



Title: **Testing our thinking - Developing an enduring National Infrastructure Plan**

Organisation: **Āpōpō**

Reference: **NIPC24-0003078** | Submitted: **10/12/2024 04:29 pm** | Submitted by:

## Summary of information submitted

### Page 1 - Introduction

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## We're seeking feedback

Our Discussion Document, [Testing our thinking: Developing an enduring National Infrastructure Plan](#), sets out our thinking as we begin work to develop a National Infrastructure Plan. The Discussion Document sets out what we expect the Plan will cover and the problem it's trying to solve, as well as the approach we're proposing to take to develop it.

We're sharing this now to test our thinking and give you the chance to share your thoughts. Let us know if we've got it right or if there are issues you think we've missed.

We'll use your feedback as we develop the Plan. We'll be sharing our thinking by presenting at events around the country, hosting workshops and webinars, and sharing updates through our website, newsletter, and social media. We'll also seek feedback on a draft Plan before publishing the final Plan in December 2025.

## Submission overview

You'll find 17 main questions that cover the topics found in the Discussion Document. You can answer as many questions as you like and can provide links to material within your responses. On the final page (6. Next steps) you can provide any other comments or suggestions that you would like us to consider as we develop the National Infrastructure Plan. Submissions are welcomed from both individuals and organisations.

A few things to note:

- You can save progress using the button at the top right of this form.
- A red asterisk (\*) denotes a mandatory field that must be completed before the form can be submitted.
- We expect organisations to provide a single submission reflecting the views of their organisation. Collaboration within your organisation and internal review of your submission (before final submission), is supported through our Information Supply Platform. You'll need to be registered with an Infrastructure Hub account, and be affiliated with your organisation to utilise these advanced features. Many organisations will already have a 'Principal respondent' who can manage submissions and assign users at your organisation with access to the draft responses.
- Submissions will be published on our website after the closing date. The names and details of organisations that submit will be published, but all personal and any commercial sensitive information will be removed.

## Further assistance

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Each submission that is started is provided a unique reference identifier. These identifiers are shown in the top right of each application page. Use this identifier when seeking further assistance or communicating with us about this submission by using one of the following methods.

- Use [info@tewaihanga.govt.nz](mailto:info@tewaihanga.govt.nz) to contact us with any questions relating to our Discussion Document and consultation.
- Use [inform@tewaihanga.govt.nz](mailto:inform@tewaihanga.govt.nz) for help managing roles and permissions of user accounts affiliated with your organisation in the Information Supply Platform (ISP).

## Submission method

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Our preferred method is to receive responses through this form. However, we anticipate some submitters will wish to upload a pdf document, especially where their submission is complex or long. If this submission method is necessary, please use [this word template](#) and save as a pdf. We ask that you retain the structure and headings provided in the template as this will support our processing of responses.

### Select a submission method

To continue, select the method you will be using.

[Online form](#)

The Discussion Document includes five sections. Below we're seeking feedback on why we need a National Infrastructure Plan. We also want to test our thinking on our long-term needs and make sure we have a clear view of what investment is already planned.

## Section one: Why we need a National Infrastructure Plan

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A National Infrastructure Plan can provide information that can help improve certainty, while retaining enough flexibility to cancel or amend projects as circumstances or priorities change.

### 1. What are the most critical infrastructure challenges that the National Infrastructure Plan needs to address over the next 30 years?

*Infrastructure is not relevant unless people are using it to directly or indirectly improve their quality of life, wellbeing, economic prosperity or social cohesion. Therefore infrastructure needs to be the right type and amount for meeting the needs of the people residing in their locality.*

*The National Infrastructure Plan therefore needs to address first **how** we can determine **where, and how many**, people will be and then secondly what is the mix of infrastructure those people will require over time.*

### 2. How can te ao Māori perspectives and principles be used to strengthen the National Infrastructure Plan's approach to long-term infrastructure planning?

*Taking inspiration and guidance from te ao Māori perspectives principles and knowledge such as Whakapapa, Manaakitanga, Kiatiaakitanga, Whanaungatanga, Tikanga, Rangitiratanga, and Mātauranga Māori (as set out in the Āpōpō Guide) will enable modern planning approaches to absorb the lessons of centuries of experience in managing the infrastructure of Aotearoa New Zealand. This experience offers shortcut understanding of risks, hazards, and flaws, particularly associated with land and water use. Planning with the use of such knowledge will help to demonstrate partnership as envisaged by Te Tiriti o Waitangi so as to strengthen or, as necessary, rebuild cultural understanding and social fabric.*

## Section two: Our long-term needs

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The National Infrastructure Plan will reflect on what New Zealanders value and expect from infrastructure. To do this, the Plan needs to consider New Zealanders' long-term aspirations and how these could be impacted over the next 30 years.

### 3. What are the main sources of uncertainty in infrastructure planning, and how could they be addressed when considering new capital investments?

*Demographics are the most fundamental source of uncertainty in infrastructure planning, particularly how many people and where they live. This is an area of prediction that has been proven over the last 50 years to vary wildly from actual<sup>[1]</sup>. Immigration settings have the greatest unpredictability over time and the greatest cumulative impact on population.*

*The consequence is that decision makers become reluctant to commit or remove resources for infrastructure in anticipation of demographic predictions. In particular they cannot and should not rely on immigration settings as part of population predictions.*

*A national 'conversation' on immigration settings which culminates in a largely agreed across the political spectrum, long term vision of the national population and its geographical distribution would be ideal. Such a vision could then be relied upon for long term decision making, helping to ensure that the right infrastructure is available to the people who need it when they need it.*

*Current annual net immigration rates would suggest a total NZ population in 2075 (50 year investment horizon) significantly greater than published Statistics NZ projections. This impact of current immigration policy has subsequent significant impact on the long term infrastructure investment needed to maintain service levels across most major infrastructure classes.*

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*[1] The demographic profile (age ethnicity etc) of those people appears be less uncertain.*

## **Section three: What investment is already planned**

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We already gather and share data on current or planned infrastructure projects through the National Infrastructure Pipeline. This data, alongside other information gathered by the Treasury or published by infrastructure providers, helps to paint a picture of investment intentions.

### **4. How can the National Infrastructure Pipeline be used to better support infrastructure planning and delivery across New Zealand?**

*Achieving national level co-ordination of activity may be a visionary goal, but perhaps using the pipeline to gain experience in achieving regional level co-ordination and collaboration could usefully inform how to leverage a national scale programme. Taking the learnings from, say, dovetailing regionally adjacent tunnelling projects could then inform how to sequence such activity nationally for optimised investment outcomes.*

*In addition, mapping the pipeline projects to the projected areas of greatest need would enable Te Waihangā and major infrastructure providers to prioritise proposed projects.*

## Section four: Changing the approach

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We have used our research and publicly available information on infrastructure investment challenges to identify key areas for change. The next question and the following three pages seek further detail on the three themes in section four of our paper. Within each of the three themes, we explore some topics in more detail, outlining the evidence, discussing the current 'state of play', and asking questions about where more work is needed.

### 5. Are we focusing on the right problems, and are there others we should consider?

*The geography, geology and small population of New Zealand are particular problems for our infrastructure ambitions. Perhaps we could consider how a country level strategic alliance could be created – eg what other country(ies) have similar problems who we could join with for joint pipeline enabled procurement, design, construction capacity, asset management expertise etc?*

*Such an initiative would likely only be possible through diplomatic level interventions and considerations. Although tangential by way of example, perhaps an AUKUS or Airbus of infrastructure represents a model we could lead in order to negate our most significant challenges.*

*We have the land area of the UK with a current population of 5.2M (c.f. UK population 68.9M). When added to NZ's significant natural hazards and climate change resilience issues this creates a challenging infrastructure investment environment.*

## Page 3 - Capability to plan and build

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## Changing the approach — Capability to plan and build

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Section four looks at changes that we can make to our infrastructure system to get us better results. We've broken these changes down into three themes: capability to plan and build, taking care of what we have, and getting the settings right.

For the first theme, we look at three key areas:

- Investment management: Stability, consistency, and future focus
- Workforce and project leadership: Building capability is essential
- Project costs: Escalation means less infrastructure services.

### Investment management: Stability, consistency, and future focus

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We're interested in your views on how we can address the challenges with government infrastructure planning and decision-making.

## **6. What changes would enable better infrastructure investment decisions by central and local government?**

*Gaining wide political (and therefore public) support for this long term infrastructure plan which encapsulates a shared vision of our future society would provide decision makers with a reliable context within which to make decisions. Such decisions would then inherently be better by being better informed. To bind the plan into decision making processes, it may be necessary, by regulation, to require the plan to be consulted or referenced when infrastructure decisions are made that meet certain criteria -eg >x% of the decision maker's 10 year investment plan, interconnection with another plan supported initiative etc.*

## **7. How should we think about balancing competing investment needs when there is not enough money to build everything?**

*Competing infrastructure investment needs should be subject to a consistent decision making framework that prioritises cost, risk and performance factors over a standard long term planning horizon – eg 30 years. By pitching competing initiatives on a level playing field the most valuable to the community will be (more likely to be) funded first.*

## **Workforce and project leadership: Building capability is essential**

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We're interested in your views on how we can build capability in the infrastructure workforce.

## **8. How can we improve leadership in public infrastructure projects to make sure they're well planned and delivered? What's stopping us from doing this?**

*A very small portion of funding for every public infrastructure project needs to be ring fenced for capability development covering leadership, planning and delivery, and asset management. This investment would not only ensure the asset creation phase of infrastructure development is well planned and delivered, but the life long management of the asset is carried out effectively to realise the full potential value planned for from that asset. Requiring such a ring fenced funding mechanism would likely rely on a regulation that could be overseen by the Infrastructure Commission.*

*Current funding of capability development is subject to being 'low hanging fruit' when operating budget cuts are required with little apparent realisation of the impact that defunding capability development cripples the ability to deliver well in the future. Capability development needs to be viewed as a capital rather than operating activity and funded as such.*

## 9. How can we build a more capable and diverse infrastructure workforce that draws on all of New Zealand's talent?

*By ring fencing capability development funding from every infrastructure project the resources for building a capable and diverse infrastructure workforce will be assured. Adding say 0.1% of the capital cost to a major infrastructure project to be invested by the project for capability development would create a momentum of upskilling activity that significantly advances New Zealand's collective capability in infrastructure creation and management.*

*However, care will be needed to ensure that knowledge and resources created through such ringfenced funding is distributed across all infrastructure and not constrained to the initiating or following project only. Unfortunately over the last 20-30 years such investment has tended to move with the projects (as shown by Masters research).*

## Project costs: Escalation means less infrastructure services

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We're interested in your views on further opportunities to improve our ability to deliver good infrastructure at an affordable cost.

## 10. What approaches could be used to get better value from our infrastructure dollar? What's stopping us from doing this?

*Having skilled and knowledgeable people in place to manage the spend of each infrastructure dollar is the most important approach that could be pursued for realising better value from that spend. The required skills and knowledge need to be spread wider through a concerted effort at capability development funded through the infrastructure initiatives themselves (refer above question 8 and 9).*

*Continuous annual investment rather than stop-start investment provides better opportunity for the long term building of skills, resources, equipment with subsequent delivery optimisation.*

## Changing the approach — Taking care of what we've got

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The second theme in section four looks at how we can get better at taking care of what we have. It looks at three areas:

- Asset management: Managing what we already have is the biggest task
- Resilience: Preparing for greater disruption
- Decarbonisation: A different kind of challenge.

## Asset management: Managing what we already have is the biggest task

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Asset management means looking after our infrastructure. We are interested in your views on how we can improve planning for this.

### 11. What strategies would encourage a better long-term view of asset management and how could asset management planning be improved?

#### What's stopping us from doing this?

*The total cost of infrastructure investment, benchmarking New Zealand performance against other OECD countries, is low at an aggregated level and for individual assets over time. Asset management as a discipline, once a strength within New Zealand, has diminished over time with New Zealand rating very low compared to other jurisdictions. Low levels of asset renewal and replacement, maintenance and operational expenditure has realised a larger cumulative infrastructure deficit year on year. The ideology that asset management is the right intervention at the right time at the right cost, in the most effective manner, has not been followed consistently by asset owners.*

*Having a long term plan required to be referenced for infrastructure decision making will support asset management decisions and activity to be considered in a long term context. Current decision making allows asset management discipline to be considered as one competing factor rather than the primary factor and, as a result, it can be crowded out by political or electoral motivators.*

*Fully implementing the recommendations in Asset Management State of Play Report are essential to improve asset management in New Zealand. Further, advancing the recommendations of Āpōpō as set out in our letter to the Te Waihanga Chief Executive dated 4 November 2024 will contribute to improved performance in asset management throughout New Zealand:*

*A. Consistent with your (Te Waihanga) call to invest in asset management training programmes, we recommend that a centralised funding model for asset management training delivery and guidance resource availability is implemented now to remove the budget constraint concern for individual agencies.*

*B. We recommend that Government Agencies mandate AMCP as a minimum accreditation for their accountable asset managers so as to ensure that there is a consistent and globally recognised standard of competence available to support the management of the \$267 billion Crown asset portfolio.*

*C. We recommend that Āpōpō is supported to complete our work on the Āpōpō maturity assessment framework and organisational accreditation scheme.*

*D. Further, we recommend that that once available, being an Āpōpō Accredited Organisation (AAO) is endorsed as a minimum requirement for public major infrastructure*



*providers – an independent endorsement of the asset management standard required and attained by the organisation.*

## Resilience: Preparing for greater disruption

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We are interested in your views on how we can better understand the risks that natural hazards pose for our infrastructure.

### 12. How can we improve the way we understand and manage risks to infrastructure? What's stopping us from doing this?

*Asset information is critical to infrastructure decision making, including understanding and managing risks. Having common terminology for describing assets, their performance and condition, allows sophisticated analysis and assists in revealing otherwise hidden patterns that represent both risk and opportunity.*

*Roading assets risk understanding has advanced significantly recently through the AMDS (Asset Management Data Standard) project. The principles and systems supporting AMDS need to be expanded into other asset types, particularly waters, to enable improvement in understanding and managing risks to those assets.*

## Decarbonisation: A different kind of challenge

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We're interested in your views on how we can improve understanding of the decarbonisation challenge facing infrastructure.

### 13. How can we lower carbon emissions from providing and using infrastructure? What's stopping us from doing this?

*The will to lower carbon emissions could be led by some key agencies so as to set an example that all others strive to follow. The Green Building movement of the 2000's is a good precedent where some trail-blazers adopted five star Green Star as the base requirement for office buildings. Subsequently the whole sector voluntarily / through market pressure adopted this as the baseline standard.*

*Perhaps establishing a competition for asset owners to better their peers in carbon performance with a substantial prize incentive could shift market behaviours.*

## Changing the approach — Getting the settings right

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The third theme in section four looks at how we can get our settings right to get better results from our infrastructure system. It looks at three areas:

- Institutions: Setting the rules of the game
- Network pricing: How we price infrastructure services impacts what we think we need
- Regulation: Charting a more enabling path.

### Institutions: Setting the rules of the game

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We're interested in your views on what changes to our infrastructure institutions would make the biggest difference in giving us the infrastructure we need at an affordable cost.

#### **14. Are any changes needed to our infrastructure institutions and systems and if so, what would make the biggest difference?**

*The Treasury or Office of the Auditor General should seek to audit the CE attestations relating to CO 23(9) to assist agencies to both comply with the requirements and to standardise their approach to assessing their compliance.*

*Similar attestations should be required of Local Government for submission to the Department of Internal Affairs, with the results also audited and published.*

*Such accountability will improve the performance of infrastructure asset owners and therefore the value of the outcomes delivered by those assets for communities.*

*A capable and resourced asset management system lead should provide oversight and alignment of asset management requirements and regulation across sectors, as well as verifying compliance with these requirements. There is currently no "home" or organisation undertaking these activities. There is a failure across most infrastructure sectors to consistently invest in asset management improvement activities. There is currently a lack of accountability for the asset management improvement plans and no consequences for inaction outside of the regulated electricity sector.*

*In areas that are experiencing decreasing population, or that are at increasing risk of climate change related damage, over time it may be that the level of service provided by infrastructure should be gradually reduced to signal that the assets will not be maintained to previous levels and that they will not be replaced like for like should they be damaged or destroyed. It may even be prudent to plan to remove some assets before they become damaged or destroyed so that materials can be reclaimed, and the pollution related to damage can be avoided. However, this all needs to be undertaken as part of an agreed longer term (and dynamic) plan. The challenge here is the inconsistency in approach to infrastructure planning, with different priorities and timescales competing in different sectors, regions, and political/electoral cycles. To achieve enduring infrastructure planning, all such planning should be undertaken using a similar decision-making framework.*

*These decisions could be guided by and signalled via publication of national land use and spatial plans with related communications and stakeholder engagement.*

## Network pricing: How we price infrastructure services impacts what we think we need

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We're interested in your views on further opportunities to improve network infrastructure pricing.

### 15. How can best practice network pricing be used to provide better infrastructure outcomes?

*No comment provided*

## Regulation: Charting a more enabling path

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We're interested in your views on further opportunities to improve regulation affecting infrastructure delivery.

### 16. What regulatory settings need to change to enable better infrastructure outcomes?

*Introducing a regulatory framework that requires infrastructure spend to ring fence a small portion of capital funds for capability development will enable, over time, better infrastructure outcomes.*

*Strengthening the CO 23(9) attestation regime and expanding the concept to incorporate Local Government will support better infrastructure outcomes.*

## Page 6 - What happens next?

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## Additional information to support our development of the Plan

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Section five in the Discussion Document is on the next steps. In this section, we're asking you for any additional comments, suggestions, or supporting documentation that we should consider in our development of the National Infrastructure Plan.

## 17. Do you have any additional comments or suggestions that you would like us to consider as we develop the National Infrastructure Plan?

Click 'Add another' to add multiple suggestions or comments.

### Item 1

*A system approach to asset management within New Zealand is required. Currently asset management is segmented into different functions. An overarching system approach utilising an appropriate nationalised framework such as the Global Framework on Maintenance and Asset Management (GFMAM) would increase the overall coordination and standardisation of asset management within New Zealand.*

### Item 2

*Areas for improvement in asset management planning with a long-term view include:*

- Workforce capacity improvement. New Zealand and Australia have, as of December 2024, included "infrastructure asset manager" as a standard occupation category (ANZSCO). The realisation of this discipline as a profession will increase interest in this career choice. Employers and asset owning organisations should be encouraged to increase capacity of asset management within their core activities.*
- The accreditation of Asset Management Chartered Professional should be formally mandated for public asset owning and intensive agency professionals to increase the capability of the individuals charged with the management of the public asset base.*
- Identification and application of system best practice, principles, frameworks and approaches that improve investment and asset management. This should be led by the Infrastructure Commission and Treasury and other relevant agencies. The Plan should include case study/pilots of best practice.*
- Strengthen asset management and investment enforcement activities, taking a system lead approach which looks across sectors and owners, and compares investment sufficiency in relation to CO (23) 9.*
- A national level of service framework should be developed which articulates asset objectives and flow on levels of service for each of the Government's priorities and organisational objectives.*
- A cross agency investment prioritisation system is required to provide a mechanism which each agency can use to compare an equitable level of service to the level of investment required. This would enable an analysis of investment intentions aligned to forecasted infrastructure investment levels at an aggregated level, for use as a lead measure.*
- An asset management performance scorecard for investment made versus delivery achieved and benefits realized. This is a lag measure and could include benchmarks, directional indicators, tracking indicators.*
- A clear financial framework and guidance documents for determining and applying for annual lifecycle programmes. Currently the information provided to Treasury from Ministries is variable in nature therefore creating both capital and operational budgets has relied on subjective interpretation of financial values provided.*

## 18. Attach any documents that support your submission

Click 'Add another' to add multiple attachments in PDF format.

## Thank you for your response

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Thank you for providing feedback on our Discussion Document. We'll use your comments as we continue to develop the Plan. This will not be the only opportunity for you to provide feedback, but it is an important way to test our emerging thinking on the development of an enduring National Infrastructure Plan.

If you have prepared a submission on behalf of an organisation, you'll need to be an authorised *respondent* to make the final submission. If you entered a new organisation during sign-up, or your organisation does not already have a *Principal respondent* assigned, you will have been asked to nominate yourself or someone else for this role as you started this submission. Our team will have worked to verify these accounts allowing *Principal respondents* to manage access and assignment of requests for information to people within your organisation.

If you require any assistance please reach out to our team at [inform@tewaihanga.govt.nz](mailto:inform@tewaihanga.govt.nz).

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