Auditor-General's overview

Recovery from major disasters is a complex undertaking that involves the combined efforts of all levels of government in order to succeed.

Stanley J. Czerwinski, Director Strategic Issues, United States Government Accountability Office

The scale of earthquake damage in Canterbury is massive, and the Treasury estimates that the cost to the Crown will be about $13.5 billion. Christchurch City Council forecasts that the recovery effort will cost it about $2.6 billion. I have made a commitment to provide assurance that the recovery is being carried out effectively, efficiently, and appropriately.

This report is one of a series and covers one of the most significant and complex contracts in the Canterbury recovery to rebuild the roads and underground water, wastewater, and stormwater pipes in Christchurch (commonly referred to as horizontal infrastructure). It examines how effectively and efficiently the Canterbury Earthquake Recovery Authority, the New Zealand Transport Agency, and Christchurch City Council are reinstating horizontal infrastructure through an alliance called the Stronger Christchurch Infrastructure Rebuild Team (SCIRT).

The roads and underground water, wastewater, and stormwater pipes are necessary to support basic human health needs and the future growth and economic well-being of Christchurch. They span the interface between residential and commercial areas, and connect the city. Reinstating this infrastructure will be completed over several years.

The Crown has agreed to contribute a maximum amount of $1.8 billion towards the rebuild of horizontal infrastructure. Christchurch City Council will fund a total of $1.14 billion. This arrangement between the Crown and Christchurch City Council is subject to review, due to be completed by December 2014, as further damage assessment information becomes available.

SCIRT demonstrates many of the good practice characteristics of alliance contracts

I conclude that the choice of an alliance (a mixed team of public and private organisations working together) for the reinstatement of the horizontal infrastructure in Christchurch was a good fit with the post-earthquake situation in Canterbury and provided a useful approach for the risks to be managed in a suitable way.

SCIRT has been designed in a way that demonstrates many of the good practice characteristics of alliancing. It has sound business systems that create operational efficiencies. It is capitalising on its valuable resource of highly trained specialists

to develop practical solutions and project scoping is done well. The Alliance Agreement also requires a minimum of 40% of the work to be subcontracted by the main contractors, which gives opportunities to other contractors. SCIRT began allocating work to the alliance delivery teams based on performance scores in June 2012 and performance increased sharply. This indicates that work allocation is important to delivery teams and can be used as an incentive.

We heard differing views on the merits of alliance contracts. As circumstances change, the Canterbury Earthquake Recovery Authority, the New Zealand Transport Agency, and Christchurch City Council need to consider whether the alliance continues to be suitable.

When relevant variables are considered, SCIRT projects seem reasonably priced

We commissioned an engineering expert to look at how construction rates for pricing SCIRT projects compare with those for similar projects in Canterbury and throughout New Zealand. The wastewater network is the deepest, suffered the most damage, and represents the largest proportion of the overall costs (67% of the 2012/13 budget), so it proved to be the most useful reference.

The benchmarking study found that wastewater construction rates vary significantly. SCIRT rates are consistent with similar projects in Canterbury and between 30% and 50% higher than for similar projects elsewhere in New Zealand. This is because ground conditions and the need to work around existing utilities have a significant effect on price. SCIRT's rates for water supply were similar to greater Canterbury rates and higher than New Zealand rates. SCIRT rates for stormwater were lower than both greater Canterbury and New Zealand rates.

Our expert concluded that the ground conditions for SCIRT projects were among the worst in the country and, in this context, SCIRT's prices compared reasonably favourably.

Other benefits

SCIRT is delivering more than construction work. It is aiming to lift the capability of the construction sector workforce, improve the resilience of infrastructure, and foster innovation. An example of an innovation developed by SCIRT is the Pipe Damage Assessment Tool. It provides a reliable and accurate desktop method for predicting the condition of earthquake-damaged pipes, saving time and money. SCIRT has also achieved efficiencies by customising the software application it uses for computer-aided design and drafting.

Risks that need to be managed

Dealing with the challenges and risks associated with the horizontal infrastructure rebuild is a continuous task. There are two major risks that I consider could disrupt the rebuild, making it difficult for SCIRT to confidently put the right infrastructure in the right places to the right standard.

First, SCIRT's effectiveness is increasingly hindered by a lack of clarity about roles and limited involvement from the Canterbury Earthquake Recovery Authority. At the time of our audit, the Canterbury Earthquake Recovery Authority had not engaged with SCIRT to the extent needed to effectively help with planning to rebuild the horizontal infrastructure. SCIRT's rapid operational pace was misaligned with the slower progress of strategic planning for the wider rebuild. Protracted decision-making, especially in the central city, could gradually reduce SCIRT's ability to deliver repairs.

Secondly, the Canterbury Earthquake Recovery, New Zealand Transport Agency, and Christchurch City Council do not have a common understanding about levels of service. There is not enough clear guidance from the public entities funding the alliance for SCIRT to know what levels of service to deliver and where, for optimal reinstatement of the infrastructure.

There are two controls that must operate effectively. The independent estimator's review of SCIRT's target costs for projects to check that they represent fair market pricing is critical to maintaining commercial tension and driving efficiencies. Also, the independent audit of delivery teams' claims is critical to providing assurance that claims are properly validated.

SCIRT is entering the third year of a five-year programme of work. The work will continue to evolve as new information is revealed and new ways of doing things are developed. There is opportunity to learn from the recovery so far and to address the matters identified in this report. I have made recommendations to help the public entities in doing this.

I thank the staff from the Canterbury Earthquake Recovery Authority, the New Zealand Transport Agency, Christchurch City Council, and SCIRT for their assistance and co-operation during our audit.

Lyn Provost
Controller and Auditor-General

9 November 2013

Our recommendations

These recommendations are to assist the Canterbury Earthquake Recovery Authority, New Zealand Transport Agency, Christchurch City Council, and the Stronger Christchurch Infrastructure Rebuild Team in dealing with the challenges and risks associated with the horizontal infrastructure rebuild.

We acknowledge the changes that were taking place at the time of our audit, such as the revised governance arrangements that were being introduced, work on clarifying the levels of service to be delivered, and work on strengthening how the Stronger Christchurch Infrastructure Rebuild Team's performance is measured to provide greater assurance over the value the alliance is delivering. Our recommendations encourage ongoing improvement.

We recommend that the Canterbury Earthquake Recovery Authority, Christchurch City Council, and the New Zealand Transport Agency:

1. change the governance framework to address ambiguity about roles and responsibilities, including the role and responsibilities of the independent chairperson.

We recommend that the Canterbury Earthquake Recovery Authority:

2. contribute more consistently to effective leadership and strategic direction for the Stronger Christchurch Infrastructure Rebuild Team.

We recommend that the Canterbury Earthquake Recovery Authority, Christchurch City Council, and the New Zealand Transport Agency:

3. use the governance arrangements to provide timely guidance to the Stronger Christchurch Infrastructure Rebuild Team on the priorities and direction of the rebuild;
4. agree on the levels of service and quality of infrastructure that the rebuild will deliver, in conjunction with confirming funding arrangements, and consider a second independent review of the Infrastructure Recovery Technical Standards and Guidelines;
5. use a coherent framework for measuring key aspects of the Stronger Christchurch Infrastructure Rebuild Team's performance that integrates project-level delivery team performance with alliance objectives and overall programme delivery, and is based on sound measures tested through the Stronger Christchurch Infrastructure Rebuild Team's internal auditing regime;
6. ensure that their framework for auditing the Stronger Christchurch Infrastructure Rebuild Team provides them with adequate assurance that the Stronger Christchurch Infrastructure Rebuild Team is well managed and delivering value for money; and

7. in conjunction with strengthening performance measures, provide feedback to the Stronger Christchurch Infrastructure Rebuild Team to improve the analysis and information included in reports to the Stronger Christchurch Infrastructure Rebuild Team Board and make these reports more useful.