

# Developing a Joint Resilience Framework

National Lifelines  
Forum

5 November 2014

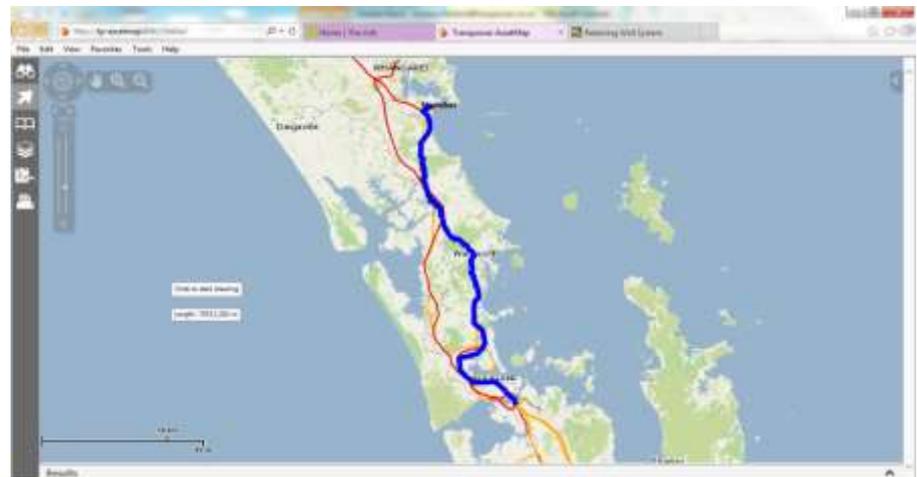
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# Outline

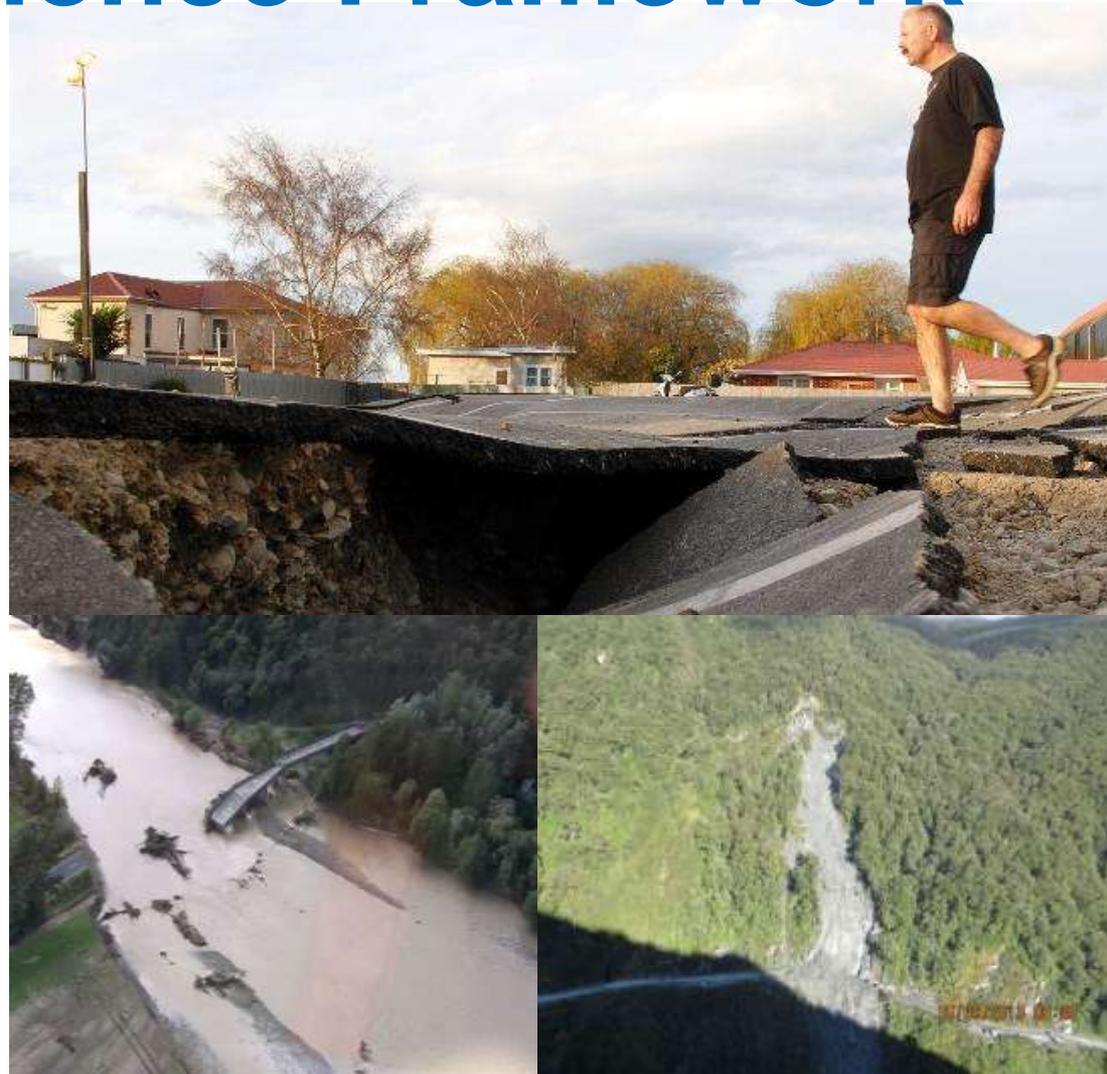
- **Why have a resilience framework**
- **Why work together**
- **What did we do**
- **What did we find**
- **What are we doing now**

# Why a Resilience Framework



# Why a Resilience Framework

- Interdependencies
- Customers/Community expectations
- Political
- Governance



# Strategic drivers

- **Interdependencies**

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

- **Customers expectations**

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

- **Political**

- Galvanised political will to address national infrastructure resilience post national and international disasters (Christchurch; Japan) Japan’s ‘lessons learned’ challenge the parameters of traditional approaches

- **Governance**

- Mechanism to define risk and financial appetite and implications of residual risks for customers and assets are visible and accepted within a consistent framework
- Consistency in resilience approach at governance level

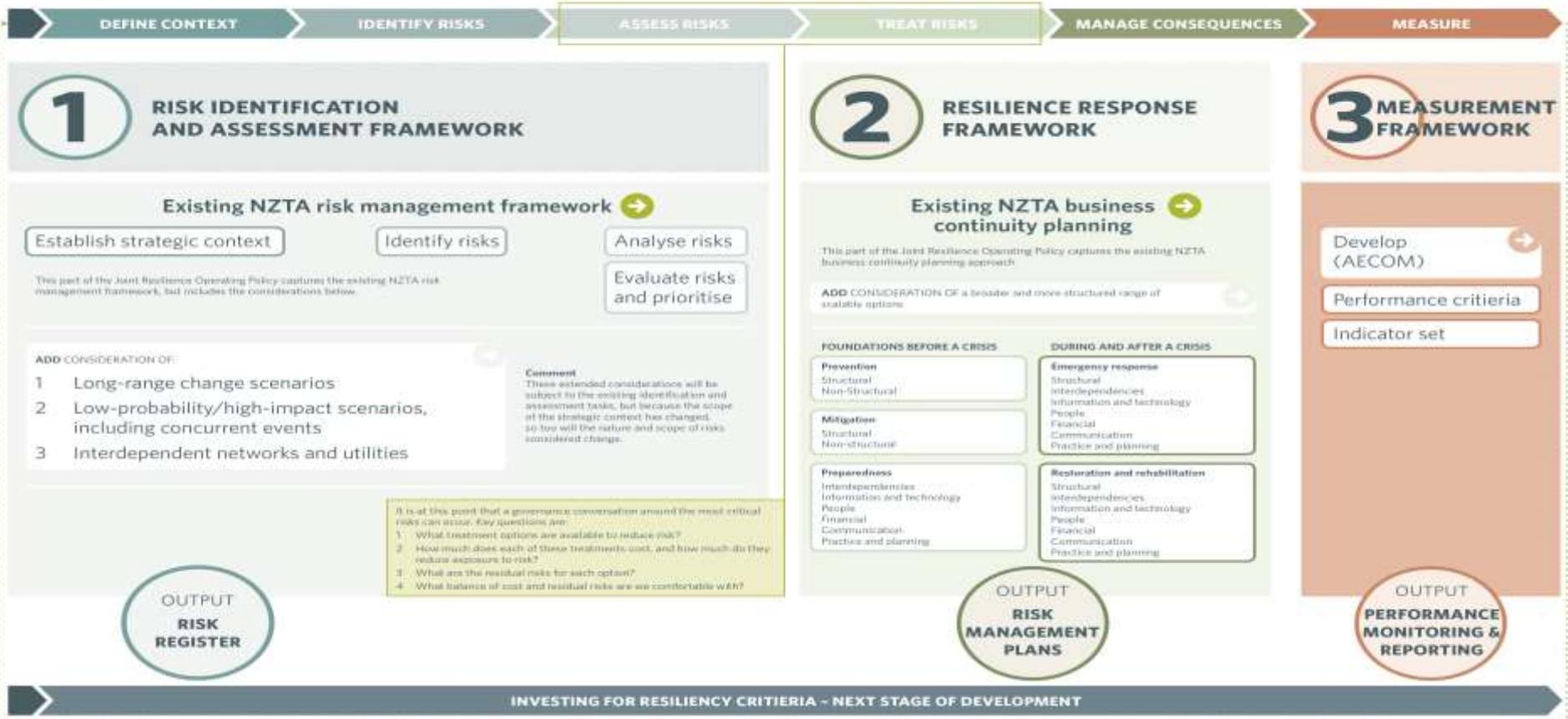
# Four components

- **Resilience Risk identification and assessment framework**
  - Incorporating existing best practice ISO Risk Management Framework
  - Extending the range and type of risks considered
- **Resilience Response Framework**
  - Incorporating existing best practice ISO Business Continuity Planning Framework
  - Extending the range of structural and non-structural options to be considered
- **Resilience Measurement Framework**
  - Network based customer levels of service
  - Broad range of operational and organisational attributes measuring overall strength of resilience approach
- **Resilience Investment Criteria**
  - Ensuring investing for resilience in the short and longer term is given appropriate priority and visibility in the investment conversation with our Board and with partners

# The Framework

Getting a common language & common approach

## JOINT RESILIENCE OPERATING POLICY



# Getting started

- **Transpower most developed**
  - Focus on post disaster lifeline responsibility
  - Link to Civil Defence Act and AS/NZS1170
- **Business Continuity Planning Exists**
  - Focus on redundancy, diversification, failing gracefully, response capability
- **Business Preparedness**
  - Spares, response practice (black start), advance agreements
- **Financial Ability**
  - Has regulatory investment approach, consideration of alternatives
  - VOLL @ NZ\$20k/MW/hr
- **Organisational Performance & System Design**
  - Transmission as a service,
  - Site criticality measures
  - Response and logistical support



# Implementing the framework

- Customers expectations
- Defining customer levels of service
- Categorise asset criticality
- Develop clear national overview of critical infrastructure
- Fine tuning our investment tools
- Developing monitoring tools
- GIS mapping known risks on the State Highway network

→ <http://www.nzta.govt.nz/projects/road-efficiency-group/docs/customer-levels-of-service.pdf>

GSP Criticality			RMP Study				INVA			Recommended priority groupings				
Site	GSP Ref	Category	Site	Rank	MP level (continued)	Stability risk	Station	INVA Rank	INVA Category	Station	MP level (continued)	INVA Category	GSP Category	Final Category
Addington	AD00111	Essential	Addington	185	0		Addington	232	4B	3	Severely I <sup>1</sup>	3	3	Essential
Addington	AD00061	Essential	Albany	38	22B		Albany	609	1B	1	Severely I	7A	4	Essential
Addington Roadhouse	AH40111	Standard	Albany	139	10		Albany	28	19B	5	Highways I	16B	1	Standard
Albany	ALB0031	Essential	Art w/whse	127	12		Albany	108	9B	3	Hurly <sup>1</sup>	50A	4	Standard
Albany	ALB1101	Essential	Angara	92	33		Aratapu	34	12C	4	Albany	50B	5	Important
Albany	ALB1101	Standard	Aratapu	180	0		Aratapu	25	14C	5	Opunake	11	5	Essential
Art w/whse	AW0031	Standard	Arctyle	162	0		Arthurs Pass	7	161	5	Shakutsu	120B	3	Important
Arthurs Pass	AP00111	Standard	Arthurs Pass	154	0.5		Ashburton	790	11	1	Haui	64C	1	Essential
Ashburton	ASB0031	Standard	Ashburton	34	10B		Ashley	27	14A	5	Tairā <sup>1</sup>	50C	3	Standard
Ashburton	ASB0061	Standard	Ashley	119	12		Atarua	14	17C	5	Arctyle	5.5	3	Essential
Ashley	ASH1101	Important	Atarua	126	11		Atarua	303	3B	2	Albany	22B	5	Essential
Atarua	ATU1101	Important	Atarua	167	0		Avermore	279	9A	3	Severely I	35C	1	Important
Avermore	AV1101	Standard	Avermore	176	0		Baldwin	90	121	4	Severely I	13B	2	Essential
Baldwin	BA1031	Standard	Baldwin	88	3		Baldwin	9	17B	5	Central Park	21C	5	Important
Baldwin	BA1031	Standard	Baldwin	140	8		Barron	517	2B	1	Albany Bush	241	4	Standard
Barron	BR1101	Standard	Barron	181	0		Barron	33	14C	5	Haui	35C	5	Important
Barron	BR10031	Standard	Barron	171	0		Black Point	6	16D	5	Arctyle	26B	3	Essential
Black Point	BP00031	Standard	Black Point	198	20		Blackburn	180	7C	3	Highways I	10C	3	Essential
Blackburn	BB00111	Standard	Blackburn	40	80		Blackburn	117	30	3	Haui	23C	1	Essential

REG | THE ROAD EFFICIENCY GROUP

## ONE NETWORK ROAD CLASSIFICATION

Road categories	Mobility	
	Level of availability	Resilience
<b>National (High resilience)</b>	The majority of road users experience consistent travel times with some exceptions in major urban centres.	Route is viable alternative if always available. Very rapid restoration of route affecting normal operating conditions. Road users are advised well in advance of issues affecting network performance and availability.
<b>National</b>	The majority of road users experience consistent travel times with some exceptions in urban heavy peak, holiday or during major events.	Route is always available during major weather or emergency events and viable alternatives exist. Rapid clearance of incidents affecting road users. Road users are generally advised in advance of issues and incidents.
<b>Regional</b>	The majority of road users experience consistent travel times with some exceptions in urban heavy peak, holiday, during major events or during severe weather events.	Route is always available except during major-weather or emergency events and viable alternatives nearly always exist. Rapid clearance of incidents affecting road users. Road users may be advised in advance of issues and incidents.

# Resilience attributes

- **Service Delivery**
  - Focus on customer levels of service
- **Adaptation**
  - Focus on redundancy, diversification, failing gracefully, adaptive capacity
- **Community Preparedness**
  - Focus on broad preparedness base (communities and other infrastructure providers), practice and planning, advance agreements
- **Responsibility**
  - Focus on who is affected and who is responsible – cross-sector
- **Interdependencies**
  - Included in scenario planning, upstream and downstream impacts, surfacing of service assumptions, opportunities for shared action, co-funding, shared resources
- **Financial Strength**
  - Focus on appropriate investment signals for the short and longer term, exploiting opportunities for shared (novel) financial agreements
- **Continuous**
  - Focus on continuous monitoring, practice and planning
- **Organisational Performance**
  - Focus on broad measures for strength of resilience culture and focus (based on these attributes)



# Thank you for your attention, Questions?

- **Contact Details**

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