

Provision of temporary accommodation for construction workers

Learnings from Queensland post Cyclone Larry

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Executive summary

The Queensland Government in Australia provided temporary accommodation for construction workers following Cyclone Larry, which struck the Innisfail region in March 2006. This initiative aimed to address workers' medium- to long-term accommodation needs to facilitate recovery and repairs in the affected areas. The Department of Housing and Public Works took a lead role for facilitation of this initiative. This report provides a summary of the temporary accommodation model used after Cyclone Larry.

In total, the Department of Housing and Public Works facilitated approximately 400 beds for temporary accommodation and over 30 community facilities across Queensland. A major component in the success of this initiative was that it worked with existing operators to facilitate an expansion of their facilities to meet accommodation demand. This improved occupancy rates for operators, increased revenue and allowed those with available land to finance expansion plans to meet demand as the workforce increases over time.

The provision of accommodation for both workers and displaced residents was considered by the Queensland Government as being equally important. A core rationale for providing medium-term accommodation following disasters is that provision should be in response to a lack of capacity in the community. The Queensland Government concluded that assistance with workers' accommodation was necessary on the following basis:

- A lack of transitional accommodation for trade workers often forces tradespeople to rent any houses available on the private market, consequently reducing availability for residents.
- Trade worker's ability to pay above-market rent to secure rental accommodation exacerbates inflation in the housing market.
- The impact of tradespeople monopolising available accommodation has a negative impact on tourism and primary production (in this case sugar cane and bananas) that relies on itinerant labour.
- The need to minimise the impact of accommodation demands from construction workers required for repairs on the overall labour and housing markets.

The strategy used was a collaboration between the Queensland Government and the local authorities involved. Funding was made available across all partnering agencies. While the Department of Housing and Public Works facilitated and coordinated the temporary accommodation initiative, local authorities acted as a key stakeholder in providing and maintaining services and facilities, as well as identifying sites for facilities, transportable accommodation and infrastructure. Private accommodation operators played a role in tenancy maintenance.

Interviewed officials within the Queensland Government regarded the temporary housing initiative as a successful example of ‘public and private partnership’ (PPP). Partnering with local councils and private sector was seen as desirable for recovery, because building future resilience and preparedness were considered as being important components of the post-disaster recovery operation. Provision of temporary accommodation for construction workers provided the added benefit of facilitating economic recovery by enabling seasonal/temporary workers for the local horticultural and tourism industries to secure affordable accommodation.

The accommodation issues that are faced by Christchurch following the 2010/11 earthquakes bear resemblance to that of the Queensland cyclone events in 2006 and 2011. Drawing on Queensland’s experience, this report presents some key issues in Christchurch that could inform the direction and magnitude of housing assistance from government agencies. Recommendations are suggested to address the workers’ accommodation needs, including for a model of governance between the Government Department (Building and Housing Group within MBIE) and local council to address the housing needs in Christchurch. It is also suggested to develop a Register of Accommodation Need to monitor accommodation demand from construction workers, and to run regular information sessions to facilitate sharing of information between key stakeholder groups in the housing issue. Other recommendations include for accommodation needs to be incorporated into recovery models, for existing operators to be identified for capacity expansion, and for innovative building techniques and processes to be used.

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1. Introduction

This report summarises the findings of a research trip to Queensland in November 2013. The objective of this trip was to learn from the Queensland Government's response to workers' accommodation needs in a large disaster event. As well as identifying good practice for the provision of workers' temporary accommodation, consideration was given to:

- the range of demands from the construction sector
- accommodation assistance options and associated issues
- how the key stakeholders could work together to address the construction workers' accommodation needs

This study focuses on learnings from communities affected by Cyclone Larry in March 2006 in the Innisfail region, specifically focusing on temporary accommodation initiatives specific to Cyclone Larry. This report explores the types of workers' accommodation established by the Queensland Government in order to facilitate post-cyclone repairs and rebuild. Lessons from Cyclone Larry have proved valuable in responding to the 2010/11 flooding events in Queensland, despite the events being significantly different. The responses to two cyclone events overlapped to some extent and the stakeholders were the same. The team was also maintained over the period in between events.

This report provides a summary of the approach to temporary accommodation for construction workers used by the Queensland Government after Cyclone Larry. It shows what works, and why. Information in relation to 2011 Cyclone Yasi will also be included. This report is relevant to the provision of housing for workers in Christchurch. The comments and observations in this report primarily reflect the experiences and perceptions on workers' accommodation since Cyclone Larry. This report presents salient points associated with each component of workers' accommodation, outlines the options where appropriate for Christchurch.

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2. Background

Following the 2006 Cyclone Larry, Queensland required a multi-faceted approach to provide immediate and longer term accommodation to support the post-disaster recovery and reconstruction. To ensure success, it was vital any housing strategy enabled all agencies and private accommodation providers to work together to address housing-related issues. There was an immediate need for short-term emergency accommodation after the cyclone. This requirement was met through Emergency Services responses and mainly used existing intact infrastructure, augmented by quickly deployed temporary units such as tent camps and portable buildings.

In the medium to longer-term, it was recognised that cyclone-affected residents needed accommodation while repairs or rebuilds were taking place. It was recognised that other people, such as reconstruction workers, seasonal agricultural employees and tourists (particularly in certain regions) would find it difficult to secure housing without additional support from government and the community. General accommodation, recovery assistance buildings (e.g. public ablutions and laundries, recovery centres, support services accommodation), and workers accommodation were all required at the time the area moved into recovery and reconstruction. There was awareness that the significant level of damage to residential housing across North Queensland, the acute labour demand to undertake repairs, the general lack of temporary accommodation, and the forecasted higher demand for skills for rebuilding could, if managed poorly, lead to adverse social and economic consequences for local industry and communities.

The Queensland Government had significant experience in responding to the effects of natural disasters. Their experience has shown that provision of temporary accommodation for construction workers involved in repairs and rebuilds has a crucial role to play for recovery, particularly if housing assistance is integrated into the economic response.

3. Accommodation after Cyclone Larry

Following Cyclone Larry, the cost and supply of private rental accommodation was identified as an issue impacting community recovery. The Queensland Government identified the following problems that would need to be addressed as part of the longer term recovery process:

- Significant scope of works required to repair cyclone damaged properties across North Queensland;
- The lack of workforce to undertake remedial work;
- The general lack of temporary accommodation for displaced people as well as for subsequent workforce

Temporary accommodation was required for hundreds of people who lost homes or whose homes were being rebuilt, as well as for trades people needed to help in the process. A Housing Taskforce was established by the Department of Housing and Public Works to ensure a coordinated approach between all agencies that had responsibility for housing-related strategies to support the medium and long-term community recovery.

3.1 Sources of accommodation units

The Department of Housing and Public Works facilitated approximately 400 beds for temporary accommodation across Queensland. A focus of accommodation strategy was on maximising the availability of accommodation in situations where services were available. Extra accommodation units were provided by negotiation dependent on the availability and capacity of existing facilities. The Department of Housing and Public Works, together with local council, worked with the existing operators to facilitate an expansion of their facilities to meet demand from both displaced residents and workers required for repairs. A variety of re-locatable temporary units were sourced (Figure 1), such as:

- surplus government multi-room transportable accommodation
- mining industry demountable houses
- re-locatable accommodation units from other caravan parks with overcapacity
- manufactured modular houses



Example 1: 150 Munro St, Babinda 3 x 2 bedroom self-contained accommodation



Example 2: 10 Water St, Innisfail, 4 x 2 bedroom self-contained accommodation

Figure 1 Examples of re-locatable temporary units post-cyclone Larry

The Department was responsible for providing 122 bedrooms of accommodation for Cyclone Larry. For instance, surplus government multi-room transportable accommodation was sourced, upgraded, relocated and established in hotel and caravan park grounds in Innisfail, Flying Fish Point, Mena Creek, South Johnstone, Fishery Falls and Mourilyan. More than 120 rooms for accommodation were provided for use by local residents and tradespeople involved in the rebuilding effort.

These dwellings were managed locally by the proprietors. However, Council had control of the tenancies. Council collated a register of need for trades people and people requiring assistance with accommodation. Council worked closely with the Department ensuring that the register was current and contained accurate information. The structured process worked well due to the relationships fostered between all parties with the proprietors. This ensured that those in need and wanting to work on the rebuild could be assisted.

In the event of Cyclone Yasi, the Department was responsible for providing 145 bedrooms of accommodation. In addition from sourcing transportable accommodation units, the Department and Cassowary Coast Regional Council were donated the utilization of a Santos mining camp consisting of 40 bedrooms of accommodation. The camp was transported to Tully on a convoy of

trucks and constructed at the show grounds. This camp was perceived ideal for housing trades people. The camp previously used for workers at mines was fully self-contained with its own sewerage treatment plant, water system, generated power and commercial kitchen (Figure 2).



Figure 2: Fully self-sufficient mining workers' camp used for trades people after Cyclone Yasi

3.2 Placement of transportable accommodation

When accommodation was sourced, placement was important as it needed to be provided in as normal a setting as possible so that tenants (displaced residents, seasonal workers, construction tradespeople and recovery workers) would not be socially isolated. For instance, suitable private caravan parks, hotels, and Council and Departmental owned sites in the area were identified by the Department and local council as sites for facilities, transportable accommodation and infrastructure required by communities in the Cassowary Coast Region. The most preferred placement sites were caravan parks with existing infrastructure (Figure 3).



Example: Dongas – transportable accommodation on River Drive Caravan Park, 20 rooms

Figure 3 Placement of re-locatable accommodation units on caravan parks

In total, 3 out of 7 private caravan parks were used for placing Government-provided accommodation after Cyclone Larry, and 4 out of 9 were used post Cyclone Yasi. The management of the tenants was carried out privately by caravan park owners. Tenancy arrangements for these facilities were negotiated and formalized, often through local authorities, with input and agreement from the Department. Additionally, a number of re-locatable temporary units were upgraded and shifted to hotels with available lands (Figure 4).



Example 1: Goondi Hill Hotel, 20 rooms



Example 2: River Lodge Bed & Breakfast, 7 rooms



Example 3: South Johnstone Hotel, 8 rooms



Example 4: Mourilyan Hotel, 5 rooms

Figure 4 Placement of re-locatable accommodation units on hotel lots

The post-cyclone relief and recovery effort saw the Queensland Government implement creative accommodation solutions, including the use of the former Babinda Nurses' Quarters for single people (Figure 5). The property was managed through the Community Housing Program. It gave a much needed boost to the supply of single persons' accommodation in the region.



Note: These quarters contained 22 single rooms however only 12 of these were being used by Department of Health when the Cyclone Larry struck

Figure 5 Babinda Nurses Quarters used for single persons' accommodation

A range of factors influenced the placement of temporary accommodation including: 1) safety and security; 2) property ownership; 3) nearby amenities; 4) management arrangements; 5) costs; 6) infrastructure availability and requirements. In terms of building requirements, the Department of Housing and Public Works sought advice from the regional office, disaster management agencies and local authorities. Buildings were configured on the basis of required outcome, amenity and available existing infrastructure and management. Site layout was designed to be sensitive to a range of requirements including the type of buildings; tenant type; separation of precincts for workers and families; and disability access.

Other efforts by the Department of Housing and Public Works included obtaining relevant approvals and local authority engagement to provide appropriate infrastructure (water, sewer and electricity) to required specifications. Previous experience in Australia indicated that response to accommodation needs often end up being kept permanently or for extended durations. Therefore, the initial conceptual design of temporary accommodation initiative post-cyclone Larry included response matching the requirements and that long-term deployment is both manageable and socially appropriate.

3.3 Tenancy management

Previous disaster experience suggested that most people would prefer to stay in their own environment supported by neighbours, albeit in adverse conditions, than move to temporary accommodation. Alternatively, they would prefer to rent in the private market and maintain a sense of normality for their family. Temporary Villages tend to be the last resort for those who have no other options.

However, for seasonal workers and construction workers working on repairs, there is a preference for private accommodation with modest furnishing, enabling a degree of comfort. The temporary emergency housing provided a range of accommodation options for:

- Emergency workers (e.g. Police Emergency Services, Department of Health, Red Cross, etc.);
- Cyclone victims requiring short term accommodation during construction and repair of their houses;

- Recovery workers unable to source the limited private accommodation available, including Department of Communities, volunteer organisations and other agencies;
- Trades people undertaking repair and rebuilding of cyclone damaged houses

The utilisation of this accommodation across the affected area was very strong and its availability underpinned the recovery operation by allowing transitional options for householders. It also enabled the availability of tradespeople to undertake reconstruction work. Table 1 below shows that the finance of accommodation and duration of their needs varied across different user groups.

Table 1 Temporary accommodation user categories post-cyclone Larry in Queensland

User category	Finance of accommodation	Long-term need?
<i>1) Insured householders whose houses will be under repairs</i>	Insurance companies	×
<i>2) Renters who will not be paying rent on their affected properties during the reconstruction period</i>	Self-fund or eligible for rental assistance from the Government	√ also depends on the circumstance
<i>3) Recipients of benefits</i>	Rental assistance from the Government	×
<i>4) Uninsured owners who accepted an element of risk in their decision</i>	Rental assistance from the Government	Some discretion needs to be taken with regard to circumstance
<i>5) Trades people and/or recovery workers</i>	Self-fund	×
<i>6) Other workers</i>	Self-fund or financed by workers' organisation	Needs on a seasonal/regular basis

During the first 12 months, there were 977 individuals and families who have used the emergency accommodation since its construction. Many occupants were long-term tenants. This initiative improved occupancy rates for operators, increased revenue and allowed those with available land to finance expansion plans to meet the demands of an increasing workforce over time.

Fundamental to the tenancy management approach was the concept of tenants paying appropriate levels of rent. The rent for temporary accommodation units reflected the market rate. A discounted rate was provided for cyclone affected residents. In general, the principle of this

‘tenant rent charge’ was to be fair and to allow for an exit strategy of most temporary-stay tenants. An example of rent charges is shown in Table 2 below.

Table 2 Post-cyclone Larry temporary accommodation weekly rental charge example

Description	Community	Pensioners	Trades people/Contractors
Bunkhouses	\$140	\$125	\$160
4 bedroom transitional homes	\$200	N/A	\$400 (\$100 per person per week)
Hutchinson buildings	\$165	\$145	\$200
1 bed room single (Ausco)	\$165	\$145	\$200
2 bedroom relocatable units (Ausco)	\$180	\$160	\$250
Caravans	\$160	\$130	\$180

If insurance covers accommodation Council will negotiate a market rental value with individuals

Source: The Department of Housing and Public Works, Queensland Government

In the case of the Cassowary Coast Regional Council, there was also significant input from Council in the provision of infrastructure for these temporary accommodation units, such as road construction, connection of services, provision of site, which further validated them receiving rentals obtained from tenants. Tenancy was managed by the caravan park owners, as there was a high turnover rate and therefore a need for close management. For tenants who required longer-term housing support, the Department of Housing and Public Works worked with other housing stakeholders to assist their transfer from temporary accommodation to longer-term solutions.

4. Recommendations for Christchurch

Table 3, overleaf, compares the magnitude and impact of the three disaster events – the 2010/11 Queensland floods and cyclone Yasi, 2006 cyclone Larry, 2010/2011 Christchurch earthquakes. The event severity was such that each of these disasters overwhelmed local capacity. Each was rated the strongest and most expensive natural disaster in the region’s history. In the three events, housing was a great component of all losses in terms of economic value and buildings damaged. The varied composition of industries means different employment structures prior to the event, as well as different skills sets needed in local economy.

Table 3 Comparison of impacts in three disasters

	Queensland Cyclone Larry	Queensland floods and Cyclone Yasi	Christchurch earthquakes
When	March 2006	November 2010 to January 2011	4 September 2010 and 22 February 2011
Event	Cyclone	Floods & cyclone	Earthquake
Human losses	0	36	185
Housing damage	19,000 houses needed repair Overall insurance claims AUD369 million	97,000 insurance claims in respect of damages to private assets, of which 50-60 percent were for privately owned residential properties	150,000 houses needed repair
Damage estimates	AUD 1.5 billion	AUD 15.7 billion	NZD 40 billion
% of national GDP	0.2%	1%	19%
Industrial structure affected	Innisfail, where Larry made landfall, suffered severe damage. The region's banana industry, which employed up to 6000 people, suffered extreme losses of crops, accounting for more than 80% of Australia's total banana crop.	Coal mining and tourism were most affected. Specific agricultural loss estimates include sugarcane, cotton, grain and banana crops. All of Queensland's 54 coal mines were affected resulting in decreased exports.	Tourism hub, accounting for about 20% of total arrivals in New Zealand. Manufacturing centre although manufacturers outside worst affected areas. Agricultural sector largely unaffected.
Initial conditions	Innisfail region was a base for production of sugar, fruits, especially bananas, and timber. Sugar is the core economic base, with total sugar revenue having a gross value in excess of AUD87 million, and total cane revenue valued at AUD55 million.	Resources sector is core industry. Queensland coal production accounts for 56 per cent of Australia's black coal production and 62 per cent of the country's coal exports. Agriculture is another income generating industry, with sugarcane production alone accounting for 30 per cent of harvest nationwide.	Canterbury was going through modest recovery from recession with positive medium-term outlook, and some spare capacity. There were high agricultural and commodity prices. Agriculture is central to the Canterbury economy, creating seasonal work opportunities in the region.

Source: (APEC, 2013) and (Queensland Government, 2007)

Comparison in Table 3 provides an insight as to the relevance of the Queensland temporary accommodation solution elements. The accommodation issues and challenges faced by Queensland after Cyclone Larry are similar to that in Christchurch in that there are significant demands for rebuilding, a lack of temporary accommodation, and the forecasted higher demand for skills when local resources are overstretched.

A review of temporary accommodation in Christchurch (Chang-Richards et al., 2013a; 2013b) showed that commercial accommodation in Christchurch and surrounding areas had a total capacity of about approximately 65 per cent of pre-quake levels. Because of the seasonal nature of tourists, there was an opportunity for construction workers to take up some unused capacity during the low season. Pressure on rental accommodation from greater Christchurch residents will continue over a number of years as many red-zone residents need to vacate houses and other residents need to relocate while homes are under repair.

Studies undertaken by the research team showed that at least 30 per cent of the workforce across construction organisations would be transient in nature and require rental and temporary accommodation (Chang-Richards et al., 2013c). The shortages of accommodation were most felt at the trades' level of construction companies. Affordability and accessible space for parking work vehicles were reported by construction workers, particularly most builders and tradespeople, as top two priorities when they look for accommodation (Chang-Richards et al., 2013a).

The Household Growth Model (HGM) used by the Christchurch Urban Development Strategy (UDS) partners (Christchurch City, Waimakariri District, Selwyn District and Environment Canterbury) outlines four plausible recovery scenarios: rapid recovery, quick recovery, moderate recovery and slow recovery. The four scenarios are shown in Figure 6 below, and have not yet factored in the expected demand for temporary worker accommodation or temporary rental demand to accommodate residents while repairs are undertaken. According to Environment Canterbury (2012), initial indicators are that the recovery is tracking relatively close to the moderate recovery scenario.

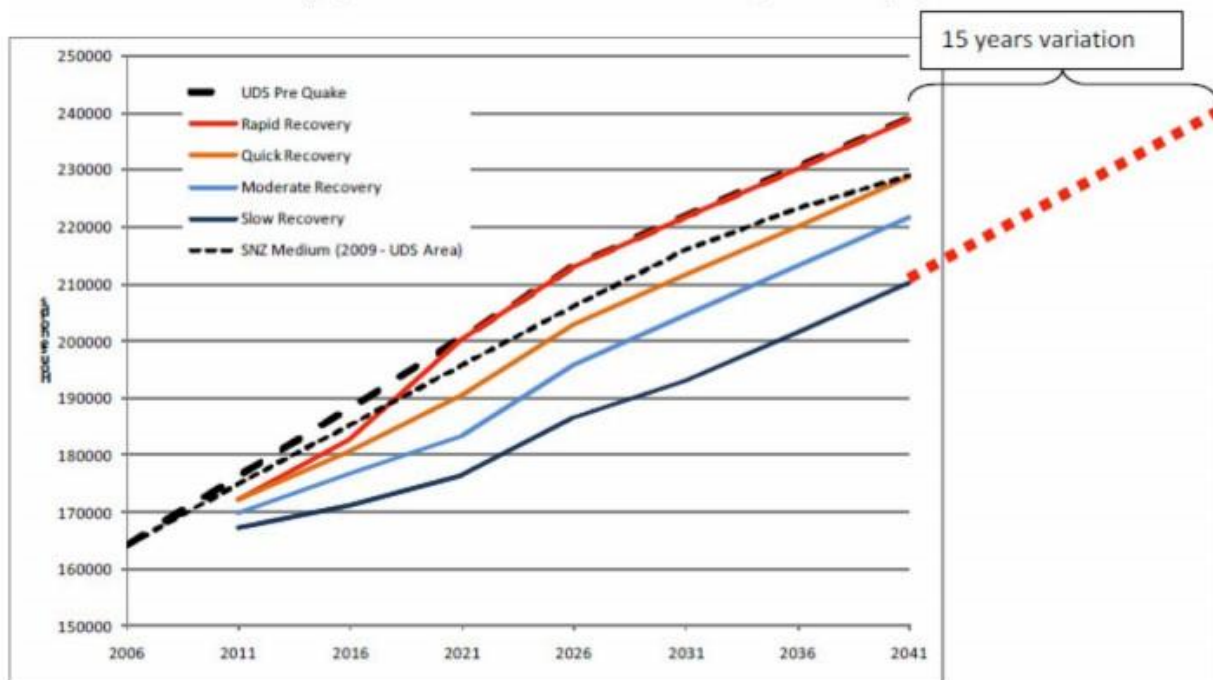


Figure 6 Recovery scenarios in Christchurch, source (Environment Canterbury Regional Council, 2012)

As a result of this long timeframe it is likely that surrounding housing markets might be capable of absorbing progressive increases in rental demand. It is reasonable to assume that if there is a longer-than-expected lead time before the maximum number of workers, planning for temporary housing from the construction sector can be more accurate.

The temporary accommodation assistance to construction workers after the Cyclone Larry, particularly for construction workers (e.g. trades people), can be informative in terms of re-considering options for the Christchurch rebuilt. A comparison of two possible options for Christchurch is tabulated in Table 4. Drawing on the learnings from this initiative, we suggest six recommendations for Christchurch.

Table 4 Comparison of two accommodation options for construction workers

Issues to consider	Using existing operators (e.g. holiday parks, motor camps)	Establishing new workers' camps
Land and infrastructure	Using existing infrastructure and available land	Need to put in new infrastructure and need approvals from Council for land use
Financial viability	<ul style="list-style-type: none"> • Improve occupancy rates for operators • Increase revenue • Cost-effective as it utilises the available land & infrastructure 	<ul style="list-style-type: none"> • Need some level of certainty of demand to enable developers to take a solid business case to banks and financiers • High cost for decommissioning and asset disposal unless has 2nd life
Timeframe/ duration	<ul style="list-style-type: none"> • Medium to longer-term • There is a need to consider an 'exit strategy' 	3.5 years' operation is likely to be profitable. But if the worker numbers peak for a relatively short period of time (2 years out of the 10-15 years of recovery time), this timing does not justify the construction of a workers' camp
Social and environmental factors	There are social and environmental benefits in housing workers where there is existing infrastructure in urban areas.	Location is a primary concern as other likely social and environmental impacts need to be factored in the plan.

Recommendation 1: Accommodation issues in Christchurch should be re-examined. A model of governance that is similar to that of Queensland will be helpful to facilitate the housing assistance for a wider spectrum of people in Christchurch (low-income people, former State/Council Housing tenants, renters, red-zone home owners, seasonal workers, construction workers, other recovery-related workers).

Recommendation 2: Regular information sessions are needed between the insurance industry, construction industry, other interested groups (e.g. Salvation Army, Habitat International), commercial accommodation operators, and government departments to update the key agencies on existing accommodation availability and capacity, repair and construction schedules and arrival of workers, housing needs of displaced homeowners, enabling effective accommodation planning.

Recommendation 3: A Register of Accommodation Needs can be set up by working with construction industry associations and their member organisations to identify and monitor the demand for temporary accommodation from the construction workforce.

Recommendation 4: Different recovery timeframe scenarios will produce different accommodation needs and all options should be modeled to achieve optimization of recovery scenarios versus accommodation needs.

Recommendation 5: It is worth investigating the existing capacity of private operators and the availability of their lands for potential placement of extra accommodation units, and identifying those that are interested in being involved in a capacity expansion project facilitated by the Government.

Recommendation 6: Methods of innovative building techniques and processes such as modular/prefabricated/offsite manufactured houses, as well as other transportable housing units, should be used to expedite delivery of temporary units that responds to the need for affordable housing stock.

5. Conclusion

Part of the solution to accommodation needs for the incoming workforce might be found in the solutions used by Queensland. The model of temporary accommodation provision for construction workers and how it was integrated into, and balanced with assistance for cyclone-displaced residents represents a good example for Christchurch.

The leadership taken by the Department of Housing and Public Works within the Queensland Government and their vision of integrating workers' accommodation into an economic and employment response appear to have been effective. The achievements of the initiative are a clear indication of the value achieved through the partnership model between Queensland Government, local councils and private accommodation operators.

The tenancy management approach undertaken, and the hands-on role of the Department of Housing and Public Works, ensured an industry-participative response with the facilitation of government agencies. Drawing on Queensland's experience, this report provides specific learnings for agencies and organisations with an interest in coordinating and delivering housing services and recovery assistance in Christchurch.

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