



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

Organisation: **Rubix Limited**

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Summary of information submitted

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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

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 to contact us with any questions relating to our Discussion Document and consultation.
- Use 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

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

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?

- *Responding to each regions growth (both residential and tourism) in a timely manner to ensure that infrastructure is suitable i.e. Central Otago residential growth and tourism growth needs to be addressed appropriately i.e. one lane bridges on main road routes, increased sewerage capacity. As well as the schools in Cromwell & Alexandra needing to expand for the Gold Mine that may come online if approved.*
- *Balancing the need for progress against protecting the environment.*
- *Mitigating against future criticism for overspends and overruns on projects, or budgets wasted if priorities change and previous work has to be written off.*
- *Ascertaining the future proofing required for the design far enough into the future so that when the development is complete, it is not already out of date.*
- *Resisting the urge to drive straight to a solution before a full options analysis and problem statement has been fully worked though.*
- *Developing an understanding of how much New Zealand will change over the 30 year period and providing for those changes in the proposed pipeline.*
- *Resisting the urge to fix something that isn't broken.*
- *Investing in maintenance and repair once an asset is created and providing for undertaking the backlog of outstanding maintenance and repair on existing assets.*
- *Dealing with ageing, failing infrastructure that has a history of under-investment.*
- *Investing where New Zealanders will see improvements and be supportive of the expenditure, no matter how big or small the project.*
- *Having a truly flexible plan that governance / cabinet / ministers will allow to change as the country's requirements change.*
- *Ability to deliver on the plan without having to change priorities or direction due to change in government (learning from best practice from other countries).*

- *Investments on council owned assets may not be easily implemented due to the BAU nature of these organisations, which means that projects may be slow to get off the ground with budget not spent appropriately or efficiently.*
- *Availability of sufficient funding.*
- *Piling investment into one or more of the major cities when a more long term solution may to be increase infrastructure in other areas to promote growth in other areas and exit from the larger congested cities.*
- *Lack of strategic asset management expertise and funding to assist in the development of a long term investment plan.*
- *Procurement – what should be a simple process in the main, is not and there are many roadblocks put up to stall, prolong or prevent effective and fair procurement practises rather than procurement services being an enabling function.*

Bringing siloed organisations together to share best practice and feel enabled to undertake their work effectively.

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

- *When thinking about projects, assess the need for the development against the environment it will be affecting, looking for alternative ways to mitigate against environmental damage.*
- *Investments need to bring communities together, be sustainable and enhance the area in which they are implemented from economical, social and environmental perspectives.*

Understand how the environment is not just linked to Māori but to all New Zealanders.

Section two: Our long-term needs

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?

- *Changing demographics – look at other countries and how they are changing.*
- *Natural disasters – plan for more frequent occurrence with higher impacts.*

- *Uncertainty of the right solution – conduct effective consultation and widening of pool of decision makers.*
- *Designing for the future – obtain good intel on changing demographics.*
- *Funding – secure and ringfence funding through changing governments*
- *Resource and materials availability – enable early supplier involvement with some commitment to involvement in the pipeline of work so they can prepare and lock in their resources, and also provide expertise on buildability and safety in design.*
- *Public reaction to investment – conduct effective consultation, ensure projects benefit New Zealand as a whole, and not just the few.*
- *Speed of technological progress – keep up to date with new innovations across the globe.*
- *Availability of required expertise – early engagement with suppliers and do not be afraid to look overseas for expertise, or look in country for transferable skills.*

Ability to achieve an infrastructure wide holistic view with the ever changing dynamics of the country.

Section three: What investment is already planned

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?

- *Ensure that it is a support and enabling programme, where each individual programme or project contributes to the greater good of New Zealand.*
- *Provide support and guidance to those individual agencies involved in the implementation of the programme, advocate and facilitate cross agency working and provide assistance in navigating procurement and consenting issues.*
- *Provide effective governance across the pipeline as a whole.*
- *Ensure that it covers the whole country, and focusses on improving the infrastructure of the country as a whole.*
- *Incorporate lessons learned from previous programmes in New Zealand and from across the globe to showcase new ways of working in the industry and improve public perception / confidence.*

- *There needs to be a good mixture of projects where the public can see the benefits, as well as those which will improve infrastructure from behind the scenes.*
- *Step in to resolve issues where multiple councils are involved in one project or programme, where each are protecting their respective investment but are not looking at the project or programme as a whole, and are disputing decisions which benefit the whole and not themselves.*

Provide certainty / guidance to local councils on what works are proposed in their regions so they may accommodate accordingly into their long term investment plans.

Section four: Changing the approach

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?

- *There needs to be a focus on strategic asset management, as well as providing good and efficient asset management with investment locked in to support this so we are not sweating our assets years after their end of life date.*
- *There needs to be a more lean approach to delivering infrastructure projects and programmes, there are currently too many roadblocks preventing projects from even starting with much investment wasted before the first shovel hits the ground.*
- *We see cycle and bus lanes popping up all over the place but what about the most sustainable form of transport – walking. Pedestrians (and their safety) seem to be left out when it comes to improving transport networks, and we need to look at lessons learned from other countries where the dangers of mixing pedestrians with vehicles does not work as this can be very dangerous, especially with bicycles and scooters. Providing busses and trains are all very good, but we need to think of the best ways for pedestrians to access these safely.*

There is always the case of focussing on the right problems, but not providing the best solutions – consultation is the key to bring in fresh ideas and innovations to existing problems.

Changing the approach — Capability to plan and build

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

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?

- *A real focus on the problems and opportunities for everyday New Zealanders, prioritising investment which will enable economic growth and improve social and environmental aspects.*
- *A long term future focus on what is required to make the country work for its residents, how to support their everyday lives with the majority in mind rather than investing in small projects that will only benefit the very few. The 30 year plan should be building up to the needs of New Zealand in 40-50 years time.*
- *Consultation with the public on what is important to them and what issues or opportunities they can see to improve infrastructure.*
- *Broadening the consultant and contractor base to gain insights from others not previously involved in these projects or programmes.*
- *Efficient and effective governance by those who understand the terms of reference of their appointment on a governance board and have the relevant experience as individuals to contribute to a diverse (knowledge, skills and experience wise) board that will have the ability to make decisions and implement them.*
- *Enable agencies to propose initiatives that are based on needs, rather than the funding available.*

Early supplier involvement, this can enable practical advice on buildability and achievability within the market etc.

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

- *Prioritisation matrix, taking into account, with weighting, what the investment will achieve in terms of benefits, location, value for money, invest to save etc. ensuring that those who rank highly are included in the investment plan.*
- *Ensure that those prioritised will be the ones which will give the greatest outcomes for NZ, and also those that will be able to meet their investment objectives and benefits.*
- *Look at the long term benefits of the investment and where “invest to save” can be implemented.*

Look for ways to make available funding go further through effective procurement, or changes to service levels that match real requirements, not gold plated wish lists. For example, designing buildings from the start that allow future upgrades to occur seamlessly, whilst those short term savings are used to fund other projects. Look at different types of design and new innovations.

Workforce and project leadership: Building capability is essential

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?

- *In many cases, the ability of project teams to deliver work is hampered by inefficient and uneducated governance. Where governance boards do not have, or do not understand their terms of reference, roles and responsibilities and tend to focus on minutiae rather than the overall objectives of the investment and the requirement to realise benefits.*
- *Many internal agency teams do not have the skills or experience to stand up a large project and so many projects fail at the start as BAU models do not fit large projects or programmes.*
- *Internal barriers need to be broken down to allow for innovations and leadership from the delivery teams to progress.*
- *Bringing suppliers into the early stages of the project.*
- *Understanding that the way things have always been done is not necessarily the best way to continue.*
- *Allowing investment decisions to be challenged by independent boards.*
- *Streamlining processes and delegation sign offs to speed up planning and delivery.*
- *Setting procurement as a support function to project delivery, rather than a roadblock.*

- *When recruiting, there needs to be an open mind when it comes to transferable skills, many are put off by the need for extensive infrastructure experience, when many of their skills are easily transferable from vertical to horizontal, this needs to be applicable to all roles.*
- *Take the politics out of planning and delivery, just let those involved get on with their job without fear of having to put everything on hold during the election cycle as ministerial level decisions will not get signed off, or the risk of all plans changing should there be a new minister.*
- *Agencies are generally opex poor, and it is opex that is required at the start of any problem identification, options analysis, investment objectives etc. that lead up to and include the development of the business cases to get the project going. Lack of investment at these early stages can result in poor scoping and analysis, with outcomes that do not fully resolve the issues, or do not fit in with a nationwide holistic view of infrastructure.*

Provide strong leadership focussed on delivering on the plan within the budget and within set timeframes with the ability and confidence to deal with non performance, not being afraid to terminate a contract of a supplier or move internal resource off the project.

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

- *First of all there needs to be an understanding of what diversity is, it is not just religion, gender etc, different ways of thinking and approaching problems is diversity, and project teams should be put together where skills and experience are different, compliment each other and fill any gaps.*
- *Infrastructure needs to be seen as an attractive workplace which is fair to all in pay and career progression.*
- *An ability to progress your career within the industry is key to attracting talent.*
- *Start recruiting in the schools, show potential school leavers that there is much more to a career in infrastructure than labouring.*

Pay needs to somehow be competitive to the Australian construction market.

Project costs: Escalation means less infrastructure services

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?

- *Many suppliers have to factor risks into their costs due to the stop start nature of working with government agencies. A clear run at a project, without excessively long hold*

points (due to gaining approvals – and many of these are where things are not signed off due to risk averse management or governance, or take too long to obtain due to excessive delegations) would reduce this risk and contingency, however, this would take a while for suppliers to trust this would happen.

- *Lack of accurate construction documentation leads to many variations over the life of the project, another risk that is costed into contractor tenders as the administration, and back and forth negotiations on any variation is time consuming and expensive. Early contractor engagement is required to ensure fully completed and co-ordinated drawings, specifications and other construction documents with no gaps in information.*
- *Lack of in house agency skills and experience in design management leads to un co-ordinated designs, lack of scope, delays in approvals etc. which increase suppliers cost through pricing for risk or variations*
- *A full independent review is suggested on all agencies who have overspent on their allocated project funding, or not delivered on their objectives, and the reasons why thoroughly investigated. This will provide valuable lessons learned which will help streamline future project processes and eliminate roadblocks and other issues which waste money.*
- *Handing the work to another agency to deliver is not necessarily the best option as there would be double ups in both internal and external resource with a “middle man” and adding an extra layer between the agency and their suppliers could lead to increased costs, time delays and will not promote a collaborative project team if the suppliers are cut off from their client.*

Use standardised designs, for standard material sizes and ensure that value engineering is conducted regularly though out the design phase and is undertaken properly, ie designing for value rather than scope cutting when the budget gets too big.

Page 4 - Taking care of what we've got

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

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

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?

- *Many agencies are opex poor, especially when government looks to them to make opex savings, and usually the first to go, apart from vacant positions, is the facilities maintenance budget. This means that effective maintenance is not carried out and / or assets are sweated beyond their useful life resulting in failures which are more expensive to fix.*
- *Sufficient resource needs to be in place to ensure that maintenance activities are undertaken as specified when they are designed and constructed.*
- *Strategic asset management needs to be set up and implemented, each asset needs to be considered separately (ie a strategic plan for each asset) then as part of a region (for example, with a regional plan) and then as a whole (a national plan) which will enable informed decisions on how the asset is managed going forward.*
- *Each asset needs to be assessed on its fit for purpose score (location, functionality, flexibility, usage, investment return, etc.).*
- *Many agencies are in the "fire fighting" phase of asset management, rather than the strategic planning phase due to a history of underinvestment in maintenance and renewals. A budget injection to resolve this and bring them up to speed is essential as BAU teams usually do not have the resource or budget to do this. There should also be a focus on resourcing for strategic asset planning and upskilling / recruiting where teams do not have the necessary skills.*
- *These strategic asset plans need to reflect the demographics of the area and interlink with other agencies where there are dependencies or interlocking work.*
- *These strategic asset plans should be used to develop the long term investment plans, and should also identify where agencies can work together on projects, or align timeframes for inter project efficiencies.*
- *These strategic asset plans will list out all assets, giving an opportunity to review their fit for purpose, flexibility, usefulness and some may be able to be decommissioned.*

Use of a digital twin software that can be easily updated as assets are renewed, altered etc.

Resilience: Preparing for greater disruption

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?

· *There firstly needs to be an understanding of what constitutes a risk, it could already be an issue, or it could be an opportunity. Project specific risks need to be developed and rolled up into portfolio risks, then nationwide risks for a holistic view. The key is to work through all risks, no matter how small and understand their impacts. Weight them accordingly for likelihood and severity, then really focus on how these can be eliminated, mitigated, reduced, controlled etc.*

Thinking outside the box when it comes to risk is essential, just because something is passed off as not being a risk now does not mean that it will not be a risk in the future.

Decarbonisation: A different kind of challenge

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?

· *If we truly want to reduce our emissions we need to look at NZ transport as a whole. The fact that the easiest way to go from one city to another is to fly, is not the most carbon efficient way of doing things. The rail network has deteriorated over the years, and extending the electrification of this network has little benefit to users as carbon will reduce, but travel times may only reduce minimally. NZs favourite mode of transport is the car, even for short journeys and public transport has much to do to entice people away from this. Cost is a big thing, and with the (fairly) recent hike (doubling) of rail fares in Wellington, many have chosen to work from home as they simply cannot afford the fares. Working from home does not benefit towns and cities and we have seen many businesses closing due to this.*

· *We need to learn from other countries to provide a transport network that is user friendly, provides value for money, has low emissions, and is reliable if we are to entice people away from their cars and into a more sustainable mode of transport.*

· *Again, walking is the most sustainable form of travel, and priority must be given to pedestrians and their ability to gain access to public transport.*

· *Replacing gas boilers is all very well, but maintaining and replacing end of life assets will also reduce inefficient use of energy and reduce carbon emissions. Adopting new technologies will also be of benefit.*

· *An overall view of the country and where commerce centres are should be considered, and if there are ways to distribute these more effectively so that people are not having to travel so far to work, this would be advantageous.*

- *If we still need to continue to rely on air travel, are our airports in the right location? Many are not easily accessible without travelling through congested areas.*
- *We need to promote more energy saving devices in homes for people to use so the demand on the national grid is less. Additionally, looking at alternative sources of energy should be factored into this whether on a small or large scale.*
- *Support and invest in recycling schemes and review each project or programme to see whether temporary recycling schemes can be set up for the duration to deal with any waste produced.*
- *Develop designs that consider availability of standard materials, and are optimised for efficient construction for example, design for standard window sizes with minimum variance in sizes across the asset (bespoke items will cost more and could use more materials in wastage), or design for the use of standardised material lengths to minimise cut offs and waste.*

Page 5 - Getting the settings right

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Changing the approach — Getting the settings right

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

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?

- *More accountability, with potential liability for losses for those entities who do not perform.*
- *Where agencies have a history of non performance, future work is taken off them for a period of time and run by a specific team set up for that project / programme, bring in the agency on the journey to educate and upskill them on how work like this can be delivered.*

- *Procurement needs to be a support function not a roadblock.*
- *Processes need to be streamlined for efficiency (and mapped in the first instance as many agencies do not have their processes mapped properly or at all).*
- *Delegations and approvals need to be timely and necessary, with penalties for dithering.*

There needs to be larger penalties for council owned wastewater that fails and pollutes the environment.

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

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?

- *Road time usage is all well and good but what will the return be over the investment? What will happen to those people unable to work flexible hours and change their time of travel? These are usually the lower end of the pay scale.*
- *Metering is a good way of reducing use, especially water, however there will need to be trust in the method of metering, and the quality of service by residents.*
- *Cost of living is already high in this country, any change needs to be beneficial to the public in that if they are more economical, they will see savings from what they already paying.*

Support local levies to better fund the infrastructure required to meet the tourist infrastructure needs, instead of residents paying to support industries that they are not directly profiting from. For example, In QLDC an additional rental car levy on our tourists for congestion, and visitor nightly levy should be considered to fund the upgrades to infrastructure that is needed instead of placing the pressure on the residents to fund this solely.

Regulation: Charting a more enabling path

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?

- *There needs to be consistency across councils on approvals and processing times which need to be quick and efficient.*

A portfolio approach should be taken, with multiple projects from different agencies approved under one consent for a particular area.

Page 6 - What happens next?

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Additional information to support our development of the Plan

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

- *We appreciate the opportunity given to comment on this document.*

It is good to know that work is being undertaken to provide improvements to our infrastructure.

18. Attach any documents that support your submission

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

Document 1

No attachment

Thank you for your response

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.
