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Via Email: infrastructureresilience@dpmc.govt.nz

SUBMISSION TO THE DEPARTMENT OF THE PRIME MINISTER AND CABINET (DPMC) ON STRENGTHENING THE RESILIENCE OF NEW ZEALAND'S CRITICAL INFRASTRUCTURE SYSTEM

Thank you for the opportunity to present this submission on Strengthening the Resilience of New Zealand's Critical Infrastructure System.

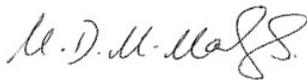
The Queenstown Lakes District Council (QLDC) is supportive of the work on Strengthening the Resilience of New Zealand's Critical Infrastructure System. Key points in the submission include:

- a systems approach for infrastructure resilience is needed, including integrated planning that emphasises and aligns with spatial planning and destination management principles and work programmes.
- consideration of the implications of visitor populations on the resiliency demands of critical infrastructure should be included.
- the development of a national definition of resilience is supported.
- increased information and data sharing is a key enabler of improved resiliency outcomes.

QLDC does not wish to be heard at any hearings that result from this consultation process.

Thank you again for the opportunity to comment.

Yours sincerely,



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GM – Strategy and Policy

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1.0 Context of critical infrastructure in relation to QLDC

- 1.1 The Queenstown Lakes District (QLD) is a high growth area as well as a premier tourism destination for visitors to Aotearoa New Zealand, with an average daily population of 66,532 (visitors and residents) and a peak daily population of 102,648¹.
- 1.2 The demand and pressure upon the district's infrastructure is directly affected by visitor numbers throughout the year. Planning for peak population is critical to meeting requirements for three waters services, waste, transport, power, and communications infrastructure. Infrastructure also needs to be functional and resilient within the district's seismically active and mountainous terrain, whilst protecting the outstanding natural landscapes on which the district's reputation is predicated.
- 1.3 QLDC has a formal partnership with central government, Kāi Tahu, and the Otago Regional Council to develop and implement a holistic Spatial Plan for the district. The purpose of the plan is to "Grow Well" or "Whaiora" and to achieve this it identifies priority areas for growth, transport, community facilities, infrastructure, and economic development.

2.0 Critical infrastructure is a core concern for local government.

Effective spatial planning is a critical enabler to resilience building.

- 2.1 QLDC has been working as part of a partnership with central government and iwi for the past three years to develop the district's Spatial Plan². The Spatial Plan provides a long-term outlook that will help the district to manage growth well. It takes a holistic approach to spatial planning, focusing on resilience, sustainability, and wellbeing. QLDC strongly recommends that DPMC consider the role that spatial plans and that successive future development strategies have in delivering resilience outcomes.
- 2.2 QLDC believes that integrated spatial planning for the delivery of infrastructure and development can improve resilience through reducing the pressure that growth places on infrastructure networks, particularly transport and water infrastructure. It can also identify cost-effective ways to develop new housing. As such, QLDC recommends that spatial planning is given emphasis within the DPMC work programme.
- 2.3 As a high growth area, Queenstown Lakes District services, support structures, infrastructure and funding models across all sectors struggle to keep pace with change. Each agency, department or business will have its own framework, but there are no clear thresholds or indicators that signal when a system change is required. QLDC recommends that DPMC and Te Waihanga explore how thresholds and metrics might be better used. For example, what indicators are needed to identify when a new high school is required, and whether that then initiates the expansion of primary and secondary health care services, power supply upgrades, wastewater plants etc. This integrated approach to infrastructure planning will provide a strong foundation for the resiliency of the community it serves.

Demand Management

- 2.4 Demand growth is a challenge for many territorial authorities, particularly in relation to infrastructure. With efficient pricing, spatial planning and demand management, population growth does not always equate to a

¹ <https://www.qldc.govt.nz/community/population-and-demand>

² <https://www.qldc.govt.nz/your-council/major-projects/queenstown-lakes-spatial-plan>

growth in infrastructure services required. However, in the Queenstown Lakes District experience, additional housing does often require the provision of additional complex infrastructure services. QLDC strongly supports demand management as a resiliency tool that can act as an insurance policy for high-growth areas when uncertainty is high.

- 2.5 To help leverage the benefits of improved demand management and community behavioral change, new skill sets, and technical competencies are required, which many infrastructure owners including councils do not have. Initiatives such as centres of excellence may provide an effective pathway for supporting professional development in these areas. Behaviour change will become an integral part of infrastructure work in the future and smaller councils will struggle to adequately understand and resource behavioural science without access to centralised support. A centre of excellence for demand management would be particularly useful for communities with unique challenges, such as the Queenstown Lakes District, where visitor numbers far exceed resident population and demand is driven by peak day numbers.

The impact of the visitor economy

- 2.6 The consultation document gives very little consideration to the implications of visitor populations on the resiliency demands of critical infrastructure. Whilst many parts of Aotearoa New Zealand can absorb and fund provisions for visitors within the resident population without issue, some of the most high-profile (and economically significant) locations cannot. Destinations such as Queenstown, Wānaka, Glenorchy, Arrowtown and Tekapo experience visitor numbers that far exceed the normally resident population and therefore create a major vulnerability risk should the infrastructure fail.
- 2.7 QLDC is a leader in the destination management approach to planning and managing the interface of visitors and community. In the Queenstown Lakes District, the Regional Tourism Organisations have been provided with considerable Strategic Tourism Assets Protection Programme (STAPP) funding to develop a destination management plan which has occurred in partnership with QLDC. The region's plan, Travel to a Thriving Future, has significant implications for destination marketing, product development, system governance, communications, civil defence and infrastructure. QLDC recommends that DPMC reflects in the work programme the implications of destination management for infrastructure in New Zealand.

Better funding models are needed for high growth councils.

- 2.8 As a high growth council, with significant visitor numbers, QLDC has been working to establish alternative funding models to complement the existing ratings model. With such a small ratings base, the improvement of infrastructure and its resilience in the district is a significant challenge. QLDC is actively pursuing the establishment of a local visitor levy to ameliorate the situation, but there are other models (such as City Deals) that should be seriously considered for high-growth environments.
- 2.9 QLDC recommends that innovation in funding models is given greater consideration within the document.

Immediate energy resilience challenge – needs innovation and partnership.

- 2.10 The document needs to recognize that a number of immediate resilience challenges to critical infrastructure are all already at crisis point. QLDC has been working with the traditional energy infrastructure system to ameliorate the risks and effects of a limited spur line providing power to the major urban centre of Queenstown. This poses risks in terms of capacity, resilience, affordability, and emissions reduction. It is a good example of where the traditional energy system, land use planning and local generation initiatives need to work together to achieve the district's vision for a low emissions, electrified economy.
- 2.11 The document needs to address the role that innovation, transformation and partnership need to play in improving resilience. It is no longer sufficient (as this example shows) to rely on traditional critical

infrastructure provisions. There is a significant risk of over-investment in traditional models (at great expense), in order to improve resilience if insufficient exploration of alternative models occurs. For example, in Queenstown Lakes, building significant new lines infrastructure may be an expensive cost for the community, when investment in local generation solutions may meet the need.

- 2.12 QLDC recommends that the document reflects the principle of avoiding over-investment in traditional infrastructure solutions, where progressive alternatives exist.

3.0 QLDC supports the work to strengthen the resilience of critical infrastructure in New Zealand.

- 3.1 QLDC supports the development of a national definition of resilience and believes it would have significant strategic value at a national, regional, and local level. Through establishing a nationally consistent minimum resilience standard, infrastructure investments can be evaluated more clearly in terms of their risk mitigation benefits and the broader role they have in supporting the resiliency of the communities they serve.
- 3.2 QLDC agrees with the emphasis on systems thinking and inter-generational equity, as a way to approach resilience building. Taking this approach will allow for better coordination, improved outcomes, and the realisation of long-term benefits.
- 3.3 QLDC agrees that a step change is required in how we plan, design, and build infrastructure, noting that the current system is rapidly failing to be fit for purpose.
- 3.4 QLDC supports the concept of regulatory intervention to increase the resilience of critical infrastructure, however a commensurate increase in funding will be required to ensure that these resilience standards can be complied with.
- 3.5 Given the long lead times associated with infrastructure development, QLDC encourages DPMC and Te Waihanga to provide early signaling and cross-sectoral engagement in the review and development of these new regulatory requirements and any associated tools. Te Waihanga is well placed to explore tools that would help the sector traverse uncertainty more effectively, improving futures literacy and building scenario-thinking capabilities. The use of new methodologies such as Dynamic Adaptive Pathway Planning will play a critical role in ensuring that future infrastructure investments are proportionate and adaptive to the future hazardscapes that impact our communities.

4.0 While QLDC agrees that the four mega trends identified in the discussion document are significant, they are not the only megatrends impacting local government.

- 4.1 QLDC agrees with the identified mega trends, but notes that these are only a sample of the trends that are impacting local government.
- 4.2 Urbanisation and population growth are particularly significant to QLDC as a high growth council. The pressures of rapid population increase mean that there is a greater need for the provision of all infrastructure in order to meet the needs of residents and visitors to the district.

5.0 A systems-based approach is recommended to strengthen resilience.

- 5.1 A systems-based approach to understand the whole of life costs and resiliency opportunities presented by infrastructure projects is supported.
- 5.2 Identifying critical infrastructure is only one part of resilience. Having identified critical infrastructure, investment must then be prioritised to areas that provide the greatest resilience benefit. This assessment of resilience benefit needs to address how the infrastructure network performs as a system during and following an event, whilst understanding what mechanisms may be put in place to deliver the service to

communities in the event the infrastructure fails. Understanding the impact of this, and what the restoration of pre-event level of service means for communities is of critical importance.

- 5.3 In response to the resiliency challenge, there has been a tendency for central government and infrastructure owners to over-invest in the strengthening of hard infrastructure while under-investing in the adaptive capacity of 'soft' support systems. Examples include any major assets (e.g., electricity pylons, power transformers, bridges, roading culverts) that have limited or lengthy supply chains for emergency replacement parts, or assets that lack contingency functions, alternate operating modes or rapid information accessibility. Investment in these softer aspects of resiliency is vitally important and can have a significantly higher level of return than engineering strengthening work.
- 5.4 It is important to note that different aspects of infrastructure need to be considered at various levels, as a one size approach does not fit all. For example, energy supply needs to be reviewed at the local level, as significant inequities exist in relation to affordability, capacity and resilience depending upon local landscapes and distributors. QLDC recommends that any resilience interventions are assessed and applied at the appropriate level within the system to deliver the resilience outcomes desired.

6.0 Information is a critical enabler of resiliency, but the risks must be carefully managed.

- 6.1 QLDC supports the provision of improved information on whole-of-life infrastructure costs across the motu. This information would greatly assist councils with evaluating the long-term benefits of infrastructure investment.
- 6.2 Increased information and data sharing is a key enabler of improved resiliency outcomes. International examples of centrally coordinated information sharing demonstrate the benefits of this approach. QLDC encourages DPMC and Te Waihanga to progress with the evaluation of an applicable information sharing model for the Aotearoa New Zealand context.
- 6.3 QLDC also recommends that Te Waihanga develop a database of completed infrastructure projects with information on final costs and resiliency considerations, so that territorial authorities can access the best available data in the planning and development of infrastructure projects. This would provide a useful cross-reference point when working with quantity surveyors.
- 6.4 A move to open data for Aotearoa New Zealand is supported but the challenges of cyber-security threats are recognised. The potential opportunities and risks of Artificial Intelligence also need careful consideration.
- 6.5 If new resiliency tools are to be adopted, QLDC recommends that DPMC critically review timelines and programmes for decision-making and planning decisions at local, regional, and central government level to avoid misalignment. This is consistently problematic for local government authorities.

7.0 An integrated planning approach is required to build resiliency to major natural hazard events.

- 7.1 New Zealand's high exposure to 'high-impact, inevitable, but rare' (HIRE) natural hazard events is frequently referenced throughout the consultation document, however there is insufficient direction as to how these challenges will be planned for in an integrated, cross-sectoral manner.
- 7.2 Programmes such as the Alpine Fault M8 (AF8) project are filling a vital gap in terms of bringing science, public education, emergency management and sector representatives together to proactively plan and prepare for catastrophic events. Although the project has received awards and well-deserved praise, it is underfunded and inadequately resourced to meet the scale of challenge it is attempting to address. QLDC would like to see a stronger commitment from central government in the funding and resourcing of these types of catastrophic planning (CATPLAN) initiatives.

7.3 QLDC notes that much of the work relating to natural hazards sits within the purview of regional councils. This poses a risk in terms of consistency of data and levels of service across the country. Some of this risk can be mitigated through national initiatives such as the Toka Tū Ake EQC Natural Hazard Portal and the application of consistent legislative requirements e.g., Climate Change Adaptation Act 2023 and Local Government Official Information Amendment (LGOIMA) Bill.