

Digital Built Aotearoa Foundation - Web form submission

Critical Infrastructure Resilience

What is your name?

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Are you responding as an individual or on behalf of an organisation?

Digital Built Aotearoa Foundation

Do you consent for your submission (including identifying information) to be published and shared in lines with terms for this public consultation?

Yes

Do you consent for your submission (including identifying information) to be published and shared in lines with terms for this public consultation? - Please note what should be withheld and for what reasons.

[Nil]

Does more need to be done to improve the resilience of New Zealand's critical infrastructure system?

Absolutely yes.

Have you had direct experience of critical infrastructure failures, and if so, how has this affected you?

Lived in Christchurch through the Earthquakes and recovery. E

How would you expect a resilient critical infrastructure system to perform during adverse events?

I would expect it not to fail. If it failed, I would expect it to fail safe. If it could not fail safe I would expect there to be sufficient redundancy in the system to allow a reasonable level of service to be maintained in a short period of time. (days not months)

Would you be willing to pay higher prices for a more resilient and reliable critical infrastructure system?

Yes, but extra resilience does not necessarily mean more cost. At the moment we are not accounting for the whole of life costs which includes the price of a possible failure.

The work programme's objective is to enhance the resilience of New Zealand's critical infrastructure system to all hazards and threats, with the intent of protecting New Zealand's

wellbeing, and supporting sustainable and inclusive growth. Do you agree with these objectives? If not, what changes would you propose?

Absolutely yes

Do you agreed with the proposed criteria for assessing reform options? If not, what changes you would propose?

no comment

Do you think the megatrends outlined pose significant threats to infrastructure resilience?

yes

Are there additional megatrends that are also important that we haven't mentioned? If so, please provide details.

no

Do you think we have described the financial implications of enhancing resilience accurately? If not, what have we missed?

I think there is more to be considered on the positive side: job creation, investment opportunities, new technology, co-benefits in terms of environmental investments, etc.

How important do you think it is for the resilience of New Zealand's infrastructure system to have a greater shared understanding of hazards and threats?

Essential

If you are a critical infrastructure owner or operator, what additional information do you think would best support you to improve your resilience?

1. Information on the interdependencies of related infrastructure and the consequence of cascading failures
2. Common operating policies in emergencies and recovery , a Coordinated Incident Management System (CIMS) for infrastructure.
3. Reliable data on asset position, status, condition, etc.

What do you think the government should do to enable greater information sharing with, and between, critical infrastructure owners and operators?

Develop a single digital infrastructure model for New Zealand. The kernel of this is available through the National Forward Works Viewer. This model would federate asset information on a number of key attributes of critical infrastructure. An essential short list would be:

1. Asset Name
2. Asset type
3. Unique ID
4. Location
5. Asset Owner

Would you support the government having the ability to set, and enforce, minimum resilience standards across the entire infrastructure system?

Absolutely yes

Would you support the government investing in a model to assess the significance of a critical infrastructure asset, and using that as the basis for imposing more stringent resilience requirements?

Absolutely yes. Once again, the kernel of this model is available through the National Forward Works Viewer. This is already a well-developed register of assets held in trust for New Zealand by the Digital Built Aotearoa Foundation, a charitable trust set up to share and promote lessons learnt from past events and hold the IP of nationally significant tools and data.

What criteria would you use to determine a critical infrastructure asset's importance? Investing in a model to assess a critical infrastructure asset's criticality, and using that as the basis for imposing resilience requirements that are more stringent on particularly sensitive assets?

There are ample examples both in the academic literature and in practical experience in NZ. There is insufficient space here to answer this question. I would refer to the National Lifelines Committee for this.

Do you think there is a need for the government to have greater powers to provide direction or intervene in the management of significant national security threats against a critical infrastructure? - Is there a need for greater powers? If so, what type of powers should the government consider? What protections would you like to see around the use of such powers to ensure that they were only used as a last resort, where necessary?

yes

Do you think there is a need for a government agency or agencies to have clear responsibility for the resilience of New Zealand's critical infrastructure system?

Yes.

Several agencies already exist that could do this: NEMA, ComCom, Te Waihanganga. I don't see the need for a new agency as long as one agency has clear responsibility.

Do you think there is a need for compliance and enforcement mechanisms (eg. mandatory reporting, penalties, offences) to ensure that critical infrastructure operators are meeting potential minimum standards?

Directors and executive leaders should be responsible in the same way that they are for health and safety. Local councillors should also have responsibility. Too often council staff propose resilience solutions in long-term plans which are voted down by councillors. The long-term nature of these decisions mean the electoral cycle is too short to ensure accountability.

What additional comments do you have?

Developing the correct digital and data systems is essential for the long-term resilience of NZ's infrastructure. These data need to be standardised, accurate, reliable, shared and regularly audited to ensure that data and process are fit for purpose. Every decision that is made in the infrastructure sector relies on good data. We currently do not have those data. Therefore, decisions will always be sub-optimal. In a disaster or recover situation this problem is only compounded.