Housing the workforce following the Canterbury earthquakes in New Zealand

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2010/11 Canterbury earthquakes

Source: GNS Science, 2011
Facts and Figures

• $40 billion currently estimated total economic cost – 19% of NZ national GDP; insurance industry contributing >$30 billion
• 1650 commercial buildings to be demolished
• 170,000 damaged houses – 3/4 of Christchurch housing stock
  - more than 7,800 red zone houses
  - more than 10,000 green zone TC3 houses
Skills gap in the rebuild

**Percentage of problematic human resource categories**

<table>
<thead>
<tr>
<th>Order</th>
<th>Consulting engineer organisations</th>
<th>Constructing organisations</th>
<th>Emerging skills in short supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Structural engineer</td>
<td>Carpenter</td>
<td>Drain layers</td>
</tr>
<tr>
<td>2</td>
<td>Geotechnical engineer</td>
<td>Electrician</td>
<td>Truck drivers</td>
</tr>
<tr>
<td>3</td>
<td>Draughtsperson</td>
<td>Structural engineer</td>
<td>Quantity surveyors</td>
</tr>
<tr>
<td>4</td>
<td>Mechanical engineer</td>
<td>Painting trades</td>
<td>Project managers</td>
</tr>
<tr>
<td>5</td>
<td>Electrical engineer</td>
<td>Geotechnical engineer</td>
<td>Site supervisors</td>
</tr>
</tbody>
</table>
A challenge: lack of temporary accommodation

- Reduced housing stock
- Rent increase
- Inflated housing market
- Unmet demand for lower-income residents
- Stress on organisations and individuals

Source: MBIE Housing pressures in Christchurch (March 2013) & Tenants Protection Association Christchurch Rental Survey (June 2013)
Questions to answer

• Do we have a housing supply system for workers’ mobility?
• What is not working in the current supply systems of rental and commercial accommodation?
• What are the occupations with accommodation difficulty?
• What can we do to increase accommodation capacity for housing the rebuild workforce?
Research methods

**Accommodation demand**

- **August - September 2012**
  - Research tour to Japan
  - Information sought from U.S. and Japanese colleagues
  - Drawing on Resilient Organisations’ previous research experience in Australia, Indonesia & China

- **October - December 2012**
  - Interview with construction organisations (n=34)
  - Case study of construction organisations (n=15) – 1 hour in-depth interviews with selected construction organisation representatives

**Accommodation supply**

- **April - May 2013**
  - Online survey (n=32) – a 10-15 min online survey directed to owners and/or operators of motels and holiday parks in Christchurch
  - Interview with accommodation supplier (n=29) – 30-45 minute in-depth interviews
    - 3 holiday parks,
    - 2 Bed & Breakfast,
    - 1 hotel,
    - 19 motels,
    - 2 rental property managers
    - 2 homestays
  - Interview with 4 other key stakeholders
Topology of housing needs from construction workers

- Construction workers on permanent relocation
  - First home buyers
  - Immigrants
  - Red zone home owners
- Construction workers on short & longer relocation
- Individual workers (fly in and out)
  - Tourists
  - Dislocated home owners
- Interim housing
- Rental market
- Tourist facilities
- Construction workers on short & longer relocation

Out of town Workforce

- **Short-term**
  relocation/secondment (weekly or fortnightly fly in and out)
- **Longer-term**
  relocation/secondment (more than 6 months)
- Potential permanent relocation/transfer

Findings as of December 2012
Accommodation options

<table>
<thead>
<tr>
<th>Type</th>
<th>Ownership</th>
<th>Management</th>
<th>Typical Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homestay</td>
<td>Family Owned</td>
<td>Family Run</td>
<td>1-3 rooms</td>
</tr>
<tr>
<td>Bed &amp; Breakfast</td>
<td>Sole Proprietor/LLC</td>
<td>Owner Operated/Management Contracts</td>
<td>&lt; 8 rooms</td>
</tr>
<tr>
<td>Inns/Cabins/Guest House</td>
<td>Sole Proprietor/LLC Investment Group</td>
<td>Owner Operated/Management Contracts</td>
<td>&lt; 15 rooms</td>
</tr>
<tr>
<td>Motor Hotel</td>
<td>Sole Proprietor/LLC</td>
<td>Owner Operated</td>
<td>15 to 30 rooms</td>
</tr>
<tr>
<td>Independent Hotel</td>
<td>Sole Proprietor/LLC Investment Group Private Corporation Hotel Leasing</td>
<td>Owner Operated Management Contract Technical Service Contract</td>
<td>25 to 75 rooms</td>
</tr>
<tr>
<td>Franchise Hotel</td>
<td>Investment Group Private Corporation Hotel Leasing</td>
<td>Franchise Agreement Technical Service Contract</td>
<td>&gt; 50 rooms</td>
</tr>
<tr>
<td>All Inclusive Resort</td>
<td>Investment Group Private Corporation</td>
<td>Franchise Agreement Technical Service Contract</td>
<td>&gt; 50 rooms, but variable</td>
</tr>
<tr>
<td>Cruise Ships</td>
<td>Cruise Company</td>
<td>Cruise Company</td>
<td>Variable</td>
</tr>
</tbody>
</table>
Construction organisations’ perspective

**Option 1: Leave to the market/doing nothing**

<table>
<thead>
<tr>
<th>100 workers split</th>
<th>Weekly cost incl. food, bills, laundry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Person</td>
</tr>
<tr>
<td>20 stay in motels</td>
<td>$780</td>
</tr>
<tr>
<td>5 stay in boarding houses</td>
<td>$500</td>
</tr>
<tr>
<td>15 stay in hostel-type accommodation</td>
<td>$505</td>
</tr>
<tr>
<td>60 stay in rented houses</td>
<td>$388</td>
</tr>
<tr>
<td>Average $540</td>
<td>$48,925</td>
</tr>
</tbody>
</table>

**Option 2: Build own workers’ accommodation**

<table>
<thead>
<tr>
<th>Case</th>
<th>Scenarios</th>
<th>Weekly cost incl. ground rent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100% occupancy * 100 beds * avg. 4.5 nights/week</td>
<td>Per Person</td>
</tr>
<tr>
<td>1</td>
<td>100% occupancy * 100 beds * avg. 4.5 nights/week</td>
<td>$700</td>
</tr>
<tr>
<td>2</td>
<td>85% occupancy (85 beds)</td>
<td>$800</td>
</tr>
<tr>
<td>3</td>
<td>75% occupancy (75 beds)</td>
<td>$750</td>
</tr>
<tr>
<td>4</td>
<td>65% occupancy (65 beds)</td>
<td>$775</td>
</tr>
<tr>
<td>Average $756</td>
<td>$244,625</td>
<td></td>
</tr>
</tbody>
</table>

**Option 3: Using private sector workers’ camp**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Weekly cost incl. using facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>85% occupancy * 50 beds</td>
<td>$450</td>
</tr>
<tr>
<td>100% occupancy * 100 beds * avg. 4.5 nights/week</td>
<td>$450</td>
</tr>
</tbody>
</table>

**Comparison of 3 options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Average weekly cost per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leaving to market</td>
</tr>
<tr>
<td></td>
<td>$540</td>
</tr>
<tr>
<td>2</td>
<td>Build own workers accommodation</td>
</tr>
<tr>
<td></td>
<td>$756</td>
</tr>
<tr>
<td>3</td>
<td>Using 3rd party workers’ camp</td>
</tr>
<tr>
<td></td>
<td>$450</td>
</tr>
<tr>
<td>1-1</td>
<td>Continue option 1 but allowing for rising rent</td>
</tr>
</tbody>
</table>
### Changing patterns of organisations’ response

<table>
<thead>
<tr>
<th>As of December 2012</th>
<th>As of May 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using rented houses plus mix of other accommodation types</td>
<td>Purchasing new homes or building own temporary units (small scaled)</td>
</tr>
<tr>
<td>Using daily charged tourist facilities</td>
<td>Using short-to-medium termed rental properties</td>
</tr>
<tr>
<td>Using high priced rentals</td>
<td>Using private low-cost accommodation such as holiday parks, backpackers, inner-city bedsits and other boarding houses</td>
</tr>
</tbody>
</table>

**Cost**

- High
- Low
Motels & holiday parks capacity splits

- 32.2% response rate (29 out of sample 90 Motel Association members)

- Occupancy rate (pre-40&50% - post-80&95%): rebuild-related workers & displaced residents

- Significant increase in the number of displaced homeowners staying in motels since 2012

- Decrease in the number of rebuild workers since 2012

### Bed splits among boarders in Christchurch

<table>
<thead>
<tr>
<th>Year</th>
<th>Workers</th>
<th>Displaced homeowners</th>
<th>Tourists</th>
<th>Others (visitors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>27.3%</td>
<td>25.5%</td>
<td>22.8%</td>
<td>25.3%</td>
</tr>
<tr>
<td>2012</td>
<td>27%</td>
<td>23.5%</td>
<td>25.9%</td>
<td>23.6%</td>
</tr>
<tr>
<td>2013</td>
<td>20.5%</td>
<td>39.9%</td>
<td>23.3%</td>
<td>16.3%</td>
</tr>
</tbody>
</table>
Trends of accommodation demand

- 2nd half of 2012 onwards, increased enquiries from displaced home owners, former social housing renters and migrants (n=24/29 surveyed motels and holiday parks reported)
- Decreased number of workers in motels but increased proportion in holiday parks
- Occupation: trades people – affordability & vehicle parking
- Where are they? – low cost accommodation (holiday parks, motor camps and backpacker lodges)
Housing New Zealand’s 5,000 repair programme underway

Last month, Housing New Zealand started its large-scale repair of up to 5,000 properties damaged in the earthquakes.

“We have started in Cashbrook and Bishopdale, repairing 180 properties, which will take us three to four months,” Earthquake Recovery Manager Andrew Booker says. “At the same time we have organised a rubbish amnesty. It’s a good opportunity for our tenants to get rid of stuff they don’t want any more.”

As far as is practical, our contractors will work around tenants to minimise any disruption to their home-life particularly for elderly people and families with young children.”

Mr Booker says that while the Bishopdale work is continuing, other contracts will begin to repair a further 185 properties in the Waimakariri and North Canterbury areas.

“We have a lot of ground to cover, with our properties spread across the city and in other parts of Canterbury. Our target is to repair the first 550 by Christmas and we hope to achieve this and more.”

Earthquake repairs underway on 5,000 Housing New Zealand properties.

Council to build new social housing units

Christchurch City Council will boost its social housing stock by building up to 22 new units on vacant land in existing complexes in Spreydon and Aranui by the end of this year.

It will also complete repairs on almost 300 Council social housing units by the end of 2013.

Tenders were due to go out at the end of March for the design and build of between 8 and 12 new one-bedroom units on the Maurice Carter Courts site in Spreydon and between 8 and 10 new one-bedroom units on the Knightsbridge Lane site in Aranui.

This proposal is part of an overall strategy to repair or replace social housing units that either were damaged following the September 2010 and February 2011 earthquakes or are in the residential red zone.

Mayor Bob Parker says, “The Council is committed to providing good-quality social housing for its tenants. This is a piece of work that has been underway for a while and we’re now looking forward to urgently progressing these plans.”

Other updates

- The Council is currently looking at a number of other sites to build social housing units on.
- In addition to the 22 units already approved, plans to build another 12 new units on two other social housing complex sites are in progress. It is expected these units will be completed by the end of 2014.
- The Council is exploring public/private partnership opportunities to rebuild some of its damaged units.
What is also needed?

• Economic case – investment in interim/transitional housing for workers
  - population growth
  - house rebuilds (home owners and tenants)
  - workers for vertical and residential rebuild (2013-2016)
• Restoring functions of tourism industry
• Integrating housing and jobs planning
• A mechanism within insurance companies for coordination of displacement
Ideal workers’ mobility in housing

- Construction workers on permanent relocation
  - First home buyers
  - Immigrants
  - Red zone home owners
- Construction workers on short & longer relocation

- Individual workers (fly in and out)
  - Tourists
  - Dislocated home owners

- Tourist facilities
- Rental market
- Interim housing

- Permanent housing
- Construction workers on short & longer relocation
- Renters
  - Lower-income residents

- First home buyers
- Immigrants
- Red zone home owners
Economics of regional disaster recovery

Other factors

- Pre-existing labour market issues
- Earthquake impacts
- Decision making (insurance, building, land etc.)
- Lingering issues in the construction sector

Reconstruction capability

Regional social and economic development

Speed of reconstruction

Capital and infrastructure investment

Cost of rebuild and recovery

Temporary accommodation

Housing inflation

Factors:

- + Pre-existing issues
- - Earthquake impacts
- + Decision making (insurance, building, land etc.)
- - Lingering issues in the construction sector
- + Capital and infrastructure investment
- - Cost of rebuild and recovery
- + Temporary accommodation
- - Housing inflation
## Interim housing examples in past events

<table>
<thead>
<tr>
<th>Housing type</th>
<th>Green Paradise Guest House (Indonesia)</th>
<th>Workers Camp in Sichuan (China)</th>
<th>Mississippi Cottages (U.S.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing model</td>
<td>Public and Private Partnership</td>
<td>Private</td>
<td>Public</td>
</tr>
<tr>
<td>Primary organisations involved</td>
<td>Business owner, international donors, Malaysian and Indonesian governments</td>
<td>Construction companies, clients, local governments</td>
<td>FEMA, MEMA</td>
</tr>
<tr>
<td>Building type</td>
<td>Permanent concrete building complex</td>
<td>Prefabricated units</td>
<td>Modular housing units</td>
</tr>
<tr>
<td>2nd life</td>
<td>• Guest house for tourists • Partial funding source for a local orphanage • Interim housing and conference venue for NGOs</td>
<td>• Other construction projects • Emergency shelters of local governments • Use of public facilities such as schools and hospitals</td>
<td>• Permanent homes for occupants • State housing for local low-income people • Holiday homes • Modified homes in new development • Use of NGOs and local governments</td>
</tr>
</tbody>
</table>
Future research & Recommendations

• Survey of companies and individual workers on their current accommodation status and perceived barriers
• Workers’ housing mobility tracking tool
• Identify good practice adopted by companies for housing their out-of-town workers
• Identify successful models that have been used internationally for housing workers
• Identify the barriers to implementing interim housing programmes for workers in Christchurch
THANK YOU
FOR YOUR ATTENTION

For more information about this research, please contact:

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