

July 2026

Resilience Principles for Investment Decision-Making

1 Introduction

Stantec welcomes the opportunity to provide feedback on the Commerce Commission's draft Resilience Principles: Decision-Making Framework for Critical Infrastructure Providers. We strongly support the Commission's efforts to establish clearer expectations for resilience investment and to encourage more proactive, evidence-based decision-making across New Zealand's critical infrastructure sectors.

Stantec is a global engineering, planning, environmental, and programme management consultancy with extensive experience supporting infrastructure owners, utilities, local government, and central government agencies to improve resilience before, during, and after disruptive events. In New Zealand, our work spans the full resilience lifecycle, including hazard and vulnerability assessments, emergency preparedness, response support, recovery programme leadership, strategic asset management, adaptation planning, and long-term infrastructure investment.

Over the past decade, our teams have supported clients through many of New Zealand's most significant natural hazard events and infrastructure recovery programmes. This includes leading and supporting recent recovery efforts following Cyclone Gabrielle, severe weather events across Hawke's Bay and Tairāwhiti/Gisborne, and various Nelson storm events. Through these programmes we have worked alongside councils, NZTA, lifeline utility owners, iwi, contractors, insurers, and communities to assess assets, restore services, prioritise investment, and improve resilience outcomes.

Our experience has consistently demonstrated that resilience is not simply an asset management challenge. The most successful outcomes are achieved when infrastructure owners focus on maintaining essential services to communities, understanding network interdependencies, managing uncertainty, and make informed investment decisions that balance cost, risk, resilience, and community expectations. Recovery programmes also provide valuable insights into asset condition and performance, failure mechanisms, organisational capability, and community needs that should directly inform future resilience investment decisions.

From this perspective, we broadly support the draft framework and its emphasis on evidence-based decision-making, understanding risk and uncertainty, considering interdependencies, and evaluating resilience investments through a broader consumer and community lens. We see this guidance as an important step in helping New Zealand transition from a predominantly response-and-recovery-focused system toward one that places greater emphasis on awareness, preparedness, risk reduction, adaptation, and long-term resilience.

2 Key Messages

Strong support for a broader definition of resilience

We support the Commission's recognition that resilience extends beyond the physical performance of infrastructure assets. The framework appropriately acknowledges the importance of organisational capability, service continuity, interdependencies, community impacts, adaptability and decision-making processes. This reflects what we consistently observe during major response and recovery programmes, where service disruption is often driven as much by organisational and system factors as by asset failure.

Resilience investment should be service-led, community-led and accountable

Because public infrastructure exists to serve communities, resilience investment should begin with the service outcomes required by those who depend on it. We encourage the Commission to

continue emphasising community wellbeing and service continuity as the primary focus of resilience investment, with economic productivity and growth understood as important supporting outcomes rather than the sole objective.

Infrastructure providers should be encouraged to consider:

- What level of service consumers and communities can reasonably expect before, during and after disruptions.
- Which services are critical to community wellbeing, public health, safety and economic activity, including essential services such as continuity of safe drinking water.
- What level and duration of disruption is acceptable, and for whom.
- Whether alternative approaches can achieve equivalent or better resilience outcomes.
- How decisions, trade-offs and investment priorities will be communicated transparently to consumers and affected communities.

In our experience, resilience is often improved most effectively through a combination of network improvements, operational preparedness, emergency response capability, community readiness, organisational resilience and maintenance practice, rather than solely through asset hardening. The Commission's principles should also encourage providers to align resilience objectives with enterprise risk management frameworks, operational goals and contract performance measures, so resilience becomes embedded in business-as-usual decision-making.

Greater emphasis should be placed on infrastructure interdependencies

One of the most significant lessons emerging from recent New Zealand events is the importance of understanding interdependencies between transport, water, energy, telecommunications and community services.

We support the draft guide's consideration of interdependencies and recommend further emphasis on the cascading consequences of failure across connected infrastructure systems. Investment decisions that appear suboptimal within a single network may deliver significant benefits when assessed from a whole-system perspective.

Decision-making frameworks should recognise uncertainty and adaptation

One of the most significant lessons emerging from recent New Zealand events is the importance of understanding interdependencies between transport, water, energy, telecommunications, buildings, commercial services and community services. We support the draft guide's consideration of interdependencies and recommend further emphasis on the cascading consequences of failure across connected systems.

Investment decisions that appear suboptimal within a single network may deliver significant benefits when assessed from a whole-system perspective. For example, stormwater and transport networks are often physically and operationally connected through overland flow paths, road corridors, access requirements and emergency response routes. Treating these systems in isolation can obscure both risks and cost-effective resilience opportunities.

A common language and stronger alignment with existing guidance are required

New Zealand infrastructure providers already work within a wide range of resilience, emergency management, asset management, risk and sector-specific guidance. The Commission's framework will be most effective if it clearly explains how it aligns with, complements and strengthens existing obligations rather than adding another parallel layer of guidance.

We recommend that the Commission promote common terminology and a degree of standardisation across regulated infrastructure sectors. This should include clear definitions of resilience, criticality, service disruption, interdependency, readiness and recovery performance. New Zealand is too small to sustain highly bespoke approaches across every utility and organisation when

shared language, consistent disclosure and comparable methods would improve decision-making and public understanding.

Decision-making frameworks should recognise uncertainty, options and adaptation

We strongly support the inclusion of scenario analysis, robust decision-making and adaptive planning approaches. We suggest the framework remain methodology-neutral rather than appearing to favour any single adaptive pathways method. The key requirement should be that decisions preserve future options, enable staged investment and avoid locking infrastructure owners into pathways that may become unsuitable as risks, technology, population distribution and funding mechanisms evolve.

The Commission should also consider strengthening Principle 7 on structured optioneering. Optioneering processes should start with the strategic service and community outcomes sought, then consider the range of risk treatment and adaptation responses available. This could include clearer alignment between risk-based terminology, such as avoid, control, transfer, accept or abandon, and adaptation framing, such as protect, accommodate, retreat or avoid. A clearer connection would help providers compare options consistently and explain trade-offs to affected communities.

Structured optioneering should be grounded in practical experience and informed by those affected by loss of service. Public and customer impacts should not be treated only as a late-stage economic analysis input. They should be part of the initial problem definition, option development and evaluation process, particularly where communities ultimately fund or bear the consequences of resilience decisions.

Hazard disclosure, scenario testing and readiness should be strengthened

We support the potential actions identified by the Commission within its key principles and recommend that further consideration be given to mandatory hazard exposure declarations, similar in intent to emerging climate and nature-related disclosure approaches. Disclosure of hazard exposure, interdependencies, preparedness capability and resilience maturity would improve public understanding of likely service levels after a disaster.

We also recommend the Commerce Commission encourage proactive sharing of hazard information. Open access to consistent hazard data, assumptions and risk information would support more informed investment decisions, improve alignment across infrastructure sectors, and strengthen community understanding of resilience risks and trade-offs. It would also better enable infrastructure providers to better assess interdependencies and cascading consequences across connected systems,

Recovery experience should be recognised as a valuable evidence source

The draft guidance appropriately references evidence-based decision-making. We recommend that post-event recovery experience be explicitly recognised as an important source of evidence. Across New Zealand's recent recovery programmes, significant insights have been gained regarding:

- Asset vulnerability at both network and more granular asset levels.
- Network criticality and dependencies between services.
- Community impacts and customer expectations.
- Supply chain constraints and delivery market capacity.
- Restoration priorities and practical response constraints.
- The effectiveness of prior investment decisions once tested by real events.

These lessons help identify where resilience investments will provide the greatest long-term value and should be systematically incorporated into future investment decisions. Post-investment and post-

event review should also be encouraged, so providers can test whether expected resilience benefits were achieved and improve future business cases, investment models and operational practices.

Resilience investment should consider broader societal outcomes, benefits and disbenefits

We support the Commission's recognition that investment decisions should consider more than direct financial costs and benefits. Many resilience investments generate substantial community, economic, environmental and social benefits that are not always captured through conventional investment appraisal methodologies. At the same time, investment decisions should transparently consider benefits, disbenefits, affordability, service risks and resilience requirements.

We encourage increased consideration of co-benefits aligned with resilience investment. For example, distributed solar generation and battery networks can reduce short-term energy costs while improving community resilience. Similarly, sponge city approaches, parks and blue-green infrastructure that incorporate stormwater management can improve resilience while also providing amenity, environmental and public health benefits. A whole-of-life cost and TOTEX perspective should be used where appropriate, so options are assessed across the asset lifecycle rather than through narrow capital cost comparisons.

3 Future Development of the Framework

As the framework evolves, we encourage the Commission to focus on:

- Developing practical guidance and examples demonstrating how resilience principles can be applied in real-world investment decisions.
- Providing clearer guidance on incorporating resilience into business cases, regulatory submissions, maintenance strategies and operational performance measures.
- Encouraging more consistent approaches to measuring resilience outcomes and investment benefits, including post-investment review.
- Supporting greater disclosure of exposure to hazards, interdependencies, preparedness capability and resilience maturity.
- Aligning resilience expectations across regulated sectors and with existing national guidance to encourage consistency, shared learning and clearer accountability.
- Promoting common terminology, comparable asset criticality approaches and standardised scenario testing where this would improve transparency and efficiency.

Alignment with the wider New Zealand resilience system

We recommend that the Commission include, within its key principles, a stronger focus on standardised resilience guidance and alignment with the wider New Zealand public infrastructure system. This would help clarify the role of the Commission's framework alongside existing resilience-related instruments and reduce the risk that it is perceived as another standalone document.

Instrument	Scope	Resilience requirements	Applies to	Compliance nature
Civil Defence Emergency Management framework	National emergency management	Risk reduction, readiness, response and recovery planning; lifeline utilities must support continuity during emergencies.	Lifeline utilities, local authorities and emergency agencies	Statutory
National CDEM Strategy and	All hazards	Business continuity, interdependency planning,	Lifeline utilities and public agencies	Policy and guidance

Instrument	Scope	Resilience requirements	Applies to	Compliance nature
related national planning		emergency preparedness and recovery capability.		underpinning legislation
CO (23) 9 - Investment Management and Asset Performance	Crown-owned assets and infrastructure	Long-term asset stewardship, lifecycle management, risk management, performance reporting and resilience considerations in investment decisions.	Government departments and Crown entities	Mandatory for departments; policy expectation for others
Treasury Asset Management Guidance	Asset-intensive agencies	Balance between cost, risk and performance, lifecycle resilience, critical asset identification and asset management planning.	Central government asset owners	Mandatory supporting guidance
Te Waihanga Asset Management and Investment Planning Guidance	Public infrastructure	Resilience integration into planning, investment prioritisation and service continuity.	Public asset owners	Good practice guidance
DPMC Critical Infrastructure Resilience Programme	National critical infrastructure	Identification of critical services, cyber resilience and minimum risk management expectations under development.	National critical infrastructure operators	Emerging regulatory framework
Sector-specific regulation	Individual sectors	Continuity, security, service reliability and emergency response requirements vary by sector.	Regulated utilities	Statutory

International benchmarking and standards alignment

Stantec has international capability and experience across multiple countries and jurisdictions. We are using this knowledge to inform our submission and recommend that advancements made in similar markets/countries are monitored for reference in developing New Zealand documents.

Examples of areas where further alignment with international practice may be beneficial include:

- **Communications and commercial service continuity.** The role of communications and access to commercial facilities after a disaster should not be underestimated. We recommend that the Commission give greater consideration to communications and commercial systems providers within the scope of resilience guidance. Gradual alignment with relevant standards and practical minimum requirements could improve post-event communications integrity and service availability.
- **Building serviceability under seismic loading.** There may be opportunities to improve post-event building performance under light and moderate earthquakes by reviewing serviceability expectations and their application across public sector projects.
- **Distributed water storage.** Updated expectations for distributed water storage for domestic use and firefighting should be considered as a practical hazard mitigation measure where public supply reliability and emergency response needs justify it.

- **Public access to utility resilience information.** A more consistent approach to utility availability and resilience information, supported by regulated scenario planning and evaluation, would help communities and decision-makers better understand likely service impacts after disruptive events.

Overall, overlapping regulations, variable experience-based frameworks and the absence of comprehensive national hazard registers can limit consistent, multi-hazard resilience evaluation and planning. The Commerce Commission could add significant value by helping to align expectations, promote common terminology, and support more consistent disclosure, scenario testing and investment evaluation across regulated infrastructure sectors.

Stantec supports the Commerce Commission's initiative and considers the draft guidance an important step toward improving the resilience of New Zealand's critical infrastructure systems.

The proposed principles appropriately shift the focus from responding to infrastructure failures toward understanding risk, improving preparedness, strengthening decision-making and investing in long-term resilience outcomes. In our view, successful implementation will require continued emphasis on service outcomes, community wellbeing, system interdependencies, adaptive and options-based planning, recovery learning, operational accountability and broader societal value.

We look forward to supporting the ongoing development of the framework and contributing to a more resilient future for New Zealand's infrastructure networks and communities.

4 Conclusion

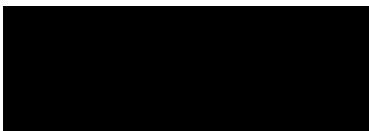
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Regards,

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