

JOINT RESILIENCE FRAMEWORK



Presentation to the
RCA Forum

29 November 2013



Ben Peacey, NZ Transport Agency

WHY A RESILIENCE FRAMEWORK

→ Customers expectations

- Sufficient system flexibility to maintain services when things go wrong
- Network/infrastructure providers to be prepared and coordinated

→ Political

- National and international disasters (Christchurch; Japan) have galvanised the political will to address infrastructure resilience
- Japan's 'lessons learned' challenge the parameters of traditional approaches

→ Governance

- Mechanism for defining appetite for risk and financial implications so residual risks for customers and assets are visible and accepted
- Consistency in resilience approach at governance level

→ Interdependencies

- Improved coordination between lifeline utilities required – facilitates 'whole of infrastructure' systems approach – opportunities for joint action, surfacing assumptions, and understanding upstream and downstream impacts of failure



FOUR COMPONENTS TO THE POLICY

JOINT RESILIENCE OPERATING POLICY



1 RISK IDENTIFICATION AND ASSESSMENT FRAMEWORK

Existing NZTA risk management framework →



This part of the Joint Resilience Operating Policy captures the existing NZTA risk management framework, but includes the considerations below.

- ADD CONSIDERATION OF:**
- 1 Long-range change scenarios
 - 2 Low-probability/high-impact scenarios, including concurrent events
 - 3 Interdependent networks and utilities

Comment
These extended considerations will be subject to the existing identification and assessment tasks, but because the scope of the strategic context has changed, so too will the nature and scope of risks considered change.

It is at this point that a governance conversation around the most critical risks can occur. Key questions are:

- 1 What treatment options are available to reduce risk?
- 2 How much does each of these treatments cost, and how much do they reduce exposure to risk?
- 3 What are the residual risks for each option?
- 4 What balance of cost and residual risks are we comfortable with?



2 RESILIENCE RESPONSE FRAMEWORK

Existing NZTA business continuity planning →

This part of the Joint Resilience Operating Policy captures the existing NZTA business continuity planning approach

ADD CONSIDERATION OF a broader and more structured range of scalable options →

FOUNDATIONS BEFORE A CRISIS	DURING AND AFTER A CRISIS
Prevention Structural Non-Structural	Emergency response Structural Interdependencies Information and technology People Financial Communication Practice and planning
Mitigation Structural Non-structural	Restoration and rehabilitation Structural Interdependencies Information and technology People Financial Communication Practice and planning
Preparedness Interdependencies Information and technology People Financial Communication Practice and planning	



3 MEASUREMENT FRAMEWORK



INVESTING FOR RESILIENCY CRITERIA - NEXT STAGE OF DEVELOPMENT

feedback loop

USING THE FRAMEWORK

2

RESILIENCE RESPONSE FRAMEWORK

Existing NZTA business continuity planning →

This part of the Joint Resilience Operating Policy captures the existing NZTA business continuity planning approach

ADD CONSIDERATION OF a broader and more structured range of scalable options →

FOUNDATIONS BEFORE A CRISIS

Prevention

Structural
Non-Structural

Mitigation

Structural
Non-structural

Preparedness

Interdependencies
Information and technology
People
Financial
Communication
Practice and planning

DURING AND AFTER A CRISIS

Emergency response

Structural
Interdependencies
Information and technology
People
Financial
Communication
Practice and planning

Restoration and rehabilitation

Structural
Interdependencies
Information and technology
People
Financial
Communication
Practice and planning

OUTPUT
**RISK
MANAGEMENT
PLANS**

WHAT THE TRANSPORT AGENCY IS DOING



- Working with Transpower and KiwiRail to
 - Provide a nationally consistent lifeline approach to resilience
 - Share planning assumptions, data, information and practice
- Implementing the framework
 - GIS mapping known risks on the State Highway network
 - Developing a clear national overview of critical infrastructure
 - Increasing visibility of low probability/high impact events
 - Defining aspirational resilience levels of service
- Fine tuning our investment tools for resilience
 - Resilience of critical infrastructure is planned for and staged in an organised way
 - Investment in maintenance, renewal and improvement balance longer term resilience needed with shorter term needs
- Developing appropriate resilience measures both at whole of network and route levels

HOW DO YOU GET READY FOR IT?

- The framework is available on the Highway Information Portal for use now. It has been designed for infrastructure but can be applied wider
- The One Network Road Classification will include resilience customer levels of service
 - These describe what customers can expect in terms of the availability and restoration of each road category when there is a weather or emergency event
 - The resilience framework can be used to assess whether there are gaps between the current LOS and what activities will reduce the gap
 - The levels of service will be linked to the National Land Transport Programme
- The Transport Agency Business case approach is being encouraged for use now
- By 2019, the One Network Road Classification, the resilience framework and the Business case approach will form a suite of tools that will shape investment choices

