

Defend, accommodate, retreat? Adapting transport networks to climate impacts

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Abstract

Climate change poses broad and systemic risks to our transport networks and its users, with potentially significant implications across all levels of our economy and society. This presentation presents insights and learnings from several projects that have been completed for Auckland Transport to assess both future climate change risks; and trials implementing Dynamic Adaptive Policy Pathways (DAPP) in pilot study locations.

Transport networks are vulnerable to the impacts of a wide range of acute and chronic climate-related hazards, including inland and coastal flooding, erosion, landslides, wildfire and extreme temperatures. These hazards can result in both direct risks to the transport network, and indirect risks to operations, levels of service, users and ultimately the communities served.

Assessing climate risk can be a complex process, given the range of uncertainties, stakeholders involved, data availability and methodological limitations. Additionally it is important to appropriately frame risks to ensure propagation pathways can be clearly understood. These pathways can be through asset classes, the organisation, and the community – all of which can ultimately result in financial impacts.

Climate change will increasingly need to be at the forefront of decision-making as we plan and adapt our built environment for the future. Changes in regulation are and will place increasing emphasis on appropriate management of climate risks. Transport operators, planners, and asset managers need to be aware of these changes and must begin to incorporate climate risk and adaptation into their thinking if we are to proactively adapt and limit the worst of the consequences to our communities.