



MEASURING WHAT MATTERS

GETTING THE BEST VALUE FROM
INFRASTRUCTURE INVESTMENT

A REPORT BY **KALI MERCIER**

May 2026

TABLE OF CONTENTS

Executive summary 01

Recommendations 05

Chapter 1: The importance of cost benefit analysis in evidence-based decision-making 11

Chapter 2: Transport investment and the growing role of government priorities 23

Chapter 3: How CBA works, in theory and practice 26





Chapter 4: Strengthening the importance of wellbeing in CBA 38

Chapter 5: Discussion: Unlocking the potential of cost benefit analysis in Aotearoa New Zealand 45

Conclusion 60

References 62





**ABOUT MAHI A RONGO /
THE HELEN CLARK
FOUNDATION**

**ABOUT MAHI A RONGO /
THE HELEN CLARK
FOUNDATION**



The Right Honourable Helen Clark
Photo credit The Elders/Jeff Moore.

Our Philosophy

New problems confront our society and our environment, both in Aotearoa New Zealand and internationally. Unacceptable levels of inequality persist. Women's interests remain underrepresented. Through new technology we are more connected than ever, yet loneliness is increasing, and civic engagement is declining. Environmental neglect continues despite greater awareness. We aim to address these issues in a manner consistent with the values of former New Zealand Prime Minister Helen Clark ONZ, who serves as our patron.

Our Purpose

The Foundation publishes research that aims to contribute to a more just, sustainable, and peaceful society.

Our goal is to gather, interpret, and communicate evidence in order to both diagnose the problems we face and propose new solutions to tackle them. We welcome your support.

Please see our website helenclark.foundation for more information about getting involved.



ABOUT WSP
ABOUT WSP
ABOUT WSP
ABOUT WSP
ABOUT WSP





About WSP

WSP is one of the world's leading professional services firms, uniting its engineering, advisory and science-based expertise to shape communities to advance humanity.

With roots in New Zealand's earliest infrastructure projects more than 150 years ago, WSP today has offices and labs in 24 towns and cities across Aotearoa New Zealand – from Whangārei to Invercargill – and employs over 2000 professionals, known as Visioneers.

Together they pioneer solutions and deliver innovative projects across the transport, building, environment, water, energy and advisory sectors.



ACKNOWLEDGEMENTS
ACKNOWLEDGEMENTS
ACKNOWLEDGEMENTS
ACKNOWLEDGEMENTS
ACKNOWLEDGEMENTS



This report has been made possible thanks to the contributions of several generous organisations and many talented individuals, for which I am very grateful. **Measuring what Matters** would not have been possible without your expertise, support and willingness to engage in frank (and enjoyable!) discussions. Ngā mihi ki a koutou katoa.

Firstly, a huge thank you to our partners at WSP New Zealand, who are supportive, helpful and extremely well informed on everything to do with infrastructure (and other things!). In particular, thank you to those who contributed directly to

this report: Nadine France, Campbell Gardiner, Amy Richardson, Nic Scrivin, Mildie Meyer-Els, Wayne Hatcher, Quanita Ali, Paul Rooney, James Reddish, Jim Coleman, Ian Baker, John Collins, Dion Collier and the talented design team.

I am also extremely grateful to the following people, who generously shared their expertise and insights on this topic. Thank you to Arthur Grimes (Victoria University / Motu), Dr Conal Smith and Andrew Webber (Kōtātā Insight), Graeme Sharman and Nadine Dodge (the Infrastructure Commission), Lucy Pomeroy (The Audit Office), Lara Fleischer and Katherine Scrivens (OECD), Gail Pacheco (AUT), Mark Townshend (Auckland Council), Geoffrey Coe (Wellington City Council), Katie Bradford (Infrastructure New Zealand), and several colleagues from NZTA and the Treasury.

I would also like to thank the Helen Clark Foundation staff

and board for their encouragement and feedback. Our intern Ben Beattie put significant effort into the literature review for this work – thank you for your effort and patience! I hope you enjoy seeing your words reflected here. Thanks also to Murray Bruges, Sarah Bell and our chair, Chris Swasbrook.

We rely greatly on our partners at AUT for the support that allows us to continue this important mahi – ngā mihi nui. Finally, thank you to my children Willow and Juno for the late night cups of tea, which got me through the final edits in one piece.



Kali Mercier

WSP Fellow, and Deputy Director of the
Helen Clark Foundation

21 May 2026



EXECUTIVE SUMMARY

Decisions about public infrastructure investment determine how New Zealanders use land, how well our cities function, how much we pay in taxes and rates, and how products and services are delivered. The consequences ripple through population health, equity, education, safety, productivity, and even levels of life satisfaction.





Looking at the bigger picture, the type of infrastructure the country invests in also shapes how much carbon New Zealanders emit, the quality of the air and water that surrounds us, how biodiversity thrives or declines, and how resilient the country is to climate change and demographic change.

This makes the question of how we measure value in infrastructure investment fundamentally important. How we measure value as a country shapes what actually gets built – and getting this as right as possible is of fundamental importance to Aotearoa New Zealand's future.



Aotearoa New Zealand spends billions of dollars on public infrastructure every year, yet there is no mandated process to ensure we receive value for money from those investments, and very limited attempt to evaluate the extent to which projects achieve the outcomes that they set out to achieve. Instead, at times the use of urgency combined with shifting priorities has limited the role of evidence and process in investment funding decisions.

Meanwhile, in a context of increasing fiscal constraints, there has of yet been no systematic attempt to prioritise between different types of infrastructure investment to ensure the country invests its limited funds in the most cost-effective way. Misalignment between identified investment needs and available funding is regularly absorbed through deferral, cancellation, and accumulating deferred maintenance rather than managed strategically.

Social cost benefit analysis (CBA) is the primary tool available to ensure public investment is as efficient and evidence-based as it can be. Forming part of Treasury's Better Business Case framework, CBA provides a disciplined, systematic, and transparent way to assess investment options – quantifying and, where possible, monetising the full range of costs and benefits, including social and environmental impacts, and making the assumptions underpinning decisions open to scrutiny and democratic challenge (Treasury, 2025b).

CBA is an aid to judgement, not a substitute for it; while it organises evidence around trade-offs, it does not resolve them. In practice, infrastructure decisions are shaped not only by economic efficiency, but also by affordability and funding constraints, deliverability, market capacity, and strategic, place-based, and distributional considerations (i.e. questions of who



benefits from an intervention, and who bears the costs). As a methodology though, CBA is designed to bring greater objectivity and consistency to infrastructure investment decisions, to bring into focus the logic informing complicated choices, and to promote transparent governance.

Aotearoa New Zealand has excellent tools and a well-developed decision-making methodology for CBA. The potential for its use is significant. In practice, however, because its use is not mandatory, CBA is applied inconsistently across the public sector. Of six major infrastructure-intensive agencies contacted in writing for this report, only two – NZTA and Kāinga Ora – responded that they use CBA regularly and systematically. The other four responded that they either do not use it, or use it irregularly.

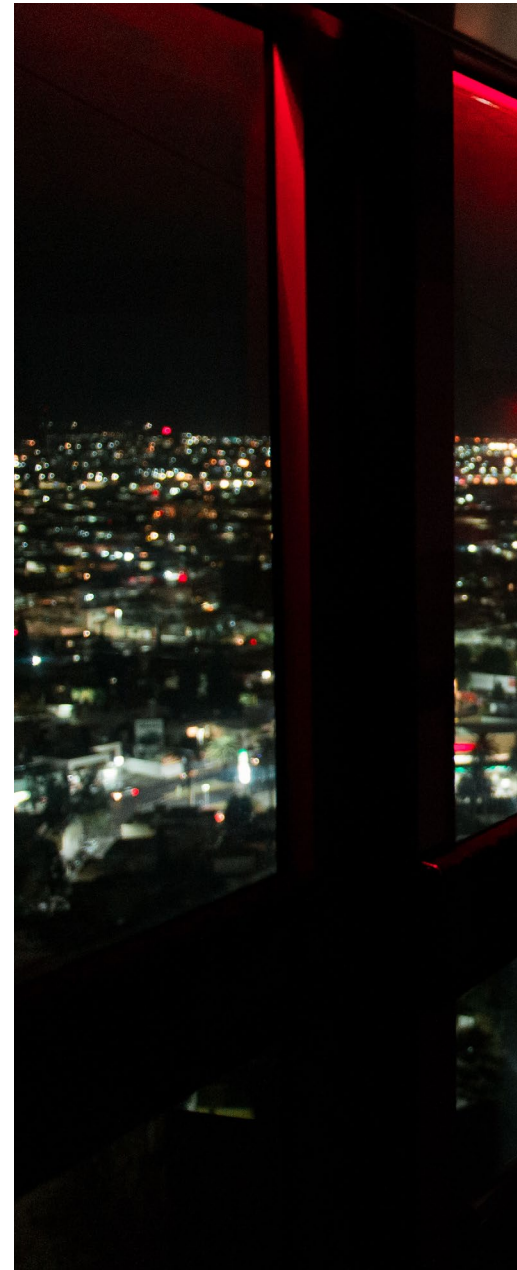
Over the last five Budgets, fewer than a quarter of infrastructure initiatives seeking Cabinet funding decisions included a cost benefit analysis of the preferred option (Infrastructure Commission, 2026). In a similar vein, local government's use of CBA to inform infrastructure investment decisions is the exception rather than the rule.

This report argues that addressing these weaknesses is both urgent and achievable. One of the biggest benefits of applying CBA consistently, would be moving towards a more coherent, transparent, and strategically aligned approach to infrastructure investment, where evidence carries appropriate weight alongside government priorities. Aotearoa New Zealand faces compounding pressures – an ageing population, climate change, fiscal constraint, and a significant infrastructure deficit – that make strategic, evidence-based investment not just desirable but necessary. We will only solve these pressures by treating infrastructure as a systems challenge, and CBA is an important and currently under-utilised tool to help us do that.

The report makes recommendations across five interconnected areas.

First, it calls for a stronger and more consistent evidence base, including mandatory use of CBA within central government for major projects, increased capability training for agencies and local authorities, and the development of simplified tools for sector-specific analysis (such as flood resilience for example). We have not recommended making CBA mandatory for local authorities as many have limited financial resources, but we would hope to see greater uptake of CBA through increased training, guidance and the development of off-the-shelf tools relevant to their work. This recommendation also includes expanded investment in research to support further development of cost benefit tools such as Treasury's 'CBAX', especially in relation to social impacts that have traditionally been undervalued.

Second, this report recommends the establishment of an independent infrastructure assurance framework, with the Infrastructure Commission playing a central role in providing assurance (quality checks and balances) for agencies and local authorities. Increased requirements for transparency would ensure that benefit cost ratios and business cases are published and made available as a matter of course. Importantly, all major projects would be expected to be properly evaluated after completion, to ensure they achieve against expectations, and to improve future decision-making. This recommendation follows and extends upon a welcome Government announcement made during the drafting of this report, which proposes to move coordination of the assurance function for major projects to the Infrastructure Commission in November 2026.





Third, the report makes the case for more strategic and cross-portfolio use of CBA where appropriate.

This includes the aspirational goal of comparing investments within and across sectors including health, housing, education, justice, defence, environment, and corrections, as well as transport funding that falls outside the hypothecated National Land Transport Programme. The aim would be to direct funding – in a context of increasing fiscal constraint – toward its highest-value uses, including non-build and demand reduction options where appropriate.

Fourth, the report recommends aligning the Budget process more closely with long-term agency investment planning informed by CBA, and exploring multi-year capital budgeting to reduce the stop-start dynamic that undermines both planning quality and construction sector capability.

Finally, the report recognises that CBA should be the foundation of investment decisions, not their ceiling

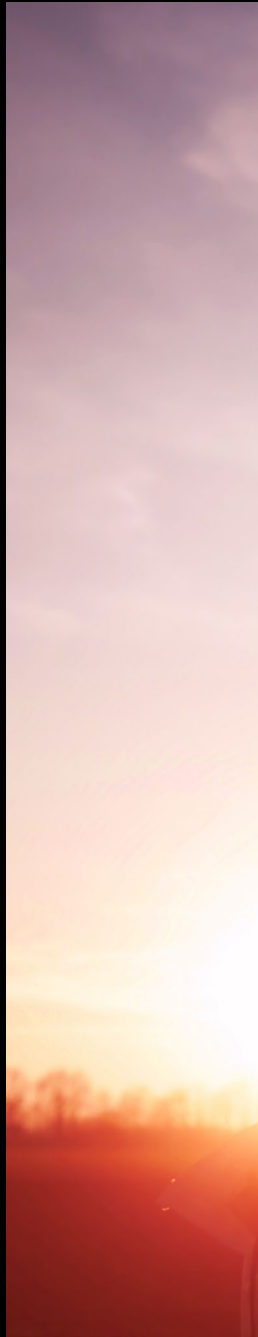
– with the benefit cost ratio treated as the essential starting point rather than the end point of decision-making. Considering an analysis of factors that cannot be fully monetised, including questions of generational fairness, te ao Māori, and priorities for transformational change in an age of increasing climate disruption, is essential. As is applying common sense to all decision-making.



RECOMMENDATIONS
RECOMMENDATIONS
RECOMMENDATIONS
RECOMMENDATIONS
RECOMMENDATIONS

wsp

THE
Helen
Clark
FOUNDATION





Aotearoa New Zealand has the frameworks, the tools, and increasingly the institutional architecture to build a significantly better investment system. The case for acting is compelling.



RECOMMENDATION 01

Use cost benefit analysis consistently for infrastructure investment decision-making, and regularly update and improve tools:

- CBA should be mandatory for all major central government infrastructure investment proposals. This requirement should be enforced by Treasury and the Infrastructure Commission (once it takes on an expanded assurance role later in 2026), and routinely required by Cabinet when funding endorsements are sought. Treasury's CBAX or an approved equivalent should be the required appraisal tool.
- Agencies and local authorities should be supported to build in-house CBA capability with regular training provided by the Treasury or the Infrastructure Commission.
- The Infrastructure Commission should develop tools tailored to specific project types (stormwater systems or climate resilience projects, for example), to support agencies and local authorities to increase their uptake of CBA, with particular priority given to wellbeing, health, and climate-related impacts.
- The Treasury, or the Infrastructure Commission, should invest in research to continue to expand the range of monetised unit values available within CBAX. In particular, the Treasury should fund a programme of research to refine Aotearoa New Zealand-specific WELLBY (wellbeing adjusted life year) estimates, building on national and international research evidence.
- The Government should ensure that whatever surveys replace the Census include questions on life satisfaction, to make WELLBYs easier to calculate.

RECOMMENDATION 02

Improve decision-making by requiring long-term planning and prioritisation of sector priorities using CBA, more timely advice, independent assurance frameworks, and greater transparency:

- Capital-intensive central government agencies should be required to develop long-term asset management and investment plans to help prioritise projects and to improve the timeliness of advice to decision-makers. Agencies should be expected to use CBA consistently to inform these plans, to identify the right solution to respond to identified needs, to identify the optimal timing for projects, to decide whether the preferred projects provide value for money, and to prioritise major upcoming projects within their sector (health, housing, etc).
- In line with Government announcements in April (expected to be implemented in November 2026), the Infrastructure Commission should provide a dedicated 'assurance function' (a system of checks and balances), to ensure agencies carry this work out to a high standard. The Infrastructure Commission should also provide assurance for all major infrastructure projects requiring Cabinet capital allocation decisions. The Commission should be funded appropriately for carrying out these roles.
- The assurance framework should include the requirement for 'reference class forecasting' – checking cost and benefit estimates against the actual outcomes of comparable past projects – to be carried out for major infrastructure projects, to increase the accuracy of predicted costs and benefits.



- Large investment projects proceeding to Cabinet without a completed business case should be regarded as an exception, and should include a public disclosure as part of a Cabinet Paper as to why the standard investment decision-making process was not followed.
- For the purposes of transparency and public accountability, the government should consider requiring that CBAs and business cases for major projects be published as a matter of course.
- For all central government infrastructure investment, costs and benefits realisation should be compared against original business case projections, with findings published and used to inform future CBAs.
- To improve best practice over time, the Audit Office and/or the Infrastructure Commission should be resourced to conduct post-implementation reviews of all major investments by both central government and local authorities. In addition, regular portfolio-level reviews should be undertaken (these would evaluate all infrastructure investment of a certain type, such as roads, or schools, for example).
- Ensure the proposed two-page 'Fitness Assessment' (which the Government recently announced must be completed for all major investment decisions after 1 November) includes benefit cost ratios expressed as a range, along with other important information including a high-level description of:
 - which other project options were explored and why the chosen option was preferred
 - which parts of the country and which groups of people the project will most positively and negatively impact, and how
 - any intergenerational equity impacts the project may have
 - any expected environmental or climate impacts
 - implications for any obligations under Te Tiriti o Waitangi.
- The Government should continue to fund the Infrastructure Priorities Programme (or similar programme), so that local authorities with limited in-house capability can access funded assistance to improve business cases and receive advice on CBA.



RECOMMENDATION

03

Where appropriate, prioritise investment within sectors and across government. Line up funding to match:

- Government should direct the Infrastructure Commission to develop a prioritised whole-of-government pipeline of significant infrastructure investments. The pipeline should be prioritised by BCR, other important non-monetised costs and benefits, and significant strategic considerations. This prioritisation would support investment decisions funded from general taxation, noting that in the case of transport, only funding coming from outside of the hypothecated transport fund would be considered. Governments of the day could override the Infrastructure Commission's recommendations, but where they do so, Ministers may be asked to explain why.
- Benefit cost ratios and other relevant information used to prioritise investment decisions should be published and used to help inform Budget decisions across all major spending agencies.
- Treasury should update CBA guidance to explicitly encourage agencies and local authorities to evaluate and prioritise demand-reducing, non-build alternatives alongside traditional infrastructure solutions. Agencies and local authorities should also be encouraged to consider the 'cost of doing nothing' when it comes to evaluating climate adaptation and resilience projects against other infrastructure priorities.
- The Infrastructure Commission should be empowered to plan with agencies how they will reduce long-term demand around infrastructure pressure points (such as hospitals in the context of an ageing population), with CBA as a useful tool to inform these discussions.
- The Government should explore the introduction of multi-year capital budgeting for infrastructure-intensive agencies, informed by and consistent with agency investment plans and the Infrastructure Commission's prioritisation of major projects.





RECOMMENDATION

04

Promote and improve the use of CBA, while recognising its limitations:

- Treat CBA as an important foundational tool within wider decision-making frameworks, not a replacement for complex decision-making.
- The government should periodically review the CBA framework as a whole – including CBAX, Better Business Case (BBC) guidance, and assurance requirements and frameworks – to ensure it continues to reflect best international practice and the evolving priorities of Aotearoa New Zealand's infrastructure investment system.





CHAPTER 1

THE IMPORTANCE OF COST BENEFIT ANALYSIS IN EVIDENCE-BASED DECISION- MAKING





When a decision-maker invests a significant sum to build a new infrastructure asset for the country, most would presumably agree that the choice of what to build, and how, should be based on the best available evidence about what will give the best value for money. However, actually defining and measuring the evidence in practice – and trusting the outcomes of those calculations enough for them to influence decisions – can be challenging.

While such decisions will never be entirely objective or free of value judgements, there are tools available that can help to organise available information in a consistent and coherent way. In this way, at the very least decision-making and the assumptions decisions are based on can be made transparent and open to democratic challenge.

Cost Benefit Analysis is a tool for evidence-informed decision-making

The Treasury (2025b) promotes ‘social cost benefit analysis’ – generally shortened to CBA – to support rigorous, transparent, and evidence-based assessment of investment decision-making in this country. Social cost benefit analysis encourages government agencies and other decision-makers to:

- take a long-term and broad view of all benefits and costs that may result from an intervention
- rigorously assess these by quantifying and where possible monetising key impacts, supported by evidence
- be transparent about the assumptions and evidence base (Treasury, 2025b).

Cost benefit analysis is not one size fits all – the analysis may be simple, involving high-level calculations using standard values (for example, time saved in travel on a new road), or comprehensive, involving bespoke research and analysis, for example, to determine the value of increase in life satisfaction from a warm home (Denne et al., 2012). Either way, the purpose of the exercise remains the same: to organise available information, to provide a common way to assess it (by giving outputs a dollar value, for example), and thereby to provide a disciplined, systematic, evidence-based, and comparable way to assess investment options.





CBA promotes good governance and value for money

Processes such as cost benefit analysis, that aim to ensure evidence-based project selection and prioritisation, help promote government accountability and transparency in decision-making (OECD, n.d.). Public organisations spend money on behalf of New Zealanders, and that creates an obligation to spend it wisely and to account for what it has achieved.

This obligation goes to the heart of public trust; when public organisations can demonstrate that New Zealanders are receiving good value for money from their taxes and rates, it strengthens confidence in public institutions (Office of the Auditor-General, 2026).

The case for rigorous investment appraisal is made more urgent because Aotearoa New Zealand is entering a period of increasingly tight public finances. In the future, fewer workers will be available to support each retired person, while climate change will place increasing strain on existing infrastructure.

In this context, investing wisely is especially important because new infrastructure can lift productivity, creating wealth for the whole country. However, an investment can also act as a drag on growth if the long-term benefits are outweighed by its costs (where it means future generations carry outsized debt and maintenance costs, for example) (Infrastructure Commission, 2026).

Cost benefit analysis is the primary tool available to ensure public investment is the most efficient it can possibly be. It is important because it imposes discipline and consistency on decision-making processes. However, CBA's core strength arguably lies in its capacity to quantify and make transparent any trade-offs in decision-making that may otherwise be resolved by values, ideology, or political expediency.

For any given investment it may not be straightforward to assess who

will experience the benefits and who will face any negative impacts. Many decisions have complex and varied consequences, and some of those are not easy to measure. For example, how should decision-makers balance rebuilding a road to a small rural community that has been washed away with replacing a leaking hospital roof? How does investing in a brand-new bridge that is expected to contribute to improving the nation's productivity measure up against those examples? And how should these decisions be balanced against the need for accessible public housing to support an ageing population?

The problem with making these kinds of decisions without a clear framework is that many of the values that underpin such decisions are inherently subjective. In the case of a decision to invest in a new road, some people may prioritise individual autonomy (such as the freedom car ownership provides), while others may prioritise their perception of the common good (for example, aiming for lower emissions through investment in public transport).

In fact, most people may say they value both individual autonomy and the common good, but they would likely struggle to determine which they value more, or what that preference implies for a choice between, say, a new motorway and a new rail line. CBA attempts to make those calculations as objectively as possible, on behalf of all people paying for the investment, and on behalf of all who will be affected by it.

It is important to note that CBA is not a perfect tool. It can only ever be as good as the information that is fed into it, for example. There are also very real criticisms of its challenges in measuring transformational change, or in fully measuring certain types of cost and benefit that do not lend themselves easily to monetisation (some of these issues are covered in Chapter 3). Finally, it should never be taken as the final arbiter for complex and contested decisions.



However, CBA is widely considered to be the best tool we currently have available to measure investment value and to compare projects against one another. The processes sitting behind it have been refined over a long period to consider as wide a range of costs and benefits as possible and the CBA tools available in Aotearoa New Zealand are considered by academics and practitioners to be of very high quality (Grimes & Wesselbaum, 2025).

Cost benefit analysis has several complementary uses

CBA has the potential to serve several distinct functions in infrastructure decision-making.

The first is to understand whether an investment proposal gives good value for money, or not, compared to the status quo. For example, will a proposed new stadium return more in benefits over its lifetime (financial, social, and cultural) than it costs to build and maintain?

A second and closely related purpose for CBA is to choose between alternative approaches to solve a specific problem, or to make the most of a given opportunity. For example, CBA can help to answer whether a congested corridor is best addressed by a new road, an upgraded bus network, or demand management (such as charging for people to use the road at busy times).

A third use of CBA is to compare candidate projects within an agency's portfolio to determine which of a range of potential investments would deliver the greatest return for that sector. For instance, the results of a CBA can help to prioritise competing health projects against one another where funding is constrained (a Dunedin hospital compared to a Queenstown hospital, for example).

The fourth and perhaps most ambitious use for CBA is its potential to help achieve cross-sector, whole-of-government prioritisation of competing needs for investment. For example, the results of cost benefit analysis

could help to compare investments across entirely different portfolios to ask whether a given sum of money would deliver more value as a hospital, a flood protection scheme, or even a crime reduction programme that aims to reduce pressure on prisons, for example. This could in turn help to inform vote allocations for central government agencies.

Currently, when it comes to decisions about infrastructure investment in this country, CBA appears to be used mainly to assess specific project proposals on their merits. It is used to understand whether a project offers good value for money or to compare different options to solve a specific problem.

While this use of CBA is important and helps ensure money is not wasted, strategic opportunities are regularly missed; it appears to be unusual for agencies to prioritise projects within their own portfolios based on formal cost benefit analysis. While this used to happen routinely in transport decisions, the benefit cost ratio (BCR) has become less determinative even in that sector over the past couple of decades (transport investment is discussed further in Chapter 2).

In addition to investment prioritisation within portfolios, the central government could take the opportunity to undertake more systematic cross-sector prioritisation of capital funded from general taxation. That is, CBA, used appropriately, can help decision-makers to weigh competing options across different sectors when making whole-of-government Budget decisions. This is not a straightforward process – it is not easy to compare the benefits gained by a long-term resilience project to an investment in aged care, for example. However, it is within these more strategic, whole-of-government applications of CBA that the greatest untapped opportunity lies.



CBA sits within a wider framework of expectations about investment management

Aotearoa New Zealand uses the 'Investment Management System' to optimise value from new and existing investments and assets. The system is a mix of policy, process, requirements, and expectations described in various documents (The Audit Office, 2023b).

Most importantly, Cabinet Office circular CO 23(9) sets out the high-level rules that agencies must follow when they make an investment with public funds (Cabinet Office, 2023). Agencies are required to follow Better Business Case (BBC) guidance for all investment proposals, which asks analysts to think about such questions as whether the investment is needed, viable, affordable, and achievable. Cost benefit analysis sits within the BBC requirement to develop an 'economic case' and to answer whether the investment as proposed offers value for money (Treasury, 2026a).

The recommended tool for CBA, provided by Treasury, is an Excel spreadsheet called CBAX, which assists with calculations and includes a database of monetised impact values for a range of social impacts. CBAX (and cost benefit analysis more generally), attempts to allow the comparison of 'apples with apples' for different sizes and styles of investment from the public purse, by providing a common basis to calculate the impacts of different proposals (Treasury, 2025b).

Finally, Treasury's 'Gateway reviews' (2023a) are intended to be a further check and balance within the Investment Management system. The Gateway review is an independent peer-review process that examines investments at key points in their life cycle to assess progress and rate how likely they are to be successfully delivered.

While this report was being drafted the Government announced that the 'assurance function' for infrastructure

investment – the checks and balances that ensure projects are set up for success and deliver value – will move from Treasury to the Infrastructure Commission in November 2026 (Willis & Bishop, 2026). At that point the Infrastructure Commission will become responsible for leading a new framework of checks and balances, for which details are yet to be developed.

In practice, there is significant non-compliance with expectations about the use of CBA

The Better Business Case, cost benefit analysis, and Gateway frameworks in Aotearoa New Zealand align with international best practice for investment decision-making within a coherent and consistent framework (OECD, 2021). However, in practice, investment planning does not always line up with requirements, the use of CBA is patchy, and compliance is low (Treasury, 2025d; Ministry of Business, Innovation and Employment, n.d.).

Some Aotearoa New Zealand agencies have consistently undertaken CBA for many years (the transport sector, for example). But in other agencies the use of CBA is more limited and/or more variable. Responses to written requests for information provided for this report by individual central government agencies about their use of CBA shows that use is far from consistent, even for significant infrastructure investments.

Of six infrastructure-intensive agencies contacted in writing for this report, only two (NZTA and Kāinga Ora) responded that they use full CBA regularly to help with infrastructure investment decisions. The other four (Ministry of Education, HealthNZ, Corrections, and the Ministry of Justice) responded that they either do not use it at all, or use it irregularly.

Local authorities appear to use CBA even less regularly than central government agencies. Those questioned for this report noted that it may be used from time to time for very

large investment projects, but in most cases, it would not be used to choose between investment options or to assess the value of a preferred option.

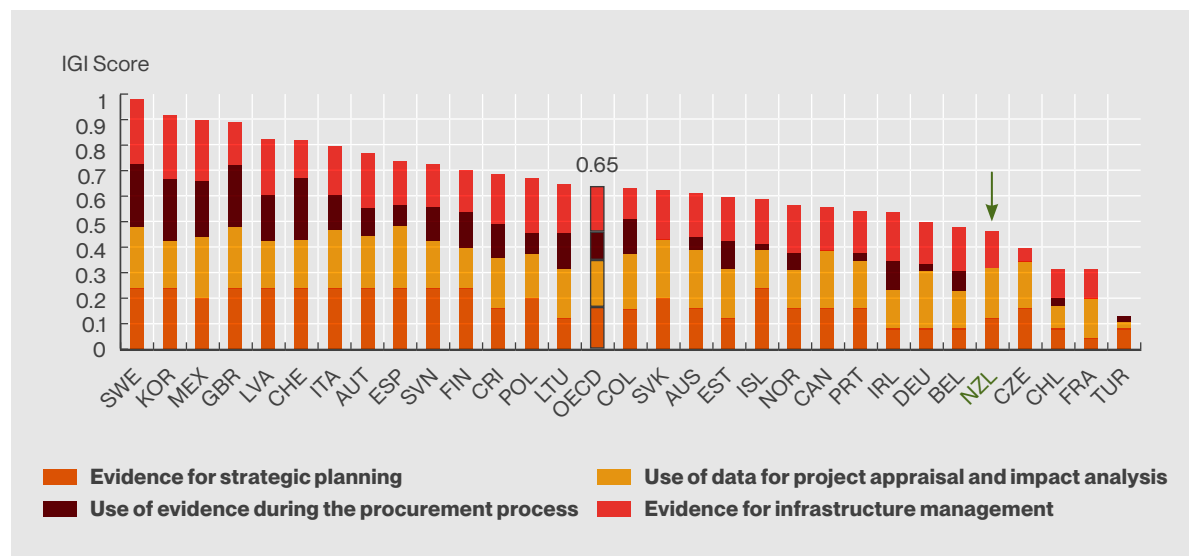
In terms of investment planning more generally at central government level, chief executives of public sector agencies are required to submit yearly attestations setting out their investment planning practices and compliance with Cabinet Office circular CO 23(9). However, the Infrastructure Commission (2026) points to 'widespread non-compliance with core investment management standards'. For example, half of all capital-intensive agencies have self-reported that they do not have robust, comprehensive asset registers in place, and do not have adequate plans for looking after existing infrastructure (Infrastructure Commission, 2026).

Gateway reviews are also not fulfilling their full purpose. The Infrastructure Commission (2026) highlights its

concern that Gateway reviews generally assume that a project will proceed, rather than testing whether it should. This is a significant missed opportunity to provide independent assurance to decision-makers that public money is being spent wisely.

Aotearoa New Zealand's performance against international peers in infrastructure governance shows room for improvement. The 2022 OECD Survey on the Governance of Infrastructure found that the average score across OECD countries for evidence-informed infrastructure decision-making in the transport sector was 0.65 out of a maximum of one. Despite transport being probably the strongest sector in Aotearoa New Zealand for use of CBA, Aotearoa New Zealand ranked 26th out of 30 countries surveyed, with a score of 0.48 (OECD, 2025) (Figure 1).

Figure 1:
Index of evidence-informed infrastructure decision-making in the transport sector, 2022 (OECD, 2025)



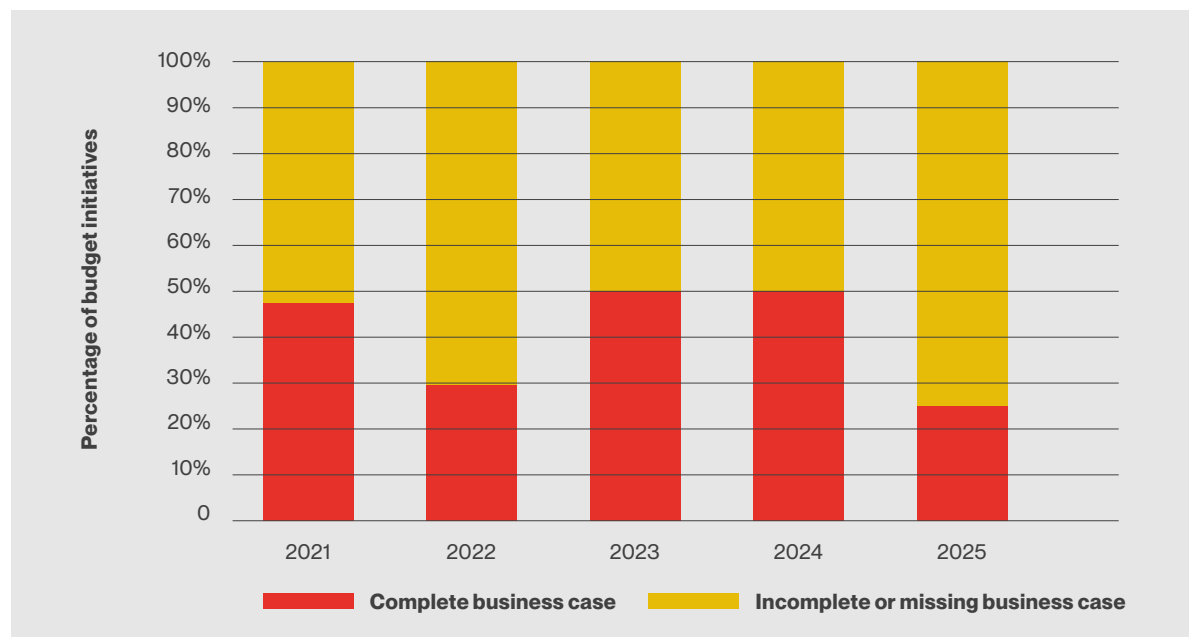
“In the past five Budgets, fewer than a quarter of selected infrastructure initiatives seeking funding included a cost benefit analysis of the preferred option.”

Of most concern in relation to this report, however, it is common practice for decisions to be made at Cabinet to fund infrastructure projects without detailed business cases or cost benefit analysis being available to help inform those decisions (Infrastructure Commission, 2026). This practice is not specific to any particular government but rather appears to be an ongoing issue.

Over the last five Budgets, just half, or fewer, of the infrastructure-related initiatives assessed by the Treasury's Investment Panel had gone through a complete business case process before seeking funding (Figure 2). In addition, fewer than a quarter of the initiatives assessed included a cost benefit analysis of the preferred option (Infrastructure Commission, 2026).

Figure 2:

Compliance with business case requirements among Budget infrastructure project funding bids reviewed by the Treasury's Investment Panel from 2021 to 2025 (Infrastructure Commission, 2026)



In summary, Cabinet's own circular CO 23(9) sets out the requirement for all investment proposals to include a business case, of which a cost benefit analysis would normally be part. Yet neither Cabinet, nor Treasury, appear to be insisting that this rule be upheld. Anecdotally, this has been an issue for at least the past decade, with requirements around cost benefit analysis lessening over time – even while CBA methodology and tools have improved.

Encouragingly, recent government announcements specify that from November 2026, the Infrastructure Commission will be mandated to ensure Ministers receive better information before they make investment decisions. The details for this proposal have yet to be fully developed, and this presents an opportunity to ensure that high-quality CBA might take a more central role in decision-making.



“The National Infrastructure Pipeline includes 44 megaprojects with expected costs of more than \$1 billion, accounting for 52% of the total value of the Pipeline. Decisions on whether to progress projects of this scale will shape our ability to fund other priorities. Yet there is no mandated process to assess whether projects address the right problems, represent the most cost-effective options, or are ready to deliver.”

(The Infrastructure Commission 2026)

Political priorities often displace opportunities to be more strategic

A contributing factor to the lack of CBA in Cabinet infrastructure investment decision-making appears to be that while the Treasury (2026b) ‘encourages’ important public sector decisions to be informed by cost benefit analysis as a standard of good practice, it has not made CBA a strict requirement. Another factor is the tendency of decisions about major projects to be made to match up with shifting priorities, rather than as part of long-term infrastructure planning.

A key tension in Aotearoa New Zealand’s infrastructure investment system lies between strategic policy direction – what the Government wants to achieve – and investment logic, which points toward choosing the highest-value option, expressed by the benefit cost ratio (BCR). This tension can produce inconsistency in prioritisation.

Anecdotally, projects can be shaped by pre-selected solutions rather than open consideration of alternatives, and analysis then undertaken to justify or refine a chosen direction rather than to determine the best option in the first place.

The Audit Office (previously known as the Office of the Auditor-General) has repeatedly highlighted recurring concerns about the quality and completeness of investment decision-making, particularly where projects are delivered ‘at pace’ or under urgency. For example, the Audit Office’s 2023 examination of the \$12 billion Aotearoa New Zealand Upgrade Programme and the \$3 billion Shovel-Ready Programme found that standard planning processes were compressed, decision records were incomplete, and there was insufficient transparency about how and why significant decisions were made (The Audit Office, 2023). In the Audit Office’s assessment, Ministers did not have enough information to be sure that decisions supported value for money.



More recently, the Fast-track Approvals Act, introduced to Parliament under urgency in March 2024, attracted public scrutiny amid concerns that decisions may proceed without adequate information to justify their value for money (Clark, 2025; Environmental Defence Society, 2025; Parliamentary Commissioner for the Environment, 2024a).

There are of course often good reasons from a government's perspective why a project may need to be moved forward quickly – whether economic or political. This is not to criticise specific decisions, but more to note that within the current system and culture, political priorities have the potential to limit evidence and process.

More broadly, using CBA to fit a pre-determined solution, rather than using it to vet a full range of solutions, distorts investment priorities and produces persistent, unproductive debates – such as the framing of roads versus public transport as competing alternatives – when coordinated investment across modes would often deliver greater system efficiency and resilience.

One of the major advantages of applying CBA more consistently would be to support a more objective approach to investment decisions.

Meanwhile, budgets are not aligned to needs

Funding decisions in Aotearoa New Zealand are shaped by a broader fiscal and political allocation system that operates largely independently of cost benefit frameworks.

In practice, there is a significant mismatch between needs highlighted by agencies and the funding available to pay for these. As the Infrastructure Commission (2026) points out, over two-thirds of the total value of projects in the Pipeline – \$193 billion out of \$275 billion – do not yet have full funding commitments. Maintenance and renewal programmes remain under-represented within the pipeline.

Partly as a result of this mismatch, the Infrastructure Commission (2024) has noted an increasing amount of

infrastructure funding being made outside of the normal budgeting process. In the 2022/23 Budget year, for example, standalone investments easily eclipsed the funding that was allocated through the regular budget process (Infrastructure Commission, 2024).

This creates a rather ad hoc system. Some projects come through Cabinet directives; others bubble up through the Budget process via agency priorities. Reprioritisation of funding is common: incoming governments regularly cancel projects budgeted by their predecessors, redirect savings from one agency to another, or reallocate capital between programmes.

A missing feedback loop: Post-implementation evaluation

A further and related weakness in the way Aotearoa New Zealand makes investment decisions for infrastructure is the country's extremely limited use of post-implementation evaluation after a new infrastructure asset has been built. Where evaluation does take place, the system focuses more on whether projects are delivered – on time, on cost, to specification – than on whether they achieved their intended outcomes or whether the assumptions embedded in original CBAs proved accurate.

The New Zealand Infrastructure Commission (2026) has noted that completed projects should be systematically assessed to improve future planning and identify system-wide issues, and that this requires business cases to be made available alongside data on project costs, completion dates, and benefits realisation. Without this feedback, it becomes difficult to improve the quality of future analyses or to hold agencies accountable for investment performance. The result is a system with a limited capacity to learn over time.



This gap is not for want of obligation. The Public Finance Act requires agencies to assess whether investments have delivered their intended benefits, and Treasury's Quarterly Investment Reporting (QIR) system tracks investments through their lifecycle, providing the Minister of Finance and Cabinet with visibility of the investment pipeline (Treasury, 2026a). According to Treasury (2026a) guidance, projects should be tracked post-delivery on an annual basis for up to 12 quarters, with agencies asked to provide a qualitative assessment of financial and non-financial benefits relative to original business cases.

In practice, however, this oversight has so far been primarily focused on whether agencies are using allocated funds to do what they said they would do – ensuring projects are to scope, on time, and on budget – rather than on whether they are achieving the outcomes they set out to achieve.

There are understandable reasons why post-evaluation is under-done. Large infrastructure projects are genuinely difficult to evaluate: causal attribution is complex, timeframes are long, and baseline data is often not collected with evaluation in mind. Politicians also face weak incentives to push agencies hard on this front, since media coverage tends to focus on negative findings rather than on the governance discipline that good evaluation represents.

While these pressures must be acknowledged, the case for post-implementation evaluation is not primarily about assessing projects that are already built and cannot easily be changed. It is about improving the planning of future projects. Ex-post analysis of contract performance can identify where cost estimates, demand forecasts, and benefit assumptions have proved inaccurate and future analyses can be improved in response (OECD, 2025). Understanding the extent to which a completed intervention has delivered on expected benefits can improve the accuracy of future CBAs by identifying assumptions that have turned out to be wrong or overinflated (Durrant, 2020).

The lack of post-implementation review is not limited to Aotearoa New Zealand. Across OECD countries more broadly, just over half use ex-post analysis of previous transport master plans to inform current plans, and the same number conduct systematic ex-post analyses of contract performance (OECD, 2025).

The Audit Office provides a useful post-investment check

One important check and balance in the public investment system is the concept of value for money, which underpins public investment decision making and is overseen by the Auditor-General.

As articulated by the Audit Office (2026), value for money extends beyond narrow economic efficiency: it encompasses whether resources are used in the best possible way, whether investments achieve their intended outcomes, and whether they contribute to wider notions of public value. The Auditor-General may also examine whether spending promotes equity, considers environmental impacts, and meets ethical standards.

The Audit Office periodically reviews agencies and programmes to ensure they are following best practice in investment decision-making. For example, the office recently reviewed the Provincial Growth Fund and Shovel-Ready Programme, and is currently examining how Auckland Council is delivering value for money in its flood resilience investments. This work is extremely valuable, but it is necessarily selective. The Audit Office does not have the resources to conduct the kind of regular, systematic portfolio audits that would ensure consistent achievement of value for money in infrastructure investment decisions.



The Infrastructure Commission's IPP process provides increasing structure and certainty, but is not compulsory

Another check and balance is the Infrastructure Priorities Programme (IPP), recently established by the Infrastructure Commission to provide independent assessment of infrastructure proposals from central government as well as local authorities. It is an independent and standardised process to identify proposals and projects that will meet Aotearoa New Zealand's strategic objectives, be deliverable, and represent good value for money (Infrastructure Commission, 2026a).

The programme assesses whether costs and benefits – whether social, environmental, or economic – have been adequately considered in project proposals and identifies gaps where they have not. As such, the IPP represents an important and encouraging step toward establishing a coherent and prioritised infrastructure pipeline that takes into account cost benefit frameworks. Where agencies and local authorities choose to submit project proposals for evaluation, the Commission will assess and publish information on value, strategic alignment, and deliverability.

A particular strength of the programme has been broad participation from local government, including smaller councils that would not otherwise have access to independent feedback. Participation from central government agencies, however, remains uneven. Participation is not compulsory and is therefore selective.

Recent government announcements mentioned above indicate a desire to simplify and combine the assurance function provided by both the IPP and Treasury's Gateway reviews. It is not yet clear the extent to which this process will be compulsory for all projects, and whether CBA will form a required part.

Use of CBA by local authorities is limited

At the local government level, while many councils use the Treasury's Better Business Case model, in-depth cost benefit analysis does not appear to be regularly used in relation to infrastructure investment decision-making. One exception is around transport investment decisions, because CBA is required for projects funded through NZTA. There have however been notable exceptions for some large projects (the Moa Point Sludge Minimisation Plant, for example (Wellington City Council, 2022).

This approach is not entirely unreasonable: local councils juggle fewer projects than central government and prioritisation is often driven by urgency – failing water systems, for example – or by long-term planning processes required under statute, rather than by formal cost benefit analysis. Wellington's Financial and Infrastructure Strategy, prepared as part of its Long Term Plan 2024–34, is one example of this approach (Wellington City Council, 2024).

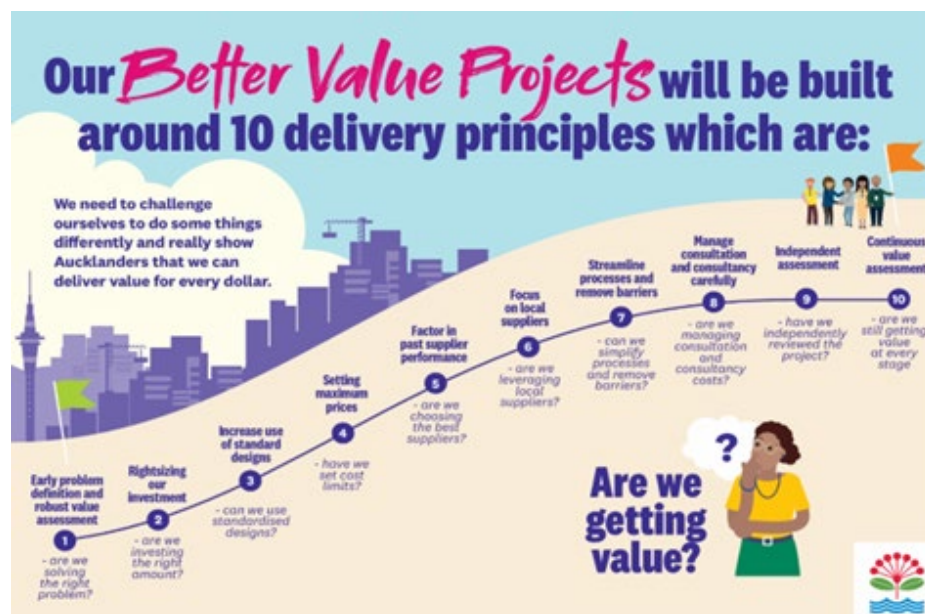
A challenge for councils is also often lack of analytical capability, alongside a lack of awareness of the value of the process. Smaller councils do not have economists on staff, and projects are often run by subject matter expert consultants or part-time managers. Some elected councillors may also not have the technical background to engage with complex economic analysis or may prefer simpler narratives for their constituents, leading to a lack of demand for CBA from decision-makers.

However, the lack of focus on cost benefit analysis at local authority level, even for larger infrastructure investment projects, points to a potential missed opportunity for local authorities. Even projects with a seemingly clear 'solution' (a new library, for example, or an upgraded sewerage system) can include a range of different options for how that solution might be executed. Each of these will offer different benefit cost ratios and different outcomes in terms of value for money.

In Auckland, the mayor recently called for more focus on achieving value for money in project investments after \$263,000 was spent on four flights of steps at Milford Beach (Orsman, 2024). Following on from this, the council recently launched the Better Value Project initiative (Auckland Council, 2025). This is a project to mainstream

good project delivery and value for money across the wider council. The first of 10 'delivery principles' asks council departments to define problems and undertake a robust value assessment to ensure identified solutions are 'solving the right problem'.

Figure 3:
Better Value Projects poster (Auckland Council, 2025)



Conclusion

In conclusion, cost benefit analysis – supported by Treasury's CBAX tool and the Better Business Case framework – offers a rigorous, transparent, and comparable basis for public investment decisions. Yet, in practice, CBA is applied unevenly across agencies, is frequently absent from Cabinet-level decisions, and is rarely used for strategic, cross-sector prioritisation.

The chapters that follow explain how CBA works in Aotearoa New Zealand and examine whether the areas of greatest potential lie in the country's approach to CBA. This includes the quality of data and methods underpinning analysis, the treatment of non-monetised costs and benefits, the role of post-implementation evaluation, and the case for stronger independent investment assurance.



CHAPTER 2

TRANSPORT INVESTMENT AND THE GROWING ROLE OF GOVERNMENT PRIORITIES





The transport sector provides one of the clearest illustrations of how cost benefit analysis can be embedded within Aotearoa New Zealand's infrastructure decision-making system, with well-developed tools and rigorous methodologies, used consistently, which consider a wide range of costs and benefits. However, the role of CBA has evolved for transport-decision making over the past couple of decades, in favour of putting greater emphasis on successive governments' strategic priorities.

Economic efficiency used to be the primary criterion for decision-making

In the late 1990s and early 2000s, Aotearoa New Zealand's land transport funding system was structured around a relatively strict application of economic efficiency principles. Transfund Aotearoa New Zealand acted as the central funding allocation body, while Transit Aotearoa New Zealand and local road-controlling authorities were responsible for delivery (Pickford, 2013). Projects were assessed primarily on their benefit cost ratios (BCRs), ranked in descending order, and funded from highest to lowest until the available budget was exhausted.

In practice, a cutoff BCR of approximately four was required for projects to be accepted, meaning only those investments generating at least four dollars of benefit for every dollar spent would generally proceed. Economic efficiency was the dominant criterion and, while this system was not without limitations, it provided a rigorous, consistent, and relatively transparent basis for allocating public money (Pickford, 2013).

The Government Policy Statement has now become an equal consideration

This began to change following amendments to the Land Transport Management Act in 2008, which merged transport funding and delivery functions into a single agency – NZ Transport Agency Waka Kotahi (NZTA). NZTA was set up as a Crown entity, with its Chief Executive reporting to a Board, appointed by the Minister of Transport. The Board makes independent decisions on how to use the National Land Transport Fund. The fund is hypothecated, and must be spent on transport.

Critically, the 2008 reforms introduced a requirement that the NZTA must give effect to the Government Policy Statement on Land Transport (GPS) when developing the National Land





Transport Programme. The GPS is issued approximately every three years and sets national investment priorities reflecting the objectives of the government of the day (Infrastructure Commission, 2026).

In place of the earlier BCR-driven system, NZTA (2024) now uses an Investment Prioritisation Method (IPM) that combines three dimensions:

1. GPS alignment (how well a proposed activity aligns with the GPS strategic priorities).
2. Scheduling (whether the project should proceed in the current period).
3. Efficiency (primarily measured through cost benefit analysis) (NZTA, 2025).

Each of the three dimensions receives a rating, and these are combined into an overall investment profile. Under this approach, a project with a low BCR can still be prioritised if it scores highly on 'GPS alignment' or 'scheduling' – a departure from the earlier system in which a minimum BCR performance was a condition for funding approval.

As Pickford (2013) found, following the introduction of the revised assessment criteria, the proportion of funding allocated to lower BCR projects increased and the average BCR of funded projects fell significantly – from above four in the mid-2000s to closer to two in the period following implementation.

The risk of double counting

One consequence of this shift is that some benefits may be reflected in more than one part of the assessment process. On one hand, NZTA's (2023) Land Transport Benefits Framework includes 12 clusters of benefits that are provided with standard monetary values. These are considered as part of the CBA process and they include a fairly comprehensive range of benefits.

Meanwhile, the GPS currently has four strategic priorities – economic growth and productivity, maintenance and resilience, safety, and value for money.

All of these priorities overlap in some way with benefits that are expected to be captured in the CBA. By requiring projects to also be separately scored against these same priorities for GPS alignment purposes, the current system may create situations where similar considerations are reflected in both the economic and strategic assessments. This could in theory allow a project with a low BCR to go ahead because economic growth or value for money has been counted twice in the analysis, for example.

The changing focus has fiscal consequences

The fiscal implications of the move towards a broader set of decision criteria in transport investment could be significant. Historically, transport users funded almost all central government transport spending through fuel taxes and road user charges paid into the National Land Transport Fund (NLTF). Since the late 2010s, spending on roads and rail has far exceeded user revenues, requiring large top-ups from general taxation. In the 2024–27 period alone, Crown grants and loans totalled \$12.8 billion – nearly 40% of \$32.9 billion in planned expenditure on transport (Infrastructure Commission, 2026).

Transport investment is clearly essential to the productive future of the country. In a context of tightening fiscal constraints, however, the argument could be made that supplementary transport funding allocated from general taxation (as opposed to dedicated transport funding collected via the NLTF) should be weighed carefully alongside other government spending priorities. CBA could be a useful tool for doing this.



CHAPTER 3

HOW CBA WORKS, IN THEORY AND PRACTICE





The recommended tool for carrying out cost benefit analysis in this country is an Excel spreadsheet called CBAX, which helps analysts to carry out cost benefit analysis in-house. CBAX was introduced in 2015 to standardise and strengthen the role of cost benefit analysis in public sector decision-making (Treasury, 2025b).

CBAX improved upon traditional CBA methodology

One important improvement offered by CBAX was that traditional tools to appraise and prioritise investment often did not adequately consider a range of impacts that were difficult to monetise. CBAX, by contrast, helps agencies to take a long-term and broad view of societal impacts, costs, and benefits by including a database of publicly available figures that organisations can use to value impacts specifically in the New Zealand context.

The Treasury has recently settled on a more appropriate discount rate for infrastructure

The discount rate is one of the most important assumptions in any CBA. It determines how much weight is given to costs and benefits that occur in the future, relative to those that occur today. A discount rate reflects the idea that money available today is worth more than the same amount in the future – because today's money could otherwise be invested elsewhere to earn returns. A higher discount rate shrinks the present value of future benefits, making long-term investments look less attractive, while a lower rate gives greater weight to future generations (Creedy & Passi, 2017).

Infrastructure is a specific type of investment (compared to investment in social programmes, for example). It tends to involve large upfront costs, with maintenance costs spread out over a long period of time. The benefits from infrastructure may well be smaller on an annual basis than for other investments, but they last for a much longer period of time.

The selection of discount rate is therefore particularly crucial for valuing investment in infrastructure. Until 2024, Aotearoa New Zealand Treasury applied a single default real discount rate of 5% per annum to most public sector proposals, with 6% used in some sectors (Grimes, 2024).





Use of a 5% discount rate when evaluating a public sector project means that \$100 of benefit that is expected to occur in a century's time is treated as being worth less than \$1 in current values (Grimes, 2024). The logic runs in reverse from compound interest: If \$1 was invested at 5% today, in 100 years it would be worth more than \$100. In other words, using a 5% discount rate, a benefit of \$100 that the country does not see until a century from now is treated as effectively worthless.

This approach had long been criticised as poorly suited to investments (such as infrastructure), for which the benefits are long-lived, intergenerational, or environmental in character. The default discount rate of 5% was at the high end of the international spectrum, and, unlike many countries, Aotearoa New Zealand did not have a separate lower discount rate for long-term investments (Ministry of Business, Innovation & Employment, n.d.).

In 2024, the Treasury (2025c) made a substantial change: the discount rate for non-commercial proposals was reduced to 2% per annum, while the rate for commercial proposals is now 8%. The reduction in the discount rate for non-commercial proposals from 5% to 2% has important implications for proposals that enhance long-term social and environmental outcomes and for other proposals with long-lived payoffs.

Another change to the discount rate is that it now declines over time: the Treasury (2025b) has set the rate at 2% for payoffs in years 1–30, reducing to 1.5% for each additional year up to year 100, and 1% for each additional year after that.

This change is generally seen as an improvement for several reasons. First, it more accurately reflects how society values long-term outcomes, giving greater weight to benefits that accrue to future generations rather than treating them as nearly worthless. Proposals with long-term social or environmental benefits will look more valuable than they did previously (Motu, 2025; Parliamentary Commissioner for the Environment, 2024b).

Second, by separating commercial from non-commercial discount rates, the framework now distinguishes between investments where market returns are the appropriate benchmark and those, such as flood protection, mental health services, or ecological restoration, where they are not.

The reform also brings Aotearoa New Zealand into closer alignment with international practice: comparable jurisdictions such as the UK use a default rate of 3.5%, with lower rates for health and long-term environmental investments (Grimes, 2024).



Technical Explainer:

BEST PRACTICE STEPS IN A COST BENEFIT ANALYSIS

First, define the problem or opportunity and options to address it.

CBA is straightforward in theory. The idea is to work out the costs of a planned investment and determine if the benefits outweigh the costs, or not. Best practice for infrastructure investment should begin by defining the problem or opportunity that the project is attempting to address (Treasury, 2025b). For example, is the primary purpose of a proposed road to reduce congestion, improve safety, or accommodate growth?

Each purpose may generate several different options, some of which may be non-build solutions. For example, in the case of a congested or unsafe road, solutions might include improving public transport options, introducing time-of-use charging, staggering school start times, or changing the style or location of intersections (Anciaes et al., 2025). Jumping to a solution before identifying the purpose of an intervention can result in wasted money and missed opportunities.

Identify which groups of people gain or lose

The second step is to identify who gains and who loses from each option. This is important, because the relative impact of an investment may differ according to who is most affected by it.

For example, a new health centre in a poorer rural area may cost more to build and to operate and may benefit fewer people than a similar facility in a wealthier city. The rural option may well produce a lower BCR than the city facility as a result. However, the case for making the investment in a poorer area may still be more compelling because of who benefits.

Identify, quantify, and monetise costs and benefits, discounted to a present value

The third and fourth steps in a cost benefit analysis are to identify and, where possible, quantify and monetise benefits and costs over time (Treasury, 2025a).

The CBAX gives dollar values for potential impacts of projects adjusted to 2026 costs, such as:

- the cost to the health system from a fatal crash (\$19,000 per incident)
- the physical health gain from walking (\$13 per pedestrian km)

- the decrease in property value per additional decibel of noise caused by an intervention: per resident (\$3,449 per year) and per property (\$9,658 per year)
- the cost to the general population of a very mouldy house (\$4,929 per year) or a very cold house (\$7,981 per year).

CBAX ensures everyone uses the same calculations for important but contested calculations such as environmental impacts – for example by providing figures that estimate the future costs of emissions reduction required for the country to reach its domestic emissions targets (also known as the ‘shadow price’ of carbon).

To reflect the uncertainty around future carbon abatement costs, each year CBAX provides updated ‘low’, ‘central’, and ‘high’ price paths, as knowledge improves (Treasury, 2025b). While these ‘shadow prices’ (and all the values in the CBAX for that matter) may or may not prove to be accurate, they are important because they represent the best possible calculation at this moment in time and all analyses use the same values. Transparency also means calculations can be contested.

The fifth step in the CBA process is to ‘discount’ or convert monetised benefits and costs into ‘today’s dollars’. (see page 27 for more on discounting)

Calculate the benefit cost ratio

The monetised costs and benefits of the proposed intervention are then compared to one another and commonly expressed as a benefit cost ratio (BCR). The BCR is a number (or a range) that expresses the total benefits of the analysis, divided by the total costs.

For example, a project that will cost \$1 million but is expected to produce between \$1.5 and \$2 million in social benefits would have a BCR of 1.5–2 (in other words, for every dollar invested, the return would be expected to be between \$1.50 and \$2.00).

Once a BCR has been calculated for each option on the short list, project options can be ranked and compared. It is worth noting though, that while a BCR is an important part of a cost benefit analysis, it is still just one component. The BCR focuses solely on monetised benefits and costs and is an indicator of economic efficiency. It should, however, be read by the decision-maker alongside any other costs and benefits that could not be monetised.



To what extent are CBAs actually accurate?

A critique of CBA as an assessment tool is that the figures that come out at the end are obviously only as good as the data that goes into them and often that data might be lacking or simply wrong. It is a common criticism of CBA that costs can be systematically undervalued and benefits overinflated, leading to misleading conclusions about the value of investments.

The international evidence on cost estimation certainly points to this as a concern. Research by Flyvbjerg and Gardner (2023), drawing on large datasets of completed infrastructure projects across multiple countries, has shown that cost overruns of 50–100% in real terms are common for major infrastructure projects compared to initial cost projections, and overruns above 100% are not uncommon.

Flyvbjerg and Bester (2021) identify two primary drivers for these cost overruns: optimism bias, which reflects a tendency to overestimate benefits and underestimate costs during project development; and strategic misrepresentation, whereby costs are deliberately understated to secure approval, with the expectation that budgets can be renegotiated once a project is under way. Another major reason for cost overruns in this country is the slow speed at which projects often progress – meaning that inflation pushes up prices significantly by the time they begin.

As is the case internationally, CBAs in this country regularly include cost figures that are underestimated – sometimes significantly so. Real-life examples in this country include Te Kaha Stadium in Christchurch, which increased by \$150 million during construction, and Forsyth Barr Stadium in Dunedin, which went over budget by \$36 million (1News, 2023).

If costs are understated and benefits are overstated, the BCR presented to decision-makers will be more favourable than the project's actual expected performance.

Flyvbjerg and Gardner (2023) list several ways to help reduce cost overruns, including:

- thinking slow and acting fast: this means investing more time upfront to create a detailed, tested plan, and then compressing delivery time as much as possible
- 'building with Lego': getting one part right and then replicating learnings at speed
- making more accurate time and cost predictions: by treating the project as one of a class of similar projects (buildings of bridges, for example), rather than seeing the project as unique. Cost estimates based on data from other similar projects are far more accurate, but are rarely used as a predictor.

Policy recommendations to deal with the challenges posed by cost overruns and potentially inaccurate data are covered in Chapter 5.

Sensitivity analysis improves analysis by testing a range of assumptions

Another practical technique to improve the accuracy of the assumptions forming an analysis is sensitivity analysis. This technique involves deliberately varying the key assumptions underpinning a CBA – such as the projected number of beneficiaries, the value assigned to a particular impact, or the discount rate – and observing how the results change in response (University of Queensland, 2022). This tests how sensitive the conclusions of a CBA are to changes in its most important inputs.

This matters because every CBA rests on a series of judgements and estimates, some of which are more robust than others. Where conclusions swing significantly depending on whether a key assumption proves correct, that is important information for anyone making a high-stakes investment decision (Ministry of Business, Innovation and Employment, n.d.).



Currently, Treasury (2025a) requires analysts to undertake a sensitivity analysis using two different discount rates (2% and 8%) but is not prescriptive about wide-ranging sensitivity analysis being undertaken as a matter of course. Anecdotally, sensitivity analysis is not undertaken as much as it could be, with decision-makers and the public often preferring a benefit cost ratio to be presented as a simple single number, rather than a more nuanced range which considers uncertainties in the future.

Can CBA measure transformative change?

While CBA is a powerful tool, it carries inherent limitations. These include the criticisms that the process struggles to measure transformative change and undervalues some benefits by monetising things that philosophically should not be monetised or cannot easily be compared.

Some critics argue that CBA is unable to properly quantify or monetise the impacts of transformative or long-horizon change. For example, the benefits of investing in emerging clean technologies and fully electrifying buildings and transport may fundamentally transform how society operates over time and thus the benefits may be difficult to quantify or even to fully identify. While a CBA may include non-monetised and qualitative information, this information may not be regarded by decision-makers as being on an equal footing to 'hard' monetary data (Ministry of Business, Innovation and Employment, 2023).

Modern CBA methodologies make significantly more effort to measure transformative changes than traditional approaches did. For example, NZTA's (2026c) CBA model includes a consideration of wider economic benefits (known as WEBs), which include:

- **agglomeration**, where businesses and workers 'cluster' for some activities that are more efficient when concentrated (such as when people move to a suburb that has a new train station, for example)

- **changes in labour supply**, where a reduction in commuting costs removes a barrier for new workers entering the workforce.

As an example of an attempt to measure transformative change, the business case for the new Auckland City Rail Link estimated that, in monetary terms, the City Rail Link would deliver undiscounted benefits of about \$13.2 billion over 40 years (Audit Office, 2022). A few of these benefits (discounted) included:

- \$1.3 billion of travel time savings for public transport users (both existing and new)
- \$866 million of wider economic benefits – in particular, improved economic productivity from increased density of employment and improved accessibility (agglomeration)
- \$125 million of health benefits for new public transport users from walking to and from the train stations.

As the Ministry of Business, Innovation and Employment (n.d.) points out, though, while techniques are available to make CBA more suited to transformative change, these techniques tend not to be used much in practice, and some question the extent to which they overcome CBA's limitations in the context of transformative change.

Overall, CBA is likely inadequate to completely accurately calculate the impacts where the economy is expected to change dramatically. This is not surprising; predicting the outcome of fundamental changes to society is never going to be straightforward. This does not mean the attempt should not be made, however.

Suggestions to improve analysis in this regard includes broadening the toolkit to explore newer/under-utilised tools, weighting more heavily those tools that are most suited to transformative change, and improving analytical capability within agencies (Ministry of Business, Innovation and Employment, n.d.).



Should one really monetise things like fresh air?

A second criticism of CBA is that many important impacts from interventions are difficult to measure, or do not naturally lend themselves to being assigned a dollar value. Some scholars argue that clean air, biodiversity, mental health, and cultural identity are qualitatively different kinds of goods, and that giving them a dollar value assumes they can be traded off against each other in a common unit, an assumption that distorts or misrepresents their true importance. While they are given a monetary value for the purposes of the CBA, in fact they have no market price (Aldred, 2002).

In fact, critics argue, some things are not just 'more or less valuable' – they are valuable in different ways. This phenomenon is sometimes described as 'incommensurability': the idea that many important goods cannot be meaningfully compared using a single metric (Allan et al., 2013). The argument is that cost benefit analysis, which attempts to do this, may produce decisions that appear rational but actually undervalue what matters most – particularly non-market and intangible goods.

While this intuitively feels like a very valid argument, the alternative to comparing 'non comparable' impacts is arguably worse. If we accept that some things cannot, or should not be monetised, they cannot be part of a benefit cost ratio. While philosophically it is appealing not to reduce important social, environmental, and cultural impacts to dollar figures, not doing so has also left them uncounted and undervalued in the past.

Because monetising all impacts of an intervention will often not be possible, or desirable, however, the Treasury (2025b) recommends following an 'IQM' approach (Identify, Quantify, Monetise). The analyst should quantify and/or monetise all costs and benefits where possible, and then list those that cannot be easily quantified, so they can still be taken into consideration.

For example, if a decision-maker were considering daylighting (re-establishing) a centre-city stream that had previously travelled in pipes underground, the analysis might:

- **identify** that there would be valuable benefits for eels and other wildlife in bringing pipes above ground
- **quantify** the number of people who are expected to enjoy walking alongside the stream each day
- **monetise** the 3–5 most important impacts where these can be calculated; for example, the cost savings resulting from averting regular flooding in nearby homes or increased land value for houses nearby.



Technical Explainer:

METHODOLOGIES FOR VALUING 'NON-MARKET GOODS'

In a cost benefit analysis, there are two broad types of benefits. The first type – market benefits – has values that can be directly derived from real-world goods and services. For example, vehicle operating costs and benefits include changes in the costs of fuel, tyres, repairs, and depreciation, all of which have market values. Therefore, vehicle operating costs and benefits have a market value (NZTA, 2025).

Non-market benefits on the other hand are not based on traded goods and services, and therefore they do not have an easily calculated or 'observable' monetary value. Examples include recreation, and peace and quiet. These are clearly important to most people, but it is difficult to put a figure on what they are 'worth'.

A valuation for this type of good must be established through research, typically via surveys or indirect valuation methodologies (NZTA, 2025). CBAX includes values for some of these non-market benefits that have been previously calculated (the value of living in a mould-free home, for example). However, often the value of a non-market cost or benefit will be heavily dependent on circumstance and may need to be calculated afresh for each project.

Revealed Preference Methods (RPMs) are a series of closely linked methodologies that estimate the value of non-market goods by analysing behaviour in markets where these goods are implicitly traded. RPMs include (Treasury, 2015):

- **hedonic analysis:** This relies upon observed behaviours to infer value. For instance, the importance people place on living close to green spaces can be approximated by measuring house prices in relation to their distance from a park

- **mitigation expenditures:** These look at what a person might be willing to spend to avoid a negative impact. For example, a person might be willing to spend a certain amount to install double-glazed windows to reduce street noise
- **replacement costs:** If an asset is to be destroyed in a development, the existing value of the asset is calculated, as is the cost to replace the asset
- **travel cost analysis:** This estimates the recreational or amenity value of sites such as a park or a lake by calculating what a person would be prepared to pay to visit that place (or a similar place) in terms of time and travel costs. For instance, where the journey to the Waitakere ranges from central Auckland costs an average of \$25 in fuel on a return journey, that amount can be used as a proxy for the monetised benefit of the asset per visitor (Bockstael & McConnell, 2007).

'Stated preference' methods are more direct than revealed preference methods in that people are asked directly via a survey for their 'willingness to pay' for (or 'willingness to accept') a hypothetical change in the provision of a specified good (Mitchell & Carson, 1989). Alternatively, a person might be asked to choose between two options in a survey.

Stated preference methods can be used where there are no 'related markets' (such as house prices) to help with valuation. For example, people might be asked about their willingness to pay to preserve an endangered species or to prevent environmental degradation of a site of natural beauty.



Hilary Konigkramer

Technical Principal -
Social Outcomes



Insight from WSP

NOT EVERYTHING THAT COUNTS CAN BE COUNTED

Social wellbeing and the social impacts of infrastructure projects are getting more attention than ever before. And for a good reason. Beyond budgets and balance sheets, these projects shape how communities live, move, and connect.

We sat down with WSP's Social Impact Specialist Hilary Konigkramer to talk about why social wellbeing has so often been overlooked – and why that's finally starting to change.

When people hear 'social wellbeing' in the context of infrastructure, it can sound a bit abstract. What does it actually mean?

Hilary: Social wellbeing is really about how projects affect people's day-to-day lives. Most infrastructure projects have strong social drivers, meaning that they are built to improve the quality of life for communities – whether that's improved connectivity, safer travel, improved access to services, or stronger local economies.

But those benefits don't always show up clearly in traditional project assessments. Social wellbeing asks us to look beyond the numbers and think about how a project affects the ability of people and communities to live well, during construction, once it's operating, and into the future.

Why have those social impacts been under-recognised for so long?

Hilary: A lot comes down to how decisions have traditionally been made. Cost benefit analysis is very good at measuring economic impacts – things you can easily quantify and put a dollar value on.

Social impacts are harder to count. How, for example, do you put a number on community cohesion, a sense of safety, or the disruption people feel when their environment changes? Because they're harder to measure, social impacts have often been treated as secondary, or assumed, rather than properly assessed.

What's interesting about the shift happening now?

Hilary: There's a growing recognition that social outcomes matter, especially on larger or more complex projects. We're seeing more interest in social impact assessments, and more understanding that they add real value when they're done early. Instead of social aspects being considered rather superficially, there is an improved appreciation that a more comprehensive assessment can help shape decisions, highlight risks, and identify opportunities to improve outcomes for communities.



What value do social impact assessments add to traditional analysis and assessment approaches?

Hilary: Traditional assessments tend to focus on those impacts that are easy to measure, often excluding those hard to measure benefits like community wellbeing, social equity, or improved quality of life.

Social impact assessment starts with understanding the existing social environment – who lives in an area, how they use it, and what matters to them. That means using data, like census information, but also listening directly to people through engagement, interviews, and surveys.

From there, you can assess how a project might affect things like accessibility, connectivity, amenity, community character, and potential impacts on vulnerable groups. This provides decision-makers with an evidence-based assessment of the anticipated social outcomes of a project, rather than just assumptions.

How do you make sure decision-makers take this qualitative information more seriously?

Hilary: Not everything that counts can be counted – but that doesn't mean it shouldn't be considered. The key is to present social impacts alongside economic and technical information, so

decision-makers have all the relevant information they need to make an informed decision.

Relevant social criteria need to be included into early stage multi-criteria analysis for projects and clear visual summaries can help show where social risks or benefits sit. If a better understanding of the social impacts is needed, social impact assessment should be undertaken. When decision-makers can see the full picture, they're better equipped to make balanced choices.

Why does all this matter for project success?

Hilary: Infrastructure projects don't exist in isolation – they happen in communities. When social impacts aren't well understood, projects can run into opposition, delays, and extra costs later on.

Engaging early and taking social wellbeing seriously helps build trust, improves design, and brings communities along on the journey. In the long run, projects that deliver strong social outcomes are more resilient, more widely supported, and, ultimately, more successful.



Nathan Capper

Kaitohutohu Māori
- Tumuaiki (Principal
Consultant – Māori)



Insight from WSP

RETHINKING COST BENEFIT THROUGH A TE AO MĀORI LENS

Infrastructure investment is often judged too narrowly – what will it cost, what will be returned, and how quickly will those returns be realised? This way of thinking has shaped decades of decision-making but struggles to account for what really matters over time – things like the health of our environment, the resilience of our communities, and the legacy we leave to those who come after us.

A te ao Māori approach asks us to slow down and lift our gaze. It's grounded in an intergenerational worldview, where decisions are made with an awareness of whakapapa – the unbroken human connection between past, present, and future. From this perspective, infrastructure isn't just a physical asset or a line on a balance sheet. It's part of a living system that sustains people, whenua, and wai long after the current generation has moved on.

Encouragingly, we're beginning to see planning frameworks in Aotearoa move closer to this way of thinking. The shift toward 30-year spatial planning horizons is a meaningful step in the right direction. While 30 years is still relatively short when viewed through a Māori lens, it represents a move toward more strategic, place-based decision-making. It lets us think more carefully about how regions grow, how pressures accumulate over time, and

how today's choices shape tomorrow's options.

In Māori contexts, planning horizons are often much longer. It's not unusual to think in terms of 50 or 100 years, and, in some cases, even further. One organisation, for example, worked with WSP to explore what a 200-year strategy might look like. That wasn't about predicting the future in detail, but setting a direction of travel – because, when you plan over centuries rather than decades, it becomes much easier to distinguish between what is truly important and what is merely urgent.

This kind of long-term thinking is shaped by many te ao Māori principles. Kaitiakitanga places responsibility for the care of the environment at the centre of decision-making, recognising that environmental health underpins all other forms of wellbeing. Ukaipōtanga emphasises connection to place, ensuring infrastructure strengthens communities' relationship with their whenua rather than eroding it. Whakatipuranga keeps future generations firmly in view, asking decision-makers to consider cumulative benefit, not just immediate gain.

Other principles also play a critical role. Wairuatanga acknowledges the deeper relationships between people, place, and purpose. Mātauranga values Indigenous knowledge alongside technical and economic expertise. And Mana ōrite has



Māori perspectives sitting alongside conventional frameworks, not beneath them.

This worldview challenges conventional cost benefit analysis, especially the way it discounts the future. In many models, benefits delivered decades from now are treated as less valuable than those realised today. A Māori perspective doesn't accept that framing. Each year infrastructure functions well – safely, sustainably, and in balance with its environment – has value in its own right, especially when that benefit accrues to children and grandchildren.

This isn't about replacing existing tools, but about improving them. When Māori measures of success are developed alongside technical and economic analysis, decision-making becomes more robust. Investments are better aligned with place, more resilient to future shocks, and more likely to deliver enduring value.

Ultimately, a te ao Māori lens reminds us that infrastructure isn't just for now. It's a legacy. And the responsibility to get it right extends well beyond the present generation.



CHAPTER 4

STRENGTHENING THE IMPORTANCE OF WELLBEING IN CBA





A longstanding limitation of traditional CBA is that it tends to capture economic and financial impacts more readily than the lived experience of the people most affected by a given investment or policy. This gap matters, because improvements to the economy are only useful if they actually make people's lives better. However, wellbeing is not always captured by income, productivity, or other standard economic measures.



Installing a new heating system in a home, for example, may generate measurable health benefits and reduced absenteeism from work. But the direct experience of warmth itself – of no longer living in a cold house – is an important outcome in its own right and one that traditional CBA has historically struggled to capture (Denne et al., 2012).

Recent methodological improvements have focused on calculating improvements in wellbeing and life satisfaction, in order to allow these to be more easily monetised and thus given more weight in CBA. Subjective wellbeing (SWB) valuation is one such methodological response to this problem: it is a way of measuring people's own assessments of how well their lives are going and converting those assessments into monetary values that can be included in a CBA alongside more conventional cost and benefit estimates (Frijters et al., 2024).

One way to measure life satisfaction is to ask people where they would place themselves on a 'Cantril ladder'. A person is asked to situate themselves on an imaginary ladder with steps numbered from 0 to 10, with the top of the ladder representing their best possible life (Grimes, 2026). This rating can then be converted into a measure called a WELLBY – a wellbeing-adjusted life year.

The term WELLBY was coined by Frijters et al. (2020) and has been adopted by HM Treasury in the UK and by the Aotearoa New Zealand Treasury as a policy analysis tool. Other countries, including Denmark, Canada, and the US, are now also developing 'social value banks' to measure the changes in WELLBYs resulting from different interventions (Frijters et al., 2024).

A WELLBY is defined as a one-point change in life satisfaction on a 0–10 scale for one person for one year. For example, in the UK, being unemployed is estimated to reduce subjective wellbeing by 0.7 of a step on the Cantril Ladder. Lifting someone out of unemployment for three years would therefore be worth 2.1 WELLBYs.

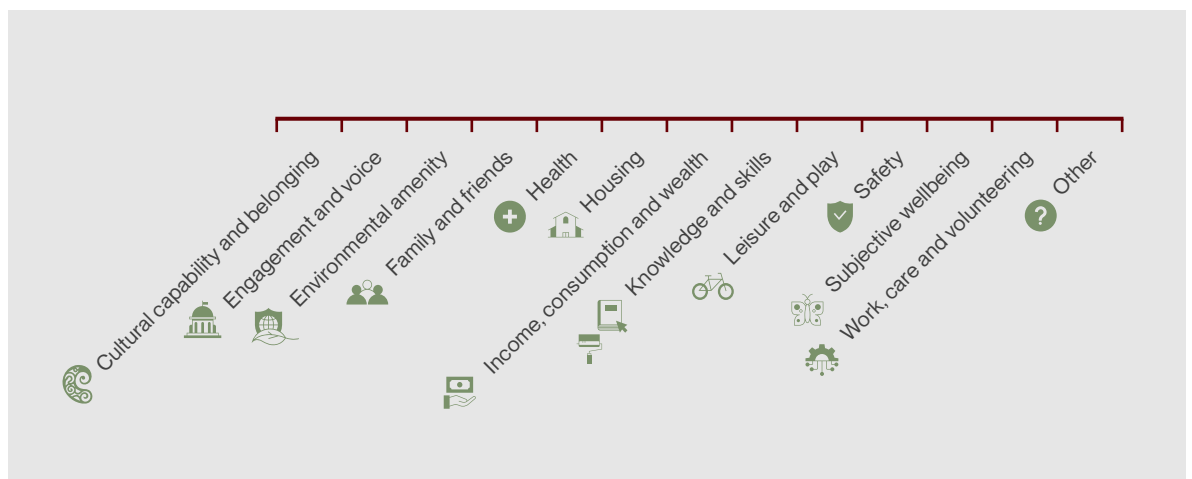
In Aotearoa New Zealand, a WELLBY has been calculated as being worth somewhere between \$7,343 and \$26,225, with a midpoint at \$16,784. Using the midpoint estimate, a programme that results in 2.1 WELLBYs would have benefits of \$35,246 per person in monetised terms. Using this approach enables us to compare different policies and different social issues using a commensurate scale (Grimes, 2026).

Because the value of a WELLBY is included in CBAX, this in theory would now make it possible to compare the wellbeing impact of, say, a mental health programme against that of an

infrastructure investment, on a single commensurable scale. In practice, of course, further analysis would be required to establish the relative improvements in wellbeing from each intervention.

Aotearoa New Zealand has adopted this approach relatively recently, following the UK's lead. Treasury has updated its CBAX tool to include intergenerational wellbeing domains, and CBAX procedures now allow agencies to describe the impact of their proposed initiatives on the relevant areas of wellbeing (Treasury, 2023b) (Figure 4).

Figure 4:
Wellbeing domains itemised in CBAX (Treasury, 2026b)



The WELLBY approach represents a genuine methodological advance in making non-market impacts visible in investment appraisal. As Wesselbaum and Grimes (2025) note, however, the full potential of this approach is yet to be realised.

There are a number of reasons for this. Rigorous CBAX analysis requires time, resources and technical expertise (Wesselbaum & Grimes, 2025). As noted earlier, CBA analysis is not

regularly enforced, and when it does happen, agencies are not explicitly required to include specific measures within their analysis. This makes it easy to focus on the things that are easy to measure. Without further emphasis on the importance of wellbeing in CBA from the Treasury, it is likely the WELLBYs will remain underused in the space of infrastructure investment decision-making.



Case Study:

THE UK GREEN BOOK: A WORLD-LEADING FRAMEWORK



The United Kingdom's approach to cost benefit analysis in public investment is widely regarded as one of the most developed in the world, and has been directly influential on Aotearoa New Zealand's own frameworks, which incorporated many of the Green Book's innovations through the CBAX tool.

HM Treasury's (2026) Green Book provides guidance for the appraisal and evaluation of all major investments across central and local government. Its reach is broad: it includes all significant costs and benefits that affect the welfare and wellbeing of the population, not just market effects – for example, environmental, cultural, health, social care, justice, and security impacts. Internationally, the UK is particularly notable for being the first country to adopt the WELLBY, which measures and monetises changes in wellbeing from different interventions.

Unlike in this country, it is mandatory for UK government departments and arm's length bodies to follow the Green Book when developing proposals that involve significant public spending (HM Treasury, 2026). The requirement is consistently enforced by the Treasury and applies to central government decision-making as well as local government decisions that involve central government funding. In this way, the Green Book has become a fundamental part of the way infrastructure decisions are made in the UK.

Following the findings of a Treasury-led review (HM Treasury, 2025), the Green Book was recently updated to better support public investment decisions across the country (Institution of Civil Engineers, 2025). Critics had argued that the Green Book's methodology unintentionally favoured already prosperous regions, making it harder for other areas to secure funding for transformative infrastructure (Institution of Civil Engineers, 2026).



As an example, a specific investment may be projected to cause land values in Manchester to rise significantly more than in a rural area, yet the rural area may need the investment more than an already wealthy area. Analysts must now consider impacts of investments on different regions, cities, towns, or villages, and on rural versus urban areas, for example (HM Treasury, 2026).

In addition, the review found that traditional business cases often fail to reflect local growth priorities. Instead of asking ‘what’s the best way to do this project?’, the new approach asks, ‘what is the right project to unlock growth in this specific place?’ This is a more strategic approach, and takes into account the needs of local places, rather than focusing on the costs and benefits of specific projects (Institution of Civil Engineers, 2026).

So-called ‘place-based analysis’ also requires practitioners to assess how different groups or places will be affected by a proposal, using distributional analysis. For example, analysts are required to illustrate the effects of a proposal on groups that have ‘protected characteristics’ defined in the UK’s Equality Act 2010. This differs from the approach in Aotearoa New Zealand, in which impacts on different groups are not weighted.

The updated guidance also focuses more on attempting to measure the impact of ‘transformational change’ – the benefits of major investment, such as significant transport schemes or large-scale regeneration projects, that might take decades to fully realise. The guidance on transformational change now makes a clearer link between national outcomes and local, place-based objectives. Business cases should aim to bring together aspects such as transport, housing, skills, and climate impacts more holistically (Institution of Civil Engineers, 2026).

The overall picture in the UK is of a system that continues to grow and become more sophisticated. It has also been well embedded into the UK investment culture and Aotearoa New Zealand could learn from this in particular.



Case Study:

BHUTAN: A 'WELLBEING FIRST' APPROACH TO MEASURING IMPACT

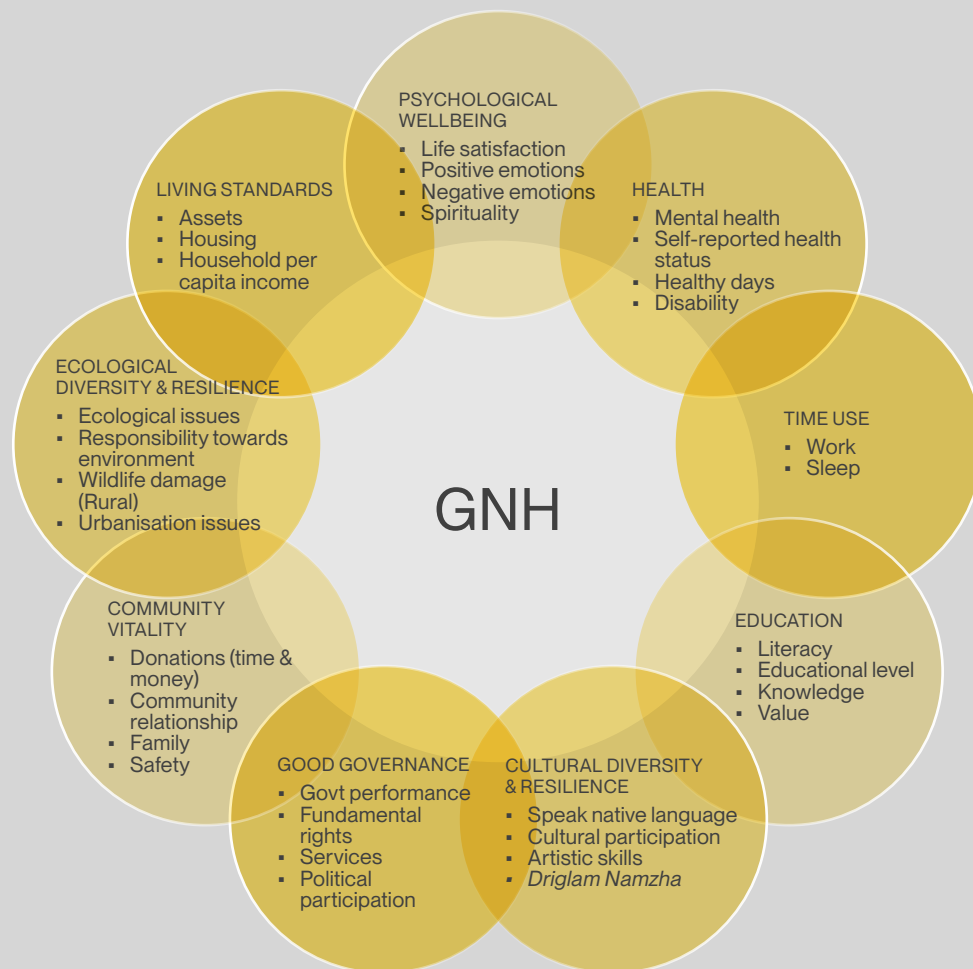


Although Aotearoa New Zealand includes environmental and social valuations within its approach to CBA, the country still places economic impact at the forefront of decision-making processes. How might it look to instead centre wellbeing in policy and investment decision-making?

Bhutan is often cited internationally for its Gross National Happiness (GNH) index and its image as a peaceful, spiritually-oriented kingdom. That image sits in tension with its human rights record, which has attracted criticism from the United Nations and international human rights organisations (Human Rights Watch, 2025). However, the GNH is worth mentioning because of the radically different approach it takes.

The Gross National Happiness Report is published by the Bhutanese government every five years and aims to identify the wellbeing (through the proxy of 'happiness') of its citizens through nine key domains and 33 indicators (see Figure 5). Used in a very similar fashion to CBA in Aotearoa New Zealand, Gross National Happiness is integral to investment decision-making in Bhutan. By focusing first and foremost on happiness rather than economic benefits, projects that have the greatest impact on societal wellbeing are prioritised, with hypothetical economic benefits as a supplement (Ura et al., 2023).

Figure 5:
Domains and indicators of Bhutan's Gross National Happiness Index (Ura et al., 2023)



The GNH index is used to measure and track the progress of Bhutan's population beyond the economic progress metrics usually provided by a measuring Gross Domestic Product (GDP), taking into account not just economic development measures, but also spiritual and emotional wellbeing. The GNH index informs decision-making at all levels of government, allowing policymakers at any level from local to national to prioritise wellbeing in their proposals.

The GNH index has parallels to Subjective Wellbeing Valuation (SWB), which has been partially integrated into CBAX. Both GNH and SWB

measure individuals' perceived feelings and understandings of their situation, rather than more standard measures of economic metrics. Where the two differ, however, is that GNH offers a more comprehensive and multidimensional approach to defining overall wellbeing through the nine outlined dimensions. Furthermore, while SWB is used as a supplement to CBA processes, GNH is the decision-making framework itself.



CHAPTER 5

DISCUSSION: UNLOCKING THE POTENTIAL OF COST BENEFIT ANALYSIS IN AOTEAROA NEW ZEALAND





More consistency of use and an improved evidence base

Aotearoa New Zealand already has good tools and frameworks in place to support high-quality, consistent cost benefit analysis across the public sector. For example, the CBAX tool is considered to be methodologically strong, although it remains underutilised (Wesselbaum & Grimes, 2025). The Better Business Case framework and Cabinet Office Circular CO 23(9) together set out clear expectations for evidence-based investment decision-making (Cabinet Office, 2023; Treasury, 2025b). The opportunity now is to move from a system where these tools are not just available, but routinely used, well-supported, and genuinely embedded in agency culture.

As noted earlier, for this report, information was provided by six of the most infrastructure-intensive central government agencies about how they use CBA in infrastructure investment decision-making. Of the six, four (Ministry of Education, Health NZ, Corrections, and Ministry of Justice) responded that they either do not use CBA to help with infrastructure investment decisions or use it irregularly.

The other two (Kāinga Ora and NZ Transport Agency) use CBA consistently, though they use it primarily (or entirely) to choose between potential options for specific projects or programmes, and to assess preferred options to ensure they provide value for money. They do not appear to be using it to organise and prioritise their wider portfolios according to which investments would present best value for money within the scope of their existing mandates and funding frameworks.

Taken together, the use of CBA by central government agencies suggests potential for greater strategic use of the tool. For example, the Ministry of Education currently makes decisions regarding investment in schools based on existing asset condition, population demand, and education policy. The Ministry of Education (2026a) notes that most of their investment decisions 'are simple and do not require extensive cost benefit analysis'.

One missing opportunity here is for the Ministry of Education to use CBA to narrow down competing options in a more evidence-based way. Where a local school needs extra capacity, for example, a CBA could weigh the costs and benefits of expanding the existing building by four rooms or eight, constructing a new school in a different location, or adopting non-build solutions, such as transporting students to a neighbouring school. Each of these options entails distinct costs and benefits, and analysing them side by side provides the most robust basis for an evidence-based decision.

In the case of Health NZ, increasing the use of CBA could also be beneficial. Health NZ (2026) notes that their business cases for infrastructure investments do not typically include cost benefit analysis, because the agency 'does not currently have an agreed model for monetising health benefits'. Some major Health NZ investments are clearly subjected to CBA; however, several of these are available online, including the





Whangārei (Health NZ, 2022) and Dunedin hospital (Sapere Research Group, 2021) projects.

The most straightforward reform available is to make CBA mandatory – or at the very least ‘expected’ – for all major infrastructure investment proposals. At present, Treasury encourages the use of CBA but does not strictly require it, and compliance is low as a result. A mandatory requirement – using CBAX or an equivalent tool – would ensure significant public investments are subject to a consistent and transparent appraisal process. Making CBA mandatory has led to a culture of widespread use and acceptance of CBA methodology in the UK, for example (Institution of Civil Engineers, 2026).

Building analytical capability across the public sector is equally important and represents a genuine opportunity to lift performance across agencies as well as within local authorities. Currently, CBA expertise in relation to infrastructure investment appears to be concentrated in a small number of central government agencies – notably NZTA and Kāinga Ora, and in the private sector. Local government has very limited capability in this space. Investing in training and more detailed guidance would likely help to spread this capability more widely, and may encourage more acceptance of CBA as a valuable and important tool.

“Central government agencies will need to up their game on asset management plans, long-term investment plans, and Business Cases – which likely requires getting more capacity and capability in these areas.”

(Willis and Bishop, 2026)

At the same time, investing in continuing research would help make it easier for both central government agencies and local authorities to easily use CBAX. Treasury’s CBAX tool already includes a database of monetised unit values, but the range and robustness of these values could be extended, particularly to include further values for wellbeing impacts (Wesselbaum & Grimes, 2025).

Greater investment in wellbeing valuation research – including the use of Wellbeing-Adjusted Life Years (WELLBYs) – would allow a wider range of social impacts to be captured within the CBA framework, reducing the risk that important but hard-to-measure benefits are systematically underweighted in investment decisions (Frijters et al., 2024).

For local government in particular, a consistent view expressed by stakeholders in interviews for this report was that simplified tools to calculate benefits – tailored to specific functions undertaken by councils – would increase the ability of councils to undertake CBA.

Standardised spreadsheets with pre-loaded drop-down values monetising benefits relating to different project types would reduce reliance on external expertise and lower the barrier to analysis. This approach already exists for transport; NZTA (2025) uses its own, tailored version of CBAX, the Monetised Benefits and Costs Manual (MCBM). This provides guidance on the economic analysis to be undertaken for transport investment and sets out the monetised values to be used for analysis. Kāinga Ora (2026) has a simpler tool, tailored to its needs.

Bespoke CBA tools remain underdeveloped for other portfolios and project types – including stormwater management, climate resilience, health, and social infrastructure such as parks, for example. Several stakeholders interviewed for this report noted that building standardised tools with robust empirical foundations would improve the use and quality of CBA across the system – especially in local government, where resources are particularly limited.



Improving decision-making through long-term planning, independent assurance frameworks, and transparency

Improving the timeliness of advice

As discussed in Chapter 1, the Audit Office has highlighted some concerns over the years about the quality and completeness of investment decision-making where projects are delivered 'at pace' or under urgency. Sometimes such projects – especially those that have become a focus for public interest – can be shaped by pre-selected solutions rather than open consideration of alternatives.

Infrastructure investment is inherently long-term, and decision-making should reflect that. In the vast majority of infrastructure decisions, there should be limited need to make investment decisions under time pressure.

Timeliness of advice is essential in this regard. Mackie et al. (2014) surveyed countries that use CBA in transport planning, and noted the risk that CBA enters the planning process too late to play any meaningful role. This risk appears to increase when planning processes are centred around a perceived 'problem', such as road congestion. If the problem is perceived as important enough, even inefficient solutions may be viewed as better than nothing (Mackie et al., 2014).

This makes it essential that problem definition and business planning for the highest priority projects in Aotearoa New Zealand are done well in advance and as part of long-term, strategic planning processes. Projects going to Cabinet for funding approval should be prioritised from this long-term portfolio of projects, and cost benefit analysis completed in advance. If all agencies had long-term, well-thought-out investment plans, backed up by business cases produced in a timely way, the country could minimise the cost blow-outs, moving targets,

cancellations, and sunk costs that are caused by proceeding with projects under time pressure, and attempting to fit them into the country's short political terms.

Changing culture and attitudes to CBA

Beyond the issue of urgency, there is a range of other reasons which may cause decision-makers to undervalue the evidence presented by a CBA. Research in Holland (Mouter, 2017), drew on interviews with 28 Dutch politicians and 10 senior civil servants, who identified seven barriers they felt hindered effective use of CBA in decision-making:

1. The decision-maker has already made up their mind and does not read the report, expecting that it wouldn't change their opinion anyway (because of their own or their party's convictions, or pre-determined ideas, for example, or because the project was agreed to in a coalition agreement).
2. Decision-makers prefer to form their opinion based on conversations rather than on reading reports.
3. Decision-makers don't trust CBA's impartiality.
4. Decision-makers disagree with normative choices made in CBA. An example of such a normative choice is that CBA attaches an equally large weight to everybody's utility (welfare) outcomes.
5. Decision-makers think that CBA's explanatory power is limited.
6. Decision-makers receive CBAs too late.
7. When there is plenty of money, decision-makers care less about a project's social profitability.

It may be that similar barriers operate in Aotearoa New Zealand – several people interviewed for this report noted that some decision-makers prefer to rely on their own judgement and question the impartiality of CBA outcomes, for example.



This is reflected in other countries also. Research by Eliasson et al. (2015), examining transport investment decisions in Sweden and Norway found that in Norway neither measured benefits nor costs appeared to affect project selection in any meaningful way. In Sweden, civil servants' decisions were strongly influenced by benefit cost ratios; however, politicians' decisions were only weakly affected, and only for smaller projects. In both countries, governments tended to favour investments in regions where they enjoyed strong electoral support.

Some of these barriers reflect the need for a change in culture. In the UK for example, the Cabinet expects CBAs to accompany budget bids as a matter of course (HM Treasury, 2026). Here, Treasury and the Cabinet do not insist on them in the same way. As noted earlier, the recent government announcement that changes will be made to the assurance framework in November 2026 may improve this situation, though details on the new framework have not yet been released. If CBA use became mandatory here, and the Treasury (or the Infrastructure Commission, if given the mandate to do so) enforced this, it would be likely to lead to wider acceptance of the importance of CBA, as it has in the UK.

The importance of transparency

Increasing the level of public transparency is another important factor to consider as an incentive to decision-makers to make evidence-led decisions. Transparency is in many respects the most powerful assurance mechanism available: it encourages good governance by making decision-makers accountable to the people for whom they are making decisions (Cordier et al., 2023).

A recent review of 27 large public-sector projects by Cordier et al. (2023) concluded that the public struggled to see how such projects in Aotearoa New Zealand are performing. Key project documents were often not publicly available or were hard to understand. In fact, key project documents such as business cases and assurance plans were inaccessible more than half the time.

Since the Infrastructure Commission launched the Infrastructure Priorities Programme (IPP), significantly more information about infrastructure investment proposals has been in the public domain, which is a positive step. However, as mentioned earlier, the IPP is not yet compulsory so the documentation underpinning many important projects is still not easily accessible.

The Infrastructure Commission (2026) has called for business cases and budget submissions for major projects to be published and made accessible as a matter of course. That recommendation is also adopted for this report.

Publishing BCRs, business cases, and CBA assumptions would allow scrutiny by Parliament, the media, and the public – creating incentives for agencies to invest in the quality of their analysis and making it harder for poor-quality appraisals to go unchallenged.

Importantly, it would be useful if BCRs were published as a range rather than a single number, taking into account different input assumptions as part of a sensitivity analysis (as discussed in Chapter 3). Presenting BCRs as a range can reduce reliance on one value and communicate any uncertainty around a given analysis (Roberts et al., 2021).

A final note about transparency is that proactively publishing all cost benefit analysis for major infrastructure projects would help ensure that analysts who work on projects have 'skin in the game' – so that their work is subject to public scrutiny. This is a key recommendation from Flyvbjerg & Bester (2021), to ensure the best quality of analysis and to minimise the likelihood of bias.



An independent assurance framework is crucial to ensure CBAs are of high quality

One of the most significant opportunities available to Aotearoa New Zealand is the establishment of a coherent framework for independent investment assurance – one that matches the level of scrutiny applied to a project with the scale of the investment at stake.

At present, the assurance landscape is fragmented: the development of business cases and CBAs are not enforced before Cabinet funding decisions, Gateway reviews focus primarily on delivery rather than value for money, the Audit Office's reviews are necessarily selective, and the Infrastructure Commission's IPP process is voluntary and therefore not comprehensive (Infrastructure Commission, 2026a; Audit Office, 2026).

An independent assurance framework could bring all these elements together into a more coherent system, providing decision-makers with greater confidence that public money is being spent wisely.

In April 2026, the Government announced that the existing and fragmented assurance framework for infrastructure investment would be strengthened (Willis & Bishop, 2026). As part of this commitment:

- Some assurance functions previously held by Treasury (including the Gateway review process) will be passed to the Infrastructure Commission at the end of the year. The Commission will be responsible for coordinating external assurance for central government-funded infrastructure projects, meaning they will look over major proposals long before decisions are made, and will be able to give Ministers independent, expert advice.
- The Infrastructure Commission will provide an assurance function, to ensure that capital intensive agencies maintain asset management and long-term investment plans.

- For all Business Cases seeking Cabinet endorsement, Treasury will introduce a standardised two-page 'Fitness Assessment' to make it easier for Ministers to establish whether projects are viable.
- Ministers will have greater oversight of major projects, with a ministerial group reviewing high-profile and high-risk investments before they go to Cabinet.

This is a welcome development and will go some way to remedying the issues raised above. However, more can and should be done in this space.

This report recommends that agencies be required to use CBA consistently as part of their long-term asset and investment management planning requirements. CBA should be used by agencies to identify the right infrastructure solution to respond to identified needs via options analysis, to establish whether preferred projects provide value for money, and to prioritise major upcoming projects within their sector (health, housing, etc). Requiring transparency in the decision-making process (as discussed above) would ensure assumptions and findings are documented and available for scrutiny.

In line with recent Government announcements, the Infrastructure Commission should provide a dedicated assurance function to support this long-term planning and strategic prioritisation, providing checks and balances to ensure agencies carry this work out to a high standard, and constituting a critical mechanism for embedding consistent investment discipline across the system. The Commission should be funded appropriately for this role.

Agencies will need to be supported in these endeavours with improved training and guidance. This role is currently performed by the Treasury; however, given the Infrastructure Commission will be responsible for ensuring best practice within agencies, the Commission may be the most logical choice to provide training and capability building (both for central government and local authorities).



It may also make sense for the Commission to work with Treasury to develop sector-specific cost benefit templates, to design research to improve existing tools such as CBAx and to update methodologies as required over time – or to take this function over.

Finally, we suggest this system go further, and that the Infrastructure Commission be empowered to make recommendations about whether major projects go ahead, or do not go ahead. Using long-term investment plans, business cases and mandatory CBA analysis provided by agencies, the Commission could provide a rigorous, standardised evaluation of value for money, strategic alignment, and deliverability before funding decisions are made.

The Infrastructure Commission's recommendations about the viability and value for money of specific investments could be overridden by Ministers, but that decision would be transparent and the reasons for any override would be in the public domain. In this way, the public can critique public decision-making with the full evidence available.

Reducing the influence of short-term priorities in infrastructure investment decisions is a connected and important goal. The tension between broader Government priorities and investment logic is real and unlikely to disappear entirely – nor should it, since governments are elected to make choices that reflect community values.

However, the balance can be shifted. Requiring that a satisfactory CBA be available before significant infrastructure commitments are included in budget bids would embed evidence at an earlier stage of the political process, before positions harden. Making the BCR and business cases of all significant proposals publicly available would similarly make it more transparent to Parliament and the public when decision-making is led by considerations that fall outside the CBA.



“Since coming into Government, the Minister for Infrastructure and I have been concerned by the quality of information provided on infrastructure including what we own and its condition, the forward investment pipeline, assurance on projects, and agency performance. When it comes to assurance, there are multiple project review tools across the investment system that serve slightly different purposes and have different assessors, information requirements, reporting formats, and outputs. However, none of these tools provide Ministers with unapologetically strong, clear, and actionable assurance that is focused on substance as opposed to bureaucracy, so that we can make well-informed investment decisions.”

Hon. Nicola Willis, Minister of Finance (Willis & Bishop, 2026).

Reference class forecasting should also be required for major projects

Evidence from infrastructure projects internationally suggests that cost overruns and benefit shortfalls are common (Flyvbjerg & Gardner, 2023).

One of the most promising avenues for improvement within an independent assurance framework is to adopt ‘reference class forecasting’. Reference class forecasting anchors cost and benefit estimates on the actual outcomes of comparable

past projects, rather than relying solely on project-specific modelling (Baerenbold, 2023). Embedding this approach as standard practice within an independent assurance framework would meaningfully improve the accuracy of Aotearoa New Zealand’s investment appraisals.

The UK’s ‘Green Book’ suggests a similar technique to deal with the risk of ‘optimism bias’ in which project appraisers tend to underestimate costs and overestimate benefits of a project. The Green Book requires that explicit adjustments should be made

to the estimates of a project's costs, benefits, and duration, which should be based on data from past or similar projects, and adjusted for the unique characteristics of the project in hand (Department of Transport, 2025; United Kingdom Government, 2013).

We recommend that all CBAs for major projects above a certain expenditure threshold pass through an independent process using reference class forecasting, to review costs for bias. For smaller projects, agencies could be required to make explicit adjustments to account for bias, as required in the United Kingdom's Green Book.

Post-implementation evaluation is essential to close the feedback loop

Finally, and importantly, an often-neglected component of a robust investment management system is post-implementation evaluation, which assesses whether the outcomes of projects match expectations. As noted in Chapter 1, Aotearoa New Zealand's use of post-implementation evaluation is limited, and the feedback loop between investment outcomes and future planning is weak.

The Infrastructure Commission (2022) has undertaken some post-project reviews – including, for example, a detailed technical review of 16 projects within the Mental Health Infrastructure Programme. Similarly, the Audit Office has done some work in this space over the years. This is encouraging, but it is ad hoc rather than systematic.

What is needed is a planned programme of evaluation, both within and across sectors, with funding to support this. This would significantly improve the country's capacity to learn from its own investment decisions. Over time, a richer body of post-implementation evidence would also improve the accuracy of future CBAs, by providing a more reliable basis for cost and benefit assumptions.

The United Kingdom offers a well-developed model for this. The HM Treasury (2020) Magenta Book requires that post-completion

evaluation should not be an afterthought, but a planned activity embedded in projects from their earliest stages, with evaluation needs identified in the Strategic Business Case and resources allocated accordingly.

In the UK, National Highways (n.d.) – the government arm's-length body responsible for the strategic road network – has undertaken Post Opening Project Evaluation (POPE) studies for all major highway schemes since 2002.

POPE evaluations assess whether schemes delivered the expected level of value for money. They should also validate the accuracy of estimated costs and benefits against the original business case, and publish findings transparently for public scrutiny (National Highways, 2024). Evaluations are conducted one year after opening and again five years after opening.

The United Kingdom Department for Transport also periodically undertakes meta-analyses across entire programmes – not just individual projects – to understand the full impact of a suite of investments and feed findings back into the appraisal of future projects. All POPE reports are published and made available. This is the kind of systematic, programmatic approach that builds an evidence base over time, and Aotearoa New Zealand could benefit from adopting something similar.

The Infrastructure Commission would be well placed to carry out this work as part of its new assurance functions, as would the Audit Office, which has undertaken similar work in the past. Both organisations would need to be resourced accordingly, however. As well as evaluating individual projects, the Audit Office and / or the Infrastructure Commission could develop an annual evaluation programme focused on specific investment types – for instance, dedicating a year to cycleways where several major projects have recently been completed, to generate transferable evidence for future appraisals, then turning to motorways, hospital infrastructure, or other priority



categories in subsequent years. All findings should be published.

Aspirational use of CBA? Prioritising investment across sectors and across government

Perhaps the greatest untapped opportunity in Aotearoa New Zealand's infrastructure investment system is the use of CBA not just to assess individual projects on their merits, but to support more strategic prioritisation – across agencies, across sectors, and across the full pipeline of competing demands on public capital.

As documented earlier in this report, CBA is currently used mainly to assess whether a specific proposal offers value for money, or to compare options for solving a defined problem. The more powerful applications – prioritising projects within agency portfolios and comparing investments across entirely different sectors – are largely absent from current practice. Realising this potential would represent a step change in the quality of Aotearoa New Zealand's public investment decisions.

What is largely absent is the use of CBA to ask a more fundamental question: given the benefit cost ratios across a range of candidate projects, where should money go? A project with a BCR of 2 looks different when placed alongside a comparable project with a BCR of 5 competing for the same type of funding envelope. That comparison is precisely what CBA is designed to enable, and it is a comparison that Aotearoa New Zealand fails to make.

The contrast with another domain of public spending is instructive. Pharmac (2020) is expected to compare the costs and benefits of different health interventions using economic analysis to ensure that it 'secures the best health outcomes reasonably achievable from within the funding provided'.

Pharmac's most used approach is to weight outcomes from different interventions in quality-adjusted life years (QALYs). This enables comparison between the cost-effectiveness of interventions treating different conditions, and also considers benefits resulting from decreases in both quantity and quality of life.

Ireland offers another useful example: Health Technology Assessments are used systematically across the Irish health system to compare the costs and benefits of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities and thus to determine the best use of resources (Health Information and Quality Authority, 2025).

A similar approach applied to infrastructure investment in Aotearoa New Zealand – comparing the returns to infrastructure spending across health, defence, housing, justice, and transport projects funded by general taxation using consistent, publicly available analysis – would represent a significant improvement on the current system.

The value of CBA as a tool for comparing genuinely unlike options is one of its most important and underappreciated features. Consider a decision about whether to build a footbridge that would enable residents to evacuate a coastal town in the event of a tsunami. Assessing whether that investment is worthwhile requires estimating the probability of a tsunami occurring, the number of lives likely to be saved, and the monetary value attached to each of those lives – and then comparing the result against what the same funds could achieve if invested in a hospital, a new medical treatment, or another piece of infrastructure entirely. Without some framework for comparison, there is no principled basis for allocating limited public funds across competing priorities. CBA provides that framework.



It is worth acknowledging that no country has fully mastered cross-sector prioritisation of this kind – it is genuinely difficult, and would require a high level of capability, as well as significant commitment to the importance of the project. In addition, in the real world, investment decisions are constrained not just by value for money, but by affordability, scheduling issues, debt capacity, workplace capability, internal capacity, and other trade-offs. Also, while cost benefit analyses would help to establish a common evidence-base for trade-offs between different priorities, they do not provide a purely mechanical ranking tool. This is therefore presented as a somewhat aspirational recommendation. But the direction of travel is clear, and Aotearoa New Zealand's status as a small, relatively centralised country means it may be better placed than most to make progress on this frontier.

Another overlooked application of this cross-sector thinking is the potential for CBA to support investment in demand-reducing alternatives to new infrastructure – what might be called non-build solutions. In health, for example, investing in home care and community-based support for older people will be needed to reduce or defer the need for new hospital capacity as the population ages (Mercier, 2025). In the justice sector, investment in rehabilitation programmes or alternative sentencing options may, over time, reduce the prison population and the infrastructure required to house it.

These kinds of substitutions are currently very difficult to evaluate within existing appraisal frameworks, partly because the benefits accrue across agency boundaries and over long timeframes. But if CBA were applied more consistently and with a longer time horizon, it would become possible to weigh the cost of a new hospital wing against the cost of the primary care investment that might make it unnecessary – and to make that trade-off explicit, evidence-based, and open to democratic scrutiny.

Closing the gap between investment needs and available funding

A further and closely related challenge is the misalignment between the investment needs identified by agencies and the funding available to meet them. In the absence of systematic long-term planning, agencies tend to focus on identifying and filling service needs as they become acute – a hospital required by population growth, or a school in a fast-growing neighbourhood.

Because needs are identified reactively rather than anticipated well in advance, decision-makers consistently face difficult trade-offs under pressure, with inadequate information and insufficient time for rigorous analysis (The Audit Office, 2023). The result is a system that is structurally biased toward short-term responses and away from the kind of forward-looking, evidence-based prioritisation that CBA is designed to support.

The scale of the resulting funding gap is significant. The Infrastructure Commission's (2026) review of long-term investment plans across health, defence, police, corrections, and education for the National Infrastructure Plan found that collectively these plans indicate a requirement for significantly more than \$5 billion of capital spending each year – materially exceeding the \$3.5 billion annually indicated in the 2026 Budget Policy Statement, and not including potential Crown capital funding requests for transport and ICT investment.

This gap is not managed strategically; it is absorbed through deferral, cancellation, and the gradual accumulation of deferred maintenance and unmet need. The consequences are felt not only in the quality and condition of public assets, but in the ability of the construction sector to plan and invest. Stop-start funding creates uncertainty that undermines workforce development, supply chain investment, and procurement efficiency (Mercier, 2024).



Addressing this misalignment requires a stronger and more explicit connection between agency investment planning, CBA, and the Budget process. At present, Budget funding bids are often disconnected from agencies' long-term asset management and investment plans – where such plans exist at all. This reinforces a short-term approach to planning, undermines the incentive for agencies to develop effective long-term plans, and generates pressure to make detailed project announcements before planning has been completed, prematurely locking in options which may not give the best value for money (Infrastructure Commission, 2026).

Requiring agencies to base Budget funding bids on projects previously identified in their asset management and investment plans – supported by well-developed business cases and CBA – would be a significant step toward a more coherent and evidence-based system.

Multi-year budgeting, supported by good planning and monitoring practices, offers a further avenue for improvement. Greater forward visibility over funding would enable agencies to establish efficient multi-year supply and procurement arrangements, strategically develop a more competitive supplier market, and smooth out their pipeline of work. This would in turn improve the construction sector's ability to invest in the people and capabilities needed to deliver public infrastructure effectively (Infrastructure Commission, 2026).

Previous attempts to introduce multi-year funding have had limited success, but the Infrastructure Commission's growing role in needs analysis and portfolio-level planning creates a stronger foundation than has previously existed for this kind of longer-term approach.



Case Study:

INVESTING IN CLIMATE CHANGE ADAPTATION AND RESILIENCE – FACTORING IN THE COST OF INACTION



One of the more compelling arguments for rigorous cost benefit analysis in infrastructure investment is not the case for a particular project, but the case against inaction. Nowhere is this clearer than in climate resilience, where the costs of not investing – in flood mitigation, coastal protection, highway resilience, and urban water infrastructure – can dwarf the costs of acting early.

The Global Commission on Adaptation found that early adaptation is strongly in our economic self-interest, with cost benefit ratios on resilience investments as high as 10:1 or higher. For example, the Commission estimated that investing \$1.8 trillion globally across five key adaptation areas between 2020 and 2030 could generate \$7.1 trillion in total net benefits (Global Commission on Adaptation, 2019). In coastal cities specifically, the Commission (2019) found that the cost of good adaptation is approximately one-tenth the cost of taking no action – a ratio that makes a compelling case for proactive

investment when assessed through a rigorous CBA framework.

Despite the strength of this economic case, securing investment in climate resilience remains difficult in practice. One reason is the mismatch between costs and benefits in terms of timing: the expenditure is immediate, while the avoided losses are uncertain and dispersed over time.

A further challenge is that the benefits of resilience investment do not accrue only to the agency responsible for the spending. For example, a water services entity investing in a rain garden or green infrastructure to manage stormwater will capture the flood mitigation benefit in its own CBA, but is typically not empowered to factor in the wider co-benefits – improved urban amenity, biodiversity, community health, and reduced pressure on drainage infrastructure – that accrue to other agencies, to households, and to the broader public.



This is particularly problematic when councils are expected (but often unable) to front the full bill for expensive climate adaptation projects that benefit wider society, for example by improving health outcomes, or by benefitting biodiversity.

The concept of the 'triple dividend of resilience' offers a useful reframe for this problem, and one that CBA is well-placed to support. Rather than framing resilience investment solely in terms of avoided losses – the traditional and most obvious benefit – the triple dividend approach recognises three distinct categories of return: avoiding losses from disasters, stimulating economic activity thanks to reduced disaster risk, and social, cultural, and environmental co-benefits (Ministry of Civil Defence & Emergency Management, 2019).

The first dividend is the most common motivation for investing in resilience, while the second and third dividends are typically overlooked (Ministry of Civil Defence & Emergency Management, 2019). Capturing all three categories within a CBA produces a materially different – and more accurate – picture of an investment's net social value.

Aotearoa New Zealand's National Disaster Resilience Strategy encourages the country to learn from the concept of the triple dividend and ensure investments in resilience provide multiple benefits to both make smart use of our limited resources and to assure decision-makers that their investment is worthwhile and will pay dividends, in the short and long term (Ministry of Civil Defence & Emergency Management, 2019).

“Traditional methods of appraising investments in disaster risk management undervalue the benefits associated with resilience ... There is increasing evidence that building resilience yields substantial and tangible benefits, even if a disaster does not happen for many years – or ever.”

Ministry of Civil Defence & Emergency Management (2019)



Promote and improve the use of CBA, while recognising its limitations

The recommendations in this report are premised on the view that Aotearoa New Zealand currently sits too far toward one end of a spectrum – one in which investment decisions are too often shaped by shifting priorities, incomplete information, and weak accountability – and that moving toward more rigorous and consistent use of CBA would produce significantly better outcomes for New Zealanders.

However, it is equally important to be clear about what CBA is not. It is a powerful and indispensable tool for organising evidence and making trade-offs transparent, but it is not – and should not become – a mechanical substitute for judgement, deliberation, or democratic accountability (Treasury, 2025b). It is important to note also that in practice investment decisions are constrained not just by value for money, but by affordability, debt capacity, and other considerations. The goal is a system in which CBA is the foundation of investment decisions, not their ceiling.

The benefit cost ratio should be understood as the essential starting point for any significant investment decision: it provides the clearest available summary of whether a proposal is likely to deliver value for money, and it enables comparison across projects and sectors in a way that no other tool can match. But the BCR is not the end of the conversation.

Distributional considerations – who bears the costs and who receives the benefits – are not always captured within a standard CBA, and decision-makers should be expected to consider these explicitly (HM Treasury, 2026). Similarly, impacts on accessibility, dignity, and intergenerational equity may be difficult to fully monetise but are nonetheless legitimate inputs to public investment decisions.

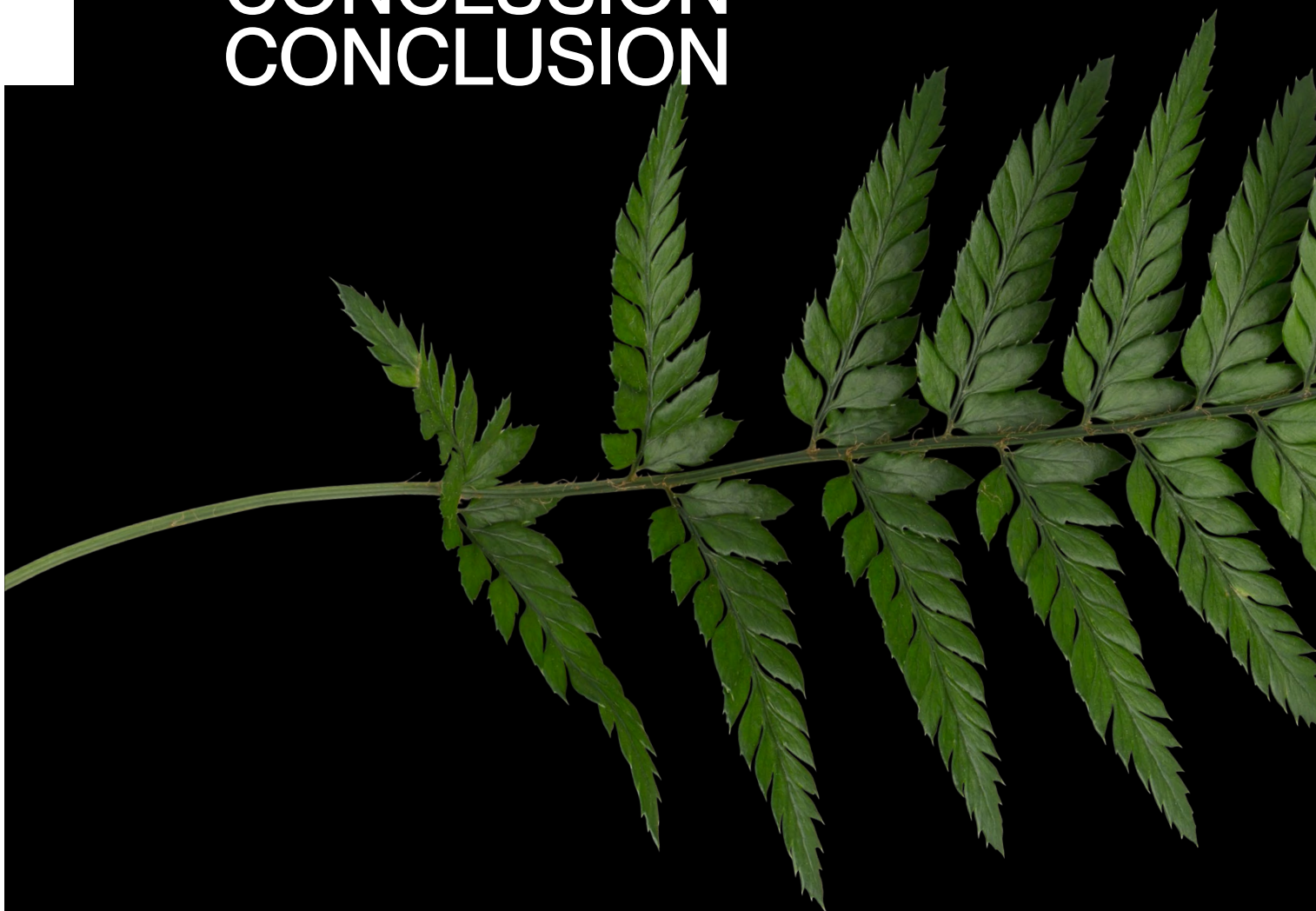
The appropriate response to these limitations is not to abandon the BCR as the primary metric, but to layer additional analysis on top of it in a transparent and structured way.



wsp

THE
Helen
Clark
FOUNDATION

CONCLUSION
CONCLUSION
CONCLUSION
CONCLUSION
CONCLUSION





Aotearoa New Zealand stands at an important juncture in how it makes decisions about infrastructure investment. The tools are in place, the methodologies are well-developed, and the need for more rigorous and strategic investment appraisal has never been more urgent. An ageing population, a changing climate, and an infrastructure deficit running into the hundreds of billions of dollars together make the case for evidence-based prioritisation not as an administrative nicety, but as a practical necessity. The question is not whether to improve how we measure value in infrastructure investment – it is how quickly and how ambitiously we choose to do so.

The recommendations in this report are interconnected and mutually reinforcing. Mandatory CBA, backed by post-implementation evaluation and genuine democratic transparency, would change the incentive structure facing agencies, Ministers, and decision-makers. A stronger evidence base, including expanded unit values and greater use of WELLBYs, would ensure the full range of social and environmental impacts is captured in analysis, not left uncounted. And a more strategic use of CBA – including cross-portfolio prioritisation and the evaluation of demand-reducing alternatives to building new – would represent a genuine step change in the quality of Aotearoa New Zealand's public investment decisions.

It is equally important to be clear about what this report does not argue. CBA is a powerful tool, but it is not a mechanical substitute for judgement or democratic accountability. The benefit cost ratio (ideally presented as a range) should be the starting point for investment decisions, not the end of the conversation. Distributional impacts, cultural significance, intergenerational equity, and other values that are difficult to fully monetise

are legitimate and important inputs to public decision-making. A well-functioning system will make space for them, transparently and explicitly, alongside the economic analysis rather than instead of it. The goal is a system that is more evidence-based, more transparent, and more accountable, not one that reduces the complexity of public investment to a single number.

Aotearoa New Zealand has demonstrated, in domains like monetary policy and pharmaceutical funding, that it is capable of building institutions that combine technical rigour with democratic accountability, and that embed evidence at the centre of public decision-making. There is no principled reason why infrastructure investment should be any different. The frameworks exist, the institutional foundations are being laid, and by now many have made the argument that we cannot afford to continue as we are doing. The case for change is strong, the tools are available, and the time to act is now.





wsp

THE
Helen
Clark
FOUNDATION

REFERENCES
REFERENCES
REFERENCES
REFERENCES
REFERENCES

1News. (2023). *Why do infrastructure budgets always blow out?* <https://www.1news.co.nz/2023/03/19/why-do-nz-infrastructure-projects-always-go-over-budget/>

Aldred, J. (2002). Cost-benefit analysis, incommensurability and rough equality. *Environmental Values*, 11(1), 27–47. <https://journals.sagepub.com/doi/10.3197/096327102129340966>

Allan, C., Grimes, A., & Kerr, S. (2013). *Value and culture*. Motu working paper 13-09. Motu Economic and Public Policy Research. https://motu-www.motu.org.nz/wpapers/13_09.pdf

Anciaes, P., Cheng, Y., & Watkins, S. J. (2025). Policy measures to reduce road congestion: What worked? *Journal of Transport & Health*, 41. <https://www.sciencedirect.com/science/article/pii/S2214140525000040#:~:text=A%20third%20solution%20is%20to,travel%20or%20by%20modal%20shift>

Auckland Council. (2025). *Auckland Council's ten steps for Better Value Projects*. <https://ourauckland.aucklandcouncil.govt.nz/news/2025/03/councils-ten-steps-for-better-value-projects/>

Barenbold, R. (2023). Reducing risks in megaprojects: The potential of reference class forecasting. *Project Leadership and Society*, 4. <https://www.sciencedirect.com/science/article/pii/S2666721523000248>

Bockstael, N. E., & McConnell, K. E. (2007). *Environmental and resource valuation with revealed preferences: A theoretical guide to empirical models*. Springer Science & Business Media. <https://doi.org/10.1007/978-1-4020-5318-4>

Cabinet Office. (2023). Circular CO (23)9. *Investment management and asset performance in departments and other entities*. <https://www.dpmc.govt.nz/sites/default/files/2023-09/co-23-09-investment-management-asset-performance.pdf>

City Rail Link. (n.d.). *Benefits and costings*. <https://www.cityraillink.co.nz/city-rail-link-benefits-and-costs>

Clark, N. (2025). *Fast-tracking the Fast-Track Bill*. *The New Zealand Initiative*. <https://www.nzinitiative.org.nz/reports-and-media/opinion/fast-tracking-the-fast-track-bill/#:~:text=On%20Monday%20morning%2C%20Eric%20Crampton,decision%2Dmaking%20becomes%20a%20lottery>

Cordier, J., Repko, S., Cardow, A., Roskrug, M., Rotimi, J., & Catley, B. (2023). *Transparency within large publicly funded New Zealand infrastructure projects*. Massey University. <https://tewaihanganga.govt.nz/our-work/research-insights/transparency-within-large-publicly-funded-new-zealand-infrastructure-projects>

Creedy, J., & Passi, H. (2017). *Public sector discount rates: A comparison of alternative approaches*. The Treasury. <https://www.treasury.govt.nz/sites/default/files/2017-06/twp17-02.pdf>

Denne, T., Howden-Chapman, P., Arnold, R., Telfar-Barnard, L., Preval, N., & Grimes, A. (2012). *Cost benefit analysis of the Warm up New Zealand: Heat Smart programme*. Motu. <https://motu.nz/our-research/urban-and-regional/housing/cost-benefit-analysis-of-the-warm-up-new-zealand-heat-smart-programme>

Department of Corrections. (2026). *OIA response C207372*. Personal email, 13 February 2026.

Department for Transport. (2025). *Transport analysis guidance. The transport appraisal process*. <https://assets.publishing.service.gov.uk/media/69a03557c497bac082bc7705/tag-transport-appraisal-process.pdf>

Durrant, D. (2020). International Transport Forum (ITF) round table on broadening the scope of transport appraisal to capture the full impact of investments. Organisation for Economic Co-operation and Development (OECD), Paris, 29 September–1 October 2021. *Journal of Mega Infrastructure & Sustainable Development*, 2(3), 317–322. <https://www.tandfonline.com/doi/full/10.1080/24724718.2021.2014643#d1e92>

Eliasson, J., Börjesson, M., Odeck, J., & Welde, M. (2015). Does benefit–cost efficiency influence transport investment decisions? *Journal of Transport Economics and Policy*, 49(3), 377–396. <https://www.jstor.org/stable/jtranseconpoli.49.3.0377>

Environmental Defence Society. (2025). *Fast-track Amendment Bill further undermines environment and democracy*. <https://eds.org.nz/resources/documents/media-releases/2025/fast-track-amendment-bill-further-undermines-environment-and-democracy/>

Flyvbjerg, B., & Bester, D. (2021). The cost-benefit fallacy: Why cost-benefit analysis is broken and how to fix it. *Journal of Benefit-Cost Analysis*, October, 1–25. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3918328

Flyvbjerg, B., & Gardner, D. (2023). *How big things get done: The surprising factors behind every successful project, from home renovations to space exploration*. Macmillan.

Frijters, P., Clark, A. E., Krekel, C., & Layard, R. (2020). A happy choice: Wellbeing as the goal of government. *Behavioural Public Policy*, 4(2), 126–165. <https://www.cambridge.org/core/journals/behavioural-public-policy/article/abs/happy-choice-wellbeing-as-the-goal-of-government/ED3A4E384D726238CC2524932F868CBD>

Frijters, P., Krekel, C., Sanchis, R., Shemtov, R., & Ward, G. (2024). The WELLBY: A new measure of social value and progress. *Humanities and Social Sciences Communications*, 11, Article 736. <https://www.nature.com/articles/s41599-024-03229-5>

Global Commission on Adaptation. (2019). *Adapt now: A global call for leadership on climate resilience*. World Resources Institute. <https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/>

Grimes, A. (2024). *How should the New Zealand Government discount future payoffs?* Treasury New Zealand. <https://www.treasury.govt.nz/publications/commissioned-report/how-should-new-zealand-government-discount-future-payoffs>

Grimes, A. (2026). *GOVT521 2026 Lecture slides* (Provided to author).

Health Information and Quality Authority. (2025). *Health Technology Assessment directorate plan 2025-2027*. <https://www.hiqa.ie/sites/default/files/2025-12/HTA%20Directorate%20Plan%202025-27.pdf>

Health NZ. (2022). *Project Pihi Kaha. Whangārei Hospital redevelopment. Detailed business case*. https://www.tewhatauora.govt.nz/assets/Our-health-system/Infrastructure-and-investment/Whangarei_Hospital_Redevelopment-Detailed-Business-Case-proactive-release-redbox_Redacted.pdf

Health NZ. (2026). *OIA response HN200105186*. Personal email, 21 January 2026.

HM Treasury. (2020). *Magenta Book. Central Government guidance on evaluation*. https://assets.publishing.service.gov.uk/media/5e96cab9d3bf7f412b2264b1/HMT_Magenta_Book.pdf

HM Treasury. (2025). *Green Book review 2025: Findings and actions*. <https://www.gov.uk/government/publications/green-book-review-2025-findings-and-actions>

HM Treasury. (2026). *The Green Book. UK Government guidance on appraisal*. https://assets.publishing.service.gov.uk/media/698dbcd17da91680ad7f4308/The_Green_Book_2026.pdf

Human Rights Watch. (2025). *Bhutan: Despite progressive rhetoric, rights violations continue*. <https://www.hrw.org/news/2025/03/24/bhutan-despite-progressive-rhetoric-rights-violations-continue>

Infrastructure Commission / Te Waihangā. (2022). *Mental Health infrastructure programme review. Technical review for Te Whatu Ora*. <https://media.umbraco.io/te-waihangā-30-year-strategy/ibpjh1xd/mental-health-infrastructure-programme-review.pdf>

Infrastructure Commission / Te Waihangā. (2024). *Annual Report. Transforming infrastructure for all New Zealanders*. <https://media.umbraco.io/te-waihangā-30-year-strategy/dlnpg2qg/annual-report-1-july-2023-30-june-2024.pdf>

Infrastructure Commission / Te Waihangā. (2026). *National Infrastructure Plan*. <https://tewaihangā.govt.nz/national-infrastructure-plan-online/1-finding-common-ground>

Infrastructure Commission / Te Waihangā. (2026a). *Infrastructure Priorities Programme. Identifying NZ's top infrastructure priorities*. <https://tewaihangā.govt.nz/infrastructure-priorities-programme>

Institution of Civil Engineers. (2025). *Infrastructure at the centre of UK chancellor's plans for growth*. <https://www.ice.org.uk/news-views-insights/inside-infrastructure/infrastructure-centre-uk-chancellors-plans-growth>

Institution of Civil Engineers. (2026). *Rewriting the rules: What does the new Green Book mean for infrastructure?* <https://www.ice.org.uk/news-views-insights/inside-infrastructure/what-does-green-book-review-mean-infrastructure>

Kāinga Ora. (2026). *OIA response KO-MS-25-20749 CRM:0264928*. Personal email, 17 March 2026.

Mackie, P., Worsley, T., & Eliasson, J. (2014). Transport appraisal revisited. *Research in Transportation Economics*, 47, 3–18. <https://eprints.whiterose.ac.uk/id/eprint/87223/3/2%20%20Mackie%20et%20al%20Transport%20appraisal%20revisited.pdf>

Mercier, K. (2024). *Bridging the infrastructure gap. Funding and financing for a resilient Aotearoa New Zealand*. The Helen Clark Foundation and WSP New Zealand. <https://www.helenclark.foundation/research/bridging-the-infrastructure-gap>

Mercier, K. (2025). *Age-proofing Aotearoa. Rethinking our infrastructure for an ageing population*. The Helen Clark Foundation and WSP New Zealand. <https://www.helenclark.foundation/research/age-proofing-aotearoa>

Ministry of Business, Innovation and Employment. (n.d.). *How well suited is cost-benefit analysis to transformative change?* <https://www.mbie.govt.nz/business-and-employment/economic-growth/previous-economic-development-work/sustainable-and-resilient-economy-transformation/which-analytical-tools-are-suited-to-transformative-change/how-well-suited-is-cost-benefit-analysis-to-transformative-change>

Ministry of Business, Innovation and Employment. (2023). *Which analytical tools are suited to transformative change?* CEU Working Paper 12/01. <https://www.mbie.govt.nz/dmsdocument/26888-which-analytical-tools-are-suited-to-transformative-change-pdf>

Ministry of Civil Defence & Emergency Management. (2019). *National Disaster Resilience Strategy*. <https://www.civildefence.govt.nz/assets/Uploads/documents/publications/ndrs/National-Disaster-Resilience-Strategy-10-April-2019.pdf>

Ministry of Education. (2026a). *OIA response GEMS-46107*. Personal email, 21 January 2026.

Ministry of Education. (2026b). *OIA response GEMS-46207*. Personal email, 9 March 2026.

Ministry of Justice. (2026). *OIA response 128331*. Personal email, 16 January 2026.

Mitchell, R. C., & Carson, R. T. (1989). *Using surveys to value public goods: The contingent valuation method*. Resources for the Future.

Motu. (2025). *Motu / Treasury New Zealand Public Policy Seminar on the Treasury's social discount rate*. <https://www.motu.nz/about-us/public-policy-seminars/events/social-discount-rate>

Mouter, N. (2017). Dutch politicians' use of cost–benefit analysis. *Transportation*, 44, 1127–1145. <https://link.springer.com/article/10.1007/s11116-016-9697-3#citeas>

National Highways. (n.d.). *Post Opening Project Evaluation (POPE) of major schemes*. <https://nationalhighways.co.uk/our-roads/post-opening-project-evaluation-pope-of-major-schemes/>

National Highways. (2024). *POPE methodology manual. Post-opening project evaluation for major projects*. <https://nationalhighways.co.uk/media/pq2jb142/pope-methodology-note-2024-v2.pdf>

NZTA. (2023). *Land Transport Benefits Framework*. <https://www.nzta.govt.nz/assets/planning-and-investment/docs/Land-Transport-Benefits-Framework-overview-table.pdf>

NZTA. (2024). *Investment Prioritisation Method (IPMI) 2024–27*. <https://nzta.govt.nz/assets/P-and-I-Knowledge-Base/docs/2024-27-IPM.pdf>

NZTA. (2025). *Monetised benefits and costs manual – volume 1: procedures*. <https://www.nzta.govt.nz/assets/resources/monetised-benefits-and-costs-manual/Monetised-benefits-and-costs-manual-v1.7.4-volume-1-procedures.pdf>

NZTA. (2026a). *OIA response 20597*. Personal email, 21 January 2026.

NZTA. (2026b). *Transmission Gully Motorway*. <https://www.nzta.govt.nz/projects/wellington-northern-corridor/transmission-gully-motorway>

NZTA. (2026c). *Wider economic impact*. Chapter 6, Land Transport Benefits Framework. <https://nzta.govt.nz/planning-and-investment/learning-and-resources/benefits-management-guidance/the-land-transport-benefits-framework/economic-prosperity/6-wider-economic-impact>

Organisation for Economic Cooperation and Development. (OECD). (n.d.). *Infrastructure governance*. <https://www.oecd.org/en/topics/infrastructure-governance.html>

Organisation for Economic Cooperation and Development. (OECD). (2021). *Implementation handbook for quality infrastructure investment: Supporting a sustainable recovery from the COVID-19 crisis*. https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/07/oecd-implementation-handbook-for-quality-infrastructure-investment_b9131199/479131b2-en.pdf

Organisation for Economic Cooperation and Development. (OECD). (2025). *Government at a glance 2025*. https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/06/government-at-a-glance-2025_70e14c6c/0efd0bcd-en.pdf

Orsman, B. (2024). Disgraceful: Auckland Mayor Wayne Brown slams council staff over \$263,000 Milford Beach stair cost. *NZ Herald*. <https://www.nzherald.co.nz/nz/disgraceful-auckland-mayor-wayne-brown-slams-council-staff-over-263000-milford-beach-stair-cost/CWLG6QE3GNCAJBBIGRBO3GKD2U/>

Parliamentary Commissioner for the Environment. (2024a). *Fast-track Approvals Bill poses significant risks to the environment*. <https://pce.parliament.nz/our-work/news/fast-track-approvals-bill-poses-significant-risks-to-the-environment/#:~:text=The%20Bill%20will%20achieve%20sub,and%20then%20take%20final%20decisions>.

Parliamentary Commissioner for the Environment. (2024b). *Letter to Treasury on discount rate changes*. <https://pce.parliament.nz/publications/letter-to-treasury-on-discount-rate-changes/>

Pharmac. (2020). *Health economic analysis at PHARMAC*. <https://www.pharmac.govt.nz/assets/2-health-economic-analysis-at-pharmac-2050.pdf>

Pickford, M. (2013). State highway investment in New Zealand: The decline and fall of economic efficiency. *Policy Quarterly*, 9(3). <https://doi.org/10.26686/pq.v9i3.4454>

Roberts, M., Atkins, C., Vine, A. (2021). *BCR: Benefit Cost Ratio or Barely Capturing Reality?* Australasian Transport Research Forum 2021 Proceedings. https://australasiantransportresearchforum.org.au/wp-content/uploads/2022/05/ATRF2021_Resubmission_89-1.pdf

Sapere Research Group. (2021). *Final detailed business case. New Dunedin Hospital. Ministry of Health*. https://www.health.govt.nz/system/files/2021-08/2_-_new_dunedin_hospital_final_detailed_business_case_0.pdf

Searle, B., Pykett, J., & Alfaro-Simmonds, M. (eds.). (2021). *A modern guide to wellbeing research*. Edward Elgar.

Sharp, C. (2025). *What's in the RoNS files?* Greater Auckland. <https://www.greaterauckland.org.nz/2025/12/17/whats-in-the-rons-files/>

The Audit Office. (2023a). *Auditor-General's overview*. <https://ao.parliament.nz/2023/infrastructure-decisions/overview.htm>

The Audit Office. (2023b). *Appendix 1: Guidance for making decisions about infrastructure investments. Making infrastructure investment decisions quickly*. <https://ao.parliament.nz/2023/infrastructure-decisions/appendix1.htm>

The Audit Office. (2026). *Defining and assessing value for money*. <https://ao.parliament.nz/2026/value-for-money/index.htm>

Tonkin Taylor. (2020). *New Zealand Transport Agency National Resilience Programme business case risk assessment methodology*. <https://www.nzta.govt.nz/assets/planning-and-investment/arataki/docs/national-resilience-programme-business-case-methodology.pdf>

Treasury New Zealand. (2015). *Guide to social cost benefit analysis*. <https://www.treasury.govt.nz/publications/guide/guide-social-cost-benefit-analysis>

Treasury New Zealand. (2023a). *Gateway reviews*. <https://www.treasury.govt.nz/information-and-services/public-sector-leadership/investment-management/gateway-reviews>

Treasury New Zealand. (2023b). *A wellbeing approach to cost benefit analysis*. <https://www.treasury.govt.nz/information-and-services/nz-economy/higher-living-standards/our-living-standards-framework/wellbeing-approach-cost-benefit-analysis>

Treasury New Zealand. (2024). *Budget economic and fiscal update 2024*. <https://www.treasury.govt.nz/sites/default/files/2024-05/befu24.pdf>

Treasury New Zealand. (2025a). *CBAx spreadsheet model*. <https://www.treasury.govt.nz/publications/guide/cbax-spreadsheet-model>

Treasury New Zealand. (2025b). *CABx tool user guidance. Guide for departments and agencies using Treasury's CABx tool for cost benefit analysis*. <https://www.treasury.govt.nz/sites/default/files/2025-11/cbax-tool-user-guidance-nov25.pdf>

The Treasury New Zealand. (2025c). *Discount rates*. <https://www.treasury.govt.nz/information-and-services/public-sector-leadership/guidance/reporting-financial/discount-rates>

Treasury New Zealand. (2025d). *He puna hao pātiki. Investment statement 2025*. <https://www.treasury.govt.nz/sites/default/files/2025-11/is25-hphp-v2.pdf>

Treasury New Zealand. (2026a). *Better Business Cases*. <https://www.treasury.govt.nz/information-and-services/public-sector-leadership/investment-management/better-business-cases>

Treasury New Zealand. (2026b). *The Treasury's CABx tool*. <https://www.treasury.govt.nz/information-and-services/public-sector-leadership/investment-management/investment-planning/treasurys-cbax-tool>

United Kingdom Government. (2013). *Optimism bias. Supplementary Green Book guidance*. https://assets.publishing.service.gov.uk/media/5a74dae740f0b65f61322c72/Optimism_bias.pdf

University of Queensland. (2022). *Social cost benefit analysis and economic evaluation: Chapter 10 — Dealing with uncertainty*. UQ Press. <https://uq.pressbooks.pub/socialcba/chapter/dealing-with-uncertainty/>

Ura, K., Alkire, S., Wangdi, K., & Zangmo, T. (2023). *GNH 2022*. Centre for Bhutan & GNH Studies. https://ophi.org.uk/sites/default/files/2024-03/Bhutan_GNH_2022_%282023%29_compressed.pdf

Wellington City Council. (2022). *Sludge minimisation business case*. <https://wellington.govt.nz/-/media/your-council/projects/files/sludge-minimisation-business-case.pdf?la=en&hash=C1FC95904717BB1048BAA820D60D4CE3EB85B7C7>

Wellington City Council. (2024). *2024–34 Long-term Plan volume 3 amended – Financial strategy and infrastructure strategy*. <https://wellington.govt.nz/-/media/your-council/plans-policies-and-bylaws/plans-and-policies/longtermplan/2024-34/2024-34-long-term-plan-volume-3-amended.pdf?la=en&hash=438D-2D3C9FDE17EE787DA26768D94AF7E6005A27#page=94>



Wesselbaum, D., & Grimes, A. (2025). *Treasury has a great cost-benefit calculator for big-spending projects – we just need to use it better*. Radio New Zealand. <https://www.rnz.co.nz/news/on-the-inside/570950/treasury-has-a-great-cost-benefit-calculator-for-big-spending-projects-we-just-need-to-use-it-better>

Willis, N. (Minister of Finance), and Bishop, C. (Minister for Infrastructure). (22 April, 2026). *Independent oversight of infrastructure investment*. Beehive media release. <https://www.beehive.govt.nz/release/independent-oversight-infrastructure-investment>



wsp

THE
Helen
Clark
FOUNDATION