

NZSEE Resilient Buildings Project

QuakeCoRE IP1 meeting

23 June 2021



Stage 2 overview

Aim

To understand if tolerance for the impact of earthquakes on buildings in New Zealand has changed since B1 performance objectives were set.

The insights arising from this study will contribute to debate about desired levels of resilience to the impacts of earthquakes, and the design approaches and options available to achieve desired performance.

Stage 2 outcomes

Explore whether there is a **social license** to redefine statutory performance objectives.

A clear and shared language of desired performance objectives.

An understanding of the **pluralities** of societal risk perception and how performance objectives **shift relative** to building and geographical context.

An understanding of the importance of seismic resilience relative to other demands on built environment.

Stage 2 deliverables

Review of the seismic performance objectives of buildings including the following question:

- What are societal expectations of seismic building performance?
- What is society's capacity for risk?

A tested definition of building resilience.

A risk framework that clearly articulates the core objectives for seismic performance from a societal perspective. This may include broad expectations for performance across a continuum of earthquake events:

- human outcomes (e.g. life safety, availability of critical infrastructure services)
- economic outcomes (e.g. cost, business disruption impacts)
- social (e.g. social connectivity, heritage, cultural impacts)
- natural (e.g. sustainability, carbon emissions, waste)

Technical reflections on realising societal expectations in seismic design and/or regulatory frameworks.

Stage 2 deliverables

Possible Performance outcome

Increased shaking



Human: (e.g. Life safety, critical infrastructure)

Financial: (e.g. Cost, business interruption)

Social: (e.g. Social connections, heritage, community spaces)

Natural: (e.g. Sustainability, carbon emissions, waste)