

# Distributed Infrastructure RNC/QuakeCoRE

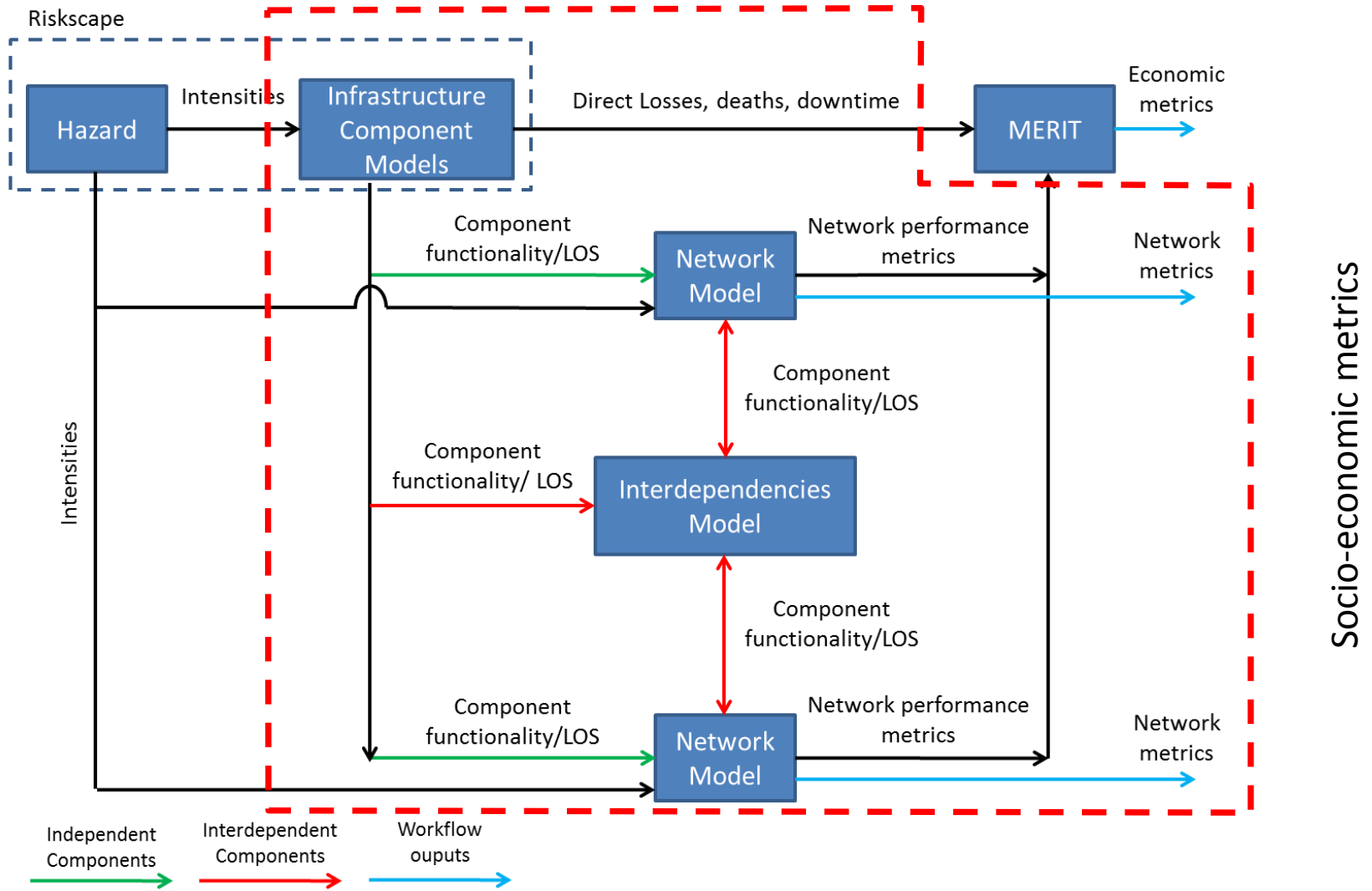
Monthly Meeting

13/2/2017

# Summary

- Introductions
- Summary of projects funded through the RfP for 2017
- Summary of the progress of existing core Infrastructure projects
- Summary of aligned infrastructure projects
- Activities
- Post Kaikoura EQ reconnaissance, engagement and projects
- Potential new NHRP and RNC funding

# RESEARCH FOCUS



# 2017 RfP Projects

- 17145 - Characterisation and screening of New Zealand stopbank networks (Crawford-Flett - QC)
- 17143 - Characterising long-term ground deformation impacts on Christchurch City's buried high voltage electricity network since the start of the Canterbury Earthquake Sequence (Hughes - UC)
- 17123 - Tsunami loading characteristics on power poles (Whittaker - UA)
- 17104 - Framework for integrated 'end to end' impact assessment of infrastructure networks under natural hazards (Uma - GNS)

# 2017 Core Projects

- Resilience of the Transportation System: Urban Case Study
- Resilience of the Transportation System: Rural Case Study
- Electric Power Systems Resilience Modelling Toolbox
- Technical resilience of stormwater management systems
- Interdependent national infrastructure
- Performance of the Telecommunication Network during the Canterbury Earthquake Sequence
- Seismic resilience of underground lifelines: Potable water
- Assessment of multi-hazard impacts on regional infrastructure and consequent implications for isolated settlements and their communities

# 2017 Aligned Projects

- Tsunami loading on NZ bridges
- Tsunami loading and performance of NZ wharves
- Seismic response of NZ wharves
- Water supply system resilience measurement
- Literature review of flood vulnerability models for infrastructure assets
- Modelling the Hazard Footprint and Consequences of Lava Flows in an Urban Environment
- Development of a tool to assess the resilience of Canterbury lifelines
- Electricity Network Assessment during Alpine Fault Event
- Effective Restoration Practices and Improvement of electricity/communication nexus infrastructure following extreme natural hazard
- Developing tsunami vulnerability functions and functionality/repair time models for critical infrastructure

# Activities

- Infrastructure Advisory Group (Liam)
- Stakeholder engagement and co-creation
- National Lifelines Forum (Matthew)
- Resilience of Transportation Infrastructure Workshop (Seosamh)
- Project AF8 (Ali/Matthew)
- RNC Rural-Hazards-Infrastructure Workshop (Liam)
- RNC Governance Group (Liam)

# Infrastructure Advisory Group

- Roger Fairclough (NZLC)
- Dave Brunson (Kestrel)
- TBD (Water NZ)
- John Clarke (Transpower)
- Paul Bagg (MCDEM)
- Rob Ruitter (Chorus)
- Tim Herbert (MOT)



# Kaikoura Earthquake

- Excellent cooperation across NZ researchers
- BNZSEE Special Issue
  - Transportation Networks            Davies, Sashidiva, Aghababaei
  - Electrical Power System Infrastructure    Nair, Liu
  - Three Waters                                    Hughes, Nayerloo, Bellagamba
  - Telecommunications                        Nayerloo, Giovinazzi, Austin
- Performance of NZ Distributed Infrastructure
  - Report and dataset

# Funding Opportunities

- NHRP
  - Post-Kaikoura
  - Contestable (Announced Feb-March)
- RNC RfP (Due 24 March)
  - Develop projects to align with current programme
  - Cut across toolboxes & priority labs
- QuakeCoRE
  - Kaikoura
  - Alpine Fault

# Other Items?

- Wiki:

<https://wiki.canterbury.ac.nz/display/QuakeCore/FP6%3A+Distributed+Infrastructure>