



NEW ZEALAND  
INFRASTRUCTURE  
COMMISSION  
*Te Waihanga*

# Infrastructure and population growth

**Peter Nunns**

**11 February 2026**



**Te Kāwanatanga o Aotearoa**  
New Zealand Government

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# Infrastructure and population growth

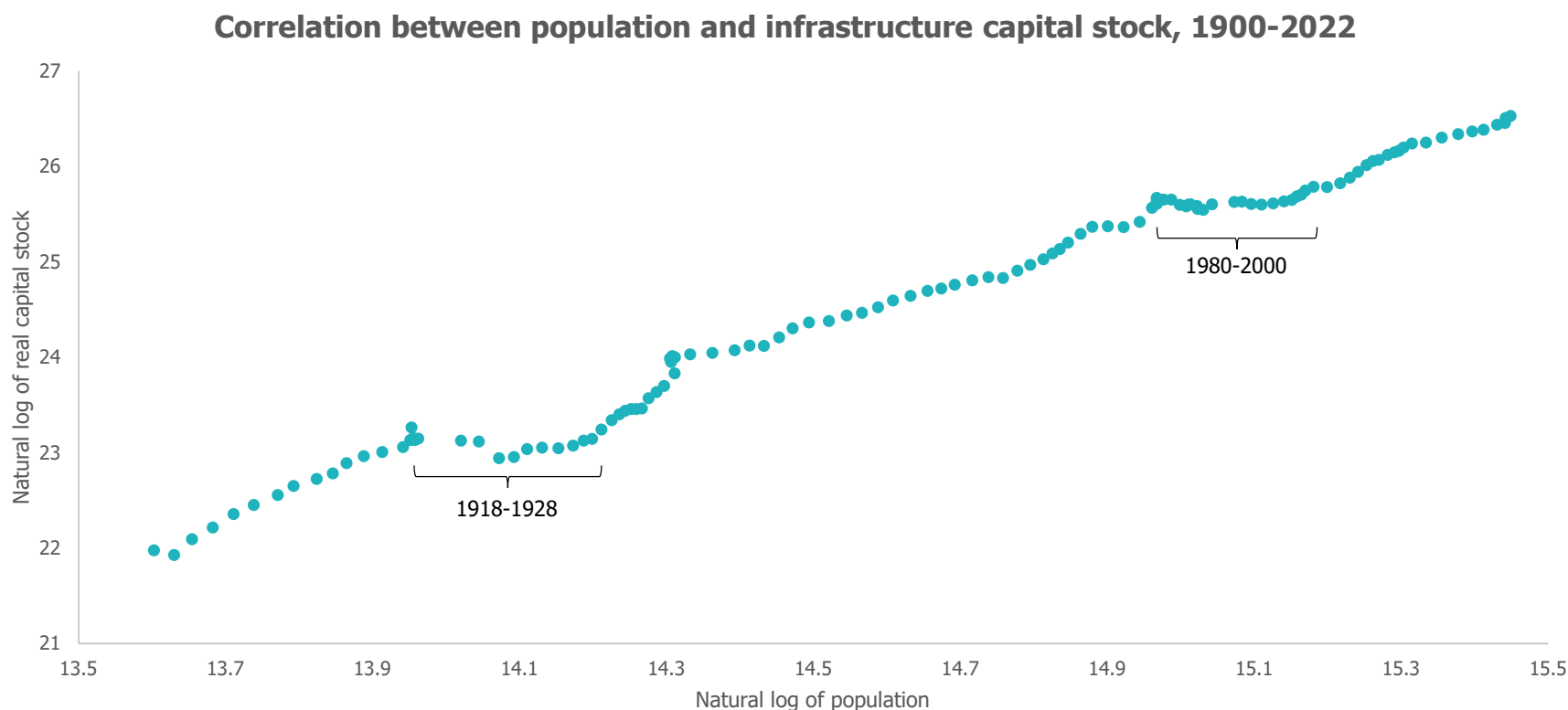
## Key points

1. Infrastructure scales with population growth
2. Faster or slower population growth stays affordable relative to GDP
3. Uncertainty about growth or decline poses a harder challenge
4. Sound investment management ensures infrastructure meets demands



# Infrastructure supply in New Zealand

## Infrastructure has grown with population



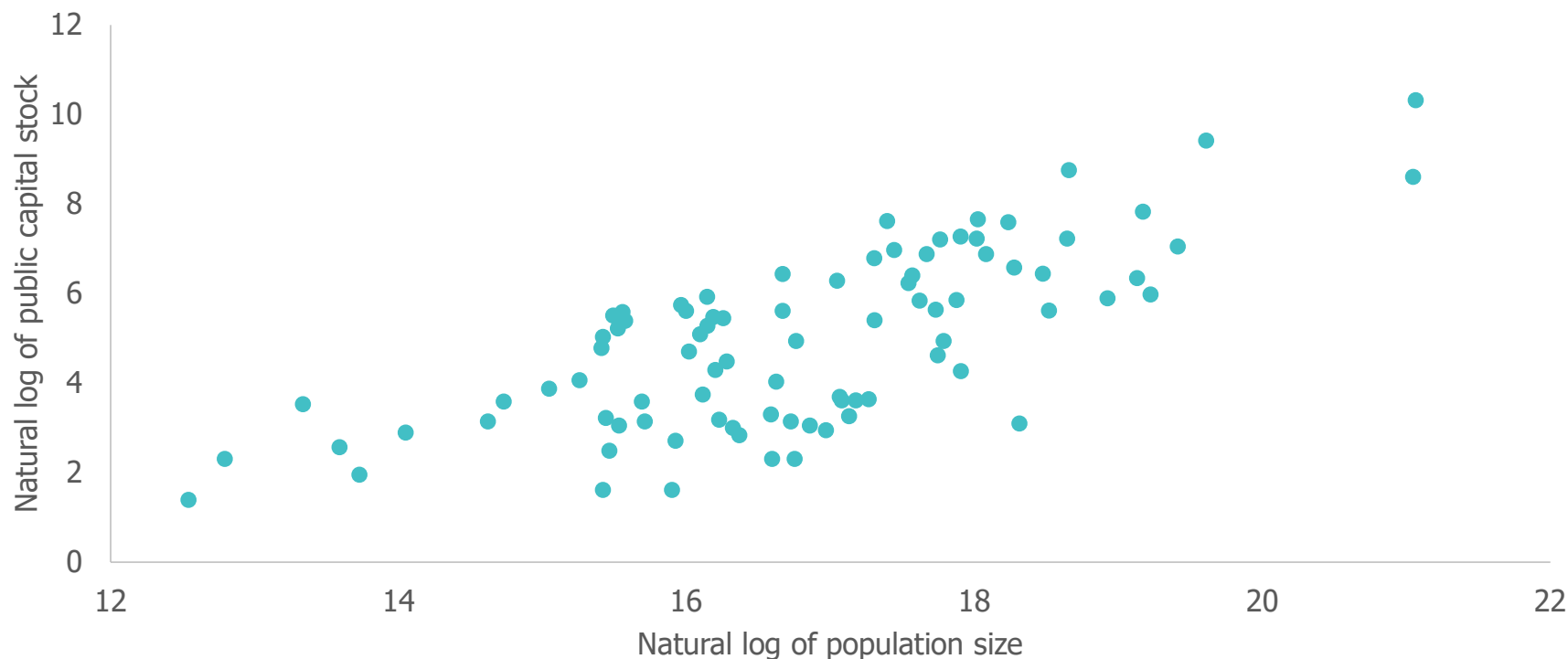
Infrastructure Commission. 2025. *Nation Building: A century and a half of infrastructure investment in New Zealand*.  
<https://tewaihanga.govt.nz/our-work/research-insights/a-century-and-a-half-of-infrastructure-investment-in-new-zealand>



# Public infrastructure in the OECD

## More people, more infrastructure

Correlation between population and public capital stock in 2019, OECD countries



Infrastructure Commission. 2024. *Paying it forward: Understanding our long-term infrastructure needs.*

<https://teawaihanga.govt.nz/our-work/research-insights/paying-it-forward-understanding-our-long-term-infrastructure-needs>



# Long-run elasticities

## OECD panel data analysis, 1960-2019

- **Income elasticity**

- 1% rise in GDP per capita → **0.6%** rise in public capital

- **Population elasticity**

- 1% rise in population → **0.8%** rise in public capital

- **Age structure**

- More children → **less** per-capita public capital
- More working-age and retirees → **more** public capital

Infrastructure Commission. 2024. *Paying it forward: Understanding our long-term infrastructure needs.*

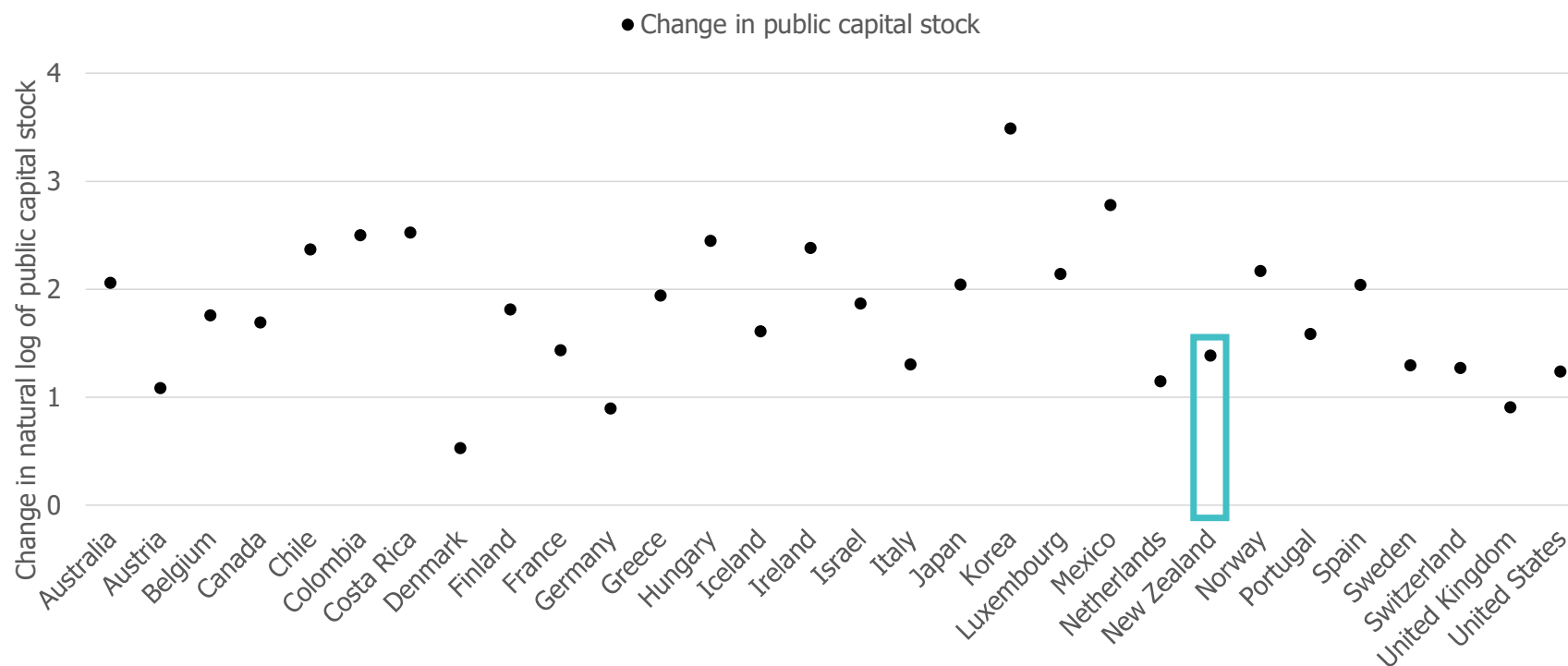
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# Public infrastructure in the OECD

## Decomposing growth, 1960-2019

Decomposing growth in public capital stocks in OECD countries, 1960-2019



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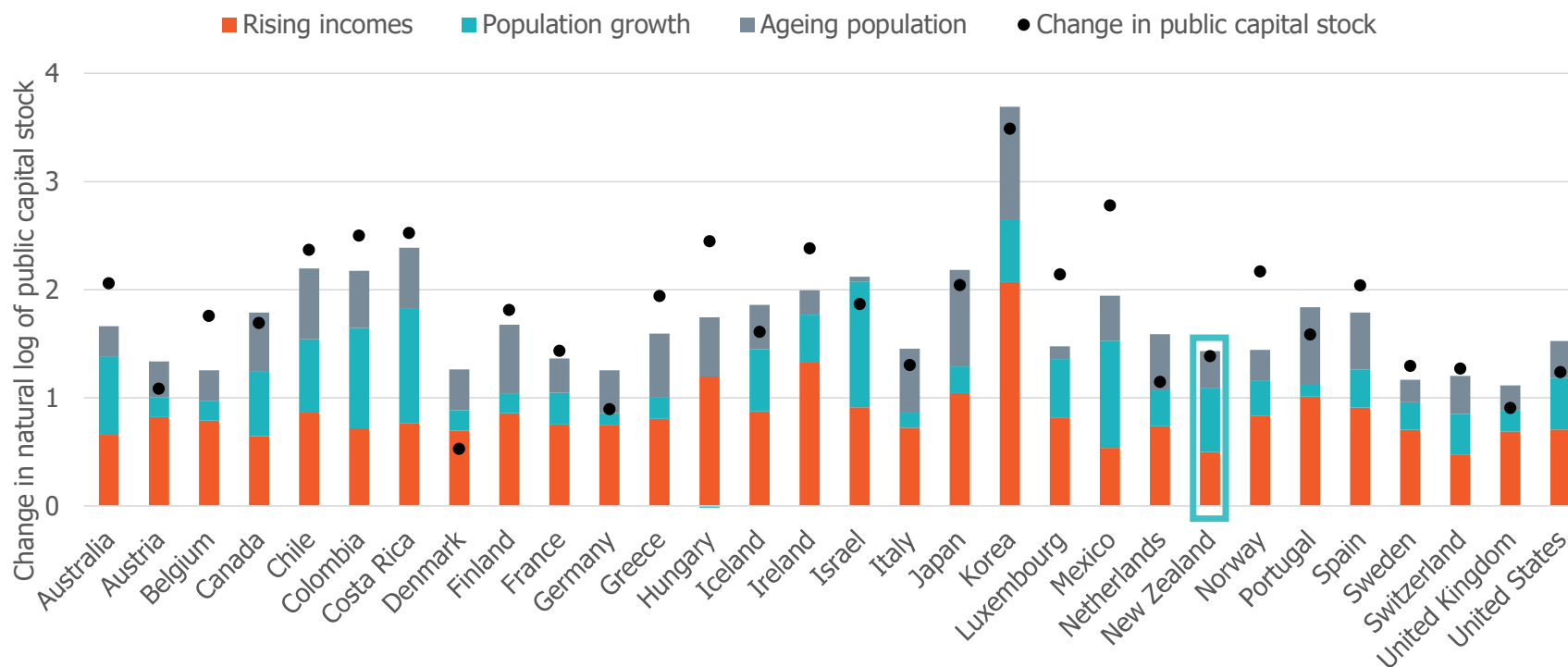
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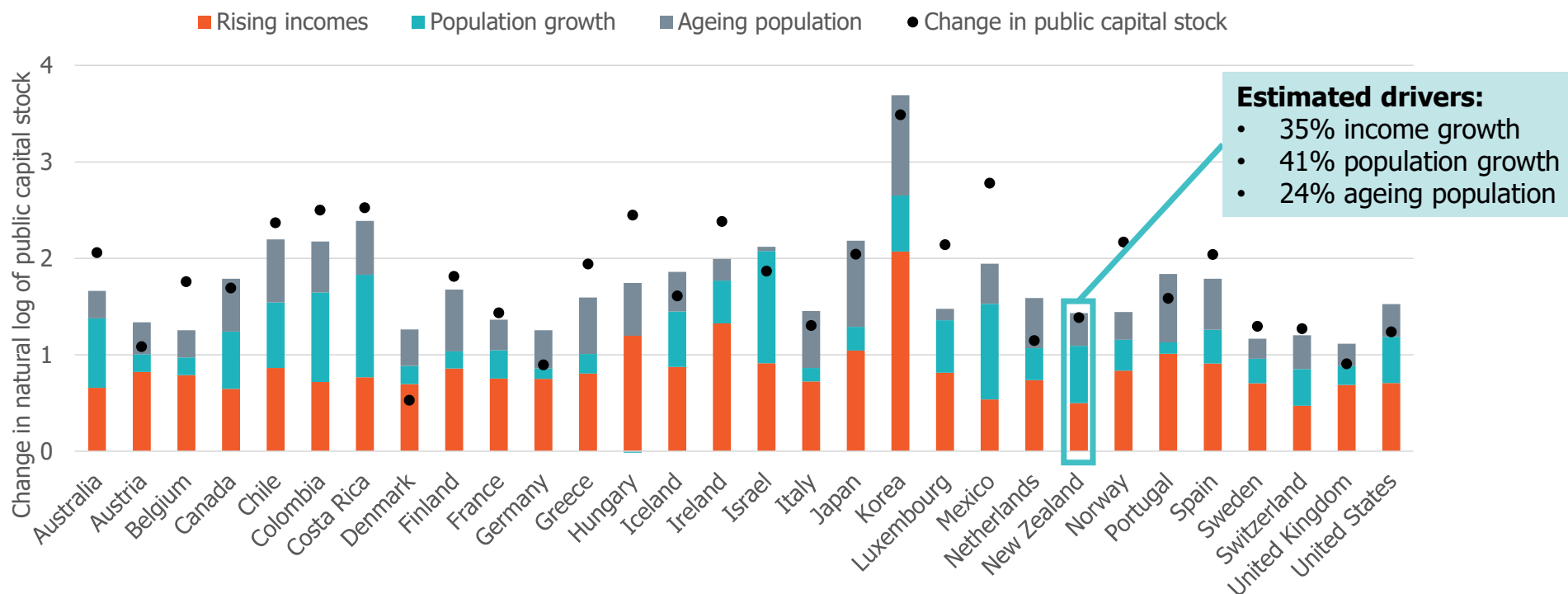
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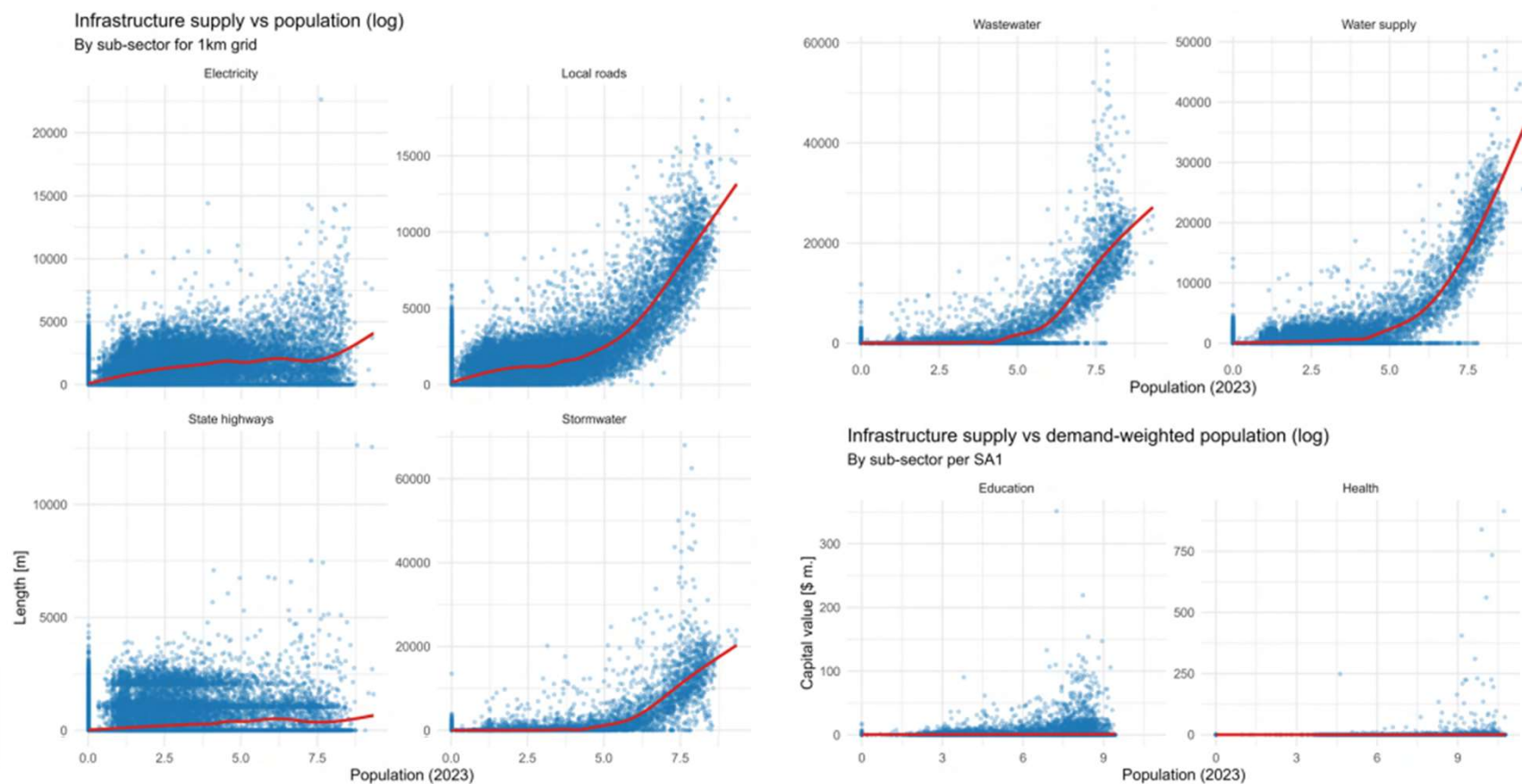
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# Subnational elasticities

## Analysis of local infrastructure supply in NZ



Motu Economic and Public Policy Research. 2026. *Forward guidance – Modelling local and regional infrastructure supply*.  
<https://tewaihanga.govt.nz/our-work/research-insights/infrastructure-needs-analysis>



# Forward Guidance for investment

## Sustainable and proportionate investment in response to demand drivers

**Renewal of existing infrastructure**



**Demographic change**



**Economic / income growth**



**Construction price inflation**



**Resilience to natural hazards**



**Decarbonisation / net zero**



**Technology change**



**Shortage of existing infrastructure**



Infrastructure Commission. 2024. *Paying it forward: Understanding our long-term infrastructure needs.*

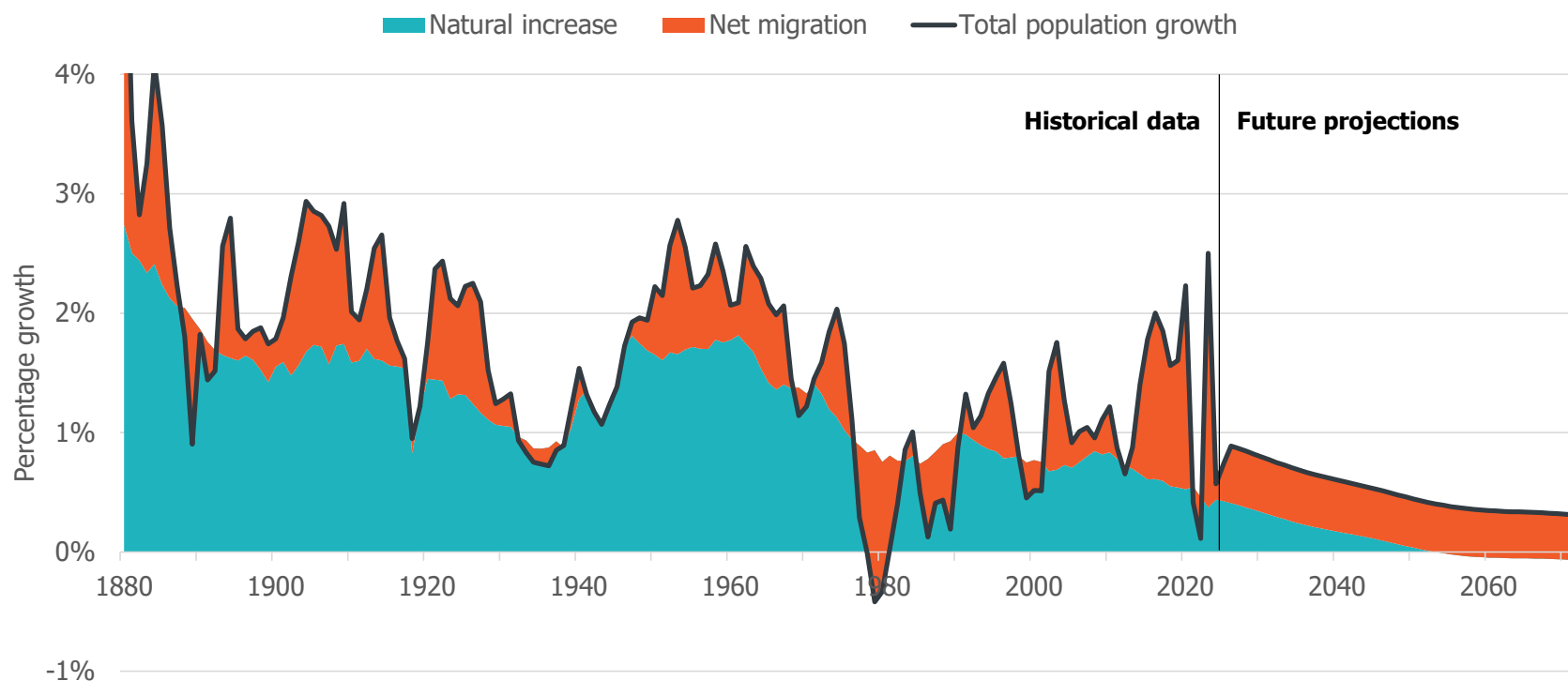
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# New Zealand's demographic outlook

## Current and forecast growth isn't unprecedented

New Zealand's population growth drivers, 1880-2073



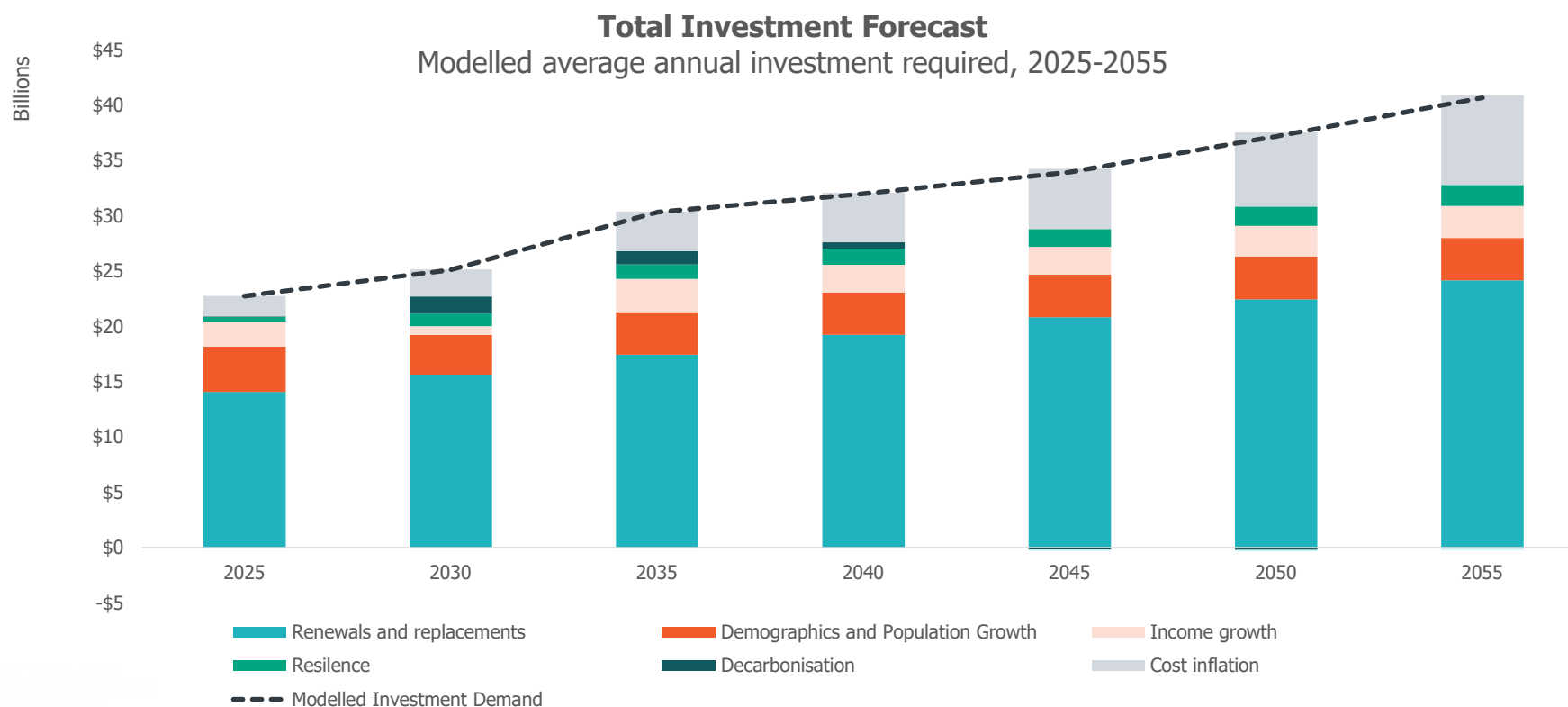
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# Forward Guidance for investment

## Renewals will drive most investment



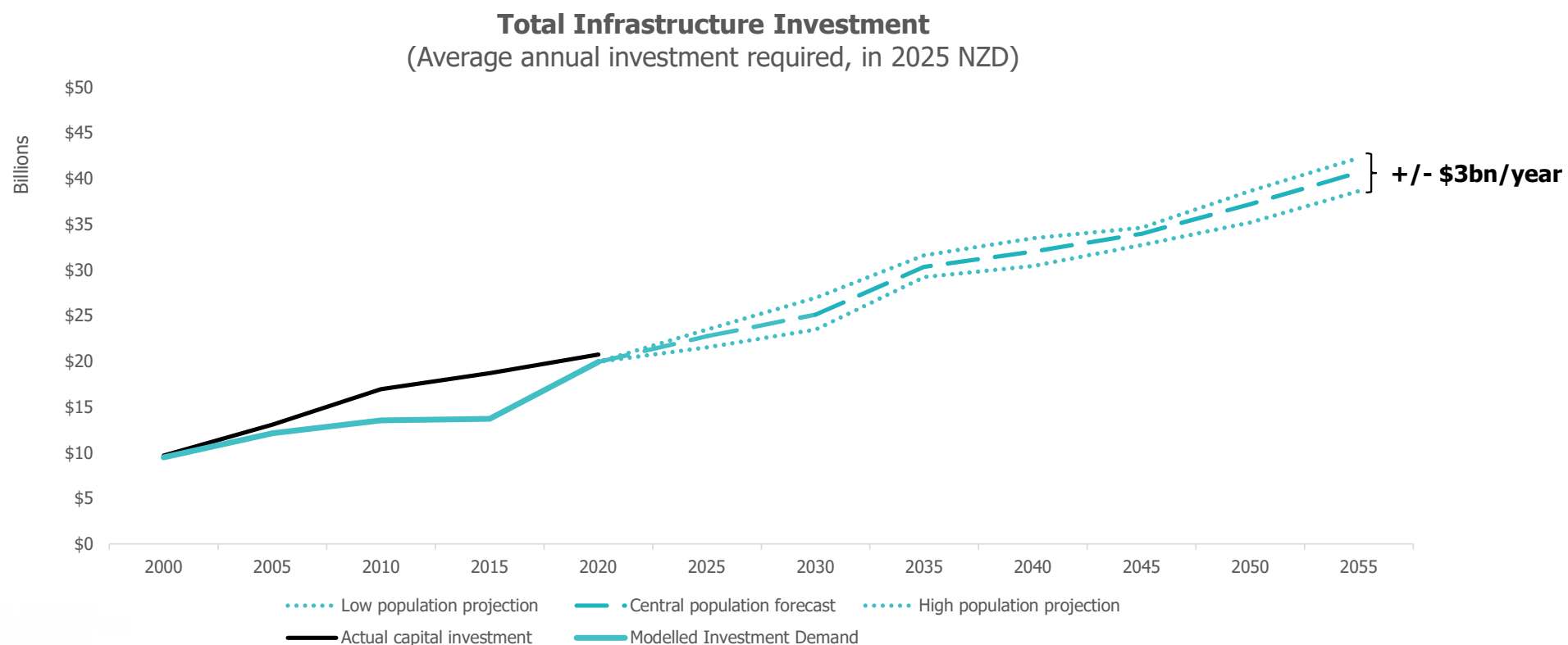
Infrastructure Commission. 2026. *Infrastructure needs analysis*.

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# Sensitivities to population scenarios

## Higher growth drives higher spending demand...



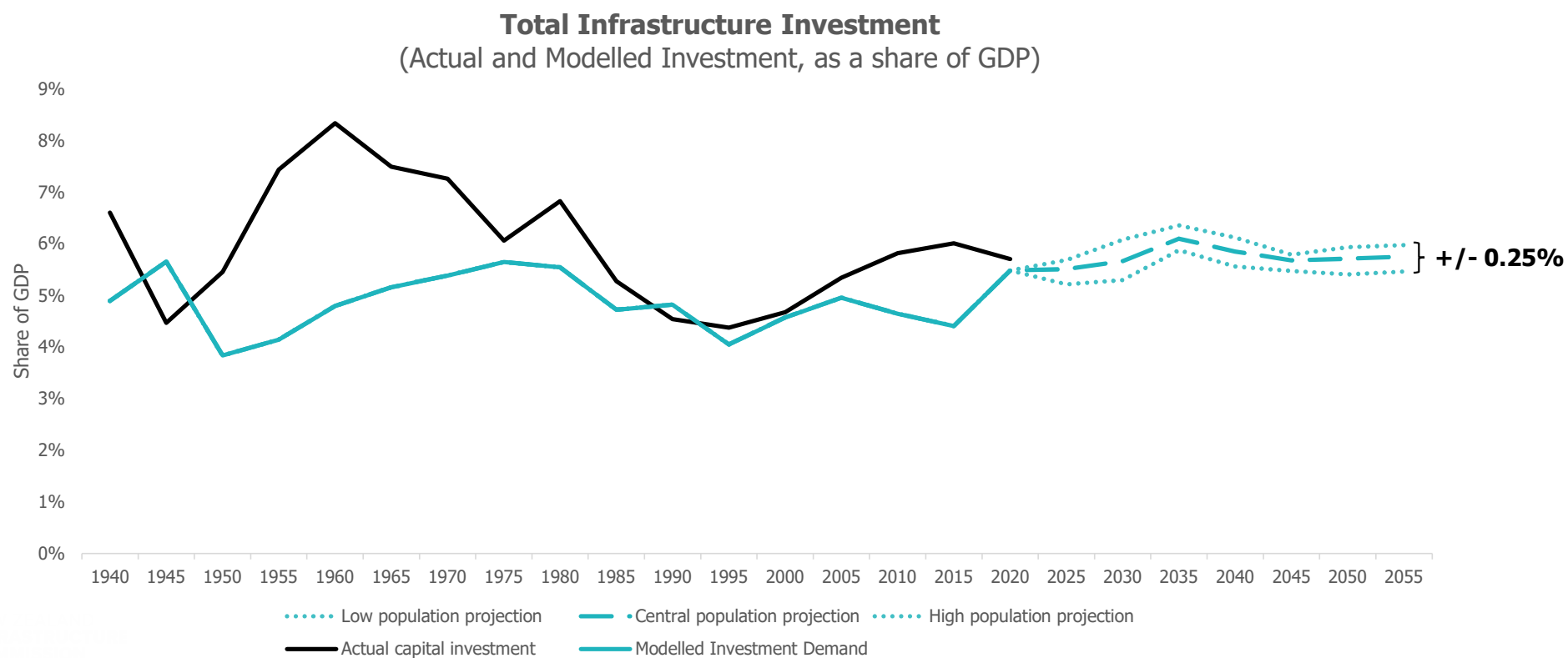
Infrastructure Commission. 2026. *Infrastructure needs analysis*. (Supplementary analysis)

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# Sensitivities to population scenarios

## ... but spending as a share of GDP is similar



Infrastructure Commission. 2026. *Infrastructure needs analysis*. (Supplementary analysis)

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# Sensitivities to population scenarios

## Estimated impact of StatsNZ population scenarios on investment demand

<b>StatsNZ projection scenario</b>	<b>Average annual population growth, 2025-2055</b>	<b>Average annual infrastructure investment as a % of GDP, 2025-2055</b>	<b>Average annual infrastructure investment in real NZD, 2025-2055</b>
No migration	0.05%	5.11%	\$25.2 bn
2.5th percentile	0.50%	5.47%	\$28.3 bn
5th percentile	0.55%	5.52%	\$28.9 bn
10th percentile	0.62%	5.58%	\$29.5 bn
25th percentile	0.73%	5.67%	\$30.6 bn
50th percentile (median)	0.84%	5.75%	\$31.7 bn
Cyclic migration	0.87%	5.79%	\$32.2 bn
Very low mortality	0.91%	5.81%	\$32.3 bn
75th percentile	0.94%	5.83%	\$32.8 bn
90th percentile	1.04%	5.91%	\$33.9 bn
Very high fertility	1.10%	5.93%	\$34.0 bn
95th percentile	1.10%	5.96%	\$34.5 bn
97.5th percentile	1.15%	5.99%	\$35.0 bn



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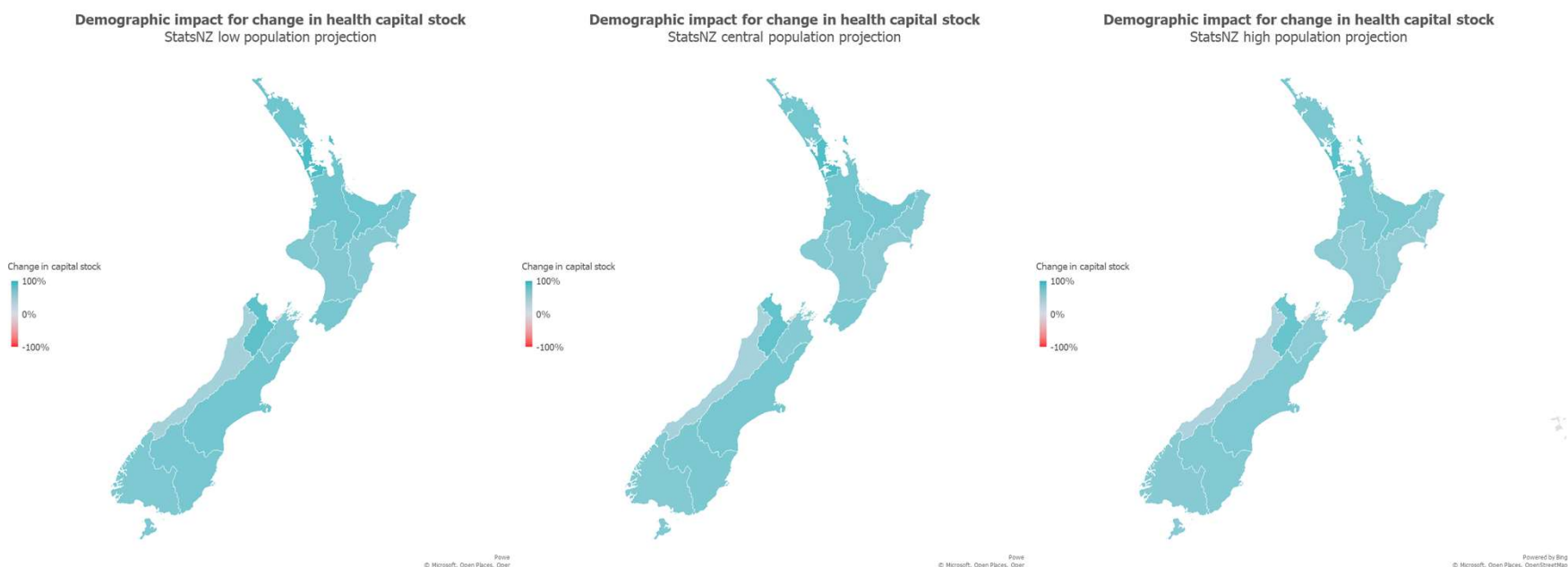
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**Rough estimate:**  
A 0.1% increase in long-run population growth lifts spending demand by 0.08% of GDP



# Dealing with uncertainty

## Regional analysis of demographics and infrastructure demand



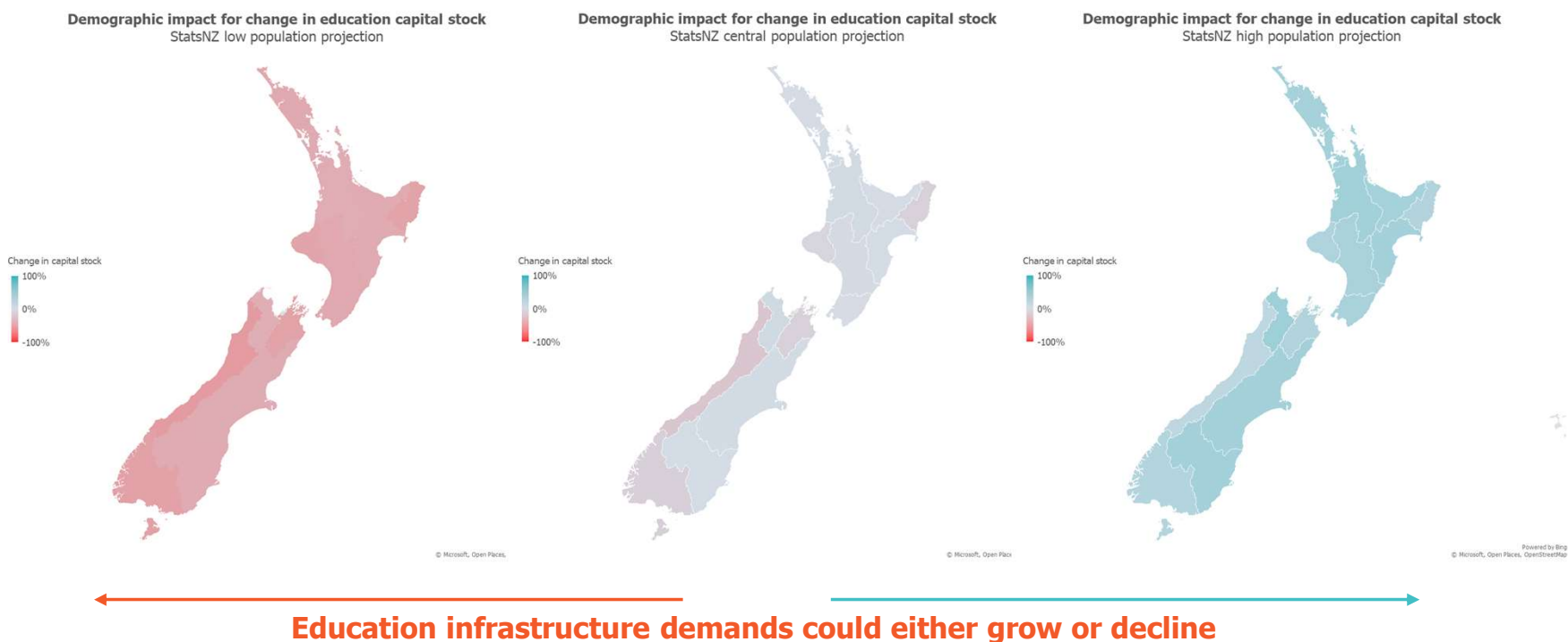
← **Health infrastructure demands are likely to grow under all demographic scenarios** →

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# Public investment management in NZ

## Findings from a structured self-assessment

Figure 2: Summary of the IMF's PIMA framework

Lifecycle stage		
<b>Planning</b> Ensuring public investment is fiscally sustainable and effectively coordinated	<b>Allocation</b> Ensuring public investment is directed to the highest-value projects and programmes	<b>Implementation</b> Ensuring projects are fully funded, transparently monitored, and effectively managed
Pillars		
1. Fiscal targets and rules 2. National and sectoral planning 3. Coordination between entities 4. Project appraisal 5. Infrastructure financing	6. Multi-year budgeting 7. Budget comprehensiveness and unity 8. Budgeting for investment 9. Maintenance 10. Project selection	11. Procurement 12. Availability of funding 13. Portfolio oversight 14. Project management 15. Monitoring of assets

Source: Adapted from IMF PIMA Handbook.

Infrastructure Commission. 2025. *From plans to projects: An assessment of how central government plans, funds, and manages infrastructure*. <https://tewaihanga.govt.nz/our-work/research-insights/from-plans-to-projects>



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**Areas of weaker performance**

Source: Adapted from IMF PIMA Handbook.

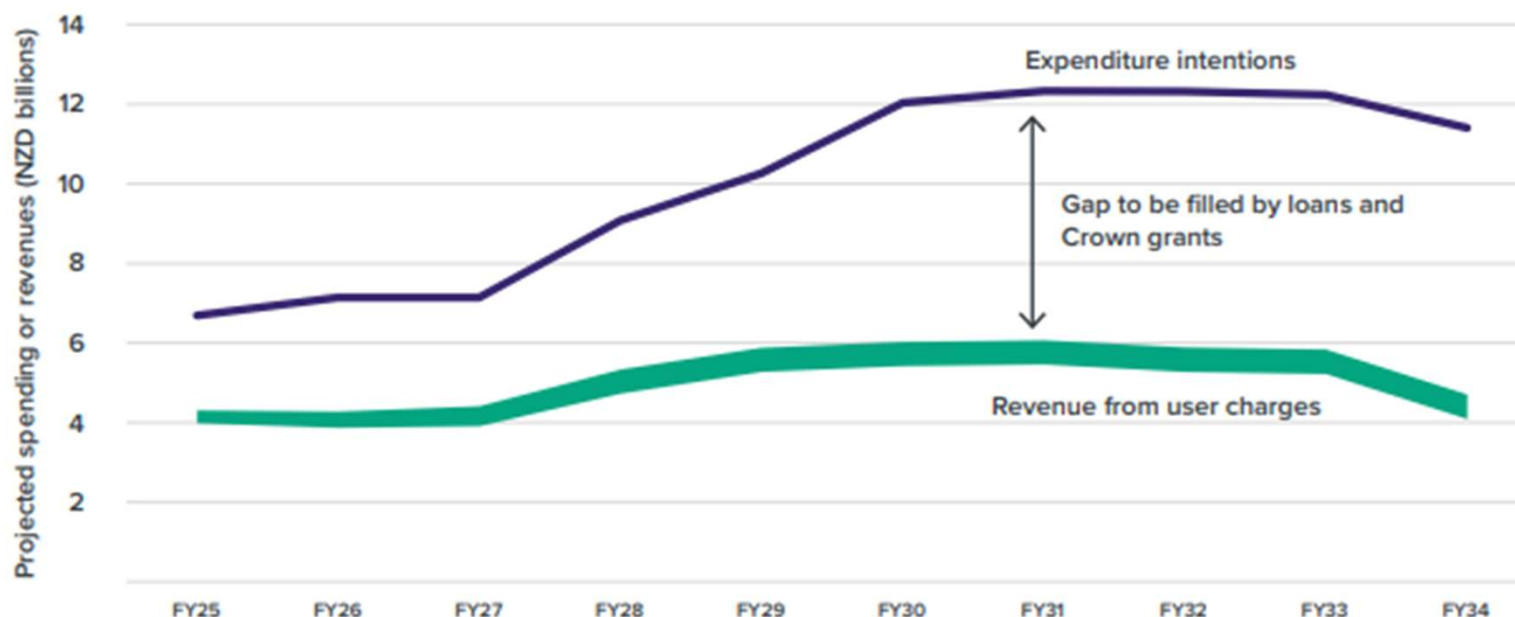
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# Long term investment planning

## Investment plans and fiscal forecasts aren't linked

Figure 23: New Zealand plans to spend much more on land transport than it collects from users



Source: NZTA National Land Transport Programme 2024–2027.

Infrastructure Commission. 2025. *Draft National Infrastructure Plan*.

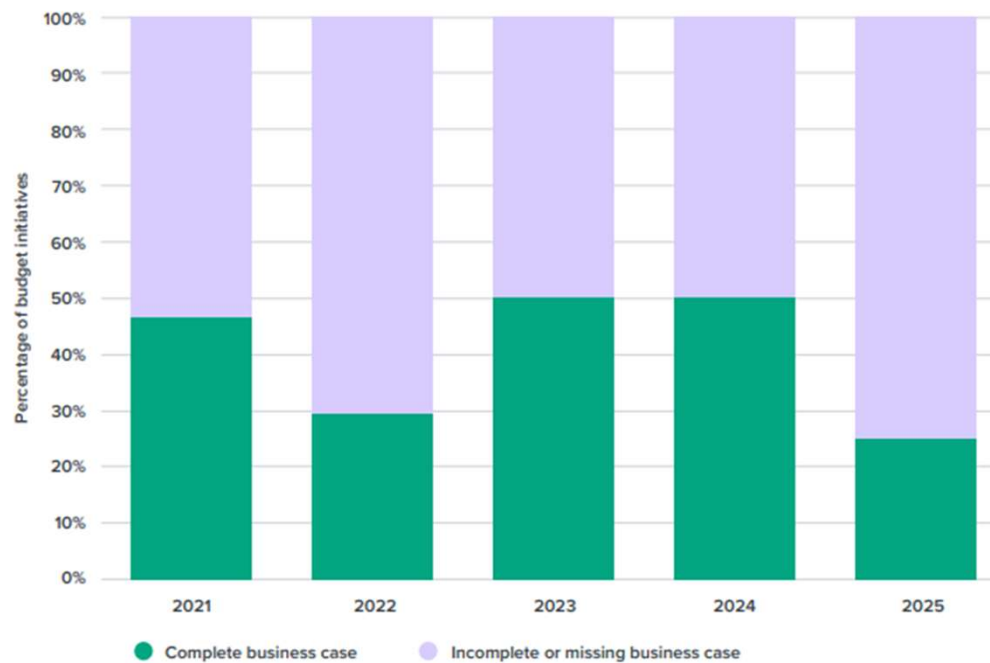
<https://media.umbraco.io/te-waihanga-30-year-strategy/mepk0cfb/nip-draft-layout-28aug.pdf>



# Project selection

## Project appraisal and selection is variable

Figure 33: Compliance with business case requirements among Budget infrastructure project funding bids reviewed by the Treasury's Investment Panel from 2021 to 2025



Source: 'Annual Report', New Zealand Infrastructure Commission, (2024, 2025).

Infrastructure Commission. 2025. *Draft National Infrastructure Plan; Annual Report.*

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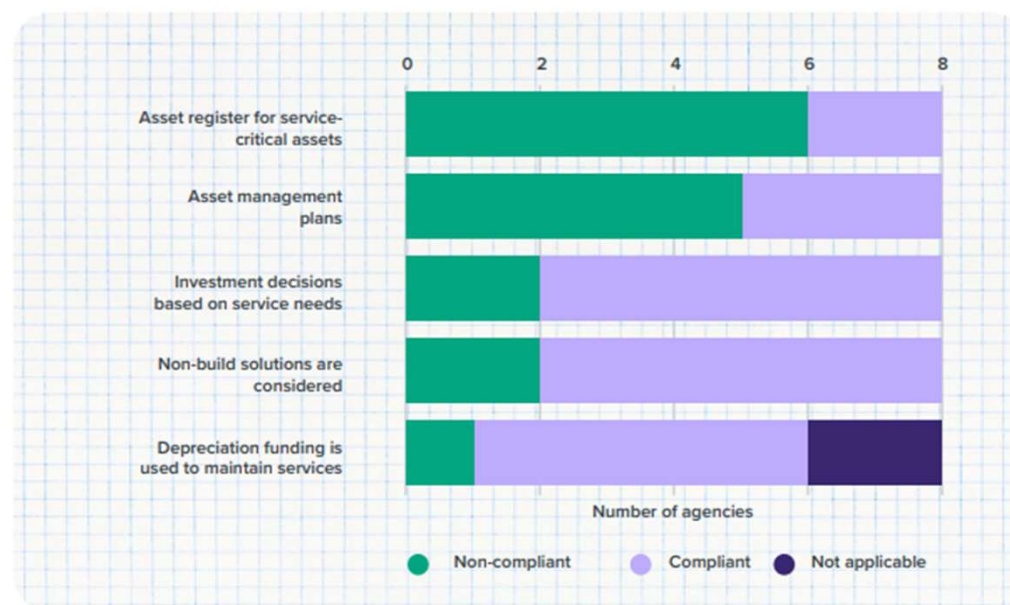


# Maintaining public assets

## Asset management practices are limited

Most capital-intensive agencies are not compliant with asset management expectations

Figure 31: Capital-intensive agencies' self-reported compliance with CO (23) 9 requirements



Source: The New Zealand Infrastructure Commission analysis of June 2024 CO (23) 9 chief executive attestation statements. Note: We have excluded requirement 3.3 from our analysis due to technical issues with the Public Service Intranet over the reporting period.

Infrastructure Commission. 2025. *Draft National Infrastructure Plan*.

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## Concluding thoughts

**Growth is manageable – investment management is the challenge**

- 1. Plan strategically:** Link long-term investment planning to fiscal forecasts and demographic projections
- 2. Choose projects wisely:** Rigorously appraise projects and select cost-effective and timely responses
- 3. Monitor and maintain assets:** Track condition to sustain service for existing populations



[peter.nunns@tewaihanga.govt.nz](mailto:peter.nunns@tewaihanga.govt.nz)