



Our Future, Our Infrastructure New Zealand 2050

ReBuilding Nations Symposium

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Disclaimer - This presentation contains general information and is not formal advice. It is recommended that you seek independent advice on any matter relating to the use of the information. We will not be liable for any loss or damage whatsoever arising from the use of the information.

Wednesday, 18 November 2020, 3:30pm – 5:00pm

Te Waihanga – The New Zealand Infrastructure Commission

1

30-Year Strategy

The 30-year strategy will identify systemic issues and use foresight planning to consider a range of future possibilities, before making recommendations.



2

Major Projects and Advisory

Supporting government agencies, local authorities and others to procure and deliver major infrastructure projects.



3

Project Pipeline

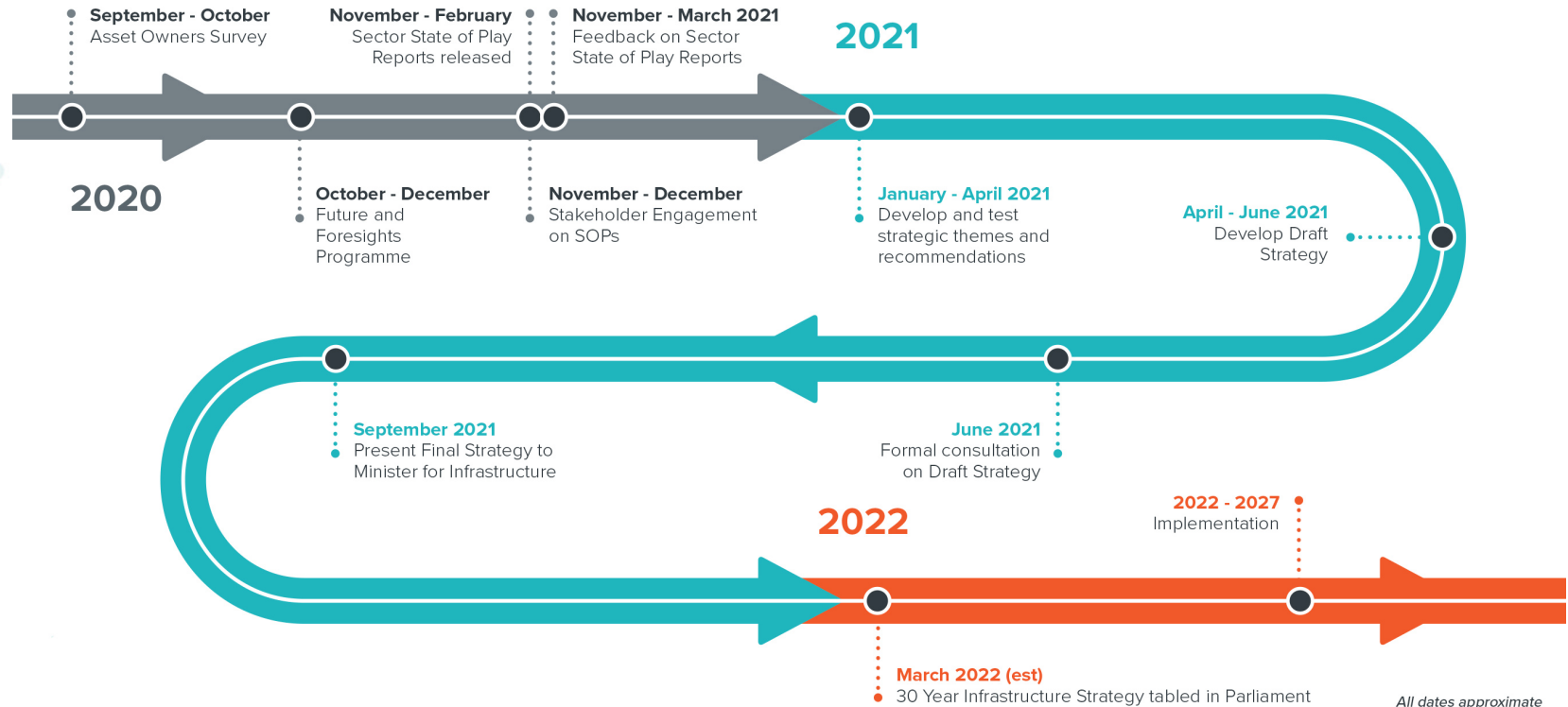
The Infrastructure Pipeline aims to deliver a visible, coordinated pipeline of work. This enables industry to plan ahead and co-ordinate.



Purpose of a New Zealand Infrastructure Strategy

- Establish broad agreement on objectives and vision.
- Establish a holistic, sustainable, long-term approach to infrastructure.
- Build consensus around existing issues and challenges.
- Identify future challenges and opportunities – with a focus on demographics, technology and climate change.
- Develop an assessment of sector-wide needs to meet community expectations.
- Identify a clear set of recommendations and priorities to enhance infrastructure.

Strategy Timeline



Today we will discuss...



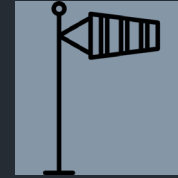
Toward a 2050 Vision

Explore visions that have wellbeing at the center



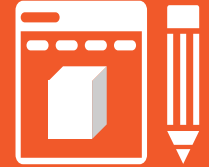
Objectives

What are we trying to achieve?



Horizon Scanning

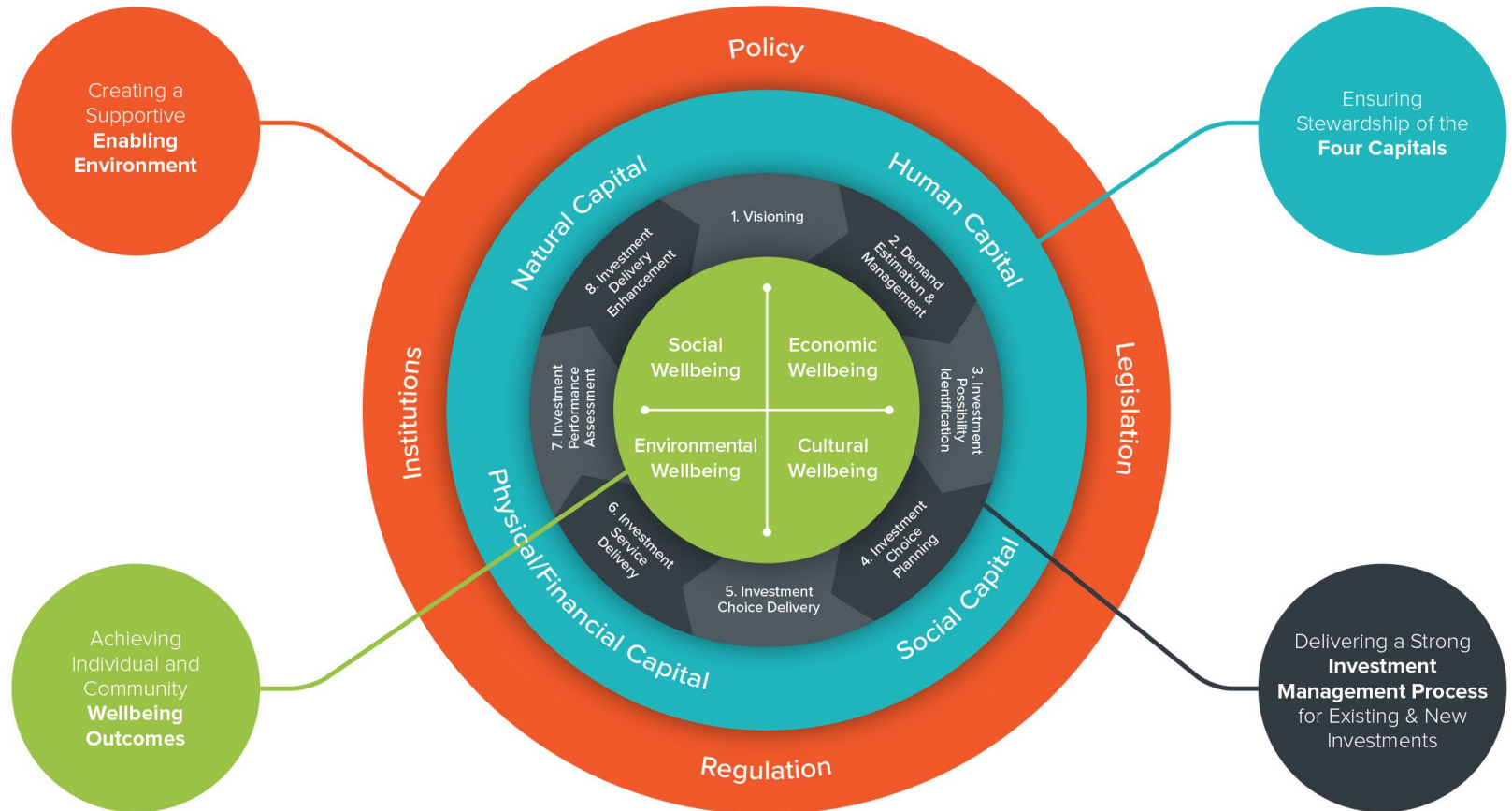
Where are the challenges and opportunities



Implications for Infrastructure

What do you want to see in your strategy?

Dimensions of an infrastructure ecosystem





Toward a 2050 Vision

Growing Need for strategic foresight in infrastructure

Strategy typically sets a stake in the ground. Foresight is about navigating toward preferred spaces.

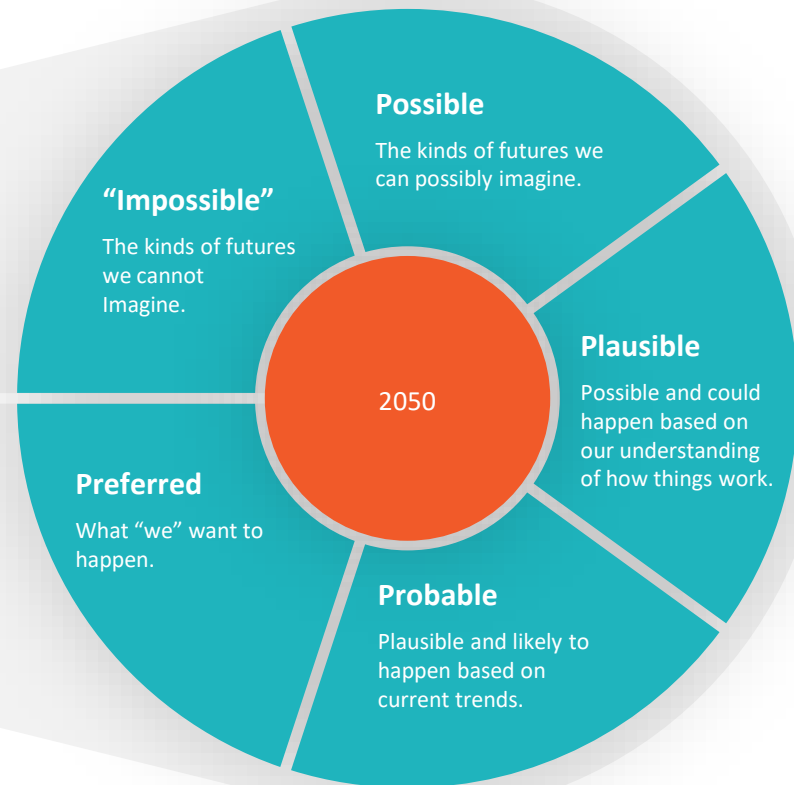


Preferred Space

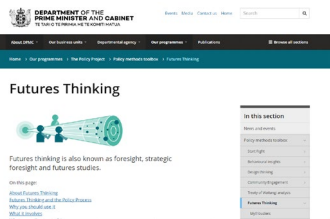
Rather than determining where we want to go, identifying preferences towards which we steer.

Disruption

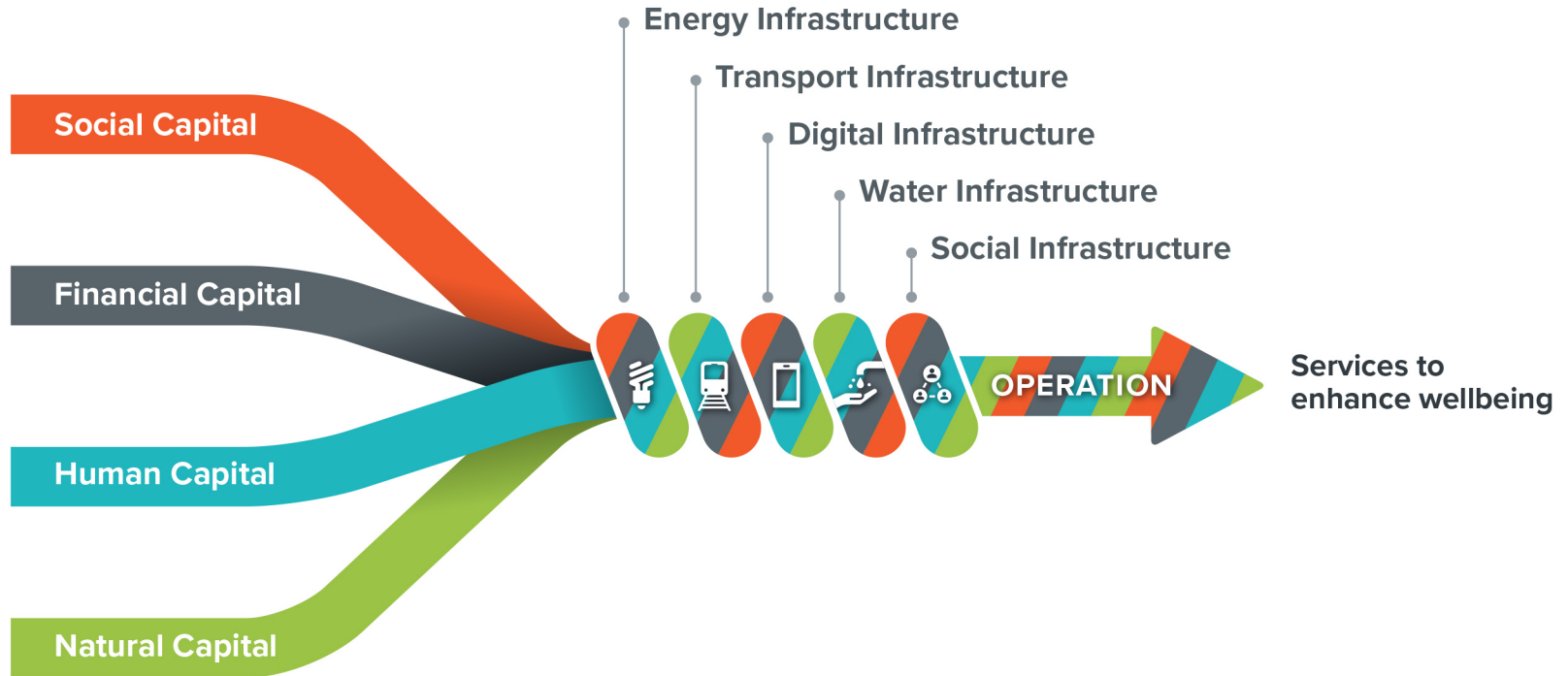
Disruptive forces require us to think about how we plan and adapt.



Futures literacy is finding its way into policymaking...



Defining infrastructure helps us focus on its purpose



Wellbeing is at the heart of the New Zealand Infrastructure Commission/Te Waihangā Act 2019...

Engaging with Chief Science Advisors led to four scenarios...

No Change



- Weight of the past continues
- Short-termism
- Structural problems prevail
- Inequity

"She'll be right"

Marginal Change



- Few successful policy shifts
- Deterioration in what matters
- Growth-nature balance not solved

"At the Crossroads"

Adaptive Change



- Deep policy shifts
- New measure of progress
- Significant investment in infrastructure

"Sharing is winning"

Radical Change



- Novel policy shifts like NHI
- AI-guided resource allocation
- Mokopunatanga

"Bubbles to
Braids"

And four dimensions of a vision...



Global context: New Zealand's place in the world

Social context: Thriving communities

Governance context: Inclusion leads the way

Technology & knowledge context: Smart living

Objectives of the Strategy

What should be the guiding objectives of the New Zealand 30-year Infrastructure Strategy?



EXAMPLE ...

Prepare for population and demographic change

New Zealand's population is expected to grow from approximately 4.9 million in 2018, up to 7.6 million in 2068 (90th percentile). Having the right infrastructure in place will be critical for accommodating growth in the areas that New Zealanders want to live, work and play.

EXAMPLE ...

Support productivity growth

Productivity growth is critical to improving living standards in the long term, particularly in the context of declining workforce participation and aging demographics. Infrastructure can lift productivity by improving services and lowering costs.

EXAMPLE ...

Build resilience to shocks

Unexpected events are likely to disrupt New Zealand's society, economy and environment over the coming decades. New Zealand's vulnerability to these shocks will be partly determined by the resilience and adaptability of its infrastructure.

15 Minutes

What should be the guiding objectives of the New Zealand 30-year Infrastructure Strategy?



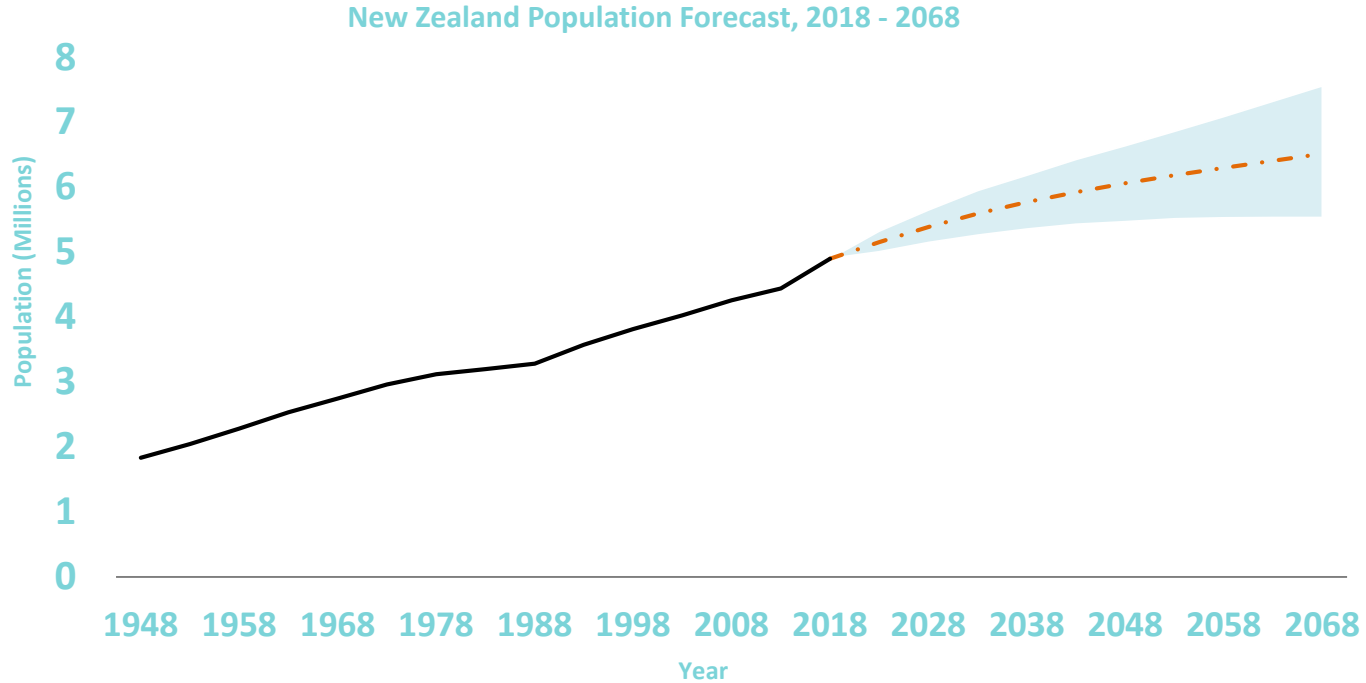
Horizon Scanning

I. Demographic Change



Source: Timon Studler on Unsplash

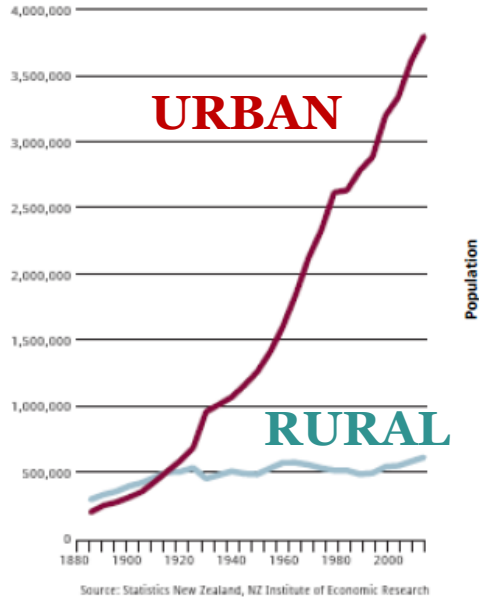
New Zealand is growing



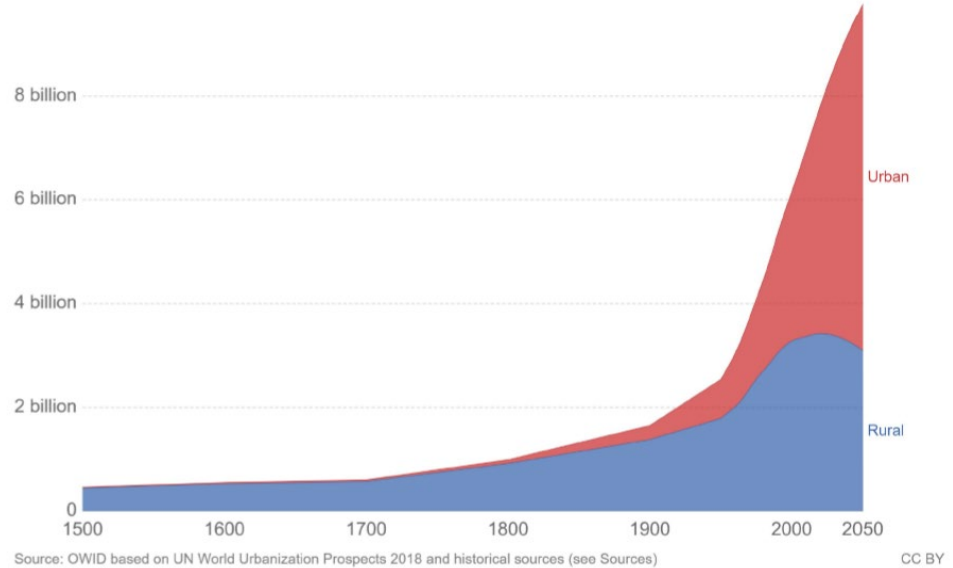
Source: Statistics New Zealand, Infrastructure Commission

New Zealand is urbanising

New Zealand Population - Urban and Rural

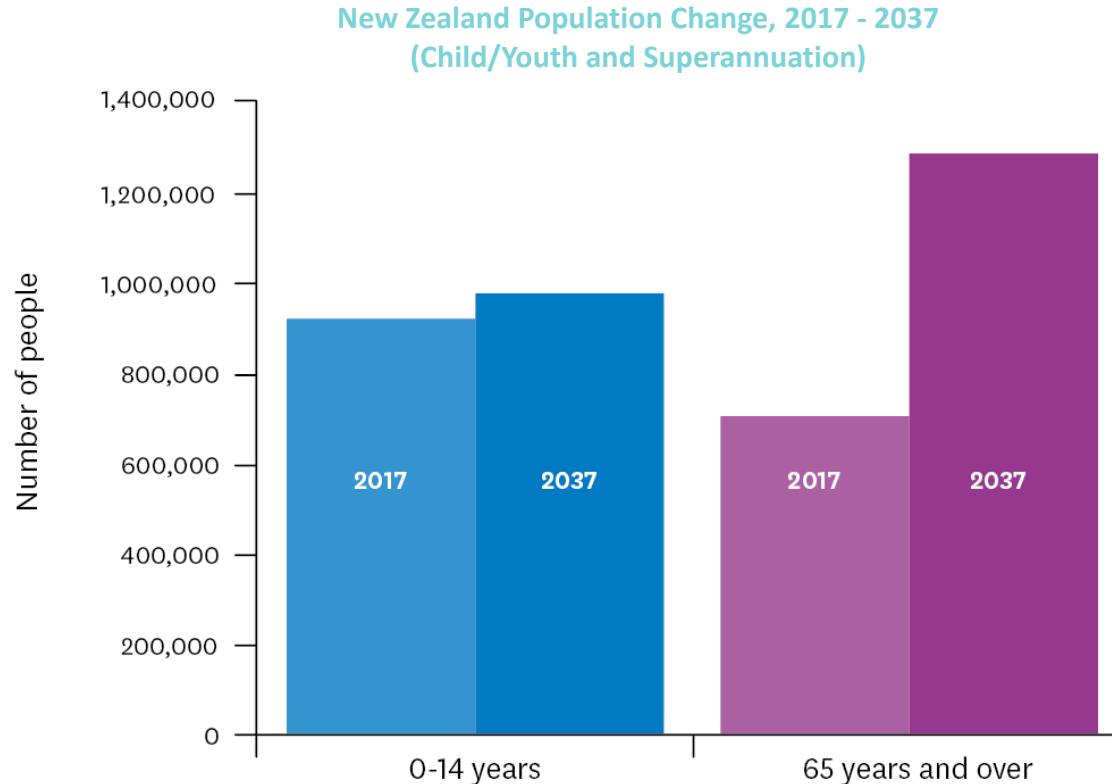


Global Population - Urban and Rural



Sources: Statistics New Zealand, New Zealand Institute of Economic Research, Our World in Data

New Zealand is aging



Source: Ministry of Social Development

Over the next 20 years, the number of people above the age of 65 is projected to almost double, while those aged 0-14 are projected to barely budge.

II. Digital and Technological Change



Source: Markus Spiske on Unsplash

How will our infrastructure adapt?

Digital twinning	Artificial intelligence	Smart cities	Cyber security
Raid automation	Infratech	Digital platform dominance	Blockchain
Big data	Quantum computing	Fintech	Telehealth
Edge computing	Smart homes	Machine learning	3D printing



III. Climate Change



Source: National Oceanic and Atmospheric Administration on Unsplash

New Zealand is becoming...

warmer...



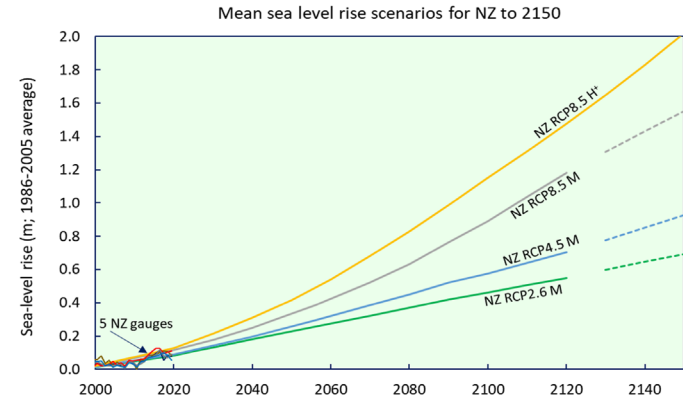
Sources: NIWA, Geoff Robinson,
Network Rail / Getty

...drier and wetter...



Sources: NIWA, Watercare Services Limited,
Waka Kotahi, Whakatane Beacon

...with rising sea levels



Sources: NIWA, Rene Fisch, Stu Mackay / NIWA



15 Minutes

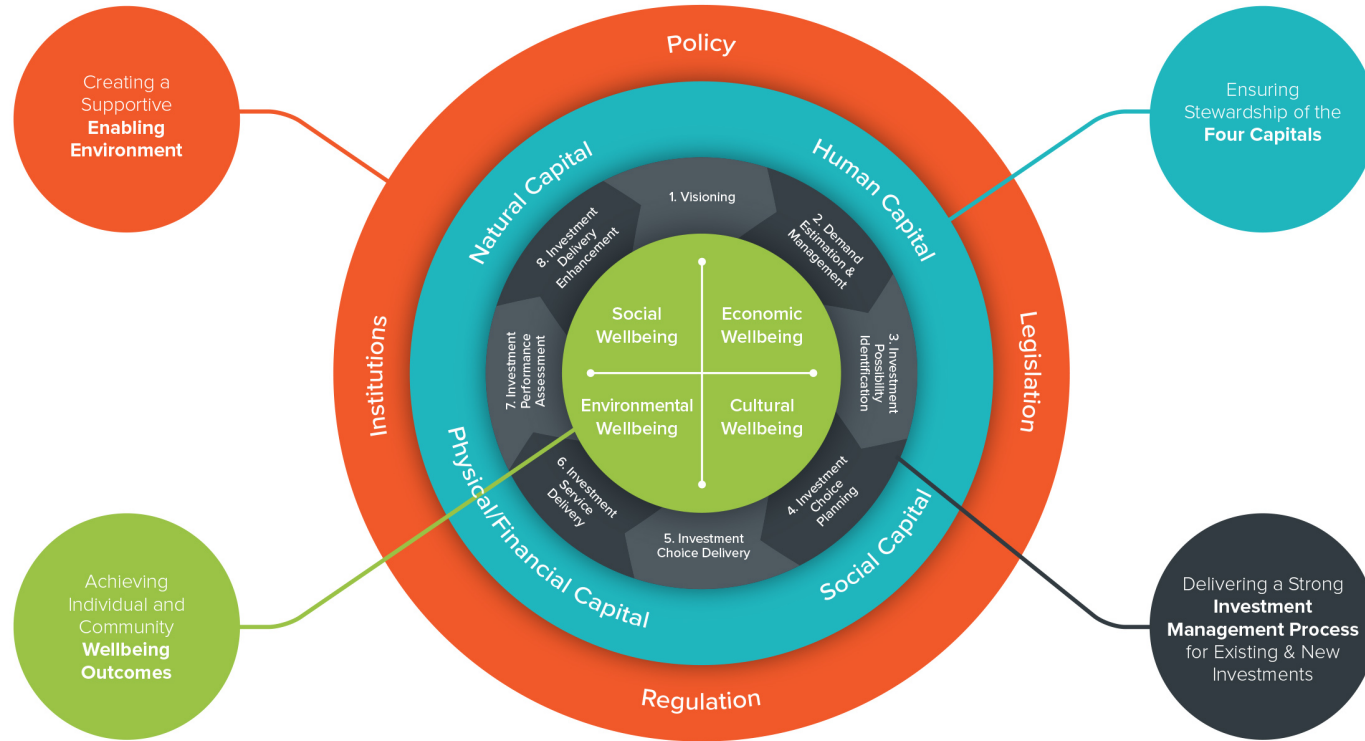
Thinking about demographic, technological and climate change:

- What are the opportunities you see in your sector?
- What are the challenges you see in your sector?



Implications for infrastructure

Dimensions of an infrastructure ecosystem



15 Minutes

What do we need to do differently to deliver better infrastructure, in what sector, and by when?

What do we need to do differently to deliver better infrastructure, in what sector, and by when?

- **Notation style:** Sector; Infra Dimension; By when; What
- **Legend:**
 - *Sectors:* **E**nergy, **T**ransport, **W**ater, **W**aste, **T**elecommunications, **S**ocial
 - *Dimension:* Refer to Integrated Infrastructure Management diagram
 - *By when:* **1** for 2020-2030; **2** for 2030-2040; **3** for 2040-2050
- **Examples:**
 - Wat; Policy; 1; Amalgamate water suppliers
 - All; Legislation; 1; New RMA legislation that reduces compliance costs by 10%

Concluding thoughts

A dark blue circle containing the text "Building Back Better." in white and orange.

**Building
Back
Better.**



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