



Greater Christchurch Preliminary Resilience Assessment

September 2015





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Executive Summary

100 Resilient Cities (100RC), pioneered by the Rockefeller Foundation, is dedicated to helping cities around the world become more resilient to the physical, social and economic challenges that are a growing part of the 21st century.

Christchurch was among the first 33 cities selected, from over 400 city applications, to join the 100RC network. This Preliminary Resilience Assessment summarises the first stage of work to understand our resilience strengths, challenges and opportunities, and provides the foundation for developing a resilience strategy for Greater Christchurch.

The following themes emerged from the first stage of research and consultation:

- Housing affordability and accessibility - the population facing severe housing deprivation has increased significantly following the earthquakes, and many stakeholders identified access to affordable quality housing as an area of key concern for Greater Christchurch.
- Securing our future in eastern parts of Christchurch - low-lying areas in eastern Christchurch were most severely damaged by the Canterbury earthquakes, and subsequent 'red zoning', population movement and enhanced awareness of natural hazard risk all pose challenges for the future wellbeing of these communities.
- Understanding risk and tools for mitigation (including the role of insurance) - a key challenge is ensuring the risks facing Greater Christchurch are well understood by communities and decision-makers, along with tools for mitigation and the role of insurance.
- Community and social cohesion - stakeholders emphasized the importance of social cohesion and systems that connect local communities. Particular attention is required to ensure Christchurch adequately supports its migrant workforce.
- Community leadership - many community-based responses emerged immediately after the earthquakes and stakeholders are keen to maintain a supportive and enabling environment for community leaders.
- Building trust between the community and decision-makers - a key challenge for Greater Christchurch is building a more trusting relationship between communities and decision-makers and more empowering styles of engagement and governance.
- The role of innovation - there are opportunities for innovation, as expressed by creativity and creative enterprise and the use of new technology, to help support economic growth and meet future social challenges in Greater Christchurch.
- Urban form - Christchurch has a unique opportunity to rebuild better. Effective urban planning can help mitigate the effects of future stresses (such as homelessness, unemployment and accessibility of services) - but poor urban planning will be a significant source of future chronic stresses.

Four Focus Areas have been identified, based on these underlying themes, which will become the "paths of inquiry" for the second stage of the strategy process:

Focus Area 1

Participative leadership and governance - how can we foster community leadership and more participatory forms of decision-making?

This area includes looking at how we support existing and emerging community leaders, how citizens can be empowered to actively participate in decisions, and what we have learned from our experience of the Canterbury earthquakes and can learn from others.

Focus Area 2

Securing a prosperous future - what is required to foster innovation and attract new people and ideas to Greater Christchurch's local economy?

This area is about how we create a competitive and supportive environment for innovation and business, how we can mobilise private funding for innovation and make use of new technology and open data, and what we can do to nurture and strengthen links with the countries of origin of our migrant workers.

Focus Area 3

Understanding and responding to future challenges - how do we ensure communities are better prepared for the future?

This area is about communities and what they need in order to understand and respond to risk, how we can create an environment that supports proactive planning for risks, and what we have learned, and can learn from others, about the role of insurance.

Focus Area 4

Connected neighbourhoods and communities - what more should we be doing to ensure communities are healthy, affordable, and safe?

This area includes looking at the nature and extent of housing need in Greater Christchurch, the learning and implications of earthquake effects in eastern Christchurch, and how we can best support affected communities, support and engage our migrant communities, and encourage more intensive residential development and more accessible communities in some areas.

These focus areas will be the subject of more targeted discussion around potential approaches and implementation in Phase 2 of the strategy development process. The next steps are to:

- Form working groups for each of the Focus Areas
- Through these working groups, explore the issues and questions that arise from the Focus Areas, and identify specific gaps of service and opportunities for leverage to make projects a reality
- Generate ideas by community, local, national, and international experts that can become the projects, programmes and initiatives of the strategy.

The Resilience Strategy will be a strategy for Greater Christchurch, prepared collaboratively under the auspices of the Greater Christchurch Urban Development Strategy (UDS) partnership with other key partners such as the University of Canterbury and the Canterbury Employers Chamber of Commerce. The strategy will:

1. Determine actions and initiatives that can be implemented relatively quickly to enhance resilience
2. Identify longer-term goals to inform UDS partners as we work together to develop a vision for Greater Christchurch.

The Christchurch resilience challenge

It is now five years after the earthquake sequence started and it is three and a half years since the last major aftershock. As Greater Christchurch works towards rebuilding thriving communities we need to look beyond merely recovering from disaster.

Greater Christchurch must address the physical challenges of climate change, sea level rise, further seismic activity from the Alpine fault and distant source tsunamis, as well as emerging social and community issues around housing, immigration, and trust in order to build a resilient city and region.

A resilient Christchurch is as much about strong communities, businesses and services as it is about our natural environment and the ability of infrastructure to support that.

We are looking to build:

“The capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience” (100 Resilient Cities).

If we accept that a resilient city is a healthy city, a safe city, a child friendly city, an accessible city, an educated and highly skilled city, a connected city, an open, inclusive and engaged city, then we can emerge with a legacy that reflects not the damage by earthquakes but the opportunities that we seized.

Resilience doesn't just mean being strong in the face of an adverse event. It isn't just about maintaining critical functions and bouncing back into shape after something occurs. It includes the capacity to recover in the long-term and if necessary to adapt to a new environment, thriving in the face of adversity and the capacity to co-create a new future.

If we have learned anything from our shared experience of the past five years it is how interdependent we are – as neighbours, as communities of interest and identity as well as geography. How well we responded and set off on the pathway to recovery didn't just depend on how badly we were hit, but how well we worked together.

Christchurch Mayor Lianne Dalziel has championed Christchurch's participation in 100 Resilient Cities and explains her definition of resilience like this:

“A community is not the co-location of houses – that's a suburb. Leadership is not a position you hold - it is a mark of your character. And resilience is not being strong in the face of adversity – that is stoicism. Resilience is about the capacity to plan and prepare for adversity, the ability to absorb the impact and recover quickly, but more importantly it's about the ability as a community to adapt to a new environment to thrive in the face of adversity and co-create our new normal. And it is in that space that we see the world of opportunity that our disaster has offered us...”



100 Resilient Cities and the Christchurch Resilience Strategy

Christchurch was among the first 33 cities selected, from over 400 city applications, to join the 100RC network. The letter of application was one of the first official acts by Christchurch Mayor Lianne Dalziel.

All cities in the network receive:

- funding to employ a Chief Resilience Officer
- assistance in developing a resilience strategy
- membership in an international network of cities undertaking the same work
- access to a platform of innovative private and public sector organisations that provide services to help design and implement the resilience strategy.

Christchurch stood out during selection for its proven ability to bounce back following shock events, as witnessed in the initial period following the 2010 and 2011 Canterbury earthquakes. Extensive damage was caused to social and economic infrastructure, yet the city was able to re-establish essential functions quickly.

Christchurch's application was supported by its partner agencies across Greater Christchurch, who are committed to a resilience strategy for the Greater Christchurch area.

100RC defines urban resilience as:

“The capacity of individuals, communities, businesses and systems to survive, adapt and grow, no matter what chronic stresses and acute shocks they experience.”

Resilience thinking accepts that chronic stresses, such as poverty and homelessness, and acute shocks, like earthquakes and flooding, rarely happen in isolation. By considering shocks and stresses in the same strategy, a city is able to be more responsive to adverse events and be more effective in delivering core functions and services in both good times and bad. In addition, by addressing the shocks associated with potential hazards, cities can also gain a ‘resilience dividend’ benefitting both financially and socially by investing in actions that promote resilience.

100RC uses a City Resilience Framework (CRF) to help describe and assess the resilience of a given city, as shown in Figure 1. The City Resilience Framework considers resilient cities within four ‘dimensions.’ These are:

- health and wellbeing
- economy and society
- infrastructure and environment
- leadership and strategy

Within each of the dimensions listed above, are a number of ‘drivers’ (12 in total), which describe the fundamental attributes of a resilient city. Within each of these ‘drivers’ there are also a number of ‘sub drivers’ which further define a city’s resilient qualities.



Building resilience value: the resilience dividend

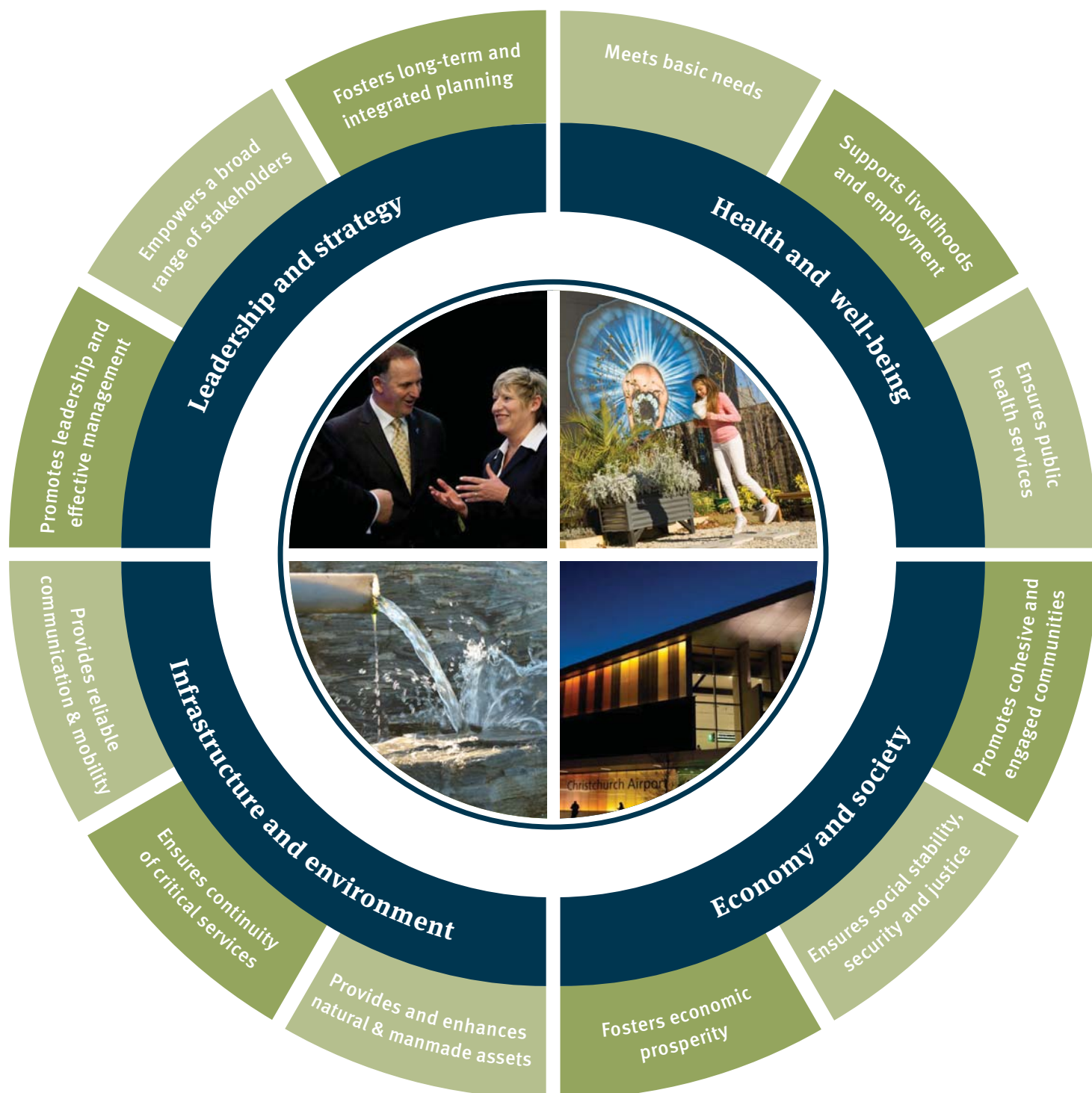


Figure 1: The City Resilience Framework

Developing a resilience strategy for Christchurch

A resilience strategy helps cities prepare for, adapt to, and quickly recover from shocks and stresses. The process to develop a Christchurch Resilience Strategy is being guided by 100 Resilient Cities and builds on the City Resilience Framework.

It seeks to build not only physical resilience of infrastructure and the environment, but also social resilience that creates opportunities for all our citizens to thrive. A successful resilience strategy has three outcomes:

1. Catalyses resilience in the city

- Coordination across private, public and civic stakeholders at the local, city, regional, national and international levels
- Integration of existing actions in the city
- Identification of new actions to fill gaps in resilience understanding and practice
- Prioritisation and implementation
- Application of a resilience lens to ongoing efforts.

2. Informs the market and activates distribution

- Identification of city needs
- Creation of a market signal on a city's resilience priorities
- Building on existing partnerships
- Establishment of new partnerships.

3. Establishes a resilience practice

- Incorporation of a resilience lens into city governance and decision-making.
- Knowledge and best practice sharing between cities.

The Christchurch Resilience Strategy development is a two-phased process (see figure 2 below). It begins with a data gathering and research period, surveying the many challenges facing the city and considering what work is already underway. It progresses in Phase 2 to more targeted questions to move toward implementation.

As part of the 100RC network, Christchurch has the opportunity to share lessons and best practices with other cities around the globe that are developing a Resilience Strategy of their own. Christchurch is looking to build relationships with other network cities where many threats and opportunities are shared.

Phase 1

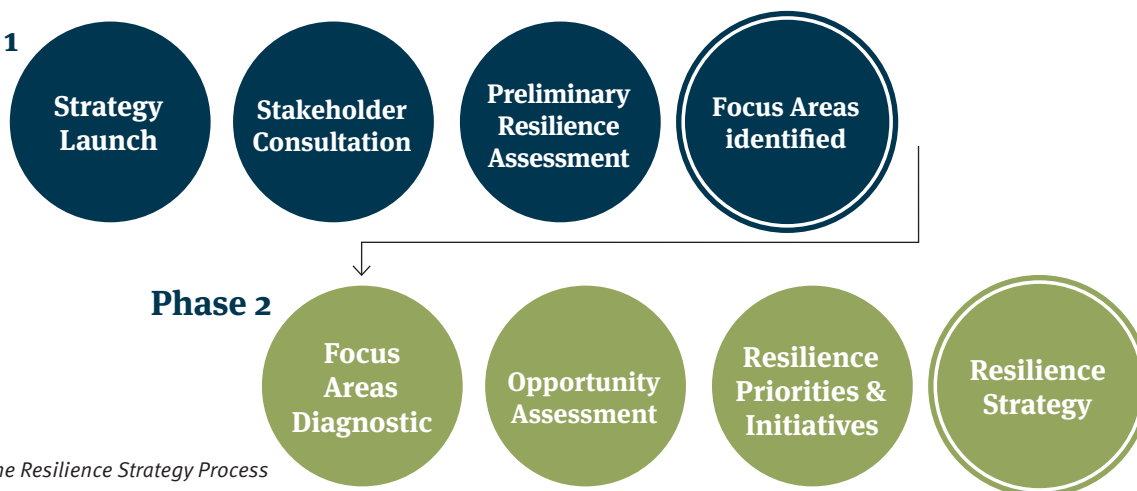


Figure 2: The Resilience Strategy Process

This Preliminary Resilience Assessment marks the conclusion of Phase 1 of the Christchurch Resilience Strategy development. This report represents the compilation and baseline evaluation of assets, shocks and stresses, stakeholder perceptions, current approaches, and emerging opportunities that helped identify the Focus Areas. These Focus Areas will be the subject of more targeted discussion around potential approaches and implementation in Phase 2 of the strategy development process. This report concludes with a discussion of Phase 2 and how the Focus Areas will form the basis of the upcoming Resilience Strategy.

The Resilience Strategy will be a strategy for Greater Christchurch. Strategic partners are working together collaboratively under the Greater Christchurch Urban Development Strategy (UDS) framework with other key partners. UDS partners have expressed a strong desire that the strategy process is part of a wider collaborative conversation around the vision for the Christchurch of the future.

The strategy will therefore:

1. Determine actions and initiatives that can be implemented in the short to medium term to enhance resilience, and
2. Identify long-term goals to inform UDS partners as we work together to develop a vision for Greater Christchurch.



Phase 1 strategy development process

Christchurch launched its Resilience Strategy development process in August 2014 and has undertaken significant work identifying and aggregating information and working with resilience partners.

There has been targeted consultation to better understand Greater Christchurch's resilience challenges and the extensive resilience efforts already underway. A number of engagement methods were used including workshops and scenario analysis focus groups involving a broad range of stakeholders for face-to-face consultation.

Shocks and stresses

A resilient city is able to understand and prioritise the risks it faces. Knowledge of exposure and vulnerability to these risks is an essential first step to building resilience. This activity focused on identifying the shocks, stresses and risks facing Greater Christchurch both now and into the future.

Critical assets and risk analysis

The interaction between assets and Christchurch's particular shocks, stresses and risk profile was analysed. A number of methods were used to collect data, these included:

- Input from the Canterbury Civil Defence Emergency Management Group Plan.
- Input on assets and their condition from the Civil Defence Emergency Management Lifeline Group.

Perceptions assessment

Stakeholder engagement activities have contributed to a high-level, qualitative analysis of the factors contributing to as well as inhibiting the resilience of Greater Christchurch. An online survey was conducted to identify factors (assets, systems, practices or procedures) stakeholders believe are the most important in determining Christchurch's resilience. Participants were also asked to rate Christchurch's performance in relation to the 12 resilience drivers.

Building on what we have

Across Greater Christchurch, local and regional government, central government agencies, community groups and individuals are already undertaking a range of actions that contribute to the resilience of the city. A broad range of organisations were asked to advise about actions they felt were already contributing to the city's resilience (including local government, Canterbury District Health Board, Canterbury Earthquake Recovery Authority (CERA), a number of NGOs and the universities). Existing plans and strategies that contribute to a resilient city were also identified, and are described in the following pages.

Shocks and stresses: What are our threats?

Earthquakes, pandemics, storms, flooding, coastal erosion, storm surge, wind and tsunamis are the most significant shocks that are likely to occur in Greater Christchurch, both now and into the future.

Many of the hazards Christchurch faces are a consequence of or worsened by climate change, rising sea levels, flooding, tsunamis and storms, or drought in the wider province. There are also the additional geo-hazards faced by the rest of New Zealand, and the threat of pandemic.

The means by which a resilient community withstands these threats is through risk awareness, risk reduction actions (building codes and land use planning, for example) learning, adaptability, communication and, above all, social capital. These are all qualities that Cantabrians demonstrated before, during and after the earthquakes, but they are qualities that need maintaining, nurturing and developing as a key part of a resilience strategy.

The Canterbury earthquakes

Greater Christchurch was hit by four major earthquakes, the first in September 2010, followed five months later by another in February 2011. The 2011 earthquake killed 185 people and led to over 70 per cent of the commercial buildings in the Central Business District (CBD) of Christchurch being demolished. A number of historic buildings were also destroyed.

The earthquakes caused significant land damage to areas in Greater Christchurch. The west of the city was, by comparison, much less affected than the east, although the damage around streams followed the same pattern of land damage caused by lateral spread.

Thousands of property owners faced significant delays resolving insurance issues and the prospect of living on damaged land, with damaged infrastructure, for prolonged periods. After an area-wide process for categorising properties the Crown made offers to buy properties in the worst affected areas, which would become known as the residential red zones, or the “red zone”. The offers were intended to create certainty and confidence for people in the red zone to be able to move forward with their lives. Over 98 per cent of insured residential property owners in the flat land red zone areas and 92 per cent in the Port Hills red zone areas accepted the Crown’s offer.

Social challenges include difficulties for many in obtaining affordable quality housing, and the earthquake-related problems faced by the eastern suburbs, including Kaiapoi, Brooklands and the Port Hills, which are not felt as severely by those living in the west.

Social stresses

The key social stresses facing Greater Christchurch right now include affordable space for housing and business, poverty and inequality, the speed of recovery, health (particularly mental health), economic growth and a sense of growing concern around racial tolerance and cultural diversity. The loss of housing stock caused by the earthquakes has stimulated price rises. In March 2015, the median sale price for Christchurch residential property was \$440,000. That was the second-highest level on record and 5.3 per cent higher than a year ago. Across Canterbury, the March median price was \$415,000 (up by 3.5 per cent), with NZ’s figure at \$475,000. Driven by Auckland, that national average figure was 8 per cent higher than a year ago. Broadly speaking, residential property prices across the city and region are still rising, albeit with the pace of growth easing. That is consistent with signs that more housing supply is now available and buyers have a little more power in the market.

Meanwhile, weekly rent has increased significantly faster than the national average. There are increasingly clear signs that a slowly increasing housing stock in Christchurch is reducing the upwards pressure on rents. In March 2015 the average weekly rent in the private housing sector was \$418. That was unchanged from a year earlier, the first time that rents in the city have failed to rise on an annual basis since March 2010. Year-on-year rental growth in Christchurch has also been lower than the New Zealand average in five of the past six months (NZ - 5.4 per cent for March). The initial increase in demand for rental accommodation has come from earthquake displaced households and workers arriving to assist with the rebuild (CDC, 2015).

Residents have experienced significant upheaval and population movement which has reduced social connectedness. The proportion of people reporting a strong sense of community with others in their neighbourhood fell from 55 per cent in September 2012 to 47 per cent in April 2014, although had increased to 50 per cent by April 2015 (CERA, 2015).



Physical stresses

Earthquakes and flooding were prominent topics in engagement with stakeholders. As a result of the earthquakes, Greater Christchurch is undergoing a massive physical transformation. Around New Zealand, and the world, coastal communities are becoming increasingly aware of coastal hazards, such as coastal inundation (flooding by the sea), coastal erosion and tsunami. Historic sea-level rise in New Zealand has averaged 1.7 millimetres per year, with Christchurch and Banks Peninsula showing a slightly higher rate of 1.9 millimetres per year (Hannah and Bell, 2012). It is important we look ahead to ensure we are prepared to deal with the challenges of coastal hazards in the future, creating more resilient communities.

Understanding our pre-earthquake vulnerabilities is important if we are to carve out a more certain future. Prior to the earthquakes Christchurch's approach to climate change and sea level rise was focused on adaptation. Higher finished floor levels are required in areas of vulnerability. The earthquakes have given us the opportunity to work together as a city with our scientists, health professionals, engineers, local, regional and central government agencies to understand our climate risks and prepare ourselves to make decisions about our future.

Opportunities

Our task is to transform our challenges into opportunities. For example the Land Use Recovery Plan puts land use policies and rules in place to assist rebuilding and recovery of communities. It identifies a number of greenfield priority areas around the edges of Christchurch, other towns and settlements for new residential or business development and provides for an anticipated 40,000 new households in both greenfield and intensification areas. The plan, which arises out of the earthquakes, is an opportunity to address the challenges of climate change and housing affordability.

Christchurch's rebuild will require a significant amount of migrant labour. Monthly net migration into the city has now been positive for 32 months in a row and the annual inflow of migrants is the highest level since at least 1991. Net migration into the wider Canterbury region is also at a record high (CDC, 2015).

This significant migrant rebuild workforce will bring a number of opportunities and challenges for the city. Christchurch's rebuild programme has played a significant role in growth, with the region seeing growth in production of goods and services, migration, agriculture and manufacturing and a decline in unemployment. Looking to the post-rebuild opportunities for the region is important.

Christchurch has the opportunity to reposition itself as an international city. It is expected that many migrant rebuild workers will want to relocate here permanently and bring their families from overseas. This will have lasting benefits for the region but require significant thought around resettlement strategies. Strategies are being implemented to address the attitudinal changes required within the existing host community to ensure good long term settlement.

Planning for future challenges

Resilience discussions in Christchurch draw heavily on the experiences of the earthquakes. Ensuing conversations need to build on this, but also frame resilience in a longer-term future context, beyond the city's immediate earthquake recovery. Within the city there is a wealth of expert knowledge and a ready understanding of the drivers and dependencies of factors of resilience.

Investment in building and maintaining good social capital is crucial to emergency preparedness, regardless of the nature of the threat. There is evidence that suburbs with greater pre-existing social capital were more resilient during the earthquakes aftermath. The contribution of the not for profit sector to our overall resilience also needs to be recognised.



Critical assets: What do we need to protect?

A system of systems

Cities are a complex system of systems interconnected with our natural, social, built and economic environments. In Christchurch this is evident in our network of critical assets like our port, airport, stop banks, three waters networks, highways and arterial roads. Our social assets are of equal importance: hospitals, schools, universities, business and resident associations, families and the skills and knowledge of our people. They are all interconnected and they all offer opportunities to build resilience.

Canterbury communities are changing their perception of risk. The experiences of the Canterbury earthquakes and recent flood events have increased people's awareness of how serious hazard events can be.

Natural environment

Canterbury is a geographically diverse area, comprising four distinct landscape types:

- the Southern Alps
- rolling foothills, which in places extend to the coast
- remnant volcanic complexes of Banks Peninsula
- the alluvial fans of the Canterbury Plains.

Canterbury's coast is nearly 800 kilometres long and has a wide range of coastal environments including open beaches, sand spits, estuaries, coastal cliffs and harbours. The coast is subject to coastal erosion and accretion, storm surges and tsunamis, and inundation.

The Alpine region sits across the boundary of the Pacific Plate and the Australian Plate. Experts believe there is roughly a 30 to 65 per cent chance that there could be a magnitude 8.0 earthquake on this fault in the next 50 years.

Flood is the most likely hazard event to happen in Canterbury. Small areas are flooded each year in one part of the region or another. Larger floods happen less often. High and low flood-hazard areas have been identified for the populated parts of most districts to help work out the effects of flooding that is likely to happen every 50, 200 and 500 years. This risk has been exacerbated by land subsidence from the earthquakes.

Higher parts of the region may also suffer significant snow events. Damaging wind storms have occasionally affected the region, as have significant rural fires.

The northwest winds are Canterbury's most significant climatic feature, especially in summer. The winds cause temperatures to rise and, as a result, the ground dries out and considerable soil loss is caused by wind erosion.

Social environment

There is a strong sense of place and culture although there is still some way to go to find the means to honour Te Tiriti O Waitangi. The earthquakes have tested the resilience of the Canterbury population and enabled communities to better understand their interdependence, strengths and fragilities. In 2015 there is a mixture of optimism about the eventual success of recovery processes and uncertainty about the appropriate rate of progress. Pride in local geography, culture and community is a great opportunity for growth and could be the vehicle for future resilience and adaptation.

The Canterbury region is experiencing significant population growth, with five of the ten fastest growing districts in New Zealand located in Canterbury. The earthquakes have resulted in considerable movement of people in central Canterbury. The eastern suburbs of Christchurch have seen a degree of depopulation because of the "red zoning" of land. As a consequence, population has grown rapidly in other parts of Christchurch City, as well as in Selwyn and Waimakariri Districts over the past two years.

Canterbury is also an increasingly diverse region with Greater numbers of people from different ethnic backgrounds. Canterbury's largest ethnic group is European, with 86.9 per cent of the population identifying themselves in the 2013 census with this group. Another 2.5 per cent of the population identify themselves as Pacific Island and 6.9 per cent of the population as Asian. Maori represent 8.1 per cent of the population in Canterbury. The tangata whenua is Te Rūnanga o Ngāi Tahu.

In recent years Canterbury has experienced high levels of immigration, particularly to fill skills shortages in the construction, dairying and care-giving industries. Many of these workers are socially isolated, sometimes because they do not speak English as a first language or because their families remain in their home country.



Built environment

Infrastructure has a high level of interdependency. Most networks depend on electricity supply, and emergency recovery is heavily dependent on communications networks and transport routes.

The Canterbury earthquakes have highlighted the critical role that infrastructure plays in people's day-to-day lives. In the hours and days following the earthquakes, power, water and communications services as well as air, road and rail travel were critical in ensuring that the basic needs of residents in the quake zone were met. Within Christchurch, there is a high degree of understanding of the resilience of infrastructure to earthquake, but possibly unknown to other shocks like major distant tsunamis, for example.

Roads, rail, sea ports, airports, electricity, gas and telecommunications networks have proven to be reasonably resilient in Canterbury. Buildings are exposed to most natural hazards and there is a correspondingly comprehensive regulatory framework.

The wastewater network is reliant on a single treatment plant. Water supply is reliant on in-ground storage so is vulnerable to major disruption or loss.

Economic environment

Canterbury is the South Island's largest economy, and is distributed between the agriculture, manufacturing and service sectors.

The region's overall economic performance has dipped only slightly since the earthquakes. The integral relationship between Canterbury's rural and urban economies contributes to this resilience.

The Canterbury earthquakes and rebuild will continue to have a national and regional economic impact.

Perceptions: What do stakeholders think about the city's resilience?

A significant component of Phase 1 of the Resilience Strategy development process for Christchurch was a broad investigation of the city's resilience strengths and weaknesses. Stakeholders were canvassed and their views contributed to a high level analysis of the factors that inhibit resilience.



Key observations across the four dimensions of the City Resilience Framework

Health and wellbeing

Workshop discussions often focused on the reactions, impacts and experiences learned during and after the earthquakes and recovery. The ongoing psychosocial issues facing many in the city were emphasised as well as the need to ensure an individual's connectivity to their community as a means of building resilience at the grassroots level. The urgent and ongoing need for affordable housing was highlighted. The shortage of appropriate, affordable housing constrains achievement of positive health outcomes for people. Equity of access to services, health care and facilities were also highlighted as being fundamental to good health and wellbeing and resilience.

Changing workforce needs as the recovery progresses will impact on employment trends and work opportunities in the city: the longer term work prospects for rebuild migrant workers was mentioned frequently. Their integration into the fabric of Greater Christchurch communities was seen as important to ensure cohesive communities and positive diversity.

Leadership and strategy

During workshops stakeholders discussed what is required to build and maintain effective leadership and relationships between political organisations and community leaders. There was a clear desire to move towards a more transformational style of engagement. In order to do that, dialogue with the community needs to move beyond merely informing and transactional to become co-creational.

Greater Christchurch is currently in an extraordinary situation with its respective governance structures and the aftermath of the earthquakes has led to a range of non-traditional leaders emerging. This has brought considerable increased social capital but at times can also challenge the traditional structures.

Infrastructure and environment

Workshop sessions drew heavily on participants' knowledge and experiences following the earthquakes. In discussing the resilience of hard infrastructure it was recognised that this can be interdependent with the local, national and even global context.

The need for redundancy was discussed, both regarding hard infrastructure and in terms of household and business level resilience planning. Innovation in technologies, systems and planning models were all cited as crucial to resilience planning.

Interestingly, there was a perspective that we are yet to reach a consensus on which assets are most critical. There was also a clear global perspective that recognised the importance of trade and exports.

Economy and society

Employment, increasing ethnic diversity, lack of affordable housing, and greater need for social services and supports in the community, were identified respectively as being key opportunities and stresses at the moment. It was agreed that to build trust, decision-makers need to engage more with the under-represented, and the ‘disgruntled’, especially youth, in an open and transparent way.

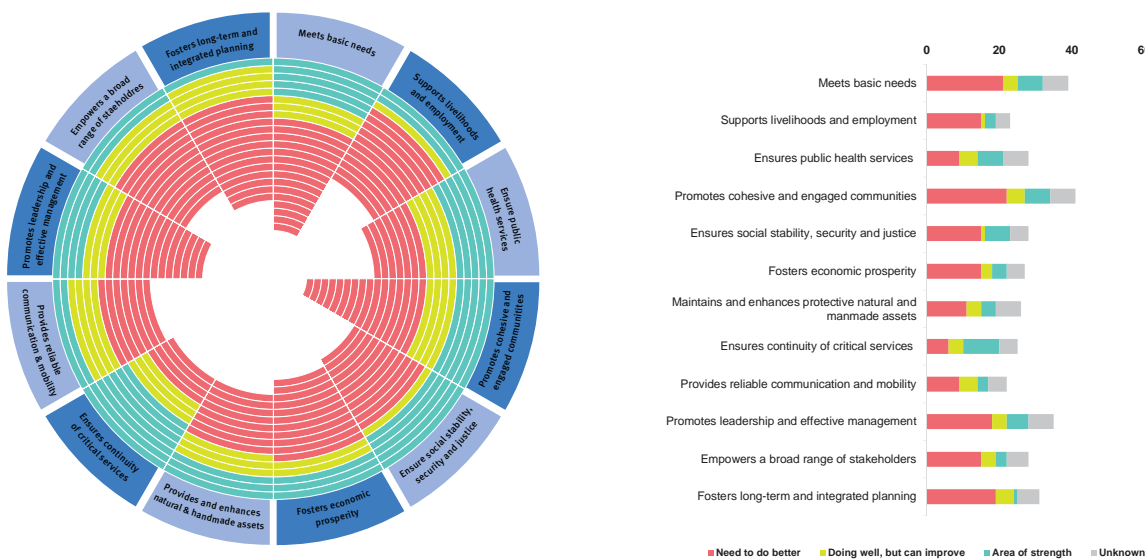
Non-governmental organisations are seen as a critical player in finding greater cohesion going forward. There was a clear message that there needs to be a clear understanding of the issues, backed-up with sound data, in order for the business community to see a benefit in engaging with the strategy process.

Stakeholder survey - Christchurch’s performance against the 12 resilience drivers

An online survey was distributed to over 120 stakeholders including workshop attendees and community representatives.

The survey asked participants to identify factors (assets, systems, practices or procedures) that they believe are the most important in determining Christchurch’s resilience. Participants were also asked to rate Christchurch’s performance in relation to the 12 resilience ‘drivers.’ One-on-one interviews were also conducted with selected stakeholders.

The survey identified a number of areas of the city’s resilience that stakeholders considered to be weak. These included meeting basic needs (specifically housing) and building trust and transparency in decision-making. This is reflected in Figure 4, which shows that stakeholders consider that the city ‘needs to do better’ with regards to three key ‘drivers’: meeting basic needs, promoting cohesive and engaged communities and promoting leadership and effective management.



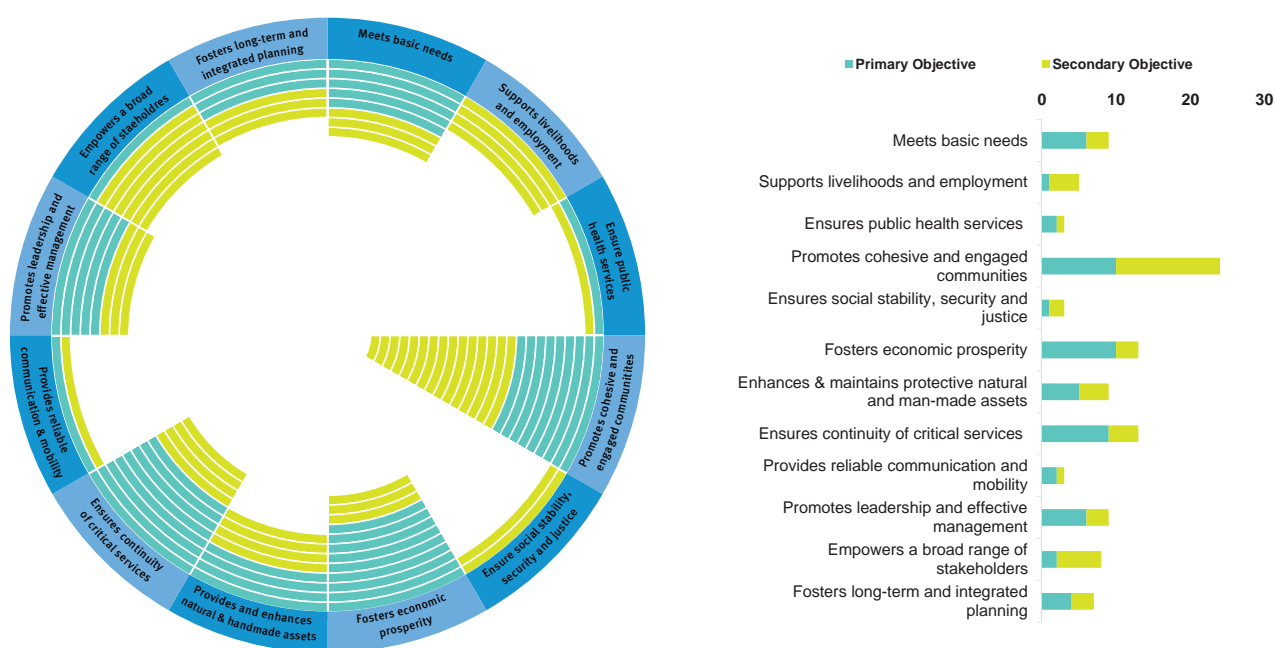
This graph is based on perception of resilience gathered in the city of Christchurch during February and March 2015, and represents the opinions of the city stakeholders and experts.

Figure 4 Stakeholder’s perceptions about Christchurch’s resilience mapped against the City Resilience Framework

Actions: What is Christchurch already doing?

A broad range of stakeholder organisations (including local government, Canterbury District Health Board, CERA, a number of NGOs and universities) were asked to outline actions they felt contribute to Christchurch's resilience. These actions were then recorded and analysed.

The figure below shows the output from the Actions Tool, indicating that there are a number of initiatives being undertaken to promote cohesive and engaged communities. A 'social assets inventory' was completed that demonstrates a unique component of the Christchurch resilience community, bringing together the range of social networks operating across the city/region (for example, the Crime Prevention Forum, an inter-agency network that includes New Zealand Police, Age Concern, City Mission and others).



This graph is based on perception of resilience gathered in the city of Christchurch during February and March 2015, and represents the opinions of the city stakeholders and experts.

Figure 5: City actions contributing to resilience

Recent actions in resilience

There are many examples of resilience building activities underway in Greater Christchurch that respond to the challenges and opportunities identified earlier. These activities will inform and contribute to a wider understanding of our resilience challenges as we move through the second phase.

Key interagency initiatives underway that are relevant to the themes identified by stakeholders are:

Housing Accord

The Christchurch Housing Accord between the Christchurch City Council and the Government aims to increase the immediate and longer term supply and affordability of homes in Christchurch. The Accord recognises that a fully functioning housing market is essential to building strong and healthy communities and a strong economy. The most significant contribution the Government and Council can make

to the supply and affordability of housing in Christchurch is in facilitating further private investment. The Accord seeks to ensure that planning rules, resource consent and building consent processes and costs such as development contributions support improved housing supply and affordability.

Healthy Christchurch

Healthy Christchurch is a Canterbury District Health Board-led intersectoral collaborative partnership based on the World Health Organisation Healthy Cities model. The key idea is that all sectors and groups have a role to play in creating a healthy city, whether their specific focus is recreation, employment, youth, environmental enhancement, transport, housing or any other aspect of city life. This initiative aims at fostering collaboration between organisations who have signed The Healthy Christchurch Charter.

Safer Christchurch

The Safer Christchurch Strategy, developed in 2005 and reviewed in 2008, is the first community safety strategy for Christchurch. It aims to make Christchurch a safer place to live, work, play and learn, and all initiatives under the Strategy have guided Christchurch in achieving accreditation in 2008 as an International Safe Community and again as a Pan Pacific Safe community in 2015. Accreditation is based on criteria developed by the World Health Organisation (WHO) and focuses on three key areas – injury prevention, road safety and crime prevention. The strategy sets the direction for the Safer Christchurch Interagency Group, which is made up of senior sector leaders from across government, local government and community.

Accessible City

An Accessible City is about making central Christchurch accessible to all. “Accessible” means it will be easier for people to get to, and move around in, central Christchurch whether by bus, car, cycle or on foot. Journeys will be more enjoyable and there will be less congestion. It also means that central Christchurch will be easier to access for people who have mobility challenges. It is about upgrading the transport system to provide a compact, people-friendly core and about supporting the economic, social and environmental recovery of central Christchurch.

Infrastructure Rebuild

The Stronger Christchurch Infrastructure Rebuild Team (SCIRT) is a collaborative alliance between central government, the Christchurch City Council and key contractors. Infrastructure being rebuilt is being assessed for resilience and criticality, and lessons learnt are being incorporated into technical solutions to provide greater resilience. For example bore-hole well heads are being engineered to provide greater resilience to damage from ground movement.

Regional Innovation Strategy

The Canterbury Development Corporation is working on a Regional Innovation Strategy. The aim is to improve links between business and the innovation assets in the region, and improve connectivity between these assets.

Christchurch Replacement District Plan

This is the Christchurch City Council’s (proposed) planning document governing land use across the district including residential and business zoning, transport, natural hazards, contaminated land, subdivision and designations. The Plan identifies areas where any building or infrastructure construction should not occur so that a solid foundation for Christchurch’s immediate rebuilding needs, as well as the longer-term future can be ensured. The Plan is expected to be finalised in April 2016.

Leadership in Communities Project

The LinC Project (Leadership in Communities) is designed to support and enhance local leadership and recognised change agents drawn from the voluntary, NGO and also central and local government sectors across Greater Christchurch. It involves a comprehensive range of forums, coaching, peer groups and funded projects and is being designed and facilitated by a team of local, experienced professionals in the field of leadership and community development.



Ten years of planning - building on what we have

The Resilience Strategy will not be simply another planning process. Rather than replicate the vast work that has already been done, the Resilience Strategy will build on existing work to provide a road map for implementation. In order to achieve this, we need to recognise the planning processes of the past decade to help us to understand the evolution of resilience planning that has led us to this point.



Greater Christchurch Urban Development Strategy (UDS) 2007

Developed prior to the Canterbury earthquake sequence of 2010-11, the UDS is the key framework for the development of Greater Christchurch. It is

a collaboration between the Christchurch City Council, Waimakariri District Council, Selwyn District Council, Environment Canterbury, Te Rūnanga o Ngāi Tahu, the New Zealand Transport Agency, and the community. It provides a strategic framework to ensure Greater Christchurch will have enriched lifestyles, enhanced environments, prosperous economies, managed growth, and integrated and collaborative leadership. Integration of land use with strategic infrastructure is a key part of the UDS and is being given effect through the Land Use Recovery Plan 2013. The UDS partners are currently looking at refreshing the strategy and partnership arrangements.



Recovery Strategy for Greater Christchurch 2012

CERA's Recovery Strategy is

the key reference document that guides and coordinates programmes of work under the Canterbury Earthquake Recovery Act 2011 for the rebuilding and recovery of Greater Christchurch. From this flow a number of operational plans and programmes which are designed to be complementary to the City's planning strategy and planning framework. It comes to an end with the expiry of the CER Act in April 2016 and discussions are being held on whether it should be extended.



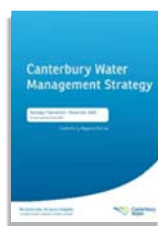
Greater Christchurch Transport Statement (2012)

The Greater Christchurch Transport Statement provides an overarching framework to enable a consistent, integrated approach to planning, prioritising,

implementing and managing the transport network and services in the Greater Christchurch area. The statement focuses on the key links between places and is designed to guide the development of transport programmes and investment strategies towards a strong and resilient future.

2012

2013



Canterbury Water Management Strategy (CWMS) 2009

The CWMS provides a collaborative framework for addressing water management to enable present and future generations to gain the greatest benefits

from the region's water resources within an environmentally sustainable framework.

The strategy sets out 10 targets for water management in Canterbury for the next 30 years. Targets have been developed for: ecosystem health and biodiversity; natural character of braided rivers; Kaitiakitanga; drinking water; recreational and amenity opportunities; water-use efficiency; irrigated land area; energy security and efficiency; regional and national economies and environmental limits. Zone committees are responsible for developing water management programmes that give effect to these targets for their respective catchments.



Christchurch Central Recovery Plan (CCRP) 2012

The Christchurch Central Recovery Plan (CCRP) outlines the future development of central Christchurch. It incorporates a spatial Blueprint Plan. Under the CER Act 2011, the CCRP

provides a framework for redeveloping the city centre and is designed to establish confidence and momentum for a successful recovery of the Central City in terms of governance, redevelopment and social fabric.



Mahaanui Iwi Management Plan (2013)

The Mahaanui Iwi Management Plan creates a policy framework providing direction from an Iwi perspective on important matters affecting the natural environment. Important Issues

for Māori which relate to air, land and water are covered in the Plan and include hazards, land use planning and transport linkages. This Plan is very much synchronous with the Council and partner planning frameworks. The Waitangi Tribunal Process has cemented the place of Māori culture, identity and traditional knowledge in New Zealand's laws, and in government policies and practices.



Land Use Recovery Plan (LURP) 2013

The Land Use Recovery Plan for Greater Christchurch was approved by the Minister for Canterbury Earthquake Recovery

and was gazetted in December 2013. It is a statutory document that directed Environment Canterbury to make changes to the CRPS, and councils to make changes to their district plans. These changes included inserting Chapter 6, 'Recovery and Rebuilding of Greater Christchurch', and amending the CRPS to enable the CCC, WDC and SDC to either avoid or mitigate new development in high hazard areas.



Council Long Term Plans 2015-2025 (2015)

Long Term Plans developed by the Christchurch City Council, Waimakariri District Council, Selwyn District Council and Environment Canterbury set out a 10 year budgeted programme of work, effectively shaping the future of Greater Christchurch. Within each Long Term Plan sits an Infrastructure Strategy which identifies significant infrastructure issues over the next 30 years and outlines how these assets will be managed, taking into account growth, renewals, changes in levels of service and resilience in terms of natural hazards.

2014

2015



Canterbury Regional Policy Statement (CRPS) 2013

The Canterbury Regional Policy Statement sets the framework for resource management in Canterbury. Its goal is the integrated management of the region's natural and physical resources. Amendments to the CRPS in 2015 were made to enable the Christchurch City Council, Waimakariri District Council and Selwyn District Council to either avoid or mitigate new development in urban areas located within high hazard areas.



Community in Mind Strategy (2014)

The Community in Mind Strategy provides the context and shared vision and principles for psychosocial recovery in Greater Christchurch following the Canterbury earthquakes. It was developed by a diverse group of government, non-government and community groups working together through the Greater Christchurch Psychosocial Subcommittee. The Strategy identifies actions in three focus areas: community-led, communication and engagement and innovative services. A Shared Programme of Action was developed in 2015 to expand on the delivery of these actions.



Canterbury Regional Economic Development Strategy (2015)

Regional economic development is a priority for Canterbury local authorities. The Canterbury Mayoral Forum developed the Canterbury Regional Economic Development Strategy with a view to acting now to prevent a post-earthquake rebuild slump and ensure the long-term economic prosperity and social wellbeing of the region. The strategy's vision is 'a region making the most of its natural advantages to build a strong, innovative economy with resilient, connected communities and a better quality of life for all.' Strategy actions complement the Christchurch Economic Development Strategy (CEDS), developed by Canterbury Development Corporation in 2013.

Underlying themes from Phase 1: Key challenges and opportunities for Christchurch

Eight clear themes emerged from the early research and consultation phase.

1. Housing affordability and accessibility

Experience abroad has shown that housing issues increase following major disasters, particularly for vulnerable populations such as low-income households, some ethnic minorities and single parent households (Goodyear, 2014). In line with this, the Ministry of Business, Innovation and Employment estimates that the population facing severe housing deprivation in Christchurch has increased between 70 and 112 per cent since the earthquakes (MBIE, 2013). Consultation undertaken as part of the resilience strategy development process has identified significant and consistent concern around the affordability and accessibility of quality housing in Christchurch. Even pre-quake, many houses tended to be damp and cold, which has a negative impact on health, particularly for children. Many stakeholders indicated that housing is a primary issue of concern and an area in which the city has the greatest 'need to improve.'

The 2011 earthquakes caused widespread damage to housing, due to the shallowness of the earthquake sequence, the proximity of the major shakes to the city, and the nature of the soil under parts of the city and surrounding districts. By mid-2013, CERA estimated that the earthquakes had resulted in around 16,000 properties being severely damaged. In total, there were over 171,000 properties in Greater Christchurch with a dwelling claim to the Earthquake Commission (a New Zealand Government agency providing natural disaster insurance to residential property owners). To put this in perspective, the 2013 Census recorded a total residential dwelling stock of 183,792 dwellings in Greater Christchurch – meaning that over 90 per cent of dwellings received some damage.

2. Securing our future in the eastern parts of the city

The future of eastern Christchurch was a frequently raised issue during consultation. Eastern Christchurch, especially the low-lying areas close to the lower reaches of the Avon River, was the part of suburban Christchurch most severely affected by the earthquake of February 2011. There was considerable liquefaction and damage to the foundations of buildings. As a result, land on both sides of the river was declared a 'residential red zone' (i.e. an area so badly damaged that residences will not be rebuilt for some time, if at all). There are approximately 8,000 houses in this residential red zone.

There is concern that the population that inhabited the east, particularly those vulnerable, on lower incomes and those with a degree of dependency on public services, will become 'invisible' as they are absorbed into other areas of the city. This concern goes beyond housing to the future of an entire community, following its massive disruption as a result of the 2011 earthquakes. It encompasses social issues for the community and land use planning in response to natural hazards, including controversial strategies such as planned retreat.



3. Understanding risk and tools for mitigation (including the role of insurance)

Following the 2010 and 2011 earthquakes, Greater Christchurch has experienced ongoing seismic activity. Even more seismic activity is likely in the city, including the possibility of a larger Alpine fault earthquake. There is now a better understanding of the risks associated with liquefaction, particularly in the east; however the Port Hills related risks of landslip, rock roll and cliff collapse are very much part of the future risk profile in Christchurch. Furthermore Christchurch's risk profile includes many other hazards in addition to seismic activity, such as flooding, tsunamis and pandemic.

The 2011 earthquake exposed a gap in capacity and planning in Christchurch in relation to risk management and insurance. Questions continually came up during the Phase 1 consultations in relation to risk: how do we best assess it, how do we plan for it, how do we mitigate against the potential effects, and how do we factor in climate change projections? What are the boundaries of responsibility between the different levels of government, the private sector and citizens? Insurance as a tool has helped the resilience of Christchurch by enabling much of the rebuild, but has brought some challenges, for example higher excesses and premiums in high risk locations (especially flood-prone areas) and the new requirement for households to nominate a sum insured. Further exploration of the reality of risk and insurability and the levers available to assist Christchurch in this area is vital for the city's future resilience.

4. Community and social cohesion

Of all the discussions held in the preliminary engagement workshops, the most frequently used word was “community”. Stakeholders in all workshop sessions emphasised the importance of social cohesion and the networks and support systems that connect local communities. In particular, as the city’s rebuild draws workers in from around the world, stakeholders expressed concerns about adequately ensuring positive diversity and the impact and opportunity that accompanies the migrant rebuild workforce.

International migration to the Canterbury region has been steadily increasing since February 2011. Monthly net migration into the city has been positive for 32 months in a row, with the annual inflow of migrants now being at the highest level since at least 1991. Net migration into the wider Canterbury region is also at a record high (CDC, 2015). Of these new migrants, Canterbury’s Employers’ Chamber of Commerce has reported that the largest group is likely to be from the Philippines.

While current reports of migrant workers’ experience in Greater Christchurch have been largely positive, stakeholders expressed concern about efforts to embrace cultural diversity, given that six out of seven people in Greater Christchurch currently identify as European. There was also concern around integration efforts being heavily reliant on individual employers and the challenge of integrating the migrant workforce community into the fabric of the city and its networks. Concerns were also expressed for the future of migrant workers once rebuild activities start to wind down.

5. Community leadership

The earthquakes saw widespread community-based responses immediately following and during the ensuing period of recovery. This included informal, spontaneous support and organised responses led by the community and iwi organisations. Most organised responses were initiated by existing community groups or leaders, with the emergence of some new initiatives such as the youth-led Student Volunteer Army.

A study of community-based support during and following the earthquakes found these enhanced the wellbeing and sense of belonging of both those in the supporting role and those being supported (Thornley et al, 2013). The act of contributing is crucial in adapting during and after disasters and in building resilience to adverse events. However, this phenomenon is not entirely self-sustaining. The support of external organisations, such as governments, to the ongoing success and sustainability of such community initiatives is essential.

Stakeholders indicated concern that, as time moves on from the earthquakes, the enabling environment for community leadership and community-based support will be lost – some commented that they felt it had already significantly declined. As such, a key challenge for Greater Christchurch will be to maintain and broaden this ‘culture of possibility’. There was also a strong emphasis on the need to nurture the extensive existing networks and support systems that currently connect local communities.

6. Building trust between the community and decision-makers

The challenge of building a more trusting relationship between communities and decision-makers was frequently raised at the stakeholder engagement workshops. Consultation reflected significant frustration in the community about the uncertainty around governance arrangements for long-term recovery and resilience. The role of central government both immediately post-disaster and through the recovery was a key discussion point as were concerns around turnover in leadership positions due to burn-out.

Stakeholders highlighted the need for more transparent and participatory governance, which empowers the community through the provision of information and the opportunity to collaborate on plans and initiatives in areas which affect their interests. Given the point in recovery that Greater Christchurch is currently approaching, such frustrations and concerns around trust, empowerment, participation and governance must be addressed.

With CERA (the temporary body established by the national government post-earthquake) transitioning its responsibilities to local authorities, there is an opportunity for the next stage of recovery to take a more deliberative and collaborative approach to recovery decisions. As Greater Christchurch moves forward with its longer-term recovery, finding ways to build confidence, discover and articulate a long term vision for the community, be more transparent in decision-making and ensure community participation will be essential.



7. The role of innovation

The unique and uncertain environment following the 2011 earthquakes encouraged a prolific open and innovative spirit throughout the city. Examples include the Student Volunteer Army movement and creative arts projects and installations in vacant areas in the Central Business District as a result of organisations such as Gap Filler. New business models and ways of working together have developed, online businesses and cloud storage uptake has increased and there has been innovation in demolition and construction activity and in migration policy.

Innovation through, and in response to, new technology was also raised during consultation. Technological innovation is currently a driver of growth in the Canterbury Region with hubs such as Christchurch's Enterprise Precinct Innovation Centre (EPIC), helping to create high value jobs, pay for local services and raise the region's overall quality of life. Further opportunities exist to build on this work and to create and apply knowledge through modern knowledge infrastructure, such as remote sensing and 'big data'.

The role of innovation in Greater Christchurch's future was discussed with great interest during the Scenario Analysis and Risk Screen Workshop. Like many other cities, Greater Christchurch is searching to find new and sustainable sources of economic development to meet the significant economic and social challenges of the future. Innovation in Greater Christchurch could centre on the production of new or improved goods or services, changed processes, marketing methods or business practices, or changes to workplace organisation or external relations (OECD, 2015). Innovation was frequently raised during the Phase 1 consultation as a beacon of hope to tackle the challenges of the future and help to accelerate recovery from times of crisis. Innovation was seen by stakeholders as a way to interrogate existing problems to unlock new opportunities.

8. Urban Form

Having seen the city's Central Business District and a number of suburbs badly damaged, it is not surprising that the urban form was a consistent feature of discussion among our stakeholders. Christchurch has a unique opportunity to rebuild better – for its urban form to reflect the needs and aspirations of its communities now and in the future, rather than those of past generations. The Scenario Analysis and Stress Screen Working Groups in particular saw significant discussion around the future of Christchurch's urban form. All four working groups considered urban form and/or urban development to be a key driver of change for the city, due to:

- A growing population and demographic change (including migration)
- Significant residential development and construction underway due to the rebuild
- Housing needs due to the reduction in housing stock from the earthquakes
- Demand for housing from displaced residents and new workers in the residential and central city rebuild.

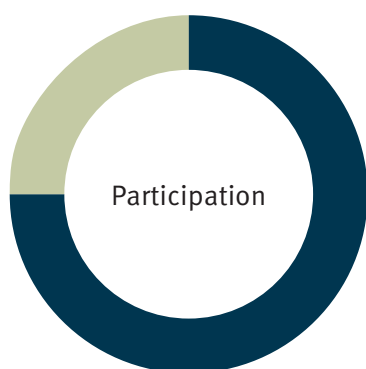
Stakeholders recognised that, if not well considered or executed, urban planning and its results could be a significant source of future chronic stresses for the city. Conversely, effective urban planning could help mitigate the effects of a number of future stresses identified, such as homelessness, unemployment, traffic congestion, accessibility of services and environmental pressure. The destruction caused by the earthquakes has created a unique window of opportunity in Christchurch's history to reconsider its urban form.



Focus Areas

The underlying themes identified in the early research and consultation phase have informed the development of four focus areas that align with the four dimensions of the City Resilience Framework. The underlying themes thread through all four focus areas, which highlights the interconnectedness of our resilience challenges and the need for collaboration to find solutions. Further information-gathering and analysis in these areas will allow us to develop a Resilience Strategy and create a vision for a more resilient Greater Christchurch.

1. Participative leadership and governance - how can we foster community leadership and more participatory forms of decision-making?



The underlying themes for this focus area are community leadership, building trust between community and decision makers, and understanding risk and tools for mitigation.

Key Questions

- How can we support the ongoing participation of community leaders who emerged following the earthquakes, and foster the next generation of community leaders?
- How can we empower citizens, especially under-represented groups such as youth, to actively participate in decisions that affect them and promote the 'co-creation' of a vision for Greater Christchurch? What new approaches to decision-making are needed?
- What have we collectively learned from the Canterbury earthquakes and what can we learn from other cities?

2. Securing a prosperous future - what is required to foster innovation and attract new people and ideas to Greater Christchurch's local economy?

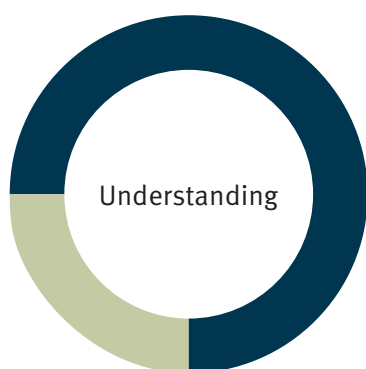


The underlying themes for this focus area are the role of innovation, community and social cohesion, and urban form.

Key Questions

- How do we create a competitive and supportive environment for innovation and business? What kind of enabling framework is needed?
- How do we mobilise private funding for innovation?
- How can we use new technology and open data to promote economic development in Greater Christchurch?
- How can Greater Christchurch nurture and strengthen links with the communities and economies in the countries of origin of our migrant workers?

3. **Understanding and responding to future challenges - how do we ensure communities are better prepared for whatever the future brings?**

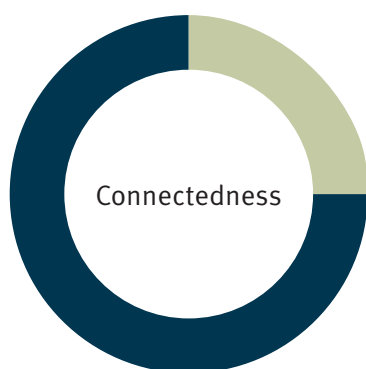


The underlying themes for this focus area are, securing our future in the eastern parts of the city and understanding risk and tools for mitigation (including the role of insurance).

Key Questions

- What do communities, particularly vulnerable communities, require so they can understand and respond to risk?
- How do we create a culture that supports proactive planning for risks by communities and decision-makers in the public and private sector?
- What have we learned from the Canterbury earthquakes in relation to insurance, including the long and short timeframes experienced by community members in the resolution of their claims? What can be learnt from solutions being developed overseas?

4. **Connected neighborhoods and communities - what more should we be doing to ensure communities are healthy, affordable, and safe?**



The underlying themes for this focus area are securing our future in the eastern parts of the city, urban form, housing affordability, community and social cohesion and understanding risk and tools for mitigation.

Key Questions

- What is the nature and extent of the need for affordable and accessible housing need in Greater Christchurch, and what is required to ensure an integrated response across government and the social sector, now and in the future?
- What have we learned from the earthquake effects on eastern Christchurch, and subsequent population movements? How can we apply these lessons to land use and building regulation, and for responding to sudden population displacements in the future?
- What is required to support the health, wellbeing and economic opportunity for communities in the east?
- How can Greater Christchurch best support and engage with its new migrant communities?
- How can we encourage and enable more intensive residential development in areas that are close to concentrations of employment, building stronger more accessible communities?

In Phase 2 of the strategy development process, these focus areas will be the subject of more targeted information-gathering and analysis. This period of enquiry will feed into an opportunity assessment and the eventual identification of resilience priorities and initiatives for Christchurch's Resilience Strategy

Next Steps

In the first stage of the Resilience Strategy's development we defined a baseline for the exploration of new approaches to resilience in Greater Christchurch.

The emergence of common resilience themes and challenges led to identifying key Focus Areas. These will help shape the direction of the Resilience Strategy.

In the second, final stage of developing the Strategy we will:

- Form working groups for each of the Focus Areas
- Through these working groups, explore the issues and questions that arise from the Focus Areas, and identify specific gaps of service and opportunities for leverage to make projects a reality
- Generate ideas from community, local, national, and international experts that can become the projects, programmes and initiatives of the strategy.

The resilience challenges of Greater Christchurch are complex. However, by considering our shocks, stresses, assets and opportunities together, the Resilience Strategy has the potential to benefit not only the people of Greater Christchurch today but also those of the next generation.

The Resilience Strategy will be a strategy for Greater Christchurch. The strategy will:

1. Determine actions and initiatives that can be implemented in the short to medium term to enhance resilience
2. Identify long-term goals to inform the Urban Development Strategy (UDS) partners as we work together to develop a vision for Greater Christchurch.

Phase 1 contributors

100 Resilient Cities Pioneered by the Rockefeller Foundation

AECOM

Auckland Council

AVIVA Canterbury

Barnardos

Canterbury Development Corporation

Canterbury District Health Board

Canterbury Earthquake Recovery Authority

Canterbury Employers Chamber of Commerce

Canterbury Youth workers collective

Careers NZ

Child Youth and Family

Cholmondley Children's Centre

Christchurch & Canterbury Tourism

Christchurch City Council

Christchurch International Airport Limited

Christchurch Polytechnic Institute of Technology

Canterbury Civil Defence Emergency Management

Earthquake Commission

Eastern Vision

Environment Canterbury

Gap Filler

Landcare research / Creative City Network

Lincoln University

Lyttelton Port Company

Methodist Church

Ministry of Awesome

Ministry of Civil Defence and Emergency Management

Ministry of Social Development

Natural Hazards Platform

New Zealand Transport Agency

One Voice Te Reo Kotahi

Orion

Pegasus Health

Problem Gambling Foundation

Rebuild Christchurch

Rebuild Christchurch

Selwyn District Council

START

Te Rūnanga o Ngāi Tahu

The Treasury

University of Canterbury

Waimakariri District Council

Wellington City Council

YMCA



References

100 Resilient Cities “What is Urban Resilience?” www.100resilientcities.org

CDC (2015) Christchurch and Canterbury Quarterly Economic Report, March 2015 Quarter, available at <http://www.cdc.org.nz/portfolio-item/quarterly-monitoring-reports/>

CERA (2015) Wellbeing Survey, Report prepared by Nielsen for the Canterbury Earthquake Recovery Authority and Partnering Agencies, available at <http://cera.govt.nz/recovery-strategy/social/wellbeing-survey>

Goodyear (2014) Housing in Greater Christchurch after the earthquakes: Trends in housing from the Census of Population and Dwellings 1991-2013, available from www.stats.govt.nz

Hannah J and Bell RG (2012) “Regional sea level trends in New Zealand” *Journal of Geophysical Research* 117: C01004

MBIE (2013) Housing pressures in Christchurch: A summary of the evidence March 2013, Ministry of Business Innovation and Employment, available from www.dbh.govt.nz

OECD (2015) The Measurement of Scientific and Technical Activities – Proposed Guidelines for Collecting and Interpreting Technological Innovation Data, “Oslo Manual”, Organisation for Economic Co-operation and Development, viewed 18 May 2015, from <http://www.oecd.org/science/inno/2367580.pdf>

Thornley L, Ball J, Signal L, Lawson Te-Aho K and Rawson E (2013) Building Community Resilience: Learning from the Canterbury Earthquakes, Research Report, March 2013

