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Case Study
Waimakariri District Earthquake Repairs and Recovery
What we will cover

• The damage
• The response and temporary repairs
• The recovery
• Where have we got to
• Lessons learnt
• Questions
The Earthquake (4 Sept) - Areas of Kaiapoi impacted
The Damage
The Damage
The Damage
The Damage
The Damage
The Damage - Kaikanui Footbridge
The Damage - Mandeville Swing Bridge

Before ….

…. and after.
The Damage - Blackwells Department Store, Williams Street, Kaiapoi
The Clean Up
Creating Connections

The Clean Up

LOW VOLUME ROADS WORKSHOP 2013
The Clean Up
The Appreciation
Creating Connections

The Response

Temporary speed restrictions
The Response - Temporary repairs
The Response - Temporary repairs
The Recovery
Infrastructure Recovery Unit Established
The Recovery Process

- Damage Assessment
- Scheme Design
- Streetscape Plan for each area
- Detailed design
- Procure the works (rates based)
- Ongoing consultation with internal and external parties
- Build it!

LOW VOLUME ROADS WORKSHOP 2013
The Recovery Areas
Assessing the damage

- Kerb and Channel - Topo survey and water tanker
- Pavement - Falling Weight Deflectometer (FWD)
Scheme Design Approach

• Why not rebuild as it is now? PROSPERITY!
• How to tackle this given not all damage known?
• Need to be flexible so new will fit with old
• Asset management considerations
• Walking and Cycling Strategy, etc.
• Town Centre project
Design Outcomes
For example …

Off road cycle paths
Design Outcomes

• Reinforce low speed environment - narrower roads, better intersections, traffic calming features.

• Future-proofing potential bus routes and 40km/h speed limit zones, neighbourhood gateways, etc.

• Potential link between Cul-de-sac and Kirk Street
Roading Costs

- Initial clean up and temp repairs - $2.0m
- Ongoing repairs and maintenance - $0.5m
- Permanent rebuild costs to date - $3.3m
- Rebuild costs to complete - $9.0m

Total cost - $15m
Where have we got to
Where have we got to

- Some repairs completed
- Future of Red Zone land delayed progress
- Some significant projects nearing completion
Where have we got to

Blackwells Department Store

Before ....

.... and after.
Where have we got to - Infrastructure Recovery Projects

Kalmia Place, Kaiapoi
Dunns Avenue, Pines Beach
Beach Road, Pines Beach
Where have we got to - Infrastructure Recovery Projects

- Fuller Street, Kaiapoi (Stage 2)
- Adderley Terrace, Kaiapoi
- Fuller Street, Kaiapoi (Stage 1)
Where have we got to

Kaikanui Footbridge

Mandeville Swing Bridge
Additional Challenges

- Vandalism
- Ongoing liquefaction from aftershocks
Lessons learnt

- Involve Community from day one and Communicate, Communicate, Communicate.
- Have a good reliable and knowledgeable contractor who can respond quickly to the initial response.
- Have an experienced in-house team who can work in partnership with the contractor and other resources.
- If a big event, establish a specialist team who can focus on recovery. Don’t rely on existing staff to be able to do it on top of their day jobs.
- View it as an opportunity to ‘build back better’.
- Measure your success against how the community gets through the event.
- Expect the unexpected, e.g. red zoning.
Questions ???

Thank you