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Perspectives on  
New Zealand's  
infrastructure sector

MinterEllisonRuddWatts.

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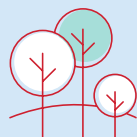
Perhaps the single biggest enabler for an industry charged with supporting the country's economic recovery and delivering the Government's wellbeing outcomes for New Zealanders is a reliable, co-ordinated pipeline of projects. A pipeline will allow the infrastructure sector to better plan and invest in capability and capacity – shifting from ad hoc to planned.



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Few would disagree that addressing New Zealand's infrastructure deficit needs to happen – and now. While the Government is seeking to address the gap between the country's infrastructure needs and current infrastructure stock, allocating billions in funding, it's widely recognised that private sector capital and capability is an essential part of the solution.



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Three years ago, New Zealand made global headlines with its first Wellbeing Budget. Since then, the Government has shifted the dial across ministries and industries that have relied on the traditional procurement values of time, cost and quality. But how far have we come, and what is needed for buyers and bidders to embrace value-based procurement?



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With Government planning to accelerate housing, reform water and build better transport links, with a mandate to deliver broader outcomes, a key question is: what is the role of local government? With long-term plans, local government arguably have the most clearly signalled public sector pipeline and insights into the communities they serve.

Cover: Phil Botha/Unsplash

# Foreword



**Sarah Sinclair**  
Chair and Partner  
MinterEllisonRuddWatts



Infrastructure is at the very core of creating an inclusive sustainable economy in New Zealand.”

## Kia ora koutou

Infrastructure makes things possible – the things we want to be able to take for granted. It supports our pathway to a strong and prosperous New Zealand. So, are we making the right decisions when it comes to providing the infrastructure that our country needs to move forward at the pace that today’s world demands?

Strong infrastructure means that people thrive – they have warm homes in which to raise their families, they can travel to education and jobs, they have clean water to drink and swim in, and they can access healthcare when required. Infrastructure is at the very core of creating an inclusive sustainable economy in New Zealand.

An enormous opportunity exists to propel New Zealand’s infrastructure forward

with significant funding boosts from the Government, greater pipeline clarity and heightened interest from international investors seeking opportunities. To realise this opportunity, new thinking is required on a significant scale: how do we attract new people into the sector, provide infrastructure sustainability to meet our societal expectations and climate change challenges, improve our procurement processes and supply chain resilience, use technology and data, and consider not just the projects we build but also the legacies we create.

MinterEllisonRuddWatts sat down with some of New Zealand’s infrastructure industry leaders and key influencers to probe these challenges and explore ways to advance our country’s infrastructure ambitions. Our conversations were far-reaching, covering topics as diverse as how to involve private capital investors and what to base investment decisions on to creating

a reliable pipeline, and how we might build a sustainable and skilled workforce, attracting, training and retaining the diversity of people that the infrastructure serves.

We are grateful to all of the contributors featured in this publication. Many thanks go to Alison Andrew of Transpower, Adrienne Miller at the Infrastructure Sustainability Council, Mike Pohio at Ngāi Tahu, InfraRed’s Brian Harrison, Ross Copland at the New Zealand Infrastructure Commission Te Waihangā, Adrian Littlewood at Auckland Airport, Rosie Mercer at Ports of Auckland, Stephen Town at Te Pūkenga, and Susan Freeman-Greene of Local Government New Zealand for their time, candour and leadership in discussing the opportunities and challenges the country’s infrastructure sector needs to seize.





It's about reframing the question and starting from the outcome and working backward – rather than starting from a solution and working forward.”

Ross Copland  
New Zealand Infrastructure Commission  
Te Waihanga



## Infrastructure strategy: Key to inclusive economic growth

New Zealand's population and its priorities are changing fast, presenting a complex challenge for both private and public infrastructure delivery.

By 2050, 92% of New Zealand's population will be based in urban centres. Auckland is growing much faster than the rest of the country and, by 2035, its population will increase to more than 2 million. In the same year, we will reach a milestone: one in every 4.5 New Zealanders will be aged over 65.

We also have growing challenges to face around sustainability and climate change, with technological disruption presenting a constantly moving target. Meanwhile, COVID-19 has changed the way we connect with the world forever.

Amidst all this change, MinterEllisonRuddWatts spoke to Ross Copland of the New Zealand Infrastructure Commission Te Waihangā and Adrian Littlewood of Auckland Airport to explore how and why strategy setting plays a vital role in delivering the infrastructure we need.

### It's the outcome that counts

Whether it's to get people on planes and sustain a profitable business, or to deliver world-class transport infrastructure in our cities, strategy setting needs to start with a specific outcome in mind, Copland says.

"One of the most significant issues we

face is that most of the problems we ask people to define start with a solution in mind. In the context of transport, we need to be interrogating the modes of transport objectively and, in the business case stage, we need to be slow to jump to solutions."

"It's about reframing the question and starting from the outcome and working backward – rather than starting from a solution and working forward."

### Three foundational outcomes

Te Waihangā aims to make changes at a system level, rather than recommending or consulting on individual projects, says Copland.

"We're not here to recommend a second harbour crossing or light rail. Our goal is at the system level, thinking about the role of government, the role of regulators, the role of institutions that fund and finance infrastructure at that very high level and saying – what are the settings and needs that need to be met?"

As part of the strategy Copland says they've broken everything down to three outcomes to work towards.

"Number one is building a better future, and this is about infrastructure that's

**2035**

One in every 4.5 New Zealanders will be aged over 65

**2035**

Auckland's population will be more than 2 million

**2050**

92% of New Zealand's population will be based in urban centres



Anticipating disruptors is a key part of any plan, and so is leaving room for the disruptors and changes that you might not anticipate – whatever they may be.”

Adrian Littlewood  
Auckland Airport

resilient to stresses, shocks and prepared for change and the types of change we’re expecting. Those changes include climate change, transitioning to zero carbon future, technological disruption, demographics – in particular growing urban and shrinking rural populations – as well as the need to have a better partnership with Māori than we have historically.

“Number two is enabling the competitiveness of our cities through infrastructure, while number three focusses on the system – how we design, fund, plan and ultimately execute our infrastructure investments to help continue to deliver the first two outcomes in a changing environment.”

### Adapt to change

Adrian Littlewood couldn’t have picked a tougher time to be the CEO of the country’s largest airport. But he says, when it comes to strategy setting, disruption and change has been the norm for the airport, not the exception. His story of the airport’s conception is proof of that, he says.

“When the airport was originally conceived there were 10 possible locations, including Browns Island. The reason being the technology of the time was flying boats.”

He says that the team eventually settled on Mangere for the airport site and came up with a runway and terminal plan consistent with current trends and demand in New Zealand – and all because a Ministry of Works’ engineer went to the United States to see what was happening with aircraft technology, and he managed to find his way into Boeing where he saw the 747.

“That changed everything. The plan had not allowed for a 747, so runway length, width, terminal size, passengers per plane et cetera had not been considered at all.”

The airport’s infrastructure plan had to change completely, as nobody could predict how fast this new technology would take off and it was near impossible to plan for the democratisation of travel that followed.

“Back then, we had 50,000 passengers in the first year, and in 2019 we had

### Te Waihanga’s strategic outcomes



Build infrastructure resilient to stresses, shocks and prepared for change



Enable the competitiveness of our cities through infrastructure



Create an effective system to fund the infrastructure projects

21 million. When it comes to planning infrastructure, it’s easy to look back at that and assume it’s been accounted for and that there won’t be any more changes of that magnitude, but risk always comes back around.”

True to form, 64 years after the 747 changed air travel forever, COVID-19 came and transformed the industry again. Littlewood says the airline’s master plan stayed the same despite this major disruption.

“Having an overriding masterplan that you can adapt is at the core of good planning. In this past year, we’ve asked if our masterplan is still right, and it is. There has to be some adaptations because of post-Covid requirements so we have to allow for that – but the master plan stays true.”

### Turning a strategy into a master plan

While Copland and Littlewood may have unique perspectives because of

their positions in public and private organisations, they both agree that outcomes-focused planning for infrastructure is important.

Says Littlewood: “We have our guiding star, which is our responsibility to connect New Zealand to the rest of the world and to facilitate trade, travel and tourism. From that outcome, we create a master plan which has to take a 30-year view to express infrastructure strategy in a workable form.”

Done well, Littlewood says these plans have to take into account all foreseeable variables including everything from technological disruption and regulatory change to climate change.

“Anticipating disruptors is a key part of any plan, and so is leaving room for the disruptors and changes that you might not anticipate – whatever they may be.”





## Filling the pipeline: How to prime the pump

Pipeline, pipeline, pipeline. Perhaps the single biggest enabler for an industry charged with supporting the country's post-pandemic recovery and delivering the Government's wellbeing outcomes for New Zealanders.

Much criticism has been directed at New Zealand's lack of a visible, coordinated pipeline of infrastructure projects in the past. However, the New Zealand Infrastructure Commission Te Waihanga seeks to address this by the building of its online pipeline to act as a single, trusted source of information for the sector. The pipeline will enable the sector to plan and better invest in capability and capacity.

While good progress is already being made on a pipeline to support the sector, MinterEllisonRuddWatts asked Ross Copland of Te Waihanga, and Brian Harrison of InfraRed, to share their perspectives on building a predictable pipeline and what more is required to prime the pump more effectively.

### From ad hoc to planned

Ross Copland says that announced projects being part of a reliable, signalled pipeline is preferable for the wider sector compared to the 'surprise' nature of some recent project announcements and allows a more systemic and planned approach to building infrastructure.

"There's an enormous productivity cost to the sector, and the country, from constantly being reactive. Work that comes to market through surprise ad hoc announcements is not going to be delivered in the timeframes anticipated, simply because the inertia in the system is so great that it takes time to mobilise and react.

"One of the most powerful insights a pipeline offers is looking at different parts of infrastructure, and the lumpiness or smoothness of workflows. To combat this lumpiness, we should be looking at other sectors who are building pipelines in a structured, realistic, and linear fashion to see what we can learn.

"We can learn from regulated sectors that are required to understand their assets and to have an asset management plan in place for renewals and on-going maintenance. This discipline provides a degree of investment autonomy and an obligation to consistently plan for the future.

"If you consider infrastructure funding over the last 12–24 months, we've had non-standard funding allocated through



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Ross Copland  
New Zealand Infrastructure Commission  
Te Waihanga





Cost of doing one-off projects in New Zealand is high, because there is no certainty that there is any ability to recover these costs and investments in supply chains and personnel on possible future projects.”

Brian Harrison  
InfraRed



## Filling the pipeline: How to prime the pump

New Zealand Upgrade Programme at scale, a NZD700 million water stimulus investment, and NZD3 billion allocated across a whole range of infrastructure shovel-ready projects and through the Provincial Growth Fund, which went predominantly into the port sector, transport, a little bit into energy, and some into tourism infrastructure. If we could turn this into a more reliable and dependable pipeline of work, everyone would win.”

Somehow, he says, the norm within infrastructure has become developing bespoke, non-standard funding models for core infrastructure funding at scale.

“We should be working on a percentage of depreciation-based automatic baseline funding, which then allows empowered institutions to get on and procure that work in a sensible manner.”

### **Consistent workflows: a remedy to attracting investment?**

Brian Harrison adds another challenge to the mix. In his view there is no domestic infrastructure organisation with the requisite balance sheet, depth of experience and capacity able to deliver the largest projects. This creates a need to

attract capable and experienced foreign corporations in sufficient numbers to establish a competitive bidding market. However, he says, without a clearly articulated pipeline this is already difficult and will become more so in the future. Many offshore infrastructure players currently view New Zealand on a one-off project basis because there is no evident national forward pipeline or plan.

“This is not an attractive proposition to them, as the establishment capex and opex costs of doing one-off projects in New Zealand is high, because there is no certainty that there is any ability to recover these costs and investments in supply chains and personnel on possible future projects.

“Contrast this with Australia (a competitor for talent in this sphere) which has an announced infrastructure pipeline and it is not hard to see why it is difficult to attract the best in class international contractors to New Zealand in sufficient numbers to create a competitive market.”

### **Predictability is key to a sustainable workforce**

Copland agrees, pointing out that a transparent and stable pipeline adds an

important overlay between continuity of work and the ability of the market to respond with sustainable workforce development.

“I’m often asked what I think the most important training, upskilling or workforce initiative is, and my answer is unequivocally, sort out the pipeline. If we can have a reliable, steady, and predictable flow of work, then firms can invest, they can hire, and they can train.

“If you’re working job to job, and the project is six months out from completion, the project managers, engineers and carpenters and so forth have no certainty what the next job is because there isn’t either a pipeline or the work is not released far enough in advance. This is when we lose people. The market starts to leak, then hemorrhage our skilled workforce to overseas and other industries. It creates unnecessary stress and impacts wellbeing, making our industry less appealing.

“A predictable pipeline with realistic timeframes is what is required to support the sector’s workforce and achieve the country’s infrastructure outcomes.”



**If we can have a reliable, steady, and predictable flow of work, then firms can invest, they can hire, and they can train.”**

Ross Copland  
New Zealand Infrastructure Commission  
Te Waihanga



## Building talent to deliver strategic outcomes

The shift from delivering standalone infrastructure projects, or 'pieces of kit', to delivering strategic outcomes for New Zealanders, highlights the challenges regarding the capability and capacity of a mobilised infrastructure sector. These infrastructure programmes need to meet the needs of all New Zealand's, work with mana whenua as partners, deliver jobs, access to employment and education, and be delivered and operated sustainably.

With the number of recent infrastructure announcements, the question being asked is whether New Zealand has, or can attract, the capability and capacity to deliver – who will build it?

In July last year, the Government announced a NZD380.6 million initiative designed to keep apprentices 'connected to work, connected to training and connected to their communities while New Zealand recovers from Covid.' This initiative and the pandemic have provided New Zealand's infrastructure sector with opportunities to refresh and renew its focus on people.

MinterEllisonRuddWatts asked Te Pūkenga NZ Institute of Skills and Technology CEO Stephen Town, Ross Copland of the New Zealand Infrastructure Commission Te Waihanga and Ngāi Tahu's Chief Executive, Mike Pohio to share their insights on the strategies we need to encourage diversity, and attract and retain the right people to the sector – and into the country.

### Infrastructure is for people: Diversity is essential

There is a long way to go to improve workforce diversity in the sector, admits Ross Copland, but it is essential to deliver fit for purpose infrastructure.

"We are certainly not very diverse. This creates challenges, and I believe these are most prominent in areas such as design, urban reform, consenting, planning, engagement, consultation and bringing communities on the journey.

"If the industry doesn't reflect the community it's delivering infrastructure for, it's hard to achieve buy-in, and we see that manifesting in poor consenting outcomes, designs that aren't fit for purpose, safety design, or building places that people don't want to be a part of.



We need to begin addressing diversity if we want to build better quality infrastructure that's fit for purpose and accepted by the communities who are inheriting it."

Ross Copland  
New Zealand Infrastructure Commission  
Te Waihanga



## Building talent to deliver strategic outcomes

“We need to begin addressing diversity if we want to build better quality infrastructure that’s fit for purpose and accepted by the communities who are inheriting it.

“In a lot of ways, we haven’t made the infrastructure industry an attractive or flexible place to work, and we’ve lacked the effort to connect the tertiary education or trade training opportunities to the broader workforce, especially with Māori and Pasifika.”

This is backed up by Stephen Town who observes that while half of our population are women, almost no women participate in the broader construction sector.

“We’ve got a tiny representation of that half of our population. It seems to me that we’ve got to try and make the sector more attractive to a much more diverse range of people. We need to start conversations early, and currently 50% of school leavers have never had a one-on-one interview with a career’s adviser. We need to start talking to kids when they’re young, and not wait until they’ve left school and are scratching their heads not knowing what to do.”

Town believes the opportunity to progress diversity is captured in the direction Te Pūkenga has been tasked by the Government, which is to turn around Māori, Pasifika, and disabled learner success.

“These three identified groups have been very poorly serviced by the existing education and training system, which is why the Government has decided to change it. Over the next three to five years, we have been charged with engineering a way to address the diversity challenge. We believe the biggest impact will be to focus on these three groups which will ultimately benefit wider New Zealand.”

### **Beware ‘the global effect’ and a mobile workforce**

Will New Zealand’s closed borders have a lasting effect on changing how the infrastructure sector attracts talent, recruits, and develops people?

Town believes we should focus on domestic employment growth and skill acquisition, but we need to be cognizant of the sector’s mobile talent pool.

“The trans-Tasman travel bubble is essential for tourism and families

reconnecting. However, it also influences the availability of the construction and skilled workforce. When Australia’s infrastructure sector is buoyant, many Kiwis head there to work, as they can be better paid than here. This is an issue for employers here who have put the effort into training good workers, only to see them jump on a plane. I’m watching closely to see what happens over the next six to nine months with workforce flows.”

Backing up this viewpoint, Copland believes the remuneration delta and salary levels of the New Zealand market compared with Australia – and around the world – present a real challenge.

“Particularly pre-GFC, New Zealand saw a huge number of the infrastructure sector’s skilled workers moving across the Tasman and to Dubai. Unfortunately, New Zealand hasn’t managed to lift wages to a level where we’re competitive against these markets, and the delta in wages is potentially 30%, so this is a major concern.”

Mike Pohio agrees: “We have a massive skills shortage because we can’t attract people into the industry and now, we can’t



**Over the next three to five years, we have been charged with engineering a way to address the diversity challenge.”**

**Stephen Town**  
Te Pūkenga NZ Institute of Skills and Technology

## Building talent to deliver strategic outcomes

get people into the country. Our ability to build skills depends on being prepared to spend infrastructure money. People will flow to where the money is, and where they can get a reasonable balance in their life. Ruakura, for example, will give people the benefit of offering an Auckland wage while living a less congested lifestyle.”

### The workforce challenge

For Town, another key challenge is the scarcity of people within New Zealand who are sufficiently skilled and available to work.

“Prior to Covid, New Zealand’s immigration policy was used to top-up our workforce. Now we are being forced to think about how we build the workforce locally. Successful initiatives like the apprenticeship funding proves that a simple policy can be very effective



**Our ability to build skills depends on being prepared to spend infrastructure money. People will flow to where the money is, and where they can get a reasonable balance in their life.”**

Mike Pohio  
Ngāi Tahu Holdings

as we’ve seen the largest number of apprentices enrolling for work-based learning in more than 30 years.

“But, in a longer-term view, it’s about deciding what skill-mix is best suited to deliver an agreed infrastructure pipeline. New Zealand needs a workplan that has an apolitical approach, and we need to train and develop our own population to try and get a better match with that pipeline for our country and people to grow and flourish.”

### Attract, retain and train

Town points out that New Zealand organisations’ must take action to attract, retain and train their people better.

“Of all the work-based learning that is currently taking place, only 15% is what

we call credentialled, meaning 85% of this work-based learning is not gaining recognised qualifications. This limits the workforce marketability at a higher skill level because people don’t have a piece of paper to show prospective employers that they are acquiring essential skills while they’ve been learning on the job.”

Adding to this, Copland says: “95% of New Zealand businesses working in construction employ five or fewer people. When we don’t have scale, how can we deliver a future-ready workforce around areas like digital capability and capacity, plus understand and respond to sustainability imperatives and train people properly?”

“We need to challenge our sector around how to lift labour and productivity with low capitalisation at the firm level – how do we do this when 95% of an industry is dominated by SMEs? How do we encourage this at an aggregate level to respond to the challenges and lift productivity and do everything we need to keep the economy growing, people trained and active in our industry?”

Town believes that the solution is finding a way to attract employers to be more

involved with skills acquisition and training than they are now.

“One of our roles is to find a way for employers to enjoy that experience and be better providers. There are about 25,000 employers involved in the work-based learning system in New Zealand at the moment, and our sense is that this needs to grow – but in the right capacity. For example, on-campus learning may not be required or be the most efficient way to tackle the skills shortages that we are currently facing.

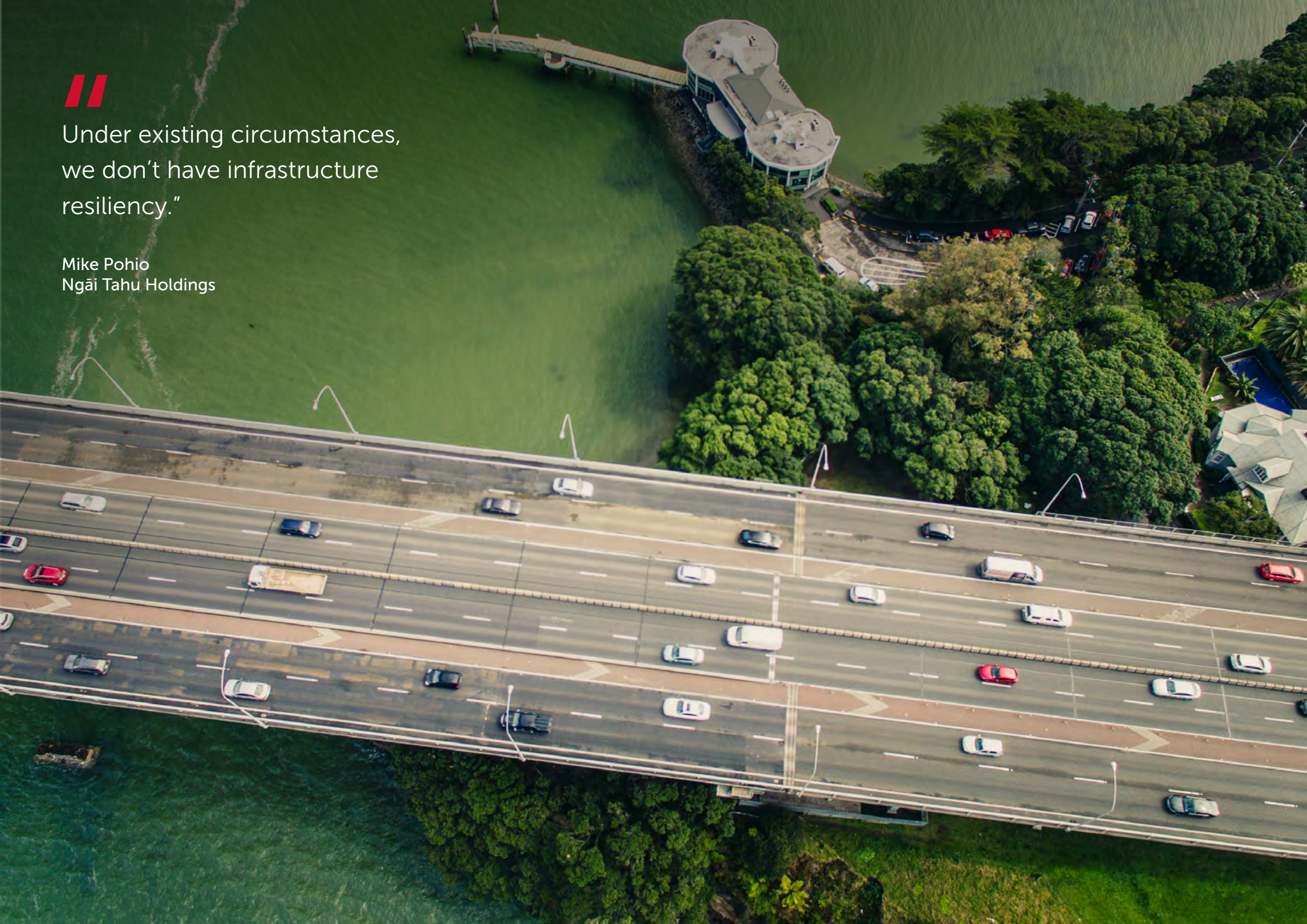
“Te Pukenga is focusing on helping employees gather a lifelong learning record which has some portability and recognition in other employment settings. To achieve this, it’s important that we find the right financial encouragement. If we review the apprenticeship boost initiative – it shows how quickly you can have an impact if you incentivise employers.”





Under existing circumstances,  
we don't have infrastructure  
resiliency."

Mike Pohio  
Ngāi Tahu Holdings





# Leading New Zealand's climate change challenge

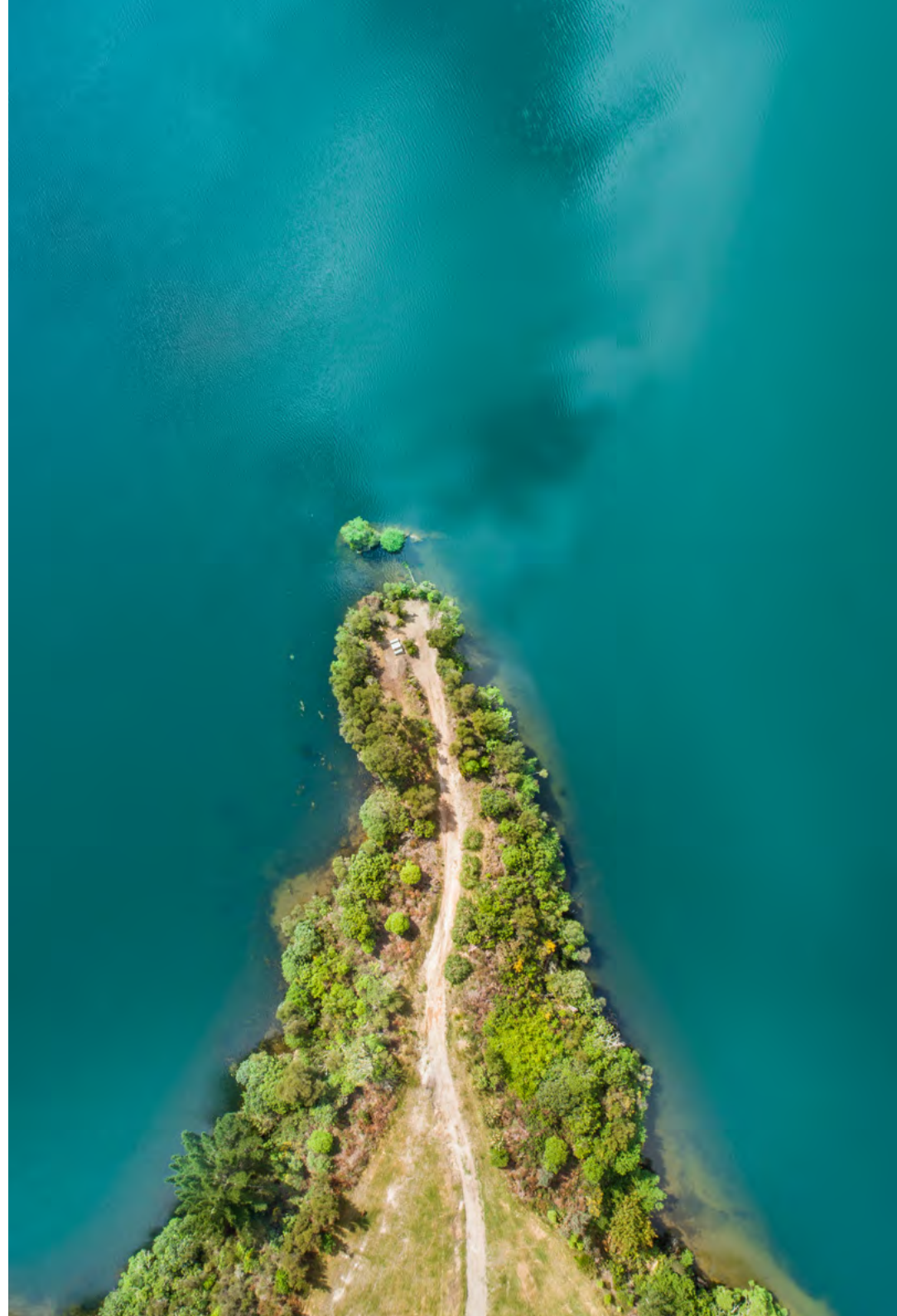
As the impacts of climate change on New Zealand's infrastructure resilience and supply chains becomes an increasingly urgent topic for owners and users of our nation's key assets, leading voices – Chief Executive of Transpower, Alison Andrew, Infrastructure Sustainability Council's New Zealand General Manager, Adrienne Miller, Chief Executive of Auckland Airport, Adrian Littlewood, Chief Executive of Ngāi Tahu Holdings, Mike Pohio, and General Manager of Sustainability at Ports of Auckland, Rosie Mercer – examine some of the challenges and issues.

The first challenge is how climate change is exposing the current state of New Zealand's infrastructure assets, says Alison Andrew. Citing the example of a severe weather event on the Rangitata River in December 2019, when a huge increase in river flows ripped out a number of towers from a core transmission line into Christchurch.

"New Zealand's infrastructure resilience is variable, and we face a significant challenge with climate change and natural disasters like earthquakes. We have to be mindful and ready to respond to severe weather and other events, and we need to think about the standards we build to make our infrastructure

more resilient and affordable over time, particularly as 1-in-200-year events have the potential to become maybe 1-in-10-year events. At the same time, we have to be able to restore damaged infrastructure quickly and efficiently because it will not be cost effective to design our way out of every situation."

Mike Pohio is less positive: "Under existing circumstances, we don't have infrastructure resiliency. Climate change highlights our deficit and the great need we have to fix current problems so we can provision for the future. We have a huge deficit and face significant climate change impacts on our existing infrastructure."





## Leading New Zealand's climate change challenge

### A change in thinking is required

Adrienne Miller also has reservations. She doesn't think New Zealand's infrastructure is as resilient as we might have previously thought. Part of the problem, she says, is that we have tended to think that we can impose ourselves on nature and hold nature back.

"We've got to work much more holistically to think how we can work with Papatūānuku, all stakeholders and integrate multiple elements into the solution. We need really big picture, transformative and multidisciplinary thinking to deal with climate and weather, so we're not as affected by events, and can bounce back quicker.

"A common misperception in the industry is that it costs more to put sustainability at the top of the list. I have presented to many audiences on the paradigm

shift from a traditional cost, time and quality dynamic to one that focuses on impacts. In this revised model, cost and economics become about ROI across the asset's lifespan. Notably too when you look at the full asset lifespan and you focus on impact and outcomes, the traditionally negative multipliers of cost and time flip to become positives – multipliers of good."

Rosie Mercer cites Ports of Auckland's move towards a sustainable pathway as a response to the costs of not doing so being pointed out.

"We're part of the Sustainable Business Council Low Carbon Freight Pathway Development, with nine organisations' collaborating to develop a pathway for the freight sector to reach net zero by 2050 and halve its emissions by 2030. However, financial barriers are massive, and until there is some driver that incentivises organisations' to make these



**A common misperception in the industry is that it costs more to put sustainability at the top of the list."**

Adrienne Miller  
Infrastructure Sustainability Council



changes, most won't be able to take that hit to their financial bottom line. It's a big commitment and a big shift which needs to be better understood."

### Supply chains, end users and people

Pohio sees two major issues of sustainability as those of supply chains and people.

"Although our port infrastructure is well served at present, the real focus for me is the supply chain. This means maintaining big-ship capability, and the infrastructure to accommodate these big ships. How can we ensure this is in place over a 30–50 year timeframe?"

Involved in the development of the Ruakura Superhub and inland port that is taking shape in Hamilton, Pohio says that the plan is based on recognising that the Auckland and Tauranga ports don't have sufficient footprint.

"We currently benefit from being a supplier of dairy to the world, so we get good pricing for our products and shipping connections. We must not become a satellite of Australia, which would embed cost and delays, and become an issue for our country in getting product to market."

## Leading New Zealand's climate change challenge



Adrian Littlewood highlights that Auckland Airport has the ability to control change and influence the awareness of the end-user, as the first airport in the southern hemisphere to adopt science-based target initiatives throughout its operations allowing it to achieve targets set in 2012/13. Now in the process of resetting these targets, he says the airport is focusing on its biggest impact areas as a landlord and infrastructure owner and embedding those changes into investments.

"For example, within our buildings we're implementing changes in heating, ventilation, lighting systems, and thinking

about embedded carbon in buildings and concrete. We've provisioned ground power units to all the planes so they can turn off the jet engines while parked, and we're reviewing how we change to only electric vehicles for our ground fleet. These are all factors we can influence and have a responsibility to do so."

Alison Andrew says that because New Zealand relies on international imports, with little major manufacturing base as a country, we must think carefully about supply chains and diversity of supply.

"I think many people would be surprised to know just how much we rely on imports. A lot of domestic manufacturing has to export to be viable. Because New Zealand does not make much of the equipment needed for high voltage transmission, we had to look offshore to get six towers manufactured at short notice to rebuild our transmission line and restore power security to the upper South Island after the Rangitata flood. China has a factory that turns out towers for transmission companies around the world. They made our towers in a small run, and we got them in a few weeks. There is no capacity for this here in New Zealand.



We need to stay connected internationally, particularly when recovering from weather events, and we need to look to international supply chains to ensure we have sufficient critical spares."

Alison Andrew  
Transpower

"This means we're working to understand the sustainability of our supply chain, trying to reach further and further back into the chain to understand carbon, labour practices, etc. The factors you are required to consider need to include how much you are prepared to put on table for low carbon products and will they be fit for purpose? As a result, we are doing a lot more work in prequalification – we're getting more sophisticated about it."

Ultimately, says Andrew, a lack of self-sufficiency is the reality for New Zealand.

"I don't see us as being self-sufficient. We struggle because our domestic demand is so small. We need to stay connected internationally, particularly when recovering from weather events, and we need to look to international supply chains to ensure we have sufficient critical spares. This also means we are reliant on specialist labour from overseas, because we don't train enough specialist engineers here."

### Taking action and getting payback: the next big challenge

So, in this environment, do infrastructure organisations know how and where to start to take effective action to be more sustainable?

Rosie Mercer notes that Ports of Auckland initially set ambitious targets to achieve zero emissions by 2040.

"We joined the Climate Leaders Coalition and had to align our target with science, which created an even tougher roadmap than the original 2040 plan.

"We measured what we had and created possible pathways and a detailed financial model for the entire roadmap, including our different vehicles and emission sources. The detailed financial model provided us with analysis of the project options that different energy transition types would give us. Through this process we made some significant changes to our approach, as the modelling helped us realise how financially constraining some



## Leading New Zealand's climate change challenge

of those options would be. We needed to continually change our methodology.

"One such change was our original idea to have a significant transition to zero emission technologies like hydrogen and battery early to achieve our science-based targets. However, it was simply not financially viable, and as an alternative we adopted a second-generation biofuel.

"We use different tools to assess and compare projects against the marginal abatement cost, essentially looking at how many dollars we're spending for every ton of carbon we're reducing. This provides a view of the efficacy of different project types and approaches.

"The process highlighted how important it is to create roadmaps that have flexibility, allowing you to adjust your expectations, based on your resource capacities while keeping the momentum going."

Miller says that all this work is part of a wider paradigm shift that is underway.

"People want their assets to do more, to do good. There is a pincer movement between regulatory and reporting changes and stakeholder preferences.

This applies right across the supply chain, with significantly reduced tolerance for negative impacts. The difference between what is legally permitted and what is acceptable to stakeholders is growing."

Underscoring the dividend in investing in infrastructure sustainability, Infrastructure Sustainability Council shows that for every NZD1 spent on projects committed to sustainable performance the return is NZD1.64–NZD2.40. Miller says that the key question is sector readiness to capture the value uplift that have been quantified, as well as the enhanced amenity value, well-being and health outcomes that come from spending on infrastructure – which also results in averted spend elsewhere. It really starts before the business case going back to the options stage.

Pohio says: "This needs a full court press: incentives and stick, public pressure to generate momentum. There's no way we'll get there with any one approach. We need to demonstrate the medium and long term impacts on our standard of living. The Treasury's Living Standards Framework allows people – investors,

the public – to better present their cases against what Treasury can genuinely match. We need to show the standard of living difference between investing and not investing."

Miller agrees, saying that ultimately the way forward is all about leadership.

"Sustainability leadership at any level is about seeing the bigger picture. You need those insights and perspectives to lead into the future. People grappling with doing the right thing also need to bring their team or organisation with them.

"The big picture thinking of sustainability is actually really, really good for dealing with disruptive conditions such as Covid and climate change, because it helps you think differently about problems and solutions. In a world of constant disruption, we are going to have to change.

"This is an opportunity to shine or be left behind."



“People want their assets to do more, to do good.”

Adrienne Miller  
Infrastructure Sustainability Council





## Unlocking investment in infrastructure

Productivity, jobs, well-being, and growth are at the very heart of why we have public infrastructure. Few people would disagree that addressing New Zealand's much-discussed infrastructure deficit needs to happen – and now.

Infrastructure is the bridge to every New Zealander having access to housing, education, and employment – not to mention safely drinking water from a tap and swimming in clean beaches, rivers, and lakes.

The New Zealand Government is seeking to address the gap between our infrastructure needs and current infrastructure stock: in May the Government announced that it is putting NZD3.8 billion into a fund to increase housing supply, and has committed NZD57.3 billion to infrastructure spending over the next five years – this was an increase from NZD42.2 billion already budgeted for infrastructure investment over the next four years. While this is a significant funding boost, it's widely recognised that more is needed.

## Unlocking investment in infrastructure



The Government can kickstart the process, but I would recommend a mix of predominantly government and some private investment.”

Mike Pohio  
Ngāi Tahu Holdings

The question then quickly turns to: how will this actually happen?

Private sector capital and capability is an essential part of the solution.

MinterEllisonRuddWatts asked Brian Harrison of InfraRed and Infrastructure NZ, and Ngāi Tahu’s Chief Executive, Mike Pohio what is needed to unlock private sector investment in New Zealand’s infrastructure.

Mike Pohio says that any strategy to overcome New Zealand’s infrastructure deficit cannot come from government alone.

“The Government can kickstart the process, but I would recommend a mix of predominantly government and some private investment. NZ Super, ACC and iwi can all contribute.”

He says that examples already exist to show how the recovery of private capital can be achieved.

“This has been successful with private infrastructure investment at Milldale, a residential subdivision north of Auckland. The outcome of this model, which

saw private charges funding residential infrastructure development, could be more widely used.”

In applying such a model, Pohio says there is the issue of the cost of capital and a fair return on that capital.

“What might a fair return for private capital look like now, and would people think it would be a great investment? A capital asset pricing model would fix this, with many references to data points already out there. We need to get to a fair return through the data points, not through a bidding process. The amount of justifiable capital required, and the capital asset pricing model justifies the rate. We would be talking an absolute minimum 5%, but no more than 10%.”

Brian Harrison also points out that with the scale of proposed projects, New Zealand needs to attract large, international contractors with the capability, capacity and balance sheets that support big projects – and access to the necessary supply chains.

## Unlocking investment in infrastructure



If you've got a strong pipeline and a plan you create certainty to offset some of the costs to setting up in New Zealand. You can also attract the best contractors at the most competitive price."

Brian Harrison,  
InfraRed

### Is New Zealand an attractive proposition?

Harrison says the right settings need to be in place to create a competitive market model that attracts private sector involvement.

"New Zealand is a small country, and it's relatively remote.

"The cost to set-up in New Zealand is high, and there is no pipeline that contractors can rely on. It is unattractive for international firms to invest time, management, and resource here with the prospect of delivering one project – the costs involved can severely impact the returns.

"To attract international investment, we need a plan that transcends governments, so priorities don't change with each election. If you've got a strong pipeline and a plan you create certainty to offset some of the costs to setting up in New Zealand. You can also attract the best contractors at the most competitive price."

### Competition and value

Stripping political views on the rights and wrongs of private sector involvement away from the debate is essential to understand that the private sector is only

a part of the solution, says Harrison. Then the challenge exists for the private sector to articulate the value it brings.

"Commercial understanding is an important long-term contribution that the private sector can make to projects. It actually brings a commercial level of risk and financial acumen to projects.

"Private participation in infrastructure is just one of many forms of procurement and contracting models. It has been very effective in ensuring that infrastructure is built in climates of constrained public borrowing by setting the budget from day one and spreading the capital and maintenance costs over time, for the period of the contracted concession.

"The key focus needs to be on prioritising where your infrastructure spend is to be allocated and then deciding what procurement method will be the best use of available resources to deliver it – whether that be private, public or a combination of both. To inform these decisions you need to promote the factors that will create a competitive market that attracts and warrants private sector allocating their resources to bidding and participating – this includes a

trusted pipeline and fair procurement and contracting models.

"There are numerous organisations involved in commenting on infrastructure in this country. Perhaps a team could be mandated to look at the key areas of focus and advise Government accordingly."

Mike Pohio's message to the industry is: "We need to demonstrate the medium and long-term impact on our standard of living. That's where Treasury's Living Standards Framework allows people – be it investors or the public – to better present their cases against what Treasury can genuinely match.

"It's a simple decision tree. If you invest you get this, if you don't, here's your standard of living. Which one would you choose?"





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People recognise that buying solely on price is a mug's game, and has always been."

Alison Andrew  
Transpower

**From lowest price to best outcome:**

## **A welcome and necessary turning of the procurement tide**

Three years ago, New Zealand made headlines around the world with the announcement of the first Wellbeing Budget. Minister of Finance Grant Robertson announced 'the first steps in a plan for transformation – a transformation of our economy, a transformation of our public services, and a transformation of the way we work together to improve the lives of all New Zealanders'.

This, he said, would be backed by a Government that is 'committed to being responsible – not just fiscally, but socially and environmentally' to lay 'the foundations for New Zealanders to have better lives in the decades to come'.

Since then, the Government has been focused and consistent in using its considerable procurement muscle 'to support wider social, economic, cultural and environmental outcomes that go beyond the immediate purchase of goods and services'. This has spawned a dozen

## A welcome and necessary turning of the procurement tide

terms that have needed translation – Broader Outcomes and Public Value to name just two – as the Government has worked to shift the dial across ministries and industries that have relied for decades on the traditional procurement values of time, cost and quality.

So how far have we come since then, and what still needs to happen for buyers and bidders across the infrastructure sector to embrace it fully? MinterEllisonRuddWatts asked this question of Adrienne Miller of the Infrastructure Sustainability Council, New Zealand Infrastructure Commission Te Waihangā's Ross Copland, Transpower's Alison Andrew and Rosie Mercer of Ports of Auckland.

### Price, value and rhetoric

"Certainly, in my industry, people recognise that buying solely on price is a mug's game, and has always been," says Alison Andrew.

"They see value in an approach that seeks more collaborative relationships between buyers and suppliers, with the public sector as a key driver."

As the national provider of an essential service, Transpower requires equipment that lasts for 50–60 years, with no excuses for buying something cheaply

that needs replacing 5–10 years down the road. Andrew says that although this is reasonably straightforward for asset life, it is more challenging to put a dollar price on social factors.

"We have an enormous responsibility to buy for value. We must ensure our assets are robust, with long life, and we have to buy responsibly, causing no harm or damage. However, our shareholders and communities won't thank us for taking risks on things that were trendy at the time. So, the question is how do you define a social outcome."

This is just the first of the challenges that have emerged over recent years. Another, according to Adrienne Miller, is the willingness of the infrastructure sector to believe the rhetoric.

"There's good reason for that. The industry has been burnt previously with non-price attributes being emphasised in procurer rhetoric, but responses on those attributes not receiving sufficient weighting at the tender box. Some procurers have reverted to lowest cost price behaviour under pressure, which has led to a healthy degree of scepticism in the market, as well as two major market misconceptions.



The wellbeing viewpoint requires organisations to develop a model so when decisions are made with a short-term view, they understand the impact these decisions will have or the potential lost opportunities further down the track."

Rosie Mercer  
Ports of Auckland

"The first misconception is that it takes longer to design and deliver sustainable outcomes. The second is that it costs more to procure sustainably. I challenge both of these. You have to look at the big picture and the whole life cycle of the asset. One of the reasons I work for the Infrastructure Sustainability Council is that we have a comprehensive framework that addresses this."

Rosie Mercer believes organisations need to take an integrated long-term view rather than seeking short-term gains.

"The wellbeing viewpoint requires organisations to develop a model so when decisions are made with a short-term view, they understand the impact these decisions will have or the potential lost opportunities further down the

track. An integrated strategy model that includes factors like human capital, intellectual capital, social and relationship capital, plus natural capital, is probably one of the biggest keys to unlocking a systems approach. If you use this approach internally and then across the whole infrastructure sector you can see the impact that you might have on the long-term outcome."

This prompts Adrienne Miller to say to organisations wrestling with all of this: "Be reassured that ministries and agencies now really do care about non-price attributes. So, everyone should elevate the conversation, make it an agenda item every time. It is not just a risk issue; it is increasingly an existence issue, a business



## A welcome and necessary turning of the procurement tide



viability issue.”

On the topic of viability, Alison Andrew adds that the urgent need is to facilitate entry into New Zealand for critical workers. However, she says, a more important matter affecting New Zealand’s prosperity longer-term is a skills deficit.

“There are not enough STEM-qualified people coming out of university and into our business, nor enough Māori or women coming in. I would love to have a better plan for capability. The whole world is trying to decarbonise and produce renewable energy as fast as they can. Anyone with skills in these areas is hot property.”

### **Measure and verify: common standards are the key to the future**

One of the big challenges in taking a value-based approach has always been creating measures of progress that buyers and bidders universally accept. Ross Copland comments one of the major challenges is that although we know intuitively that some of these actions are the right thing to do, it’s difficult to measure.

“Engineers in the room would be saying, if we don’t know what it is that we’re trying

to optimise, we can’t solve this problem. If it isn’t well defined and articulated simply, it becomes abstract in nature and subjective around what these standards mean for a project or how you might approach it differently.”

Adrienne Miller agrees that it comes down to consistent measurement and tools the market will readily embrace.

“You have to be able to demonstrably prove to all stakeholders that you are making progress. Shareholders and investors need to see it, staff need to see you’re acting with authenticity and purpose, and customers will walk if they can’t see it.”

However, she says, the Government is having difficulty translating this desire into a single coherent set of practical measures.

“We need common data standards, and we need them quickly. It needs to happen, and I believe it is being worked on. The need for a baseline in data, a common metric to measure and benchmark against is not going away.”



**There are not enough STEM-qualified people coming out of university and into our business, nor enough Māori or women coming in.”**

Adrienne Miller  
Infrastructure Sustainability Council



## At the sharp end of delivery: What role for local government?

Rarely, if ever, has New Zealand had more going on in the world of infrastructure. In one direction you'll see massive recovery-oriented Government spending, with announcements on housing acceleration, water and transport, competing for attention with wider spending plans.

Turn your gaze and seemingly every government ministry and agency are tasked with a mandate to deliver broad social, economic, cultural, and environmentally beneficial outcomes – think health, defence, and tertiary education.

Look again, and you see council budgets and resources under huge strain as they struggle to cope amid huge constraints. And right through the middle, you might pick out multiple planning, sector and system reforms that are either underway or just ahead.

In this environment of often competing initiatives and activity, a key question is: what is the role of local government – the guardians of our most local public dollar?

Three influential chief executives – Susan Freeman-Greene of Local Government New Zealand; Stephen Town, formerly of

Auckland Council and now at Te Pūkenga NZ Institute of Skills and Technology; and Adrian Littlewood of Auckland Airport – apply themselves to this not insignificant task.

### It's great to have a pipeline, but how do we make progress at a local level?

With their long-term plans, local government arguably have the most clearly signalled public sector pipeline. However, Stephen Town says that local government has unique challenges in a system that is 'in a bit of a muddle' at the moment.

"If you think about where the conversations are, they're all a bit confused, and that's partly because plans keep changing. One of the first things we've got to do is nail down where investment is going to go, and how we're going to procure it, and then stop re-litigating the big plan every three years, which is what happens at the moment."

"We need to create a plan and funding commitment that spans many election cycles, and we need to try to de-politicise the question of infrastructure more than we have been able to achieve so far. I would back the Infrastructure Commission to deliver a really clear plan





We can only deliver at the scale the Government wants with a true partnership between local and central government."

Susan Freeman-Greene  
Local Government New Zealand



## What role for local government?

of where we should invest over the next 15 years, taking account of the climate change bottom line.”

This is echoed by Susan Freeman-Greene, who says: “We are a small country with a massive pipeline of work ahead of us. With pipeline certainty we can invest in our workforce. Creating certainty will also help us detach from the political cycle, which is difficult to do, but we will be better off.”

Freeman-Greene adds that one way an infrastructure-led economic recovery could take place is by thinking about central and local government as a system.

“Each has different strengths and roles when applied to infrastructure and wellbeing. We can create wonderful policy, but it needs clarity and alignment, a marriage of planning, resourcing and on-the-ground skills.”

### **Budgets and funding for the future: a joint central and local approach**

When asked if local government has the tools to be able to fund the infrastructure that communities require, Stephen Town is clear.

“No. I think that that topic has been well-traversed. Even with very low interest rates – never a better time to borrow – there’s still a limit to what you can expect

a local community of any size to take on. Intergenerational equity still bubbles up as a limiting factor.”

This sentiment is echoed and expanded on by Freeman-Greene, who says more consistent funding over the longer-term is needed.

“We have to think longer-term, not just planning for one objective. This needs people to pause at the beginning, and to stop ‘just burrowing on’ with their work. Councils are there to enable communities, but everyone is under the budgetary pump. We just had Covid which saw the 40% of council income derived from non-rates resources decimated. To fund growth infrastructure in communities requires rates. So how do we fund infrastructure so it is right for communities?”

Town says there is a quick way for central government to fix that.

“That would be [for central government] to underwrite the balance sheet if the council is investing in an agreed infrastructure plan. You tie the balance sheet issues, the limitations of the local government balance sheet, underpin that balance sheet providing the council is investing in the right things.

“This all comes back to needing an agreed infrastructure plan that looks out over four or five election cycles so that it doesn’t become a political football.

We’ve seen it fail quite a few times in the last couple of decades. At some point someone is going to need to bite the bullet and agree to lead it politically.

“I think the idea behind the Infrastructure Commission was a genuine attempt to lift our game, get an agreed infrastructure plan, and then set about developing a workforce plan to deliver it.”

Adrian Littlewood says that one of the biggest things central government could do is to repatriate some of the GST to the regions around New Zealand.

“This would create an incentive and a revenue-generating mechanism for local councils to invest in productive activities that add capacity or grow their regions.

“Councils are pinned in a corner. If you think about Queenstown, a lack of funds absolutely stopped the right things happening around investing to support growth. They’re penalised for growth because they have to pre-fund it all. What they’re now discovering is that a large chunk of the growth is resident growth, and it creates traffic in the morning, and



Repatriating some of the GST is the key. It would support investment in new capacity and infrastructure in the regions, which in turn creates local jobs and improved amenity and services for residents.”

Adrian Littlewood  
Auckland Airport

puts pressure on the sewage system. The council is at its maximum limits, yet investment in new housing assets would generate benefits through growing GST receipts that could go to the cause. Repatriating some of the GST is the key. It would support investment in new capacity and infrastructure in the regions, which in turn creates local jobs and improved amenity and services for residents.”

### **Will water and RMA reforms help or hinder progress?**

The national case for change that underpins pending three waters reform is clear, says Freeman-Greene.

“Everyone agrees that significantly more investment is needed in water services delivery infrastructure to meet the environmental and public health



## What role for local government?

aspirations of our communities. We've worked with the Government to develop a national-level package to wrap around the reform proposals that addresses the sector's concerns and supports our communities."

This reflects a key challenge which is how local government has a voice in the conversation, she adds.

"Local government is vital to delivering on community wellbeing and the package acknowledges this. Covid demonstrated how important councils were as the backbone of the country during lockdowns. More than just taking away the rubbish, councils supported communities to deliver medicines, social support, and more. Given how much local government knows about its communities, a conversation about leveraging this knowledge will be key to generating true value.

"We are working with the Government to hold up what is important to our communities, but some really crunchy conversations need to be had and issues need to be resolved. These include how to manage transition, price harmonisation, equity, governance, boundaries – and how does it all work as a system?

"Through reform we can make changes to maps, but people are at the heart of the system: the consumers, deliverers, and regulators. What people and communities think and feel, and how they get their voice into the system, is important. Reform can't just be top down; we need the community voice, as local input can influence all other pieces of work."

Stephen Town shares this view. "If you take the proposed Three Waters reforms and the break-up of the RMA into different parcels of legislation, you would ultimately look at taking transport into some bigger entities for delivery. Local government would end up being the local voice for community development and community facilities. And once you've stripped most of that planning away and responsibility, you're going to attract a very different kind of politician who is motivated by those things."

### And a message for the infrastructure sector?

"Mine is a simple message," says Freeman-Greene.

"It's all about partnership and alignment. There are such huge-ranging pressures on the infrastructure system, and we can only deliver at the scale the Government

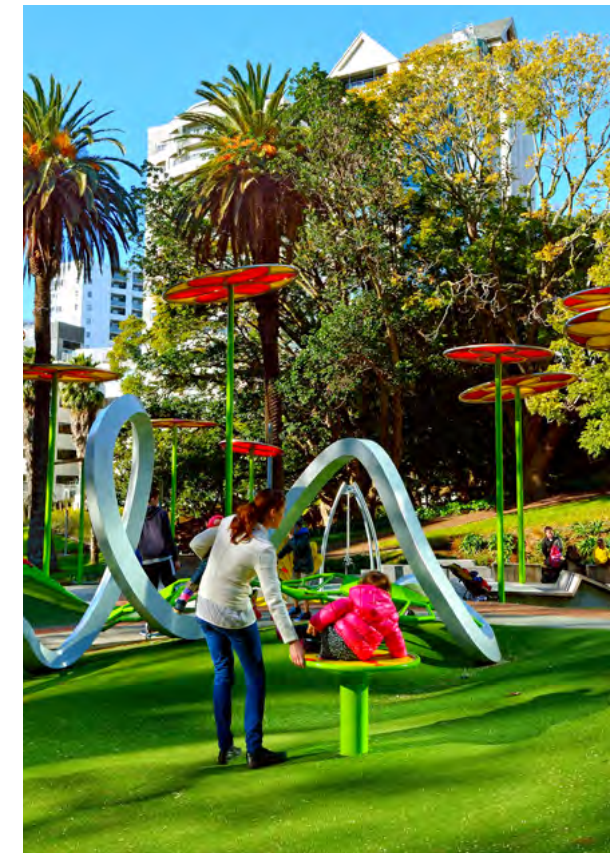


Local government is vital to delivering on community wellbeing."

Susan Freeman-Greene  
Local Government New Zealand

wants with a true partnership between local and central government. I would therefore open community eyes to the value of local government, putting communities at the heart of the structure, working to achieve things for the people who will benefit for them. This involves creating real and enduring partnerships between central government, local government and iwi that speaks to their different strengths, to deliver for the people of Aotearoa. And it would involve an exercise to examine what central government might do differently to enable that outcome.

"Our infrastructure sector has massive experience and skills, and I know how committed the sector is to the greater good. If we can create alignment between central and local government, the private sector and iwi we will do better. Iwi are really important as we go forward and set the frame for the future."



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Our expert team has enjoyed a long involvement with New Zealand's infrastructure sector. Members of our team have advised on all sides and experience includes operating across public facilities, advising on economic and social infrastructure developments, negotiating financing arrangements on major initiatives as well as acting for the New Zealand Government on significant legislative reforms. This unique, hands-on expertise is acknowledged by board appointments in both the public and private sector.

We advise clients on all aspects of their infrastructure business and projects, providing end-to-end solutions that are delivered by specialists at each stage of a project's lifecycle.

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