

*World Bank Group Report Launch:
Financial Protection of Critical Infrastructure Services*

Risk Financing Programs for Critical Infrastructure Services – New Zealand's perspective

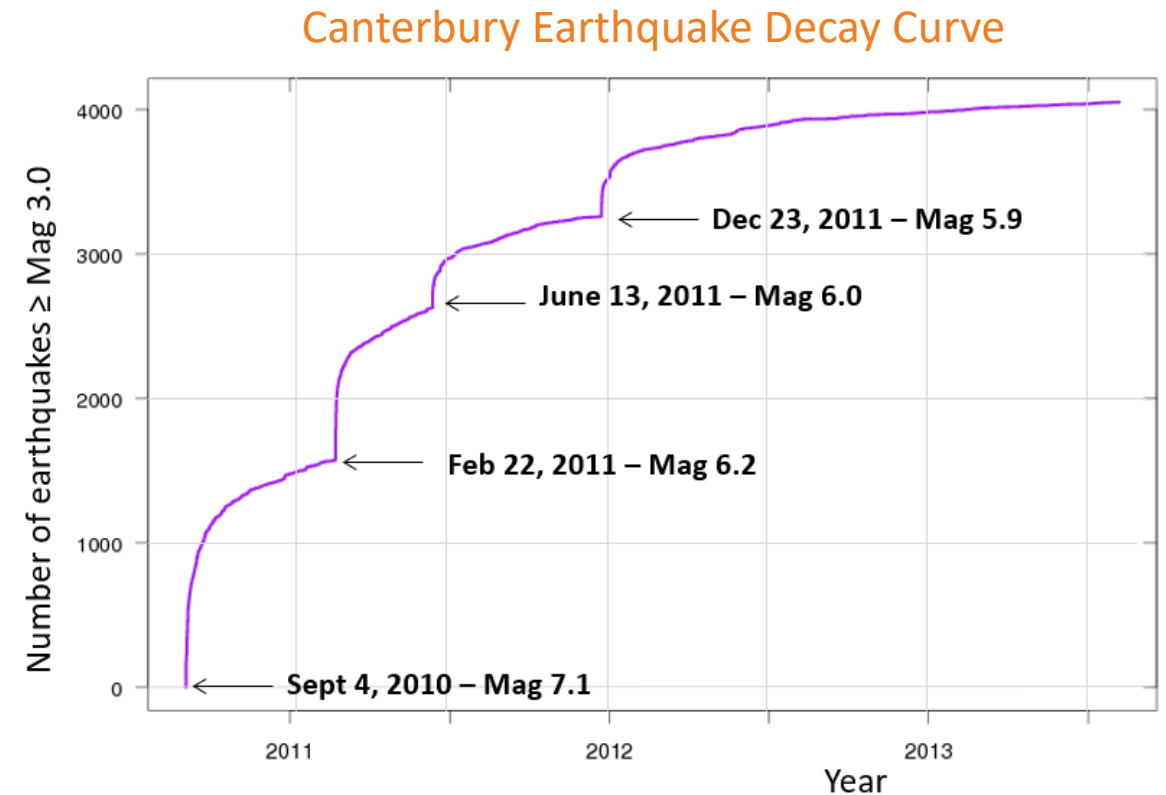
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Example of Providing Financial Support to Critical Infrastructure Services – Canterbury Earthquake Sequence 2010 - ongoing

- Event; September 4, 2010
Magnitude 7.1 earthquake, epicenter 45km west of Christchurch central – considerable damage
- Event; February 22, 2011
Magnitude 6.2, epicenter Christchurch – most damaging
- > 10,000 recorded earthquakes



Canterbury Earthquakes 2010 +



Christchurch City Damage

- Residential
- 100,000 homes damaged
- 7,860 homes in red zone



Central City

- 70% commercial buildings
- 3000 businesses displaced
- Cordon – 387ha



Social

- 185 casualties from 20 countries
- 6,800 treated for injuries

Infrastructure

- 52% road network (1000km)
- 31% sewer network (528km)



Example of Providing Financial Support to Critical Infrastructure Services – Sewer Network

- 31% of sewer network damaged (528km)
- Owner of sewer network; Christchurch City Council (CCC)
- CCC carried insurance through a mutual funding arrangement across multiple local councils distributed throughout New Zealand – accumulated capital by annual contributions and supplemented by international reinsurance arrangements.
- September 2010 event exhausted all funds available through the mutual insurance scheme.
- By February 2011 event the extent of sewer damage had not been fully assessed.
- Following February 2011, due to extent of damage across road and water services, as well as common corridors, Government led establishment of a government/council/construction industry consortium “Stronger Christchurch Infrastructure Rebuild Team” or “SCIRT” to:
 - Coordinate effort
 - Gain efficiencies, ensure quality
 - Minimize costs to taxpayer and others
 - Ensure councils continued to financially contribute within their capacity to do so

Example of Providing Financial Support to Critical Infrastructure Services – Sewer Network

■ Learnings:

- Decision making in higher uncertainty (earthquake intensities expected to decline over time)
- Levels of insurance; book value (financial), replacement cost, replacement cost + (gross under-insurance)
- Multiple events; cascade or coincidental
- Duration of effects
- Damaged sewer system led to groundwater contamination led to contamination of potable water bores distributed throughout city
- Government financial mechanisms and capacity to apply funding (contingent liability)
- Insurance models (uninsured, self insured, partially insured, inability to secure insurance, multiple parties (mutual), national)
- Business impacts (MERIT – Measuring the Economics of Resilient Infrastructure Tool)
- Extent of funded recovery; less than, same as or better than pre-event? Funding “additionality” relative to BAU?
- Community impacts – ongoing disruptions
- Alternate means of delivering service

Conclusion / Takeaways / Recommendations

- New Zealand continues to learn and improve
 - Has further strengthened emergency management to establish National Emergency Management Agency (NEMA).
- Recommend national risk assessments across all hazards
 - Have greater focus on consequences rather than probability (e.g. New Zealand had exercised and prepared for pandemics, also biohazard incursion and many others).
- Assess consequences against a community wellbeing framework
 - As greatest impacts may not be physical damage e.g. pandemic.
- Reduction in demand is often overlooked
 - e.g. treatment plants, refineries, gravity sewer flows
- Ensure economic first, second and third order impacts are considered.
- Ensure financial capacity, capability and policy mechanisms to manage adverse events.
- New Zealand's experiences have been included in this new report on "Financial Protection of Critical Infrastructure Services".
- Highly recommend report and adoption