zealand Infrastructure Commission, 2021a).
- New Zealanders tend to rate the quality of New Zealand's transportation networks below the global average rating, with those rating it as very or fairly good for rail at 33 percent (52 percent is the global average), local roads 41 percent (47 percent is the global average), and major roads at 50 percent (60 percent is the global average) (Ipsos & GIIA, 2024). However, 81 percent of New Zealanders rate the quality of airports as very or fairly good, higher than a global average of 72 percent, and only 15 percent identified airports as an area of priority for further investment (Ipsos & GIIA, 2024).

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 more diverse. It appears that perceptions of the best solutions are sensitive to framing, which means what we ask about and how we ask it[28].

- One survey found that some New Zealanders see transportation as a priority area for investment for New Zealand. Fifty percent of survey respondents identify major roads, 47 percent local roads, 45 percent rail, 28 percent footpaths and pedestrian infrastructure, 17 percent cycleways, and 16 percent EV charging as areas of investment priority (Ipsos & GIIA, 2024).
- Te Waihanga Aotearoa 2050 asked how we should improve the transport system to make it easier, faster and more reliable to get around. Seventy five percent of respondents said we should improve public transport. Respondents also said we should reduce the need to travel (58%), enable people to live close to work (48%), make better use of the roads we have (43%) and build more roads (28%) (New Zealand Infrastructure Commission, 2021a).
- One representative nationwide survey found that about half of New Zealanders' main priority for transport investment was to make sure the roads we already have are safe and well maintained. About 20 percent each thought new roads and upgrades, and better public transport should be a priority. About 5 percent prioritised safer cycleways (Vance, 2024)

One Auckland University study for the NZ Ministry of Transport[29] used a novel approach to explore New Zealanders' priorities for the transport system, and how to pay for (fund) it (Bardsley & Harvey, 2023).

- This study employed an interactive wiki-survey[30], where participants can create new survey questions as well as answer questions in an interactive way. It then held a series of deliberative,

[27] Landfill-bound waste requires infrastructure, and the infrastructure sector generates significant waste. Waste from construction and demolition is the largest source of waste in New Zealand, accounting for 50% of all landfill waste (New Zealand Infrastructure Commission, 2021b). Methane from landfills contributes 4 percent of New Zealand's greenhouse gas emissions (New Zealand Infrastructure Commission, 2021b).

[28] While many New Zealanders perceive deficits in transport infrastructure, a large share of New Zealand's overall infrastructure investment goes to land transport and our investment levels are generally at the upper end of OECD countries. This raises questions about whether the issue is about how much we are spending or how well we are spending and managing networks.

[29] Future of the Transport Revenue System | Ministry of Transport

[30] The-Future-of-Transport-Polis-analysis-report.pdf

representative (demographically but not statistically) 'mini-public' meetings, in four locations around New Zealand. Participants were randomly selected, and more than 70 percent had never participated in a public consultation process before. The participants were given information to consider, including on problems in the transport system, current funding models, and transport patterns.

- Key findings for priorities for the transport system were:
    - that the transport system should focus on: public transport; urban planning to support the transport system such as transit-oriented development; active modes (walking and cycling); roads – with a focus on maintaining existing roads and ensuring roading needs of those who live rurally were met; and interest in the use of rail for freight, transit and regional travel.
    - the preference to explore alternatives to freight on roads, particularly in urban areas.
- Funding preferences were:
    - pricing, funding, and investment should account for externalities and the true costs and impacts of transport system use (such as congestion, damage to roads (e.g. heavy trucks) emissions and health)
    - prioritised around designs that ensure fairness (equity) and were progressive (not regressive), particularly for user-pays
    - exploration of new funding sources such as value capture and developer contributions
    - a general willingness to pay more for improved levels of service (such as less congestion)
    - that any pricing needs to be transparent to be effective and publicly accepted.

Energy/electricity

In general, New Zealanders' expectations for the reliability of electricity seem to be well met[31]. 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.

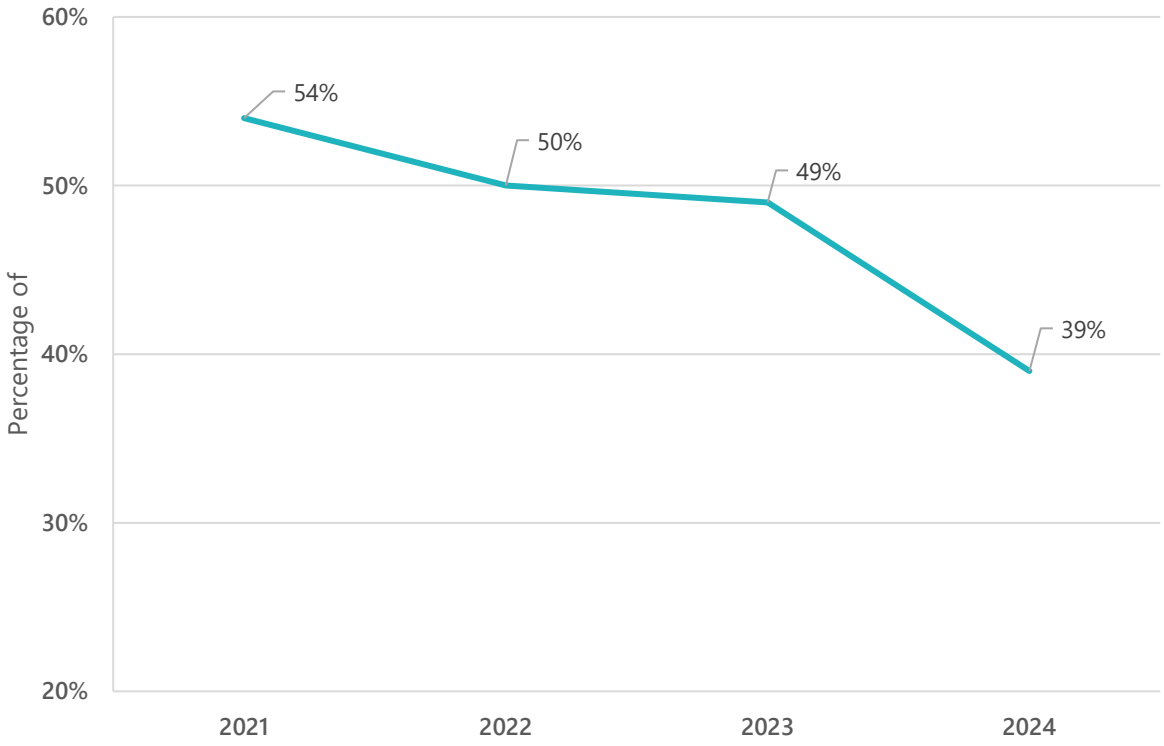
- A large majority of electricity users agree that they currently have access to a reliable supply of electricity and that power cuts are rare (AK Research & Consulting, 2024). There is also agreement that there is a choice of retailers (84 percent of respondents). However, people are less likely to agree that having a choice means that they can find a fair price (67 percent of respondents). Stated barriers to finding a fair price include prices being very similar among providers, as well as confusing price structures making it hard to compare retailers, contractual lock-in, and prices rising despite switching retailer (AK Research & Consulting, 2024).
- Relatedly, survey data also shows that there may be a perception among New Zealanders that the electricity sector is not competitive, with only 38 percent of respondents agreeing that electricity retailers are competitive (AK Research & Consulting, 2024)[32]. Only 46 percent of respondents agree that the electricity prices they pay fairly reflect actual costs (AK Research & Consulting, 2024).

[31] Concerns about reliability do exist at a sub-national level, for example see 'There is no by-pass': More than half of Wellington at unacceptable power risk | The Post

[32] This is consistent with the findings of a 2024 Horizon Poll, with the electricity market on average rated as uncompetitive, and with a similar rating to rental housing. See Most major markets seen as uncompetitive

- As shown in Figure 2, only 39 percent of electricity users agree that there is enough electricity to keep New Zealand powered in the future, down from 54 percent in 2021 (AK Research & Consulting, 2024). There is also an awareness among the public that a trend toward electric vehicles will require an increase in electricity generation.

Figure 4 Percent of electricity users who agree that there is enough electricity to keep New Zealand powered in the future



The percentage of a nationally representative sample of electricity users who agree with the statement that "there is enough electricity to keep New Zealand homes and businesses powered in the future", over the past four years. Data source: AK Research & Consulting (2024).

- About a third of electricity users say they have looked into connecting or operating new technologies to generate electricity (distributed generation) (AK Research & Consulting, 2024). The main perceived barriers to domestic uptake of distributed solar PV include concerns regarding cost of installation and return on investment, as well as low retailer buy-back prices (AK Research & Consulting, 2024). Other barriers include concerns around the technology (choice of batteries, lifespan of solar PV), their house not being suitable for solar PV, or being in a rental dwelling. The Electricity Authority agrees that current buy-back prices are often lower than the value of the electricity at that point in time (AK Research & Consulting, 2024).
- Forty nine percent of New Zealanders rated the quality of New Zealand's renewable energy infrastructure as very or fairly good, which is about the same as the global average (Ipsos & GIIA, 2024). In one survey, renewable energy was identified as a priority for investment for 36 percent (wind) and 39 percent (solar) of respondents (Ipsos & GIIA, 2024).

Telecommunications

In general, telecommunications services in New Zealand appear to be meeting New Zealanders' expectations.

- Seventy percent of New Zealanders rate the quality of New Zealand's digital telecommunications infrastructure as very or fairly good, higher than 65 percent in 2023, and higher than the global average of 61 percent (Ipsos & GIIA, 2024). Accordingly, only 19 percent of respondents identified this as a priority area for further investment for New Zealand (Ipsos & GIIA, 2024).
- A survey by AK Research and Consulting (2024) found that New Zealanders ranked internet providers as the most competitive business category (of those listed), with 45 percent of New Zealanders rating them as competitive.

3.4. Infrastructure relative to other sectors, current and future priorities

Given that infrastructure tends to cost a lot and be long-lived, infrastructure decision making has implications for the near term as well as the long term. It's important therefore to understand New Zealanders' expectations for infrastructure within the context of their wider short- and long-term expectations, needs and priorities.

In the short-term most people's front of mind socioeconomic priorities seem to relate to having access to a sufficient income and affording the necessary costs of living (such as food, housing, and fuel), as well as aspects of a modern standard of living like clean water and good healthcare and education, with minimal risk of harm (such as from crime and violence) (Horizon Research, 2025; Ipsos, 2024)[33].

Most people also seem to prioritise a supportive and secure society, including interconnection with other people and their ability to live well, now and into the future. For example, over the past seven years, 'poverty and inequality' ranks on average as the fifth equal with 'the economy' as the "most important issue facing New Zealand today" (Ipsos, 2024). This is well above the importance of transport/public transport/infrastructure which places thirteenth on average, in the same study and over the same time period (Ipsos, 2024)[34]. Other representative studies also have similar findings, showing that New Zealanders are increasingly concerned about poverty (GESIS, ed., 2019; ISSP Research Group, 2023) and are concerned about child poverty (Horizon Research, 2025)[35].

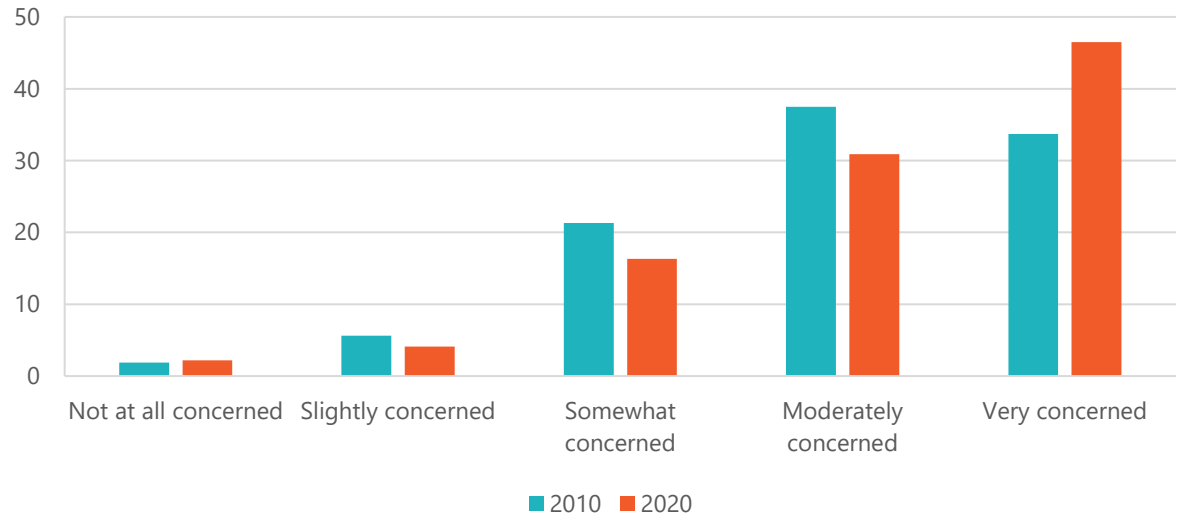
It also appears that when planning for the longer-term, New Zealanders tend to consistently prioritise the environment, including its enduring capacity (stability and sustainability) to ensure people can continue to live well (GESIS, ed., 1995, 2003, 2019; ISSP Research Group, 2023; New Zealand Infrastructure Commission, 2021a). Among ethnic groups, Māori are most concerned about the state of our environment (The Treasury, 2022).

3.4.1. What might it mean to be concerned about 'the environment'?

One study, taken in 2010 and again in 2020, shows that New Zealanders' top environmental concerns relate to **water** (both shortage and pollution of water), **climate change**, and **waste** (see Appendix: Figure 10) (GESIS, ed., 2019; ISSP Research Group, 2023). As shown in Figure 3, we can see that levels of concern have increased, and most New Zealanders report being very or moderately concerned about these issues. All of these top three environmental concerns have important and enduring implications for how we invest in and maintain New Zealand's infrastructure systems.

[33] See Figures 12 and 13 in Appendix A. 2.
[34] See Figure 13 in Appendix A. 2.
[35] See Figures 11 and 12 in Appendix A. 2.

Figure 5 New Zealanders' self-reported concern about environmental issues (top 3: water, climate change, waste)



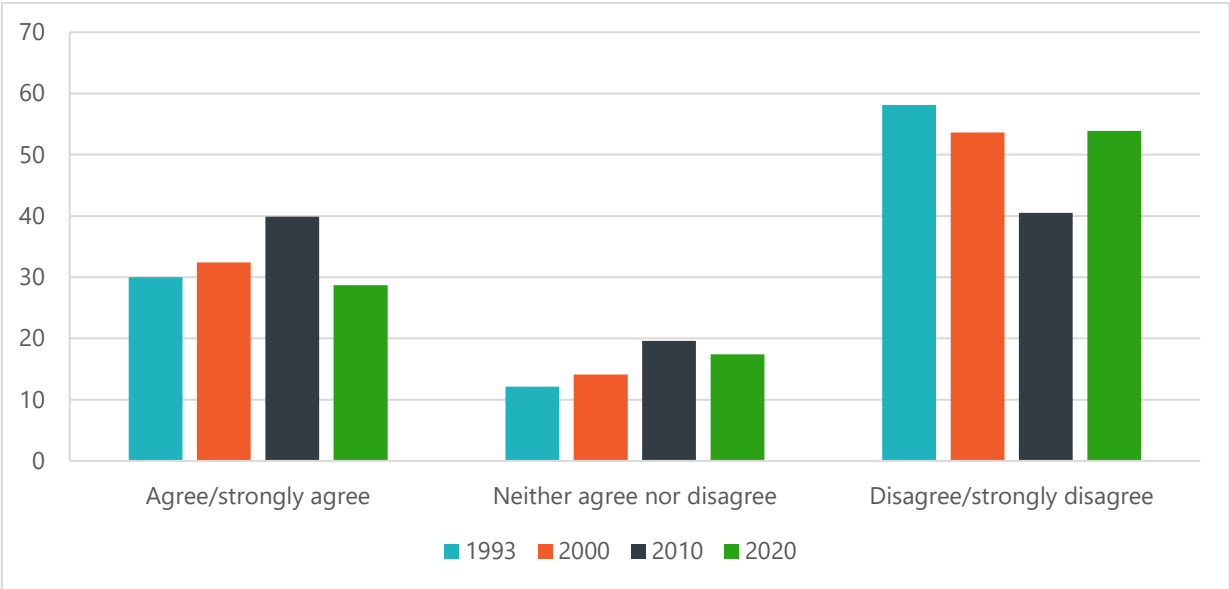
A representative survey of New Zealanders, using data collected by the International Social Survey Programme, taken in 2010 and again in 2020. The question asked, "Generally speaking, how concerned (worried) are you about environmental issues?" (GESIS, ed., 2019; ISSP Research Group, 2023).

3.4.2. Priorities for decisions about the future

We have heard from New Zealanders that when we are making longer-term, strategic, or national-level plans for infrastructure, the top priority should be the environment, and people, and then the economic considerations (GESIS, ed., 1995, 2003, 2019; ISSP Research Group, 2023; New Zealand Infrastructure Commission, 2021a). These findings are presented in Figure 7 and Figure 8. More research may be needed to understand how these preferences might be most meaningfully incorporated into infrastructure planning and decision making.

Figure 6 Balancing the future and the present

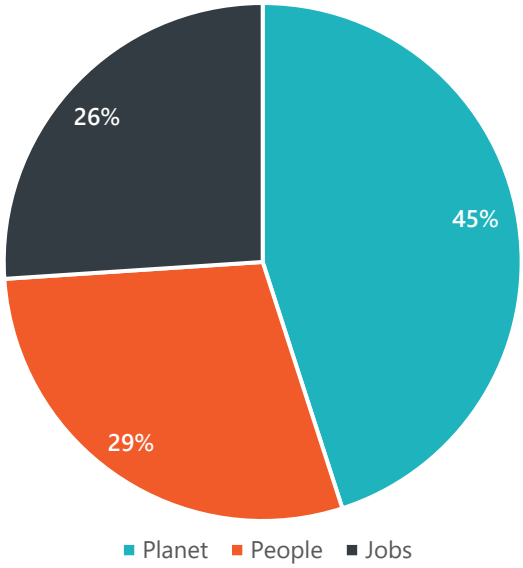
'We worry too much about the future of the environment, not enough about prices and jobs today'



Shows New Zealanders' level of agreement with the statement "We worry too much about the future of the environment and not enough about prices and jobs today". Survey carried out with a representative sample of the New Zealand population, in four waves (1993, 2000, 2010, and 2020), as part of the International Social Survey Programme. Data source: (GESIS, ed., 1995, 2003, 2019; ISSP

Research Group, 2023). Note: The differences in the 2010 data compared with the other years may reflect concern for economic conditions at the time (such as the Global Financial Crisis).

Figure 7 Importance of the planet, people and jobs across three future infrastructure scenarios



Shows the percentage of times each category was chosen by New Zealanders as a 'very high' priority across three future infrastructure scenarios. This data was collected for Te Waihanga during the Aotearoa 2050 survey of a geographically and demographically diverse sample of 23,638 New Zealanders. Data source: (New Zealand Infrastructure Commission, 2021a).

4. Conclusion

New Zealanders appear to prioritise ensuring that the money already being spent on infrastructure is being spent well, and that the charges they pay are transparent and fair. It seems to be most important to get the basics right and look after what we already have. 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.

Spending more on, and charging more for, infrastructure may not be a top priority for most people, with the exception of:

- Where spending on health or education infrastructure will improve healthcare and education services.
- Where spending on infrastructure will provide tangible value, such as making it easier to meet costs of living for those under financial strain, or ensure (continued) access to basic necessities and to a modern standard of living for everybody (like clean water, affordable and quality homes, and good healthcare and education).

Most New Zealanders appear to want to be able to meet their needs and live well (enough) now, while also ensuring that we are setting course to a future state where people can continue to meet their needs and to live well. For New Zealanders today, this future state would have enough clean water, have better mitigated and adapted to climate change and other hazards and risks, and have systems in place to reduce waste.

Achieving New Zealanders' longer-term priorities is likely to require people working together, and decision making in the interests of both current and future generations. Generally, it also requires balancing the interests of different groups, and the things we want now with what we may want in the future. It will also require making choices now that align to deliver value and meet needs well into the future.

4.1. Limitations

The high-level, nation-wide findings reported here, and the conclusions we have drawn, are supported by the data available to us. Limitations in the quantity, quality and complexity of published studies in the topic area reduce the resolution and interpretation of the review findings. Additionally, there are likely to be variations in the findings across the country, in different types of places, among the range of groups of people and for the different sectors. Investigating and understanding this variation, and how it may be changing over time, will be important to make sure infrastructure services meet New Zealanders' expectations and willingness to pay, in support of their wellbeing, well into the future.

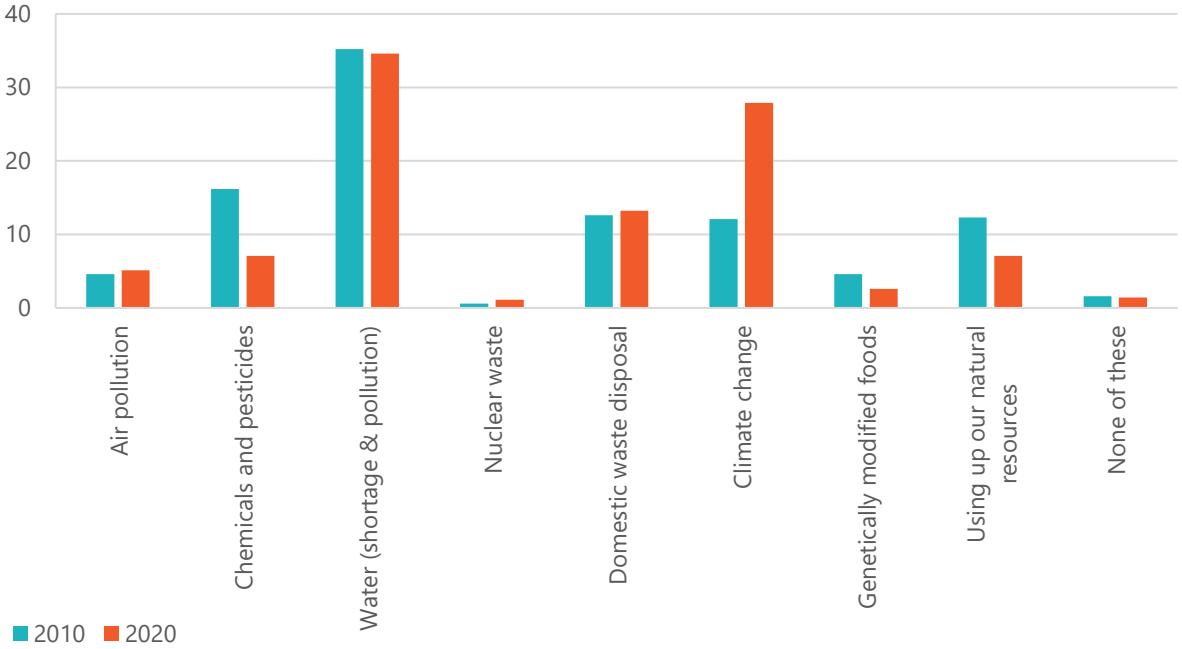
4.2. Next steps

The findings from this report will be incorporated into the National Infrastructure Plan alongside the findings of the Infrastructure Needs Analysis. Future work is needed to ensure that good quality stated and revealed preference data is available to support infrastructure decision making in New Zealand.

Appendix A. Referenced figures

A. 1. Most important environmental problem for New Zealand

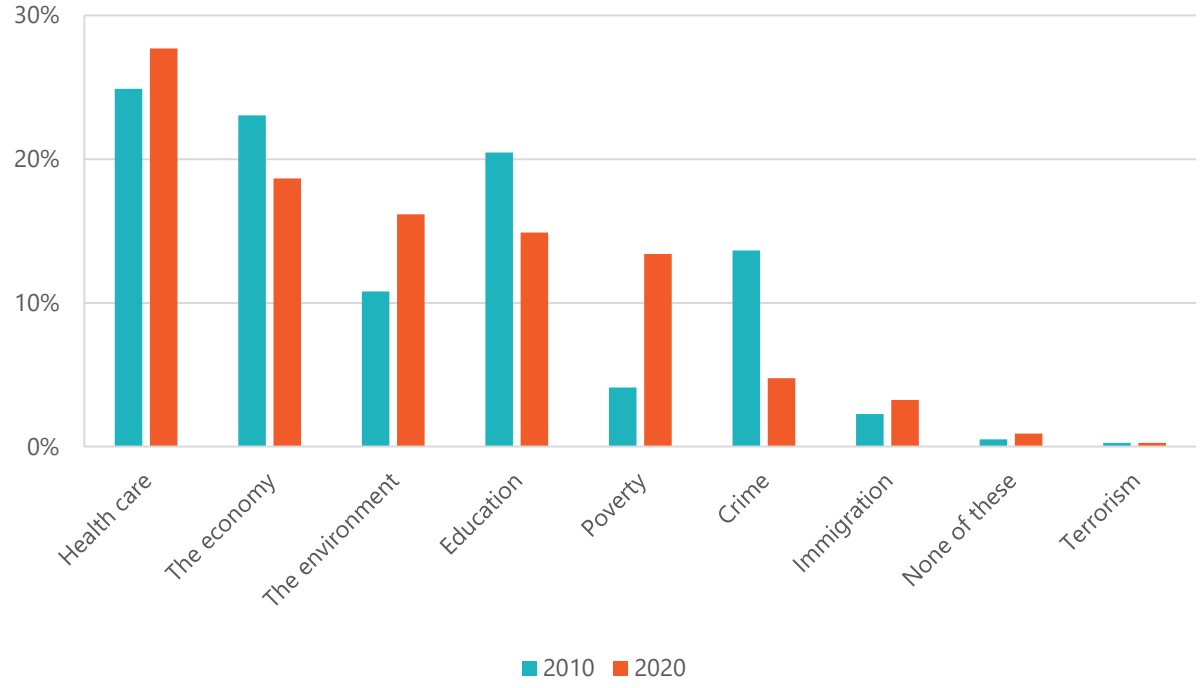
Figure 8: New Zealanders' perception of the most important environmental problem for New Zealand.



*The question asked: "Here is a list of some different environmental problems. Which problem, if any, do you think is **most** important for NZ as a whole?" Data source: (GESIS, ed., 2019; ISSP Research Group, 2023).*

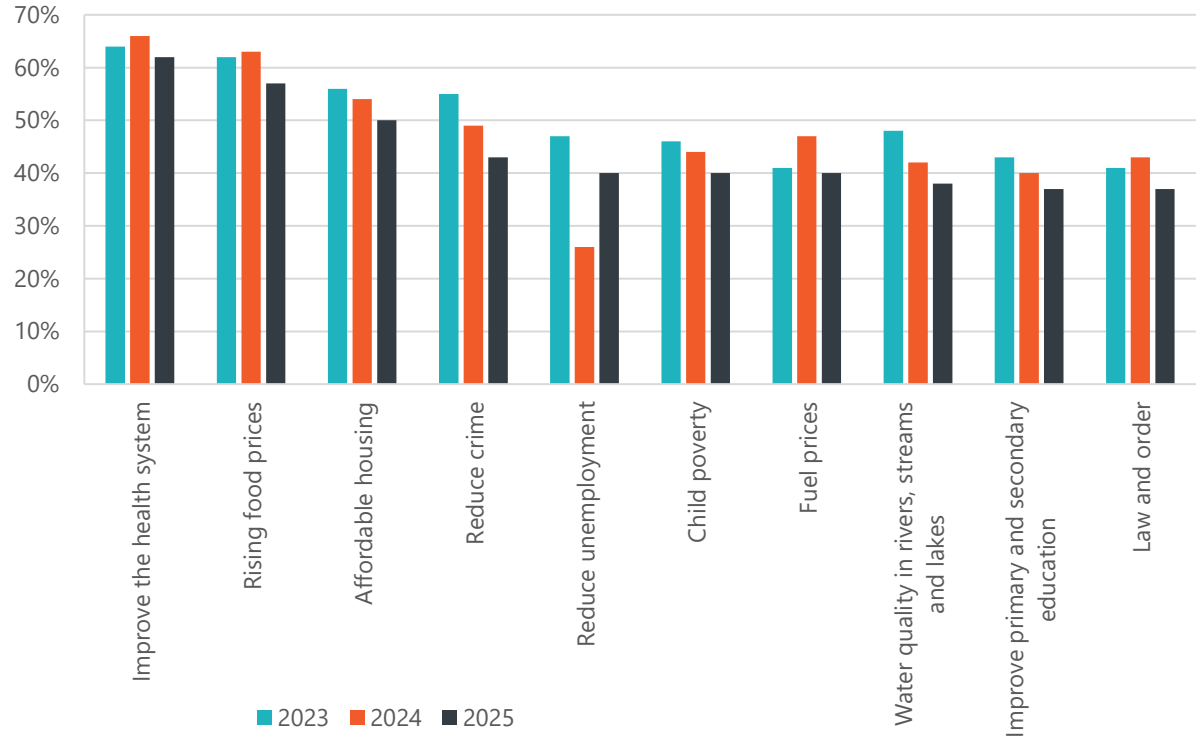
A. 2.Top issues

Figure 9: 'Top two' most important issues in New Zealand today



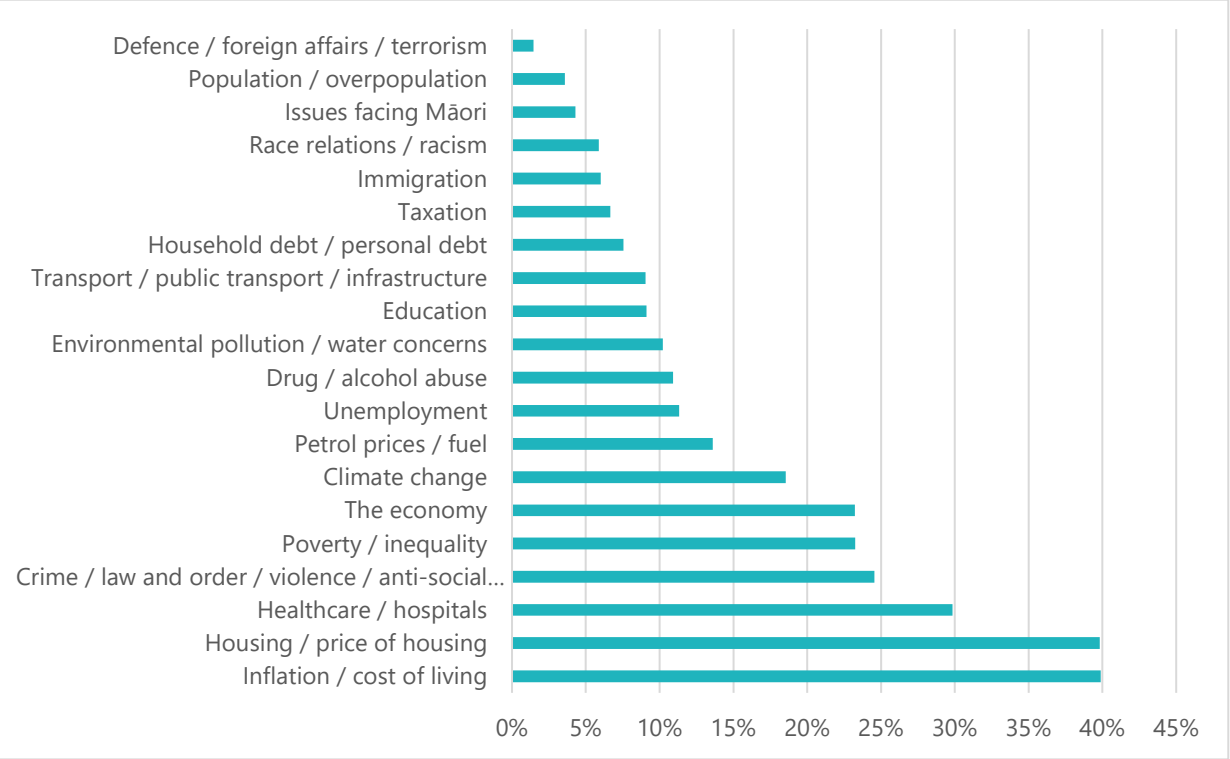
Shows the average percentage of respondents selecting each category in response to the questions 'Which of these issues is the most important for New Zealand today?' and 'Which is the next most important?' Survey carried out with a representative sample of the New Zealand population, in 2010 and 2020, as part of the International Social Survey Programme. Source: (GESIS, ed., 2019; ISSP Research Group, 2023).

Figure 10: Poll of the top ten issues that the New Zealand government should act on



New Zealanders' priorities selected in a poll regarding the top ten issues in 2025 that the government should take action on across three years. Data source: (Horizon Research, 2025).

Figure 11: Average 'top three most important issues' over a seven-year period



*Average percent of respondents selecting a topic as one of the "**top three most important issues** facing New Zealand today", across 24 survey waves between Feb 2018 and Feb 2025 (Ipsos, 2024).*

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