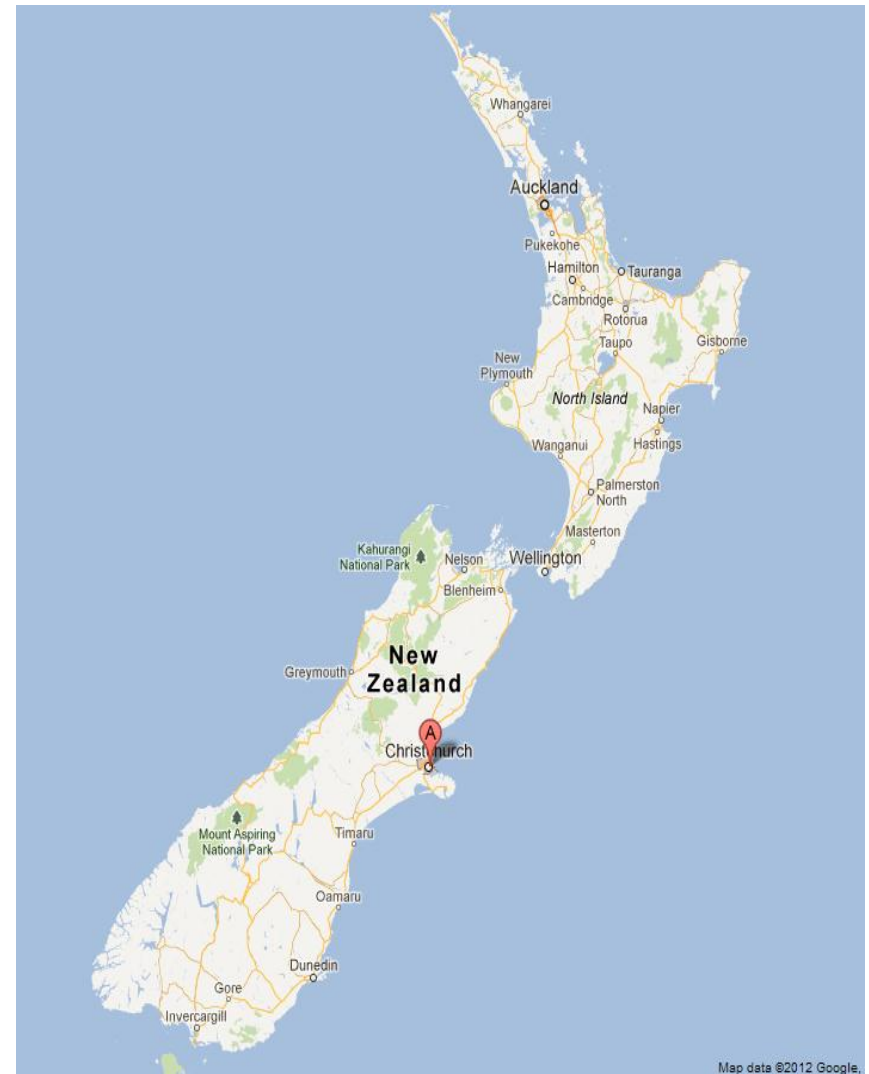


Canterbury SDI: lessons learned from post-earthquake recovery

Robert Deakin | Chief Steward – National SDI



- 4 Sept 2010 – 7.1
- 22 Feb 2011 – 6.1
- 11 June 2011 – 6.4
- 23 Dec 2011 – 5.9 & 6.0
- > 10,000 recorded events
- 185 fatalities
- \$20 bn damage / 9.5% GDP
- 3.2% of the nations capital stock lost
- New Zealand's 2nd largest natural disaster



Canterbury Earthquakes



Rebuild partners

The 3D Enabled Cities Project will provide an interactive record of the buildings lost, assist in planning and designing new buildings, and help Cantabrians see what their city will look like in the future.

GIS Interoperability will enable agencies to more easily exchange their spatial data using open standards, ensuring rebuild partners can work together more efficiently.

Canterbury Maps is providing a single portal into interactive maps with data on air, water, land, transport, council services, and recreation from across the region.

The Open Data and Open API Support project encourages the development of smart phone apps using open government data, for example services giving Cantabrians up to date road closure information.

The Property Data Management Framework will make it easier to share accurate, reliable, and connected data about land parcels, titles, rating units, buildings, addresses and ownership.

The Forward Works Spatial Coordination project helps agencies share information about current and planned horizontal infrastructure and built environment construction, and repair and maintenance activities, enabling them to visualise planned repairs by location and time, to help minimise disruption and ensure efficient planning and coordination.

The Geospatial Data Discovery Project will make it easier for recovery agencies, businesses and community groups to discover and use the wealth of publicly accessible location based information, and make this information securely share between relevant agencies.

The Utilities Data Access project will ensure recovery agencies and construction companies involved in the rebuild have access to up to date utilities network asset and forward works information.

8 SDI focused projects to support recovery

Property Data Management Framework: high-level problems identified

- Preparedness
 - a lack of preparation that inhibited data sharing and integration
- Property Data Management
 - the lack of a central, authoritative, reliable and maintained property data framework address register
- Risk Management
 - decisions made about data management and technology did not follow appropriate risk management procedures
- Location Data
 - there were significant gaps in the availability and capture of certain types of location data

“a lack of preparation that inhibited data sharing and integration”

- The lack of data sharing agreements in place;
- No data sharing channels (such as web services), or standardisation of formats and data models
- No catalogue or registry of available data sources
- A lack of training or practice on how to pull together data sources

Property data management

“the lack of a central, authoritative, reliable and maintained property data framework address register”

- The use of unstructured address strings as identifiers, making it hard to consistently and reliably match datasets using address
- A lack of overarching, standardised, shared information models for property related datasets
- A market driven approach, with a disincentive for coordination or standardisation among market players
- Lack of mechanisms for feed-back or data updates
- A general lack of reliable data sources for buildings or rating units

“decisions made about data management and technology did not follow appropriate risk management procedures”

- A lack of planning and training around data management and technology
- Risk management was left to individuals on an ad-hoc basis
- Risk management only accounted for worst-case scenarios, and missed more ‘mundane’ scenarios such as lack of data integration
- Existing risk management plans did not account for the data needs of an event of such scale

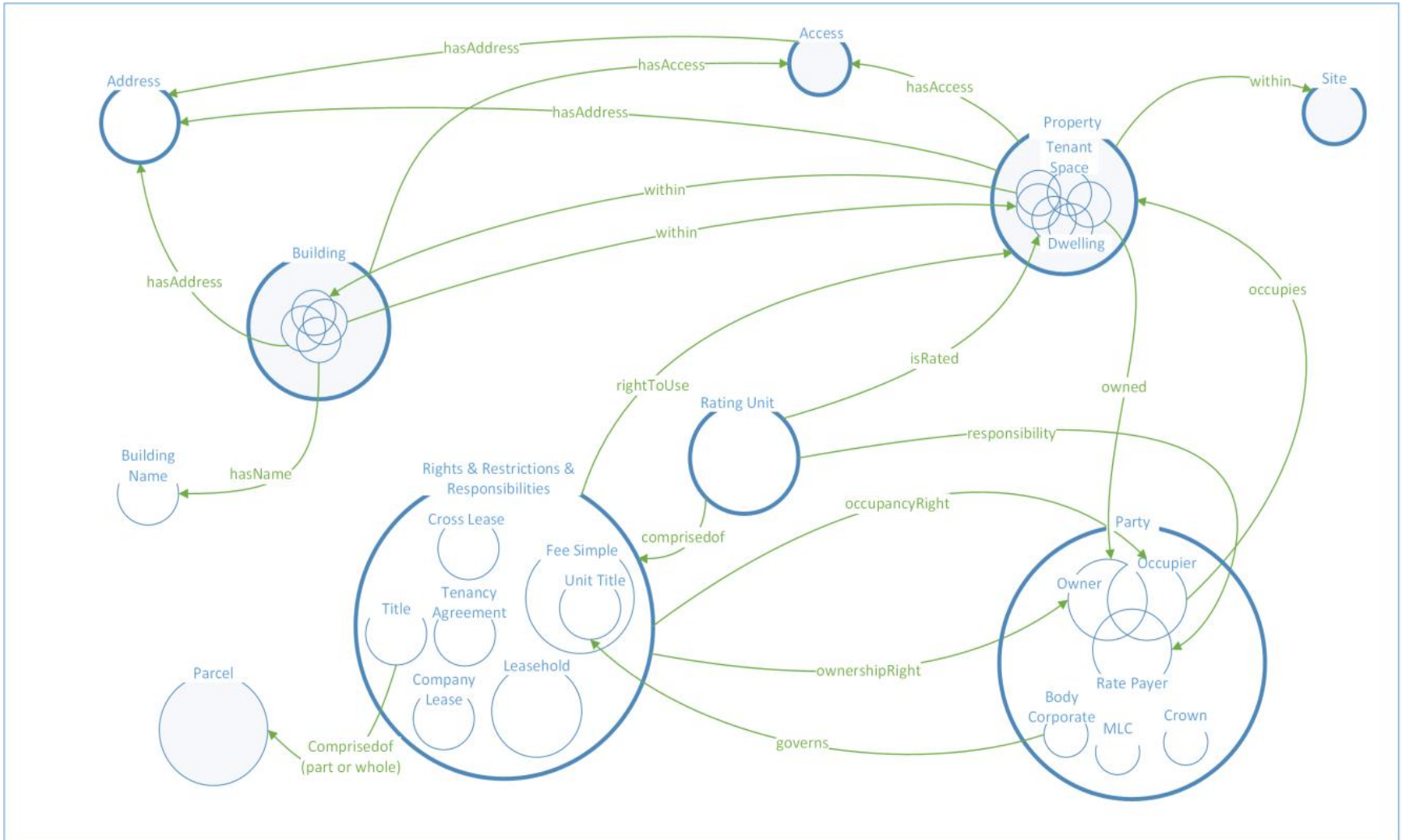
“a lack of preparation that inhibited data sharing and integration”

- Reliance on paper forms, rather than location-enabled applications, for in-field data capture
- Business location data was unavailable or out of date
- Building tenancy data was not available
- There was no data available depicting aggregated areas such as blocks or the CBD cordon

Conclusions

- Lack of a unified Property Data Management Framework severely hampered the response to, and recovery from, the Canterbury earthquakes.
- This resulted in significantly reduced decision making, service to citizens and a large cost.
- These problems are national, not unique to Canterbury
- The problems extend beyond the domain of disaster management

Conceptual framework for property data management



Outcomes & next steps

- Design a comprehensive Property Data Framework Model: an integrated, overarching, information model for property data that brings together addresses, parcel, titles, buildings and rating units
- Create a test and demonstration environment for the Framework Model
- Create a stakeholder engagement plan to ensure a wide adoption of the PDMF by users, industry and government.

Other emerging lessons

- Need to consider transition to “business as usual” operations
 - “Technical debt” left once funded programmes end
 - Limited capability and capacity amongst recipients
- Technology moves fast – be prepared to be agile and adapt plans or stop activities
- Organisations change - be prepared to be agile and adapt plans or stop activities
- Don’t forget the “good stuff” or the big picture

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<http://www.linz.govt.nz/about-linz/our-location-strategy/canterbury-spatial-data-infrastructure-sdi-programme>

Questions?

