Looking after the Transport System in a Changing World

NZ TRANSPORT AGENCY WAKA KOTAHI

New Zealand Government

Climate Change and the Transport Agency

No stand-alone Climate Change Programme

Recognise Government directions

- Adaptation - Resilience Programme
- Mitigation - Sustainability Strategic Outcomes

NZTA Resilience Position statement

Initial three-year position

Our challenge

Increasingly frequent and severe unplanned disruptions

Our focus

Reduce impacts through collaborations, increasing understanding and targeting hazard risk

Our drive

Using developed capability & capacity to manage and respond to small-to-major events

NZTA Resilience Framework

Purpose and Outcomes

- Setting the Transport Agency's strategic approach to resilience
- Prioritising and guiding the Transport Agency's resilience work programme

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2018 RESILIENCE FRAMEWORK

Transport Resilience for our Communities

Resilience is the transport system's ability to enable communities to withstand and absorb impacts of unplanned disruptive events, perform effectively during disruptions, and respond and recover functionality quickly. It requires minimising and managing the likelihood and consequences of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disruptive events, caused by natural or manmade hazards.[1]

Resilience is about being prepared, and preserving and quickly restoring access to the transport network for our customers, including Lifelines Utilities, in the face of unplanned events.[2]

PURPOSE OF THE FRAMEWORK:

The purpose of the framework is:

- to provide a clear expression of the Transport Agency's strategic approach to resilience, and
- to prioritise, guide and coordinate the Transport Agency's ongoing activity and strategic work programme to improve resilience

WHY IT MATTERS

A resilient transport system (which proactively addresses current and emergent risks) that is available for customers to use is fundamental to economic and social resilience of communities. Disruptions undermine economic growth and social well-being of communities and businesses. Resilience is critical for the availability of the national and regional transport system that carries freight and supports tourism, and that links regions to the wider transport system and markets. Poor resilience can impede critical and emergency services providing response and recovery support after significant events.

[1] Derived from and aligned with resilience definitions from the Sendai Framework for Disaster Risk Reduction, draft National Disaster Resilience Strategy (CDEM, Nov 2017) and NZTA's Four Year Excellence Horizon

[2] Simplified definition from NZTA's Resilience Business Improvement Project 2016.

EMERGING DRIVERS

Policy drivers

- Increased recognition of the need for an integrated all-of-government approach to address emerging climate change issues
- Enhancing the government's responsiveness to emergencies (the CDEM TAG review)
- Increased investment in regional economic development - $1B annual investment likely to include transport resilience projects
- Developing focus on modal-neutral transport system strategy - widening policy and investment to cover rail and ports/shipping

Operational drivers

- More frequent significant and recurring natural hazard events is increasing risk of disruptions
- A larger and more complex network exposes more assets to hazards, with more in increasingly difficult terrain
- Increasing dependence on electronic systems
- Ageing, degrading assets become less robust with time and have been built to older design requirements
- Public expectations of levels of service provided are rising, as is the risk exposure they will tolerate

KEY CHALLENGES

The following challenges impact on the Transport Agency's and sector's efforts to improve system resilience:

- Limited understanding, evidence and metrics of how disruption in different locations impacts on customers and communities well-beings and their tolerance and acceptance of risk
- Poor understanding of interdependencies within and between systems, networks and sectors.
- Poor understanding of the (changing) risk, interdependencies and efficacy of interventions to medium and low frequency large sized events on the transport system
- Assessment frameworks and discount rates serve to undermine investment in low frequency events and effective trade-offs across programme outcomes (e.g. safety vs resilience vs reliability)
- Inconsistent and non-comprehensive approaches used across the sector to assessing and responding to risk.
- Poorly co-ordinated approach across government for adapting to emergent issues, especially climate change (e.g. sea level rise).

STRATEGIC CONTEXT

Changing environment – natural hazard events and manmade disruptions are increasing in frequency and intensity reflecting climate change impacts and low frequency events patterns

Policy environment – resilience profile and importance is growing in many strategic policy documents e.g. GPS, Agency SoI, and LTV, including expanding recognition of social and economic impact focus

Partner activity - Other Government agencies, Lifelines and local authorities are increasingly addressing resilience issues and have initiatives underway, e.g. MoT "Transport Sector Resilience Strategy" and Lifelines "National Vulnerability Assessment"

Agency role - Recognised as well-resourced leader with many levers for proactively enhancing system and community resilience, e.g. NLTP investment, GPS implementation, advocacy/advice, engagement in RMA processes. Other activities include asset management and improvements, organisational and emergency response planning, business case tools, and engagement with partner initiatives.

NZTA ACCOUNTABILITIES

- Civil Defence and Emergency Management Act 2002 - as a Lifelines Utility, NZTA is obliged to ensure that we are able to operate to the fullest possible extent in an emergency, provide technical advice and participate in emergency planning
- Land Transport Management Act 2003 – NZTA is responsible for implementing the GPS, managing the state highway network and investment of the National Land Transport Fund - this includes priority for resilience
- Crown Entities Act 2004 – NZTA is required to respond to shareholder Ministers via letters of expectation and Statements of Intent; to act in a manner consistent with the spirit of public service, and to collaborate across the public sector.

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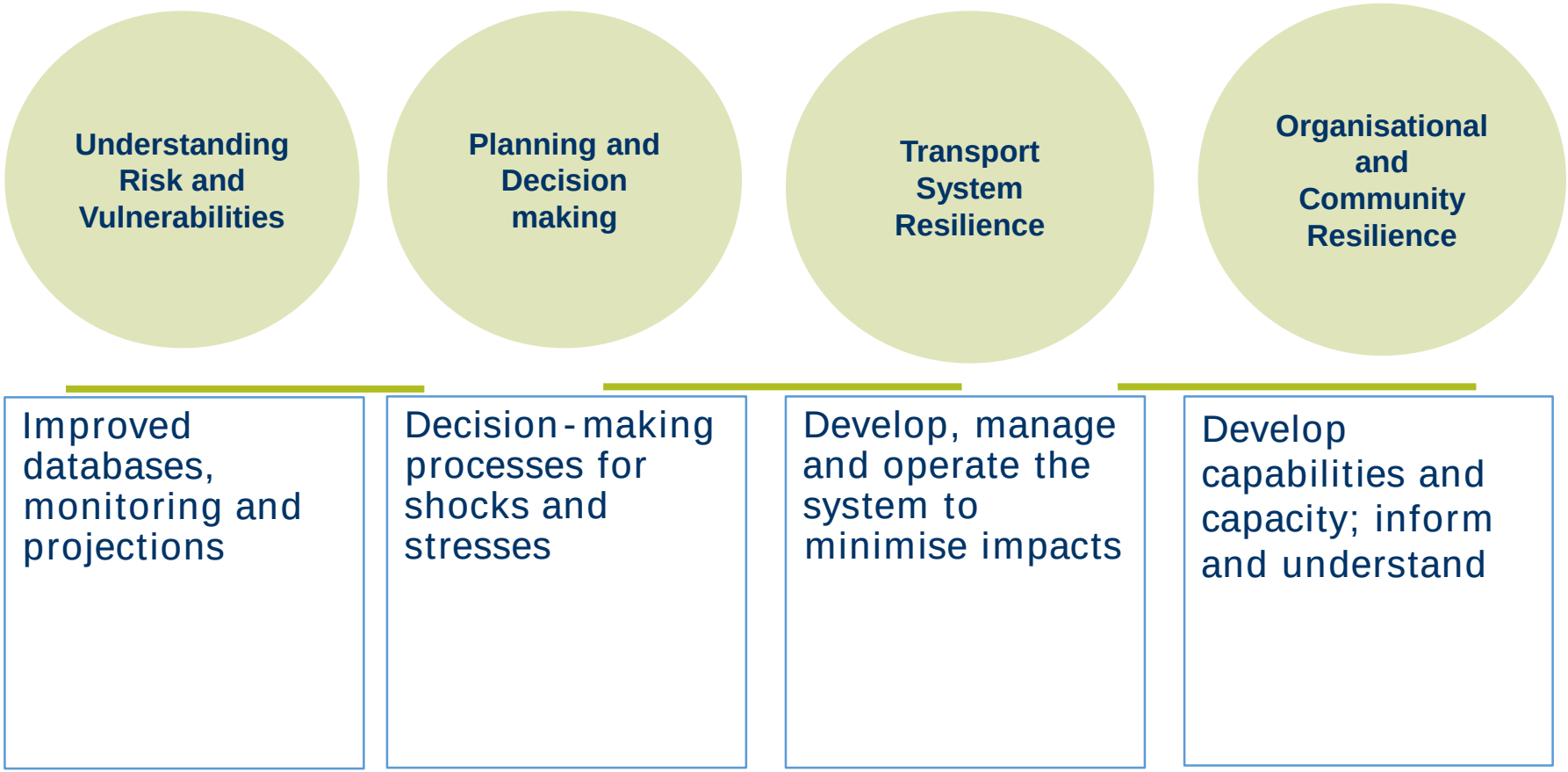
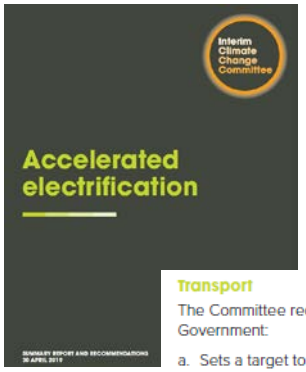
Programme Workstreams



Resilience Adaptation Projects Work in Progress

- Sea Level Rise Vulnerability of Coastal Highways (and Rail)
- Engaging with strategic spatial planning projects
- Developing and identifying data and information sources
- Exploring improvements to our Investment Decision Making Framework for wider hazard responses (stresses and shocks)
- Exploring opportunities with weather service contracts
- Monitoring Emergency Works Funding process

NZ Transport Agency and Climate Change Mitigation



Transport

The Committee recommends that the Government:

a. Sets a target to reduce emissions from transport by at least 6 Mt CO_2e in the year 2035 relative to current levels and, without delay, introduces policies to achieve this target.

b. Ensures that New Zealand does not become a dumping ground for fossil-fuelled vehicles.

c. Proactively enables low-emissions mobility for low-income and rural households.

GPS 2018: Strategic direction

Figure 1: Strategic direction of the GPS 2018

Strategic Priority: Environment

Environment Objective: A land transport system that reduces greenhouse gas emissions, as well as adverse effects on the local environment and public health

Result: Reduce greenhouse gas emissions from transport

SIGNIFICANT ACTIVITIES FOR 2018/19

The following initiatives are the main activities that we will deliver in 2018/19 to make progress on the environmental position statement:

6.1 Build and begin monitoring an environmental sustainability performance framework, including climate change mitigation measures.

6.2 Develop a sustainability strategy, focusing on climate change, improving public health and reducing environmental harm that incorporates robust measures and targets and is supported by a comprehensive implementation plan.

[Draft] NZ Transport Agency Sustainability Action Plan

A work in progress

Focus is NZ Transport Agency

- Not a sector action plan (that is the domain of MoT)
- Will set direction based on levers available to NZTA, e.g. planning, policy, investment and regulatory

Purpose

- Give effect to Government direction, e.g. GPS 2018 and Climate Change Response (Zero Carbon) Amendment Bill

Implementation

- Will be based on cross-cutting packages that reflect NZTA levers

[Draft] NZ Transport Agency Sustainability Action Plan

Scope

Climate Change Mitigation

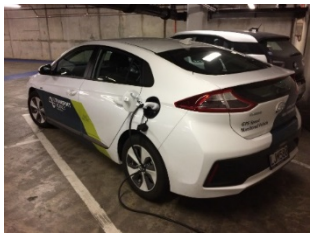
- Greenhouse Gas Emissions

Improving Public Health

- Harmful Air Pollutants, Noise and Physical Activity

Reducing Environmental Harm

- Biodiversity, Biosecurity, Water Quality, Resource Efficiency



Corporate Sustainability

Exploring NZTA (and RCA) Levers
Climate Change Mitigation

Table 1 **Transportation Emission Reduction Strategies** (CCAP 2005; VTPI 2007)

Cleaner Vehicles	Mobility Management		
More Efficient and Alternative Fuel Vehicles	*Improved Transport Options*	*Incentives To Choose Efficient Options*	*Land Use Management*
Efficient vehicle technology development	Transit improvements	Congestion pricing	Smart growth policies
Fuel efficiency standards (such as CAFE)	Walking & cycling improvements	Distance-based fees	Transit oriented development
Alternative fuel requirements and incentives.	Rideshare programs	Commuter financial incentives	Location-efficient development
Feebates (financial rewards for purchasing efficient and alternative fuel vehicles)	HOV priority	Parking pricing	Parking management
Fuel tax increases	Carsharing	Parking regulations	Carfree planning
	Telework & flextime	Fuel tax increases	Traffic calming
	Taxi service improvements	Transit encouragement	

This table lists various emission reduction strategies. Cleaner vehicle strategies reduce emission rates per vehicle-mile, while mobility management strategies reduce total vehicle travel.

Looking after the Transport System in a Changing World - Summary

Climate Change is a significant issue for the Transport Agency

- Changing hazard profiles and more uncertainty
- Increasing demands and complexity on the system components
- More potential disruptions to manage and minimise impacts
- Funding decision-making challenges
- A part to play in promoting mitigation

Moving to support and align with Government direction

Thank you