

WORKING TOGETHER TO BUILD A

Resilient Auckland

He tāpui tāngata hei ahuru mōwai mo Tāmaki Makaurau

Auckland Civil Defence and Emergency
Management Group Plan 2016 - 2021



Auckland
Civil Defence and
Emergency Management
Te Rakau Whakamarumaru o Tāmaki Makaurau





**Auckland Civil Defence and Emergency
Management Group Plan 2016 - 2021**

Mihi

Tuia te rangi e tū nei
Tuia te papa e takoto ake
Tuia hoki rātou te iwi nui tonu kua ngaro ki
te pō uriuri
He kura i tangihia
He maimai aroha
E kore rawa koutou e ngaro i te mahara.

E ngā kanohi ora o rātou mā
E ngā mana whenua
E ngā iwi e noho nei i raro i te maru
o te pai me te whai rawa o Tāmaki
Nei te ngākau ka mihi
Nei te ngākau ka tangi
tēnā tātou katoa.

Bind the tapestry of life from above
Bind the tapestry of life from below
Bind the myriads lost unto the darkness of night
Let us mourn them
Our sorrows we lament for them
So they shall not be forgotten.

Let us, the living be acknowledged
To the people of the land, all who reside in this
place of plenty, Auckland
This warmth greets you.
This warmth yearns for you.
Greetings to all.

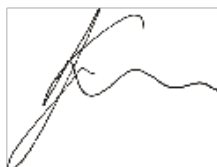
Mayoral Foreword

It has been six years since the birth of the new Auckland. The change in the city has been nothing short of remarkable. Auckland is the largest, fastest growing and most diverse part of the country. Half of New Zealand's population growth is here. Last year our population grew by nearly three per cent and there are now 1.57 million of us. We are the country's engine room and there's much more growth to come. Auckland is projected to add another one million people in the next 30 years. Auckland is a desirable place to live and becoming more so. But we cannot be complacent; the region faces some significant challenges.

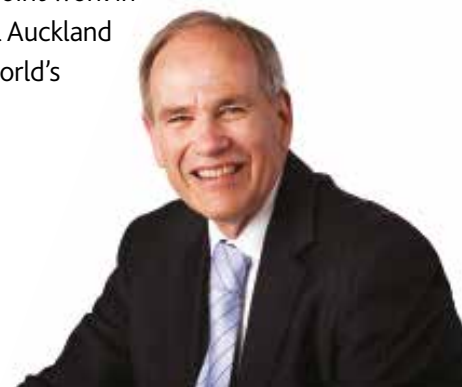
The vision of this Civil Defence and Emergency Management Group Plan is an apt one: *working together to build a resilient Auckland*. Working together is what we are good at. We have shown

what can be achieved in Auckland through collaboration. This plan helps demonstrate that planning for and managing risk is a collective responsibility. Everyone from individuals and families, communities, businesses and government, both central and local, must work together to help build a resilient Auckland.

I am confident that our joint work in this area will help propel Auckland to the forefront of the world's most resilient cities.



Len Brown
Mayor of Auckland



Executive summary

Working together to build a resilient Auckland is the vision for the Auckland Civil Defence and Emergency Management (CDEM) Group Plan 2016-2021 (the Group Plan). The Group Plan presents the vision and goals of the Auckland CDEM Group for this period, how Auckland will achieve this vision, and a framework for measuring progress. It is designed to be the five-year strategic plan for the Auckland CDEM Group, key partners and stakeholders involved in CDEM functions, as well as the general public within the Auckland region. The Group Plan is designed to ensure communities are prepared when a disaster strikes.

The Group Plan provides strategic guidance towards building a resilient Auckland. It describes the factors which make the Auckland region unique and super diverse, specifically the people, economy, infrastructure, environment and hazards. By building resilience, we will create a safe and liveable region for all Aucklanders.

The Group Plan introduces the Auckland CDEM Group and has been developed to align with the Ministry of Civil Defence & Emergency Management (MCDEM) vision of creating 'a resilient New Zealand'. Aligning the Group Plan with national direction will ensure the CDEM Group and the people of Auckland are working towards a common national goal.

To build a resilient Auckland, the Group Plan has set five key goals. The 4Rs Framework set in the National CDEM Strategy, Reduction, Readiness, Response and Recovery, provides a foundation for these goals. However, to reflect Auckland's

unique challenges and changing landscape, the Auckland CDEM Group recognises the need for an additional goal of Resilience. This has led to the development of the Auckland-specific goal to build a resilient Auckland to support the vision of Auckland as the world's most liveable city. The five goals outlined in the Group Plan specify 13 objectives and additional action points in order to guide the development of a resilient Auckland.

The Group Plan includes a 'Framework for Action'. This framework summarises the actions Auckland must take to become a resilient region. A monitoring and evaluation framework will be established to monitor the capability and performance of the CDEM Group, key partners and stakeholders and to ensure we are working productively with communities, businesses, agencies and organisations in order to achieve our goal of resilience.

It is important to ensure our communities understand Auckland's disaster risk, and how to prepare for, respond to, and recover from emergencies. This will be achieved through the participation of individuals and families at the heart of our communities, right through to local businesses, large organisations and all levels of government. To achieve this shared vision of resilience for our region, everyone must take responsibility and work together.

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Introduction

Working together to build a resilient Auckland is the vision for the Civil Defence and Emergency Management (CDEM) Group Plan (the Group Plan) for Auckland. The Group Plan meets the statutory requirements of the CDEM Act 2002¹ to provide strategic guidance for CDEM in the Auckland region from 2016 to 2021².

The Group Plan is designed to be used by the following audiences:

- the CDEM Group, key partners and stakeholders involved in CDEM functions in Auckland (emergency services, local government, central government, non-government organisations)
- the general public, including the business sector.

Development and consultation

Following notified proposal to commence group planning under the CDEM Act 2002, the Auckland CDEM Group Plan 2016-2021 was developed from the review of the current Group Plan 2011 – 2016, with support from MCDEM. An extensive informal engagement phase occurred over a nine month period.

This involved working with:

- elected representatives (governing body³ and local boards) and advisory panels
- key partners and stakeholders, including MCDEM
- the wider community through existing groups and networks.

The draft Group Plan underwent formal statutory public consultation between February 2016 and April 2016, and a technical review was undertaken by MCDEM. The statutory consultation and technical review feedback was incorporated into a final revised draft Group Plan. This underwent ministerial review. The Group Plan was then approved and adopted by Auckland's CDEM Group committee to produce an operative Group Plan.

The Group Plan will be reviewed by or prior to 2021, in accordance with section 56 of the CDEM Act 2002, no later than five years from its commencement date.

Feedback on the Group Plan was obtained through interviews, workshops, symposiums, network meetings and public events.

The Auckland CDEM Group

The Auckland CDEM Group is made up of a number of organisations and agencies that include local government, emergency services, lifelines utilities and welfare agencies who are all responsible for working in partnership, to lead and implement the Group Plan across the 4Rs Framework: Reduction, Readiness, Response and Recovery as well as the Auckland-specific goal of Resilience. Auckland Council fulfils all the administrative functions and duties of the CDEM Group. During an emergency the CDEM Group will work together to coordinate response and recovery activities.

The principles underlying the role of the CDEM Group are to:

1. promote the sustainable management of hazards
2. empower communities to achieve acceptable levels of risk
3. provide for planning and preparation for response to, and recovery from, emergencies
4. coordinate programmes and activities, and encourage cooperation and joint action among agencies across the 4Rs framework and Resilience



Reduction Readiness Response Recovery Resilience

5. provide the basis for the integration of local with national CDEM policies, processes and operations.

Purpose of this plan

The Group Plan outlines our vision and goals, how we will achieve them and how we will measure our performance.

The Group Plan is a strategic document, supported by a range of processes, procedures, policies and documents which provide more detailed information. The plan is developed from a range of documents, including but not limited to:

- Auckland CDEM Group Plan (2011 – 2016) – second generation Group Plan for Auckland based on the first generation Group Plan (completed in 2005)
- Transforming our world: The 2030 agenda for sustainable development - the United Nations sustainable development strategy
- Sendai Framework for Disaster Risk Reduction 2015 – 2030: an international treaty on disaster risk reduction
- The Auckland Plan: a strategy to create Auckland as the world's most liveable city

- Legislation, the National CDEM Strategy and Guide to the National CDEM Plan, guidelines, codes and technical standards issued under the CDEM Act.

This Group Plan has also been developed with regard to the following matters (required by section 49 (2) of the CDEM Act 2002):

- the responsibility of people and communities to provide for their own well-being and the well-being of future generations
- the benefits to be derived for people and communities from the management of hazards and risks
- New Zealand's international obligations.

All documents referenced in the Group Plan are periodically reviewed by the CDEM Group and key partners and stakeholders noted in this document.



Structure of the document

The Group Plan is divided into four different sections. The flow of the document helps readers understand what makes Auckland unique and how Auckland is going to achieve the goal of building resilience across the region.



Introduction

This section gives a brief overview of the document and a description of the CDEM Group, the relationship with MCDEM and the vision for the Group Plan.

Part A

Auckland's resilience journey to 2021

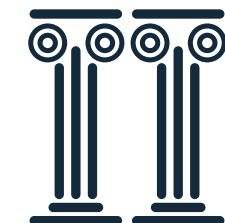
This section provides an insight into Auckland's resilience journey to 2021 and how the vision of *working together to build a resilient Auckland* will be achieved. This section discusses Auckland's diverse social, economic, built and natural landscape. A hazards analysis and risk assessment is presented to illustrate Auckland's hazards and risks.



Part B

Strategic direction

This section illustrates Auckland's roadmap to achieving the goal of building resilience. This has an overview of national and international strategic alignments. The following is the strategic framework which outlines Auckland's vision, goals and objectives to build a resilient Auckland. Auckland's management and governance, financial arrangements and monitoring and evaluation frameworks are outlined in this section to provide readers a practical overview of how the CDEM Group, key partners and stakeholders work together towards the strategic direction.



Part C

Building resilience

This section begins with the community resilience principles of the CDEM Group. Following this, the CDEM Group has developed 13 objectives to achieve the vision of *working together to build a resilient Auckland*. For each objective, the CDEM Group has identified actions which aim to work towards this vision.

✓ This symbol refers to an **Action Point** from the Framework for Action.



Part D

Framework for Action

All of the Group Plan objectives have actions associated with them. Because these objectives require many actions, there are actions that have not been elaborated in the previous section (Part C). The Framework for Action outlines all of the actions the CDEM Group will take towards achieving our objectives stated in the Group Plan. This gives readers a full overview of every action and their associated relevancy to the 4Rs while providing a proposed timeline.



Narrow Neck Beach

Relationship with MCDEM

The CDEM Group has a relationship with MCDEM to fulfil national and regional objectives within the Auckland region. The MCDEM Development Unit is responsible for assisting the Auckland region and its partner agencies to deliver their statutory responsibilities in all aspects of CDEM to their communities. The Development Unit is also responsible for assisting CDEM Groups to implement national guidance and plans in the region, and monitoring and reporting on CDEM Group performance and development. This includes implementing the CDEM evaluation process and assisting the Auckland CDEM Group to enhance capability through training.

National arrangements rely on CDEM Groups to support during a large-scale emergency. For example the Wellington Earthquake National Initial Response Plan outlines the requirements

for the CDEM Group to provide personnel and equipment to augment the alternate National Crisis Management Centre (NCMC) operations in Auckland, as directed by the NCMC.

Collaboration with MCDEM

It is important for the CDEM Group to collaborate with MCDEM to enable collaboration on the national CDEM vision and to pursue common goals.

MCDEM Emergency Management Advisors:

- maintain a close working relationship between MCDEM and the CDEM Group, key partners and stakeholders
- implement MCDEM's work programme in relation to the CDEM Group
- respond during emergencies to support the CDEM Group, the National Controller and National Recovery Manager.

Relationship to National CDEM Strategy and National CDEM Plan

Auckland's Group Plan links upwards to the National CDEM Plan and Guide to the National CDEM Plan, and the National CDEM Strategy to ensure Auckland's operational arrangements support national planning arrangements. The Group Plan takes into account other guidelines, codes, regulations and technical standards issued by the Director of MCDEM. Further information on the relationship between the National CDEM Strategy and National CDEM Plan and Guide and the Group Plan can be found in **Figure 1**.

Auckland's CDEM Group vision

Auckland's vision

*Working together to
build a resilient Auckland*

To achieve this vision, we must have clear and achievable goals that are consistent with the National CDEM Strategy's vision of a 'resilient New Zealand'.

Auckland goals

-  **Reduction:** Reducing risks from hazards to Auckland.
-  **Readiness:** Increasing community awareness, understanding preparedness and participation in emergency management.
-  **Response:** Enhancing Auckland's capability to manage disasters.
-  **Recovery:** Enhancing Auckland's capability to recover from disasters.
-  **Resilience:**
Auckland-specific goal

Building a resilient Auckland to support the vision of Auckland as 'the world's most liveable city'.

Figure 1: Auckland's link to the National Civil Defence and Emergency Management Strategy

NATIONAL CDEM STRATEGY GOALS



Reducing risks from hazards to New Zealand.



Increasing community awareness, understanding preparedness and participation in emergency management.



Enhancing New Zealand's capability to manage emergency.



Enhancing New Zealand's capability to recover from emergency.

AUCKLAND'S CDEM GOALS



Reducing risks from hazards to Auckland.



Increasing community awareness, understanding preparedness and participation in emergency management.



Enhancing Auckland's capability to manage disasters.



Enhancing Auckland's capability to recover from disasters.

AUCKLAND'S OBJECTIVES



We will:

- Strengthen our partnerships.
- Participate in co-created research.
- Build a safe city through sustainable approaches.



We will:

- Use knowledge to deliver education.
- Encourage and promote volunteering.
- Build resilience in our communities, businesses and organisations.



We will:

- Manage disasters through community action or multi-agency operational planning.
- Develop capability and capacity.
- Lead the way in innovative information and communication technologies.



We will:

- Establish Auckland's Recovery Framework.
- Champion build back better approach.



Build a resilient Auckland to support the vision as 'the world's most liveable city'



We will:

- Provide strong leadership and governance frameworks and direction.
- Create the world's most liveable city.

Key facts



Auckland has 820 new residents each week.



39.1 per cent of people in the Auckland region were born overseas, compared with 25.2 per cent for New Zealand as a whole.



33 per cent of Aucklanders are from other parts of New Zealand.



In 2013, 40.7 per cent of Aucklanders were non-European, compared to the rest of New Zealand at 33 per cent.



We are younger than the rest of New Zealand with a median age of 35.1, compared to 38 for the rest of New Zealand.



Currently, 50 identifiable small volcanoes are within the Auckland region.



There are eight new classrooms and teachers every week.



Auckland contributes approximately 38 per cent of the national gross domestic product (GDP).



92.4 per cent of residential dwellings are in urban areas.



Auckland's population was 1.57 million in 2015 and is expected to reach around 2.1 million by 2038.



In 2015, Auckland had a regional growth of 2.9 per cent compared to a national growth of 1.9 per cent.



Auckland makes up 33.4 per cent of New Zealand's population. One in every three New Zealanders lives in Auckland.



There's one new street created every two days.



Those under 25 make up almost 40 per cent of Auckland's population.



Auckland covers 16,141km² of land and sea.



Auckland has 3100km of coastline.



Auckland boasts 200 distinct cultures making it one of the most diverse cities in the world.



Of the total 3,202,860 visitor arrivals to New Zealand for the year ended February 2016, 2,266,816 arrived through Auckland Airport.



340 new houses are built every week.



Auckland has a land area make up of approximately 70 per cent rural and 30 per cent urban.



90 per cent of Auckland's people live in urban areas.



In 2013, 65.4 per cent of people who travelled to work in the Auckland region were driving a private vehicle.



Over 40 per cent of small to medium-sized businesses have experienced a crisis in the past five years.



80 per cent of new businesses that suffer from a negative event or a crisis close within two years.

Part A Auckland's resilience journey to 2021



Living with risk is a part of everyday life. Disasters have no socioeconomic or geographical limitations, they can affect us all at any time. To achieve the vision of *working together to build a resilient Auckland*, everyone must collaborate to understand Auckland's disaster risk, and be prepared to respond to, and recover from current and future disasters. Super diversity is one of Auckland's strengths. To harness this strength, we must coordinate and leverage community engagement and development.

Resilience means adapting to demands, challenges and changes. It also means flourishing in times of adversity. Auckland's challenge is to ensure the region will, indeed, survive and thrive, even after a disaster, to help achieve the vision of becoming the 'world's most liveable city'⁴.

Building resilience is about everyone taking responsibility. This means individuals and families at the heart of our communities, right through to local businesses, large organisations and all levels of government. The challenge for

Auckland is the competitive need for resources and the community's sensitivity to fund these resources.

A recent survey⁵ within the Auckland region provided the following information on individual readiness:

- 64 per cent of those surveyed have a good understanding of what being prepared means for an emergency situation
- 68 per cent of those surveyed have a good understanding of the types of disasters that could occur in Auckland and the chances of them occurring.

While these are positive figures, there is still room for improvement through work programme development from the Framework for Action, inclusive of a significant revamp of Auckland's public awareness and public education programmes.



We are all responsible for resilience

Being well prepared is not the sole responsibility of the CDEM Group or Auckland Council. It is the responsibility of every individual. Resilience must be developed through individual, household, and community preparedness, to business resilience, which will be supported by strong leadership and governance.

Unique risks

Due to Auckland’s location and particular characteristics, the region is susceptible to a wide variety of hazards. They range from infrequent events, such as eruptions in the Auckland volcanic field, earthquakes and tsunamis, to regular events, such as flooding, electricity outages and fire. Many are exacerbated by the narrow coastal isthmus which limits the locations of critical infrastructure and housing developments, but is balanced by the short distances to the sea for stormwater movements. Also, the effects of climate change and Auckland’s growth are likely to worsen the impact of specific disasters in the future, such as super storms and other weather events.

The CDEM Group can alleviate some of the effects of future disasters through measures such as building more robust infrastructure. However, there are a number of daily life factors that cause stress that need to be alleviated, such as the lack of affordable housing. When

impacted by disasters, this stress may increase the time it takes to recover from a disaster, and typically lead to more severe impacts.

Shared knowledge

There are many lessons to be learned from national and international disasters. The Canterbury earthquakes provided a wealth of knowledge on how to respond to a large-scale disaster. The events showed how people and communities can support each other in the face of adversity, and if well-coordinated, can deliver great outcomes. Learning from the collaborative initiatives, successes and failures in Christchurch and abroad will help us build a more resilient Auckland.

Collaboration with strategic partners

The CDEM Group will investigate ways to support alignment and collaboration with strategic partners to enable Auckland to produce best value outcomes and realise the maximum benefit. Taking a more strategic, longer term approach to partnerships allows the CDEM Group to realise greater opportunities and expand Auckland’s capability and capacity.

Memorandum of Understanding with University of Auckland

The CDEM Group and Auckland Council have a strong relationship with the University of Auckland, which enables collaboration and fosters innovation. This relationship involves working together on joint programmes, sharing

knowledge and academic information, and the implementation of new and improved initiatives.

The CDEM Group is working in partnership with the University of Auckland to pilot collaborative work from this alliance. This involves new and innovative ways to promote and understand preparedness.

A focus on community

The Group Plan is based strongly on community engagement and development. It is a vehicle for both engaging and delivering outcomes that will build a resilient Auckland, as well as defining our anticipated delivery of emergency management services across the Auckland region.

We need to think differently about how we engage and support each other and how the challenges disasters bring can become opportunities.

Communities have the greatest local knowledge of their area and hold vital community connections. Cohesive communities may perform well together to produce beneficial outcomes and increase their community resilience. Many community initiatives are already underway, such as *Auckland’s Thriving Communities Action Plan*, which seeks to utilise local knowledge and solutions to drive community preparedness.

Social media is growing within the emergency management sector. It has become an important communication tool for connecting, seeking and sharing information between individual and community networks. It is essential that the CDEM Group continues engaging with communities through social media to convey updated, informative and clear information before, during and after an emergency.

As New Zealand’s largest city, we must use our resources, people and infrastructure efficiently to create resilience. Also, with more than 200 different ethnicities, including the world’s largest Māori and Polynesian populations, our super diversity is pivotal to becoming a successful, connected, well-integrated and multicultural region.

Natural hazards can affect our well-being – we need to ensure that Auckland and its people are resilient to natural hazards. It is important to build resilient and safe communities able to cope with, and adapt to, the effects of hazard events. Being more resilient protects people and their homes from natural hazard events, maintains critical infrastructure (energy supply, sewerage systems, water reticulation, telecommunications systems), and ensures social infrastructure can withstand external shocks (community and health networks, civil defence, and emergency services).

– The Auckland Plan

Auckland's region

Auckland has over one third of the national population, with approximately 1.57 million people residing in Auckland compared to New Zealand's current population of approximately 4.5 million. Auckland has a total land area of 4,894km² which is comprised of approximately 70 per cent rural land and 30 per cent urban area. Auckland's demographics illustrate that 90 per cent of its population live in urban areas. Additionally, 80 per cent of Aucklanders relate not to their geographic location, but to their community of interest. Auckland is a significant business hub within New Zealand, with over one third of the national gross domestic product value coming from Auckland. These unique characteristics of Auckland help explain the city's built, economic, natural and social environment.

Auckland is an emerging international city. Its climate, geographical, cultural and historical characters are unique, and it is fast developing a reputation for the high quality of life enjoyed by its residents.

Auckland offers

- a region with islands and a varied marine environment
- a green rural landscape with many regional parks
- a temperate climate in a southerly location
- the heritage of tangata whenua
- a diverse region of immigrants with multiple homelands and cultural endowments
- the central hub for the South Pacific islands
- an English-speaking, multi-lingual society set in the Asia Pacific region
- a highly educated, innovative, creative, and ingenious population
- a stable, open, and mature democracy.

It is this blend that makes Auckland distinctive⁶.



Auckland's people

Auckland's Māori

New Zealand's Māori culture and heritage is unique, and Auckland is home to the country's largest Māori population. Mana whenua is a term used to describe Māori who have tribal links to Tāmaki Makaurau, Auckland, and are represented by 19 iwi. However, due to population drift, there is a large proportion of the Māori population that do not have direct tribal ancestry to the Auckland region, and instead represent iwi from other regions of New Zealand (mataawaka). Although this shifting demographic illustrates a movement in place, it does not coincide with cultural ties, with many Māori still identifying themselves to their tribal ancestry.⁷ Auckland's Māori population is predominantly young, with 46 per cent under 20 years of age.

Auckland's super diversity

Auckland is the most ethnically diverse region in New Zealand and is one of the world's most culturally diverse cities, and more than 200 different ethnicities and almost 40 per cent of Aucklanders not born in New Zealand. Of those born in New Zealand, many have travelled from other regions to reside in Auckland. The Auckland

region is vibrant and culturally diverse. This is reflected in our cuisine, festivals, art, music and language. Approximately 31 per cent of Aucklanders can speak more than one language compared to 20 per cent of people for all of New Zealand.

Auckland is home to the largest Polynesian population, with two-thirds of New Zealand's Pacific people residing in Auckland. Dynamic Pacific languages, culture and customs enhance Auckland's uniqueness and diversity. The Polynesian community contributes towards shaping Auckland's economy and strengthening our relationships with the Pacific Island nations.

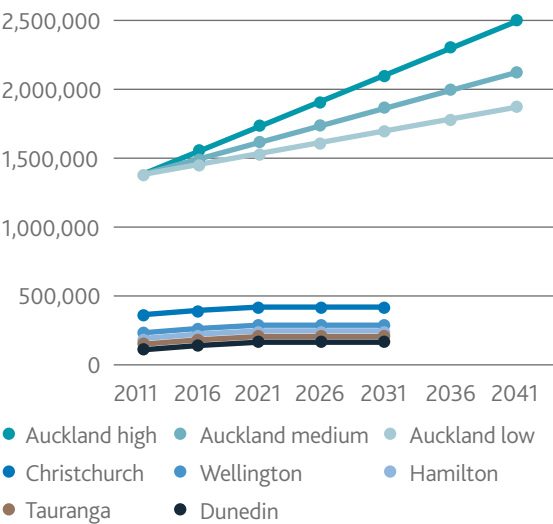
In the last 15 years, the greatest increase of any ethnic group has been those from Asian nations, specifically China, India and Korea. In 1991, 5.5 per cent of Auckland's population identified themselves as Asian. By 2001, this had risen to 13 per cent, and by 2013 it had reached 23 per cent. The number is forecast to rise from 348,900 in 2013 to 515,500 in 2021 – an increase of 75 per cent, and will account for almost 30 per cent of all Aucklanders by 2021.



Detail of Māori carving telling the story of Tāmaki Makaurau

Auckland's growth

Understanding how Auckland will evolve is fundamental to building resilience. Auckland's population, economy, super diversity and national contribution are projected to grow substantially over the next 30 years. Auckland's population is continuing to grow at a faster rate than that of the country as a whole and is expected to reach around 2.1 million by 2038, as shown in Figure 2. At this growth rate, Auckland expands approximately by the population of Hamilton in less than five years.



Source: Statistics NZ and Auckland Council

Figure 2: Current and expected population in New Zealand from 2006 to 2041

Auckland's ageing population

One-third of children in New Zealand live in Auckland. Those under 25 make up almost 40 per cent of Auckland's population, and the proportion of children is projected to grow at a faster rate than the national average. While Aucklanders are on average younger than other New Zealanders, the proportion of people over the age of 60 is set to increase from 6 per cent in 2013 to around 23 per cent by 2038. However, from this point, the percentage of people over 60 will decrease. National impacts of an aging population include concerns over the sustainability of taxpayer-funded superannuation and the increased costs of providing health services. The local and regional impacts of an aging population include planning implications for health-related issues, accommodation, community support services, and the delivery of aged-care transport.



Auckland Botanic Gardens



Auckland's health services

Health and disability services in New Zealand are delivered by a complex network of organisations and people. Each has their role in working with others across the system to achieve better health outcomes for New Zealanders. District Health Boards (DHBs) are responsible for providing or funding the provision of health services in their district. DHBs within the Auckland region include Auckland, Counties Manukau and Waitematā.

The objectives of DHBs include:

- improving, promoting and protecting the health of people and communities
- promoting the integration of health services, especially primary and secondary care services
- seeking the optimum arrangement for the most effective and efficient delivery of health services in order to meet local, regional, and national needs
- promoting effective care or support of those in need of personal health services or disability support.





*During business hours the
CBD business population is
greater than 91,840*

Auckland's central business district

Within Auckland's central business district (CBD) there was a resident population figure of 34,830⁸ in 2015 and an employee count figure of 91,840⁹. This conveys a significant increase in population to the CBD during business hours. Also, the University of Auckland and the Auckland University of Technology would have a maximum combined count of approximately 59,000 students¹⁰. However, it is unlikely that all of these students would be on campus simultaneously. During business hours, the CBD business population is greater than 91,840, as the university and tourist populations are not accounted for due to their significant variability. This demonstrates substantial fluctuations in the CBD population, which poses significant challenges in an emergency.

It is recognised that there are distinctive challenges when considering emergency preparedness amongst residents who live in multi-unit developments. A recent Auckland Council survey was conducted to understand Aucklanders' awareness and preparedness in disasters. This survey found that residents living in apartments are significantly less likely to understand disasters, their effects and how to be prepared to respond during an emergency. Due to these challenges the CDEM Group are taking a collaborative approach to strategic engagement and key messaging through the body corporate network.



Auckland's infrastructure

Auckland's infrastructure is critical to the functioning of our communities and economy. While Auckland's infrastructure providers are committed to maintaining and building resilient networks, lifeline failures still pose a significant risk to the region because of the potentially high consequences when major failures occur. The following provides a description of Auckland's infrastructure:

Buildings

Auckland has a variety of building developments from residential homes and industrial warehouses, to commercial buildings and multi-unit developments. Auckland is home to some of New Zealand's tallest buildings including the tallest man-made structure in the southern hemisphere; the Skytower. At the time of the 2013 Census there were 473,448 occupied dwellings, and 2817 dwellings under construction. 92.4 per cent of residential dwellings are in urban areas and there is one new street created every two days.

Electricity and gas

The Auckland region has some of the highest load densities combined with relatively low levels of local generation of any region in New Zealand. Most of Auckland's electricity is supplied via the transmission grid from south of the Bombay Hills. 30 per cent of electricity is generated inside the region mainly from Southdown and Ōtāhuhu natural gas-fired power stations.

Auckland's gas is supplied via high pressure gas transmission pipelines from the Pohokura and Maui Gas Fields and other fields in Taranaki. A major failure at certain key sites such as the Rotowaro compressor station may result in significant restriction of gas throughout the upper North Island. The two most critical gas delivery sites in Auckland are the Westfield and Papakura gate stations which act as points of supply in the region and feed the local downstream gas distribution networks.

The two high pressure gas transmission pipelines supplying the region provide some redundancy for each other if either of these pipelines were out of service.

Communications

Communications in Auckland consist of fixed line, cellular and broadcast networks. Local exchanges pair connections with customers through roadside cabinets operated by Chorus. Exchanges are located in strengthened buildings and are equipped with battery backup and fixed diesel generators. Small rural exchanges are equipped with battery backup and a generator plug. If an exchange becomes isolated from the nationwide network of exchanges, it will continue to operate in local mode, meaning that local phones will be able to call other local phones from the same network. Cell sites provide local coverage and are connected to exchanges through fibre, copper or microwave radio connections. Television and radio broadcast networks operate from key transmission facilities located at Waiaatarua, Waiheke, Pinehill, Henderson and the central business district.

People in Auckland have very similar access to communications to the national average, with 81 per cent of households having access to a telephone, 85 per cent having access to a mobile phone, and 77 per cent having access to the internet.





Water services

Auckland's metropolitan water supply is mostly supplied from the Hunua dam, Waitākere dam and the Waikato river. The system holds one to two days' supply of treated water at average demand. Future regional growth and redundancy will be met by development of the Waikato water source. Water is supplied from these sources through key trunk transmission watermains. Failure of these watermains would cause widespread regional water outages or restrictions.

Legend

- Critical utilities/assets
- ✈ Airport
  - 🚢 Port
  - 👮 Fire Service
  - 🚓 Police
  - 🚑 Ambulance
  - 🏦 Bank
  - 🍷 Food supply
  - 🏥 Hospital
- Major Lifelines
- 🛣 Motorway
  - 💧 Water Pipe
  - ⚡ Transpower Lines
  - 🔴 Liquid Fuels Pipeline Marsden to Win

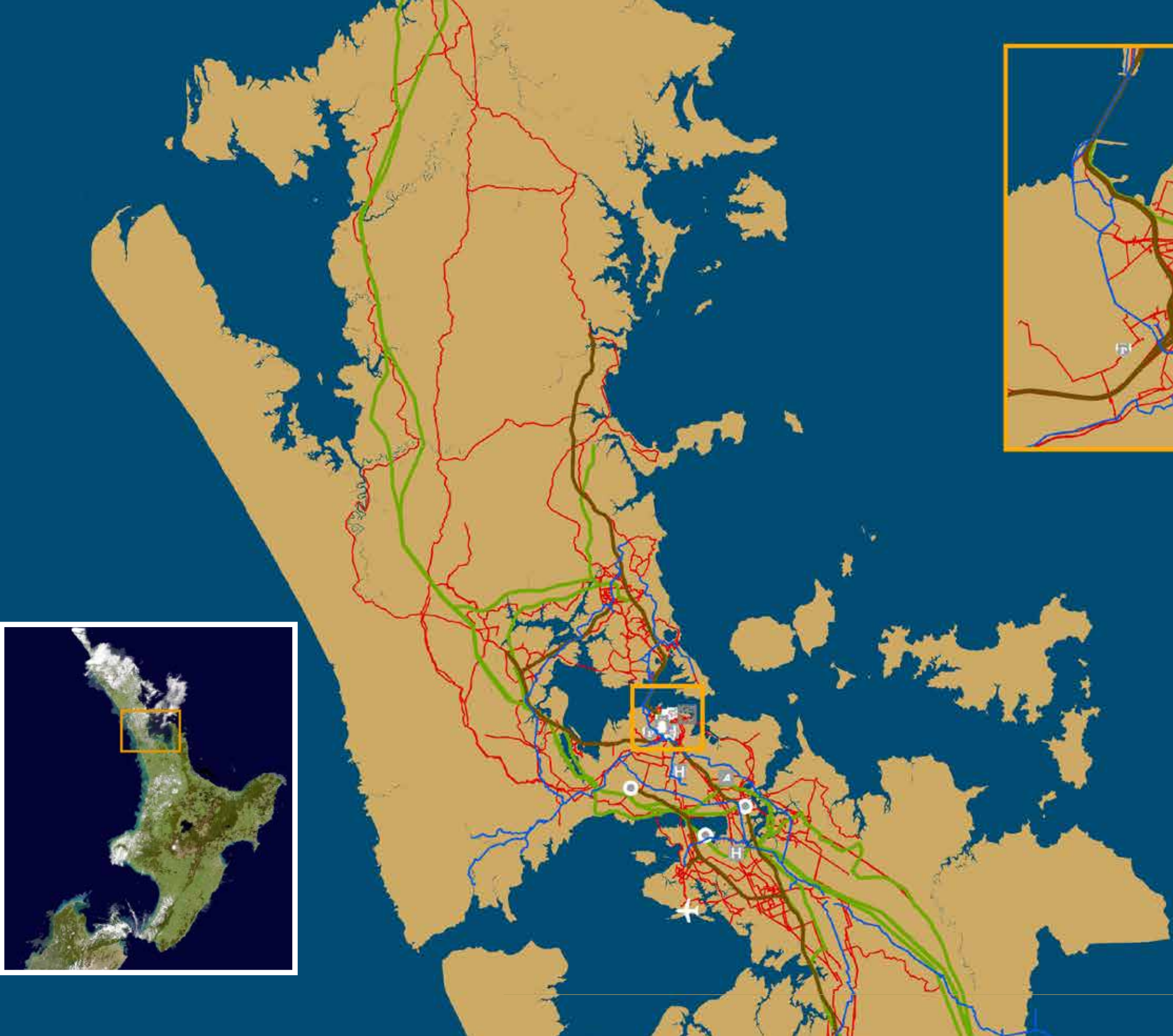


Figure 3: Auckland's infrastructure

Wastewater is treated at plants in Mangere, Rosedale, Pukekohe and Army Bay. A number of areas in south and north Auckland are serviced by separate wastewater systems. The Auckland stormwater infrastructure serves a multitude of independent and relatively small catchments. Most catchments have short drainage paths to one of the many discharge points along the extensive coastline of the Hauraki Gulf, Waitematā, Manukau and Kaipara harbours. Few stormwater primary systems have been designed to cope with super storm events. In a major flood event extensive local inundation can be expected as a result.

Transportation

Transportation in Auckland comprises of ports, airports, road and rail networks that are of national importance. The Ports of Auckland in the city and the smaller port at Onehunga is accountable for about a third of the region's economic activity. The Auckland airport is the gateway for around 75 per cent of New Zealand's overseas visitors with approximately 14 million passengers and 214,300 tonnes of freight passing through each year. Smaller airports that operate in Auckland include Hobsonville, Whenuapai, Ardmore, Dairy Flat and some on the Gulf Islands.

Auckland's rail network is a single north-south trunk line with minor branches connecting to the city and the Port of Onehunga. Around 43,000 passengers commute by rail each day. The roading network is made up of state highways and local roads. The state highway network is well developed and includes state highways 1,

16, 18, 20A and 20. The local roading network is a mix between sealed and unsealed roads.

Fuel

Most of Auckland's fuel comes from the New Zealand refinery at Marsden Point via the refinery to Auckland pipeline. Petrol and diesel are then distributed by truck from the Wiri oil depot, which stores between two and six days' supply of fuel for the region. Aviation fuel is sent to Auckland Airport by way of the Wiri to airport pipeline.

Infrastructure failure

Infrastructure service outages may originate from network failures within the Auckland region or from outside the region. For example, our electricity and fuel supplies are brought in from other areas of the country. Infrastructure asset failures can also result from many causes, such as natural or technological hazards, human error, equipment failure or poor maintenance.

Examples of past infrastructure failures include the 1998 Mercury power crisis which caused a power cut to the Auckland CBD for six weeks, the 111 service disruption in 2010, the failure of the main gas pipeline to Auckland and Northland in 2011, and the Penrose grid exit points fire in 2014.

The potential for infrastructure failures is mitigated by building robustness and redundancy into the infrastructure networks, but 100 per cent service reliability is neither affordable nor practicable and there will always be some residual risk.

Auckland Lifelines Group

The Auckland Lifelines Group (ALG) was established to identify and coordinate efforts to reduce the vulnerability of Auckland's lifelines to hazard events and to improve service reinstatement after an emergency. The members of the ALG are the lifeline utility organisations that own Auckland's critical infrastructure. These individual organisations undertake comprehensive asset management planning to reduce the possibility of failure and ensure that services are re-established as soon as possible if failure does occur.

The ALG facilitates projects such as the prioritisation of infrastructure assets for response and restoration through a three-tier rating system of nationally, regionally and locally significant assets. Vulnerability studies are undertaken to assess the potential impact on Auckland's infrastructure services from a range of natural and technical hazards and to identify potential mitigation actions.

The lifeline utility sectors are highly interdependent for their own service continuity, and most critical community sectors such as the emergency services and health rely on lifeline utilities to be able to function. This means that the impacts of any major lifeline utility failure cannot be measured just in terms of loss of that service, as the impacts have the potential to be much wider reaching.

Auckland's lifeline utilities are committed to the ongoing building of resilience into the networks demonstrated through significant and ongoing investment. Some examples of major projects that have been completed recently or are currently underway to increase lifeline resilience include:

1. the Hunua No. 4 water main, which will provide some redundancy for Hunua No. 3, which currently carries most of the treated water from the Hunua supplies north into the isthmus and will significantly improve security of water supply to Manukau West and Auckland Airport.
2. the Auckland-North electricity transmission upgrade, which has improved security of supply to Auckland city, west Auckland, North Shore and Northland by providing a second major transmission route from north to south creating some 'loop' redundancy.
3. the linking of SH20 from Manukau through to SH16, which will provide an alternate north-south motorway route across the region and alternative road routes to the airport.

Though the consequences of lifeline failure are a significant risk to the Auckland region, the likelihood of infrastructure failure is decreasing, and the resilience of infrastructure networks is increasing through mitigation projects, such as those described above.



Auckland's economy

Auckland is the main commercial, industrial and educational centre, and the primary distribution hub of New Zealand. While the national economy mostly comprises small and medium-sized businesses, a significant proportion of the largest businesses are in Auckland. This means that Auckland contributes about 38.6 per cent of the national GDP. In 2013, there were 163,580 businesses in the region, and unemployment was approximately 5 per cent.

Auckland's business profile is illustrated through Figure 4. Of the exporting businesses surveyed in Auckland, most were involved in the manufacturing (27 per cent), wholesaling (25 per cent), or professional services sectors (21 per cent). These industries align to Auckland's role as a distribution hub, and strong service-based economy. For example, Spark, Air NZ, Vodafone and Orcon head offices are in Auckland. In contrast, the rest of New Zealand had a higher proportion of businesses involved in manufacturing (32 per cent) and agriculture and mining (17 per cent).

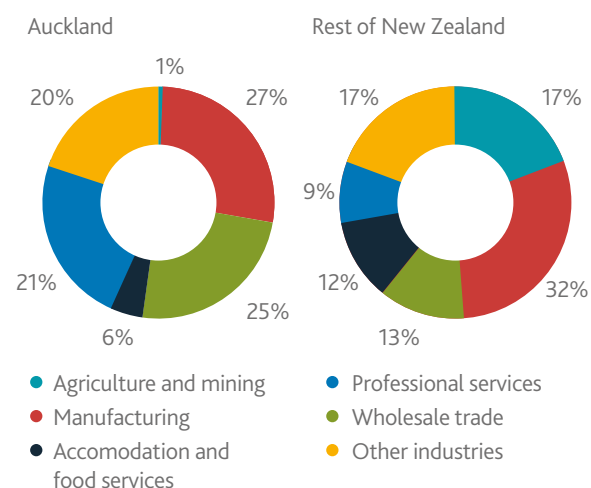


Figure 4: Business and economy in Auckland¹⁰

Auckland's GDP growth rate currently sits at +3.5 per cent while the rest of New Zealand sits at only +2.4 per cent¹¹. Additionally, there is further evidence that highlights the significant amount of reliance on Auckland for New Zealand's economy, such as the 694,620 employees in Auckland of the 2,045,610 registered in New Zealand. A full breakdown of the geographic units by region and industry can be found at Statistics New Zealand¹². Disasters and economic crises such as stock market crashes, changes in interest, mortgage and currency rates, and housing demand may have detrimental effects to Auckland's economy.



Auckland's environment

The Auckland region, including the isthmus, covers 16,141km² of land and sea and about 2 per cent of New Zealand's total land area. The Auckland region is incredibly diverse and made up of unique harbours, mountain ranges, islands, lakes and streams which provide a multitude of different challenges and complexities. For instance, Auckland's Hauraki Gulf Islands which include Great Barrier, Waiheke and Kawau Islands are isolated in terms of their location, however the residents are more resilient due to their interdependency. In comparison, the CBD is central in terms of location, however residents are less resilient due to their dependency on critical infrastructure. Within the CDEM Group it is recognised that none of Auckland's areas are the same in terms of their unique challenges and we will work to achieve what is best for each location.

Legend

△

 Volcanic feature

➡

 Prevalent wind direction

—

 Seismic faults

—

 Roads

—

 Major powerlines

■

 Flood plains

■

 Major tsunami evacuation zones

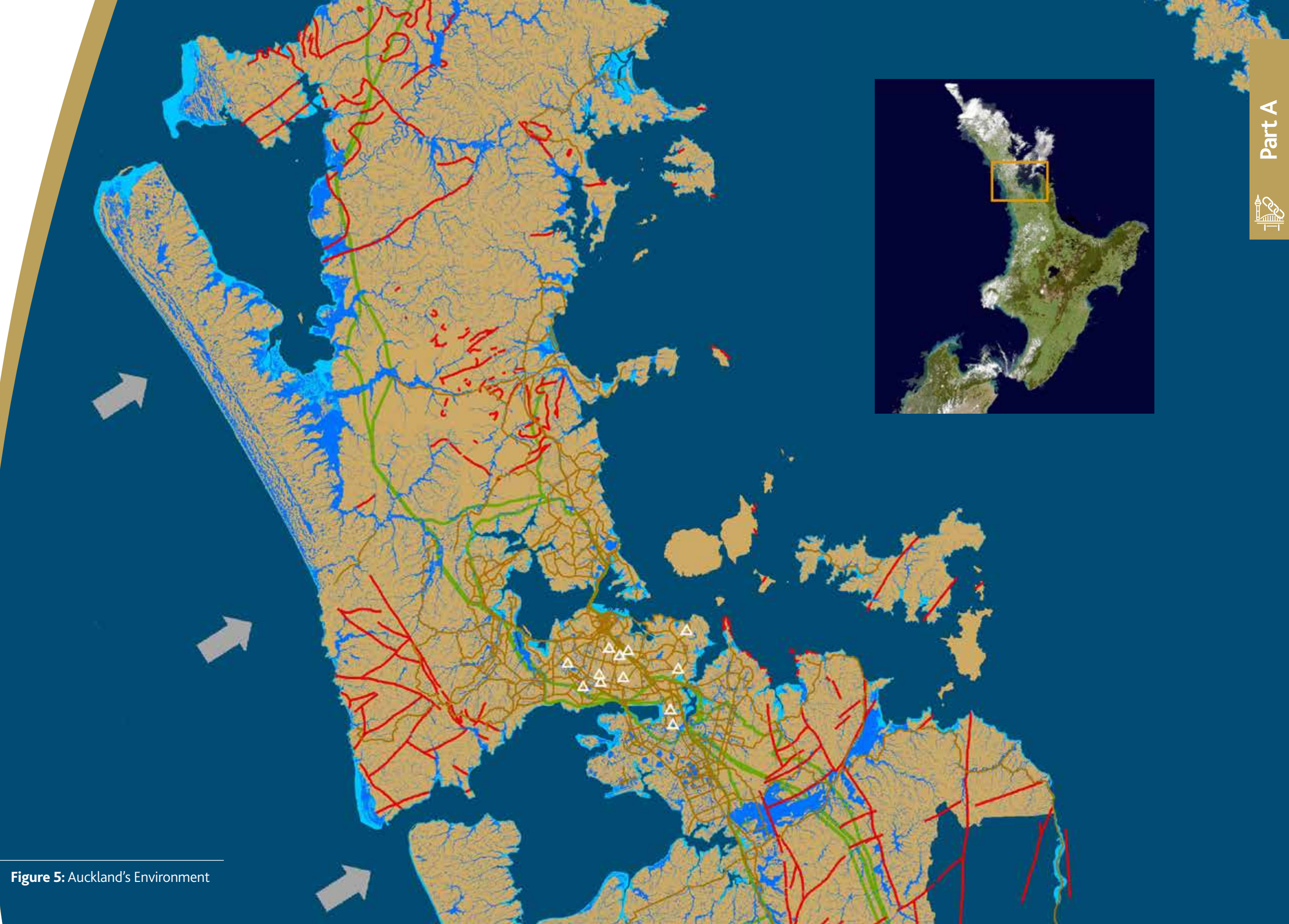


Figure 5: Auckland's Environment



Auckland is geologically active

Auckland lies on an active volcanic field that covers 360km² and contains at least 50 volcanoes. The earliest volcanic eruption in the Auckland Volcanic Field was an estimated 250,000 years ago; the most recent volcanic eruption, which was witnessed by Māori living on Motutapu Island, occurred approximately 600 years ago and produced Rangitoto. The volcanic activity occurs intra-plate, coming from a single active hot spot of magma. The Auckland Volcanic Field is monogenetic; this means each volcano usually only erupts once with further eruptions occurring at a new location. This occurred for each volcano in Auckland, with the exception of Rangitoto. Auckland's volcanoes vary in shape, size and character, including small cones less than 150 metres in height and explosion craters. The locations, size and intensity of future eruptions are uncertain.

Volcanoes have significantly changed Auckland's landscape and contributed towards its success. They are important cultural sites for Māori and have become vital icons and tourist attractions; many public parks, walks and conservation areas are located on volcanic cones. Volcanic soil is also fertile, and volcanic rocks are suitable for building materials and form natural water reservoirs.





Auckland's weather is diverse

Auckland's weather can change quickly. Most weather systems originate in the Tasman Sea, but during summer and autumn, Auckland can also be affected by subtropical storms. Our most common weather hazard is flooding, followed by damaging winds and rough seas. Severe weather that affects a large part of the Auckland region is generally well-forecast a day or two ahead of time, but localised severe thunderstorms have shorter warning times (hours rather than days).

Intense storm events can produce localised and regional flooding. A 'super storm' would have a significant negative impact on the Auckland region, which could include a combination of severe winds, heavy rain, flooding, land instability, power outages, storm surge and coastal erosion.

Auckland's coast is very active

With approximately 3100km of coastline, coastal margins are desirable for development and provide various public beaches. But our extensive coasts and large harbours put Auckland at risk from coastal erosion, coastal inundation and tsunamis.

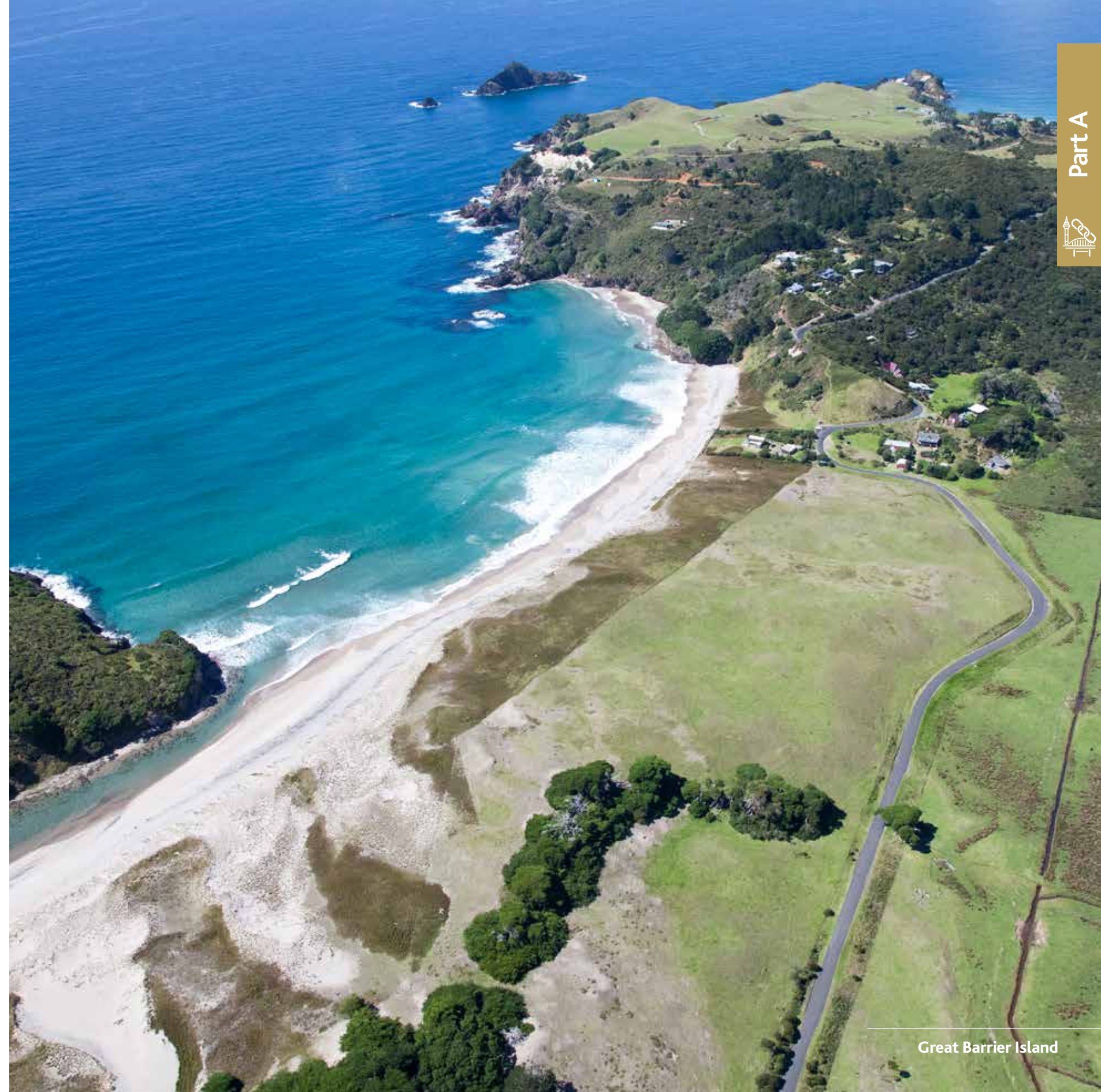
Sustainability

Auckland has a diverse natural environment. This is a key component to its liveability and includes indigenous forests, ranges, islands, beaches, lakes, rivers and harbours. The Auckland region's projected growth of an additional 700,000 people over the next 30 years will place pressure on the natural environment and availability of resources.

Demand management is a methodology used to forecast, plan and manage the demand for products and services. This is beneficial because decreased individual resource consumption helps to lessen environmental impacts, conserve supply and reduce costs.

Sustainable living is a term which covers actions that can be taken to reduce environmental impacts. Examples of sustainable actions include re-using and recycling, buying locally produced products and using water-efficient appliances. An integrated, reliable transportation system and shared transport options reduce congestion and align to *Auckland Council's Low Carbon and Energy Resilience Strategy*¹³.

Community development and engagement are essential for creating a sustainable region. Actions of sustainability are tools which can be utilised to increase resilience. Sustainable approaches and initiatives will help ensure the security, affordability and accessibility of resources that are important for building resilience.



Auckland’s hazards

As a group of islands in the South Pacific, New Zealand is exposed and vulnerable to many possible hazards. A hazard is something that has the potential to adversely affect our people, property, economy, environment or other assets we value. When combined, these are referred to as elements at risk¹⁴.

Hazards can be categorised into natural, technological and biological. Auckland’s geographical location, partially on a narrow isthmus of land, within the Auckland Volcanic Field, and close to the collision point of two large tectonic plates, makes our region vulnerable to a wide range of natural hazards. For example, storms can hit the Auckland region relatively frequently while lower frequency events such as tsunamis also have the potential to affect our region. Other technological and biological hazards include lifeline utility failures and infectious human disease pandemics. A comprehensive list of Auckland’s hazards is outlined to the right in alphabetical order.¹⁵

HAZARD IDENTIFICATION	
Natural	
Coastal erosion (beach and coastal cliff)	
Coastal inundation (storm surge)	
Drought (agricultural and water supply)	
Earthquake (includes liquefaction)	
Flooding (river and catchment)	
Land instability	
Severe winds	
Space hazards ¹⁵ (including solar flares)	
Super storm ¹⁶	
Tornado	
Tsunami (distant, regional or local source)	
Urban fire	
Volcanic eruption (Auckland Volcanic Field or ashfall from distant source)	
Wildfire (rural)	
Technological	
Civil unrest	
Dam failure stormwater	
Dam failure water supply	
Hazardous substances spill	
Information technology infrastructure risk	
Lifeline utility failure: airport, port, rail, roading	
Lifeline utility failure: communications	
Lifeline utility failure: electricity	
Lifeline utility failure: fuel supply	
Lifeline utility failure: gas	
Lifeline utility failure: wastewater	
Lifeline utility failure: water supply	
Major transport accident (aircraft, marine, rail, road)	
Marine oil spill	
Radiation incident	
Terrorism	
Biological	
Animal epidemic	
Infectious human disease pandemics	
Plant and animal pests	

Table 1: Hazard identification



Emergencies occurring in other parts of New Zealand may also affect Auckland in terms of population displacement, widescale hazards such as volcanic ash deposit, and the need for resources. The CDEM Group will work with other CDEM Groups to alleviate the impacts of emergencies when they occur.

To ensure all of these hazards and the risks they pose are understood, the CDEM Group have developed Auckland’s Hazards Quick Reference Guide¹⁷. In addition, Auckland Council has developed a Natural Hazard Risk Communication Toolbox¹⁸ to ensure consistent hazard and risk terminology is applied both throughout council, and externally to stakeholders and the community.

Water spout in the Waitematā Harbour

Multiple hazards events

Multiple hazard events are more likely to increase fatalities and intensify destruction. Analysis of these events is complex; each scenario is unique and unpredictable as there are a variety of hazards and associated impacts which may occur. To further understand the impacts of these events, examples are explored below to illustrate their effect and to recognise the importance of preparedness.

Super storm

A 'super storm' highlights the combination of several circumstances occurring at one time. For example, a super storm could include strong winds, heavy rain, floods, landslides, and infrastructure failure occurring at one time. As a result, such an event has the potential to cover a widespread area and will have significant impacts to the region, presenting a high risk to Auckland. A super storm has not occurred in Auckland for a number of decades. Because a super storm event incorporates numerous hazards, which collectively result in more significant consequences, it has a very high risk rating in the Auckland region. These events have occurred internationally, such as the super storm in Australia in 2016 and Hurricane Katrina in New Orleans in 2005. In 2008, in Auckland, several storm events occurred which had the potential to develop into a super storm event as discussed below.

Auckland context

A series of significant storm events hit the North Island in July and August 2008. Within a one-week period, three storm events occurred: 26-27 July, 29 July-1 August and 2-6 August.

The Auckland region experienced extremely wet winter months with 150 per cent more rain than the average rainfall in July. The prolonged rainfall associated with the series of storm events resulted in saturated soils, increasing the susceptibility of landslides. Between June and August, 69 landslides were reported, and it is likely many other landslide events were not reported. Landslides damaged several houses and resulted in numerous evacuations. Large swells (7m) and high winds (90 km/hour) battered a cruise ship 600 km north of Auckland, which subsequently rolled sharply just before 8pm on the night of 30 July, causing 57 injuries. The storms also caused power cuts, broken boat moorings, beach erosion, ferry cancellations and road closures due to landslides, flooding, fallen trees and debris²⁰.

Models show that approximately 13,500 properties in Auckland could be affected by coastal inundation in the event of a storm that has a 1 in 100 chance of occurring every year.

Australian Super Storm 2016

Australia was hit by a 'super storm' in June 2016, which involved flooding, severe winds, coastal inundation with waves as high as 12 metres, severe coastal erosion, landslides, power outages across more than 85,000 homes and businesses, and disruption to rail and roading. There were thousands of emergency service requests for people trapped in floodwaters. The flooding caused multiple fatalities in New South Wales. Insurance losses were estimated at \$38 million across Queensland and New South Wales.



A super storm can result in multiple hazards occurring at the same time, such as flooding or this artist's impression of a blackout and coastal erosion around Auckland.



Hurricane Katrina, New Orleans 2005

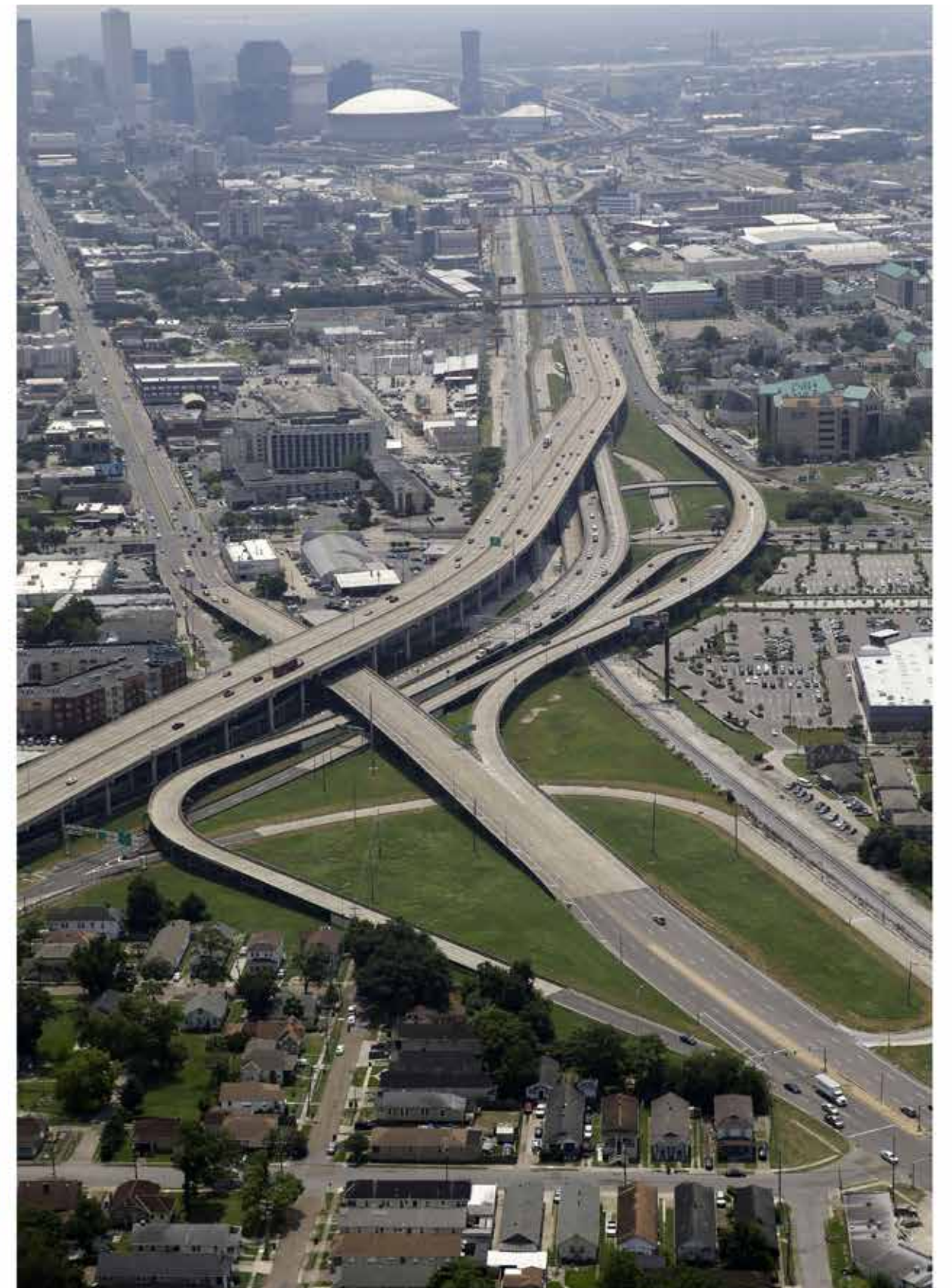
Hurricane Katrina formed on 23 August 2005 and dissipated on 31 August 2005. The number of fatalities is estimated at over 1700 with approximately 1500 coming from Louisiana¹⁹. An additional estimated USD\$125 billion dollars' worth of damages recorded to date, makes it one of the most devastating hurricanes in the history of the United States. Hazards associated with Hurricane Katrina included heavy rainfall, extreme winds, tornadoes and storm surges.

Secondary hazards included power outages and severe flooding from heavy rainfall and infrastructure failure. The catastrophic failure of structural flood walls and engineered levee systems associated with the low-lying (below sea level) region of New Orleans was the principle cause of the flooding and associated damages to the US state.

The levee system had six major breaches on 29 August, which resulted in widespread flooding to approximately 80 per cent of New Orleans causing significant damage to infrastructure with an estimated \$5.5 billion in damages to roads and bridges. Thirty oil platforms were either damaged or destroyed during the hurricane. This example demonstrates how the consequences of Hurricane Katrina was not from an individual hazard, but, instead, multiple hazards resulting from direct and indirect impacts.



Mid City and Palmetto areas of New Orleans flooded by Hurricane Katrina a decade apart.





Earthquake and tsunami

An earthquake that triggers a tsunami results in multiple hazard consequences, including earthquake shaking, fault rupture, coastal inundation and coastal erosion, landslides, secondary health effects and lifeline utility failures. There is no record of such an event occurring in Auckland to date, however such an event has the potential to cause disruption to lifeline utilities, businesses and the economy for the entire country.

Japan earthquake and tsunami 2011

On Friday 11 March 2011, a magnitude 9.0 (Mw) earthquake struck off the coast of Japan, the most powerful earthquake the country had ever recorded. This event triggered a series of powerful tsunami waves that reached up to 39 metres in height. There are an estimated 15,890 deaths and 6152 injuries associated to the tsunami. Furthermore the earthquake and tsunami caused \$220 billion in damages in Japan²¹.

Additional hazard events included fires, landslides, infrastructure failures and nuclear incidents, including the release of radiation. The nuclear power plant Fukushima Daiichi was not built to withstand the scale of the tsunami event. As a result, the power plants cooling system failed and resulted in a level-7 nuclear disaster.

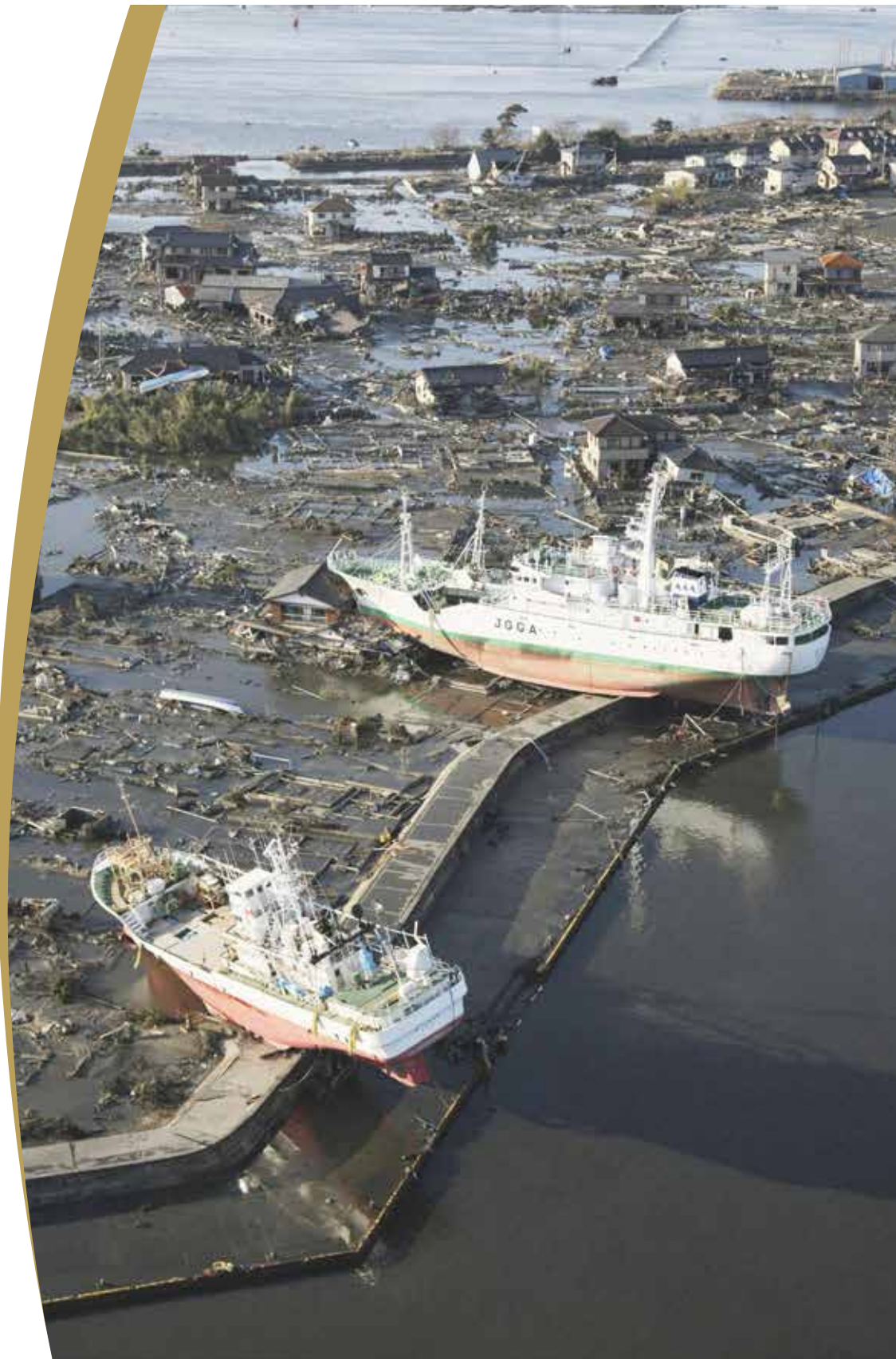
The primary earthquake event initiated secondary landslides and tsunami events. These events contributed towards fire outbreaks and infrastructure failures, such as nuclear meltdowns and electricity outages, illustrating how one hazard can trigger other hazards and have multiple cascading effects.

Auckland context

Auckland's highest risk for tsunami is from the Tonga-Kermadec Trench, approximately 300km to the east of New Zealand. Distant source tsunami, generated from earthquakes around the Pacific Rim, occur most commonly from South America. Auckland has no identified faults that could generate a local-source tsunami, but a volcanic eruption or underwater landslide could cause a local source tsunami.

Since 1840, 11 tsunamis have been recorded on the Auckland mainland coasts with wave heights ranging from less than 0.1m to 2.9m; however, tsunamis have been recorded to up to 10 metres in New Zealand. An earthquake in 1855 ruptured the Wairarapa Fault east of Wellington, generating a tsunami with a maximum known run-up of 10m at Te Kopi, Palliser Bay and 4-5m run-up in parts of Wellington and along the northern Marlborough coast. At least 300-500km of coastline was estimated to be affected by the tsunami event with a run-up of 1m or greater. The principle cause of the tsunami was likely to be the vertical sea bed displacement by approximately 6m; however, submarine and coastal landslides could have contributed to the tsunami²².

To put this into context, approximately 6 per cent of the Auckland region is sitting below 3m above mean sea level. Although this is a relatively small percentage regarding the Auckland region, this encompasses areas such as part of the central business district, Mission Bay and large parts of the North Shore; therefore, the economic impact of a tsunami could be significant.



Higashimatsushima city in Miyagi prefecture in 2011 and 2016 (right).



Auckland’s risk profile

Identification of Auckland’s hazards is the first step in the risk assessment process²³. Risk is defined as both the consequences and likelihood of an event occurring and both these factors must be understood in determining Auckland’s risk profile. Quantifying the consequences of each event must consider the exposure and vulnerability of each of the elements at risk and then be assessed in terms of the likelihood of the event occurring to understand the overall risk it presents.

As a result, a risk assessment is required to identify the hazards that present the greatest risk and to prioritise those that can be managed most effectively. The approach used for this Group Plan was adapted from the Auckland Council Natural Hazards Risk Management Action Plan (NHRMAP).

Natural Hazards Risk Management Action Plan

A priority within the Auckland Plan is to ‘build resilience to natural hazards’. In response, the NHRMAP is being developed to share our understanding of Auckland’s natural hazards and subsequent best practice risk management activities to be implemented across council. As part of the project, NHRMAP has developed a semi-quantitative risk-assessment methodology appropriate for the broad range of natural hazards to which Auckland is exposed. The methodology was developed based on an evaluation of existing risk assessment techniques

and peer review of the proposed methodology from a panel including representatives from MCDEM and the Earthquake Commission (EQC). Recognising our cultural uniqueness and the inherent spirit of Auckland, the methodology is currently being refined in collaboration with our mana whenua groups to ensure a full appreciation of the cultural impacts of hazards in Auckland.

As a comprehensive and best practice risk assessment tool, the NHRMAP risk assessment methodology has replaced the standard Seriousness, Manageability, Growth Risk Analysis previously applied. For consistency, the methodology has also been applied across remaining technological and biological hazards to represent our best available knowledge of risk. Technical hazard and risk experts were engaged as part of this process to ensure that both natural and non-natural hazard risk was assessed comprehensively and consistently for the CDEM Group across all hazards. These results are summarised for CDEM purposes and do not take precedence over other risk assessments undertaken for specific sectors.

NHRMAP is facilitating a coordinated risk management approach that supports Auckland Council to use resources effectively by targeting activities that deliver the greatest reduction in risk. In conjunction, the CDEM Group has already started implementing some mitigation strategies around natural and technological hazards, as discussed in the Risk Management

section. The development of the final NHRMAP will continue to assist the CDEM Group in achieving further risk reduction strategies as part of the Group Plan.

Methodology

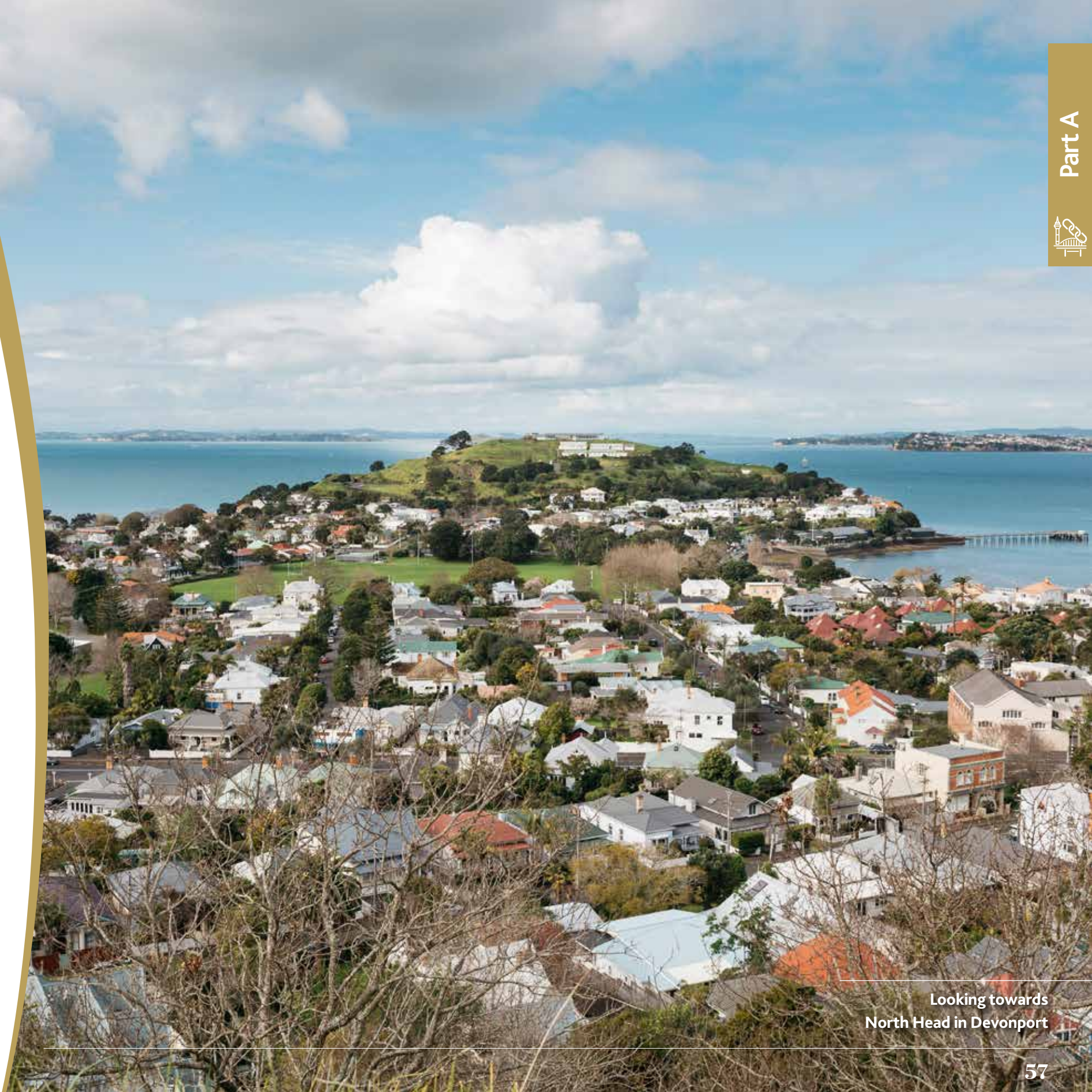
In determining the overall risk of each hazard occurring, the following factors are taken into consideration to guide the hazard and risk assessment methodology:

- hazard description (including scale and extent)
- range of likelihoods of hazards occurring
- consequence of the hazard occurring based on the four ‘well-beings of sustainability’²⁴ also known as the ‘four pou’²⁵: social, environmental, cultural and economic consequences (including built environment consequences).

Given that risk is defined as the likelihood of an event occurring multiplied by consequence, the risk assessment rates these factors for each hazard considered. Likelihood is scored from 1 to 6 using a defined, scalable matrix, whereby; a score of 6 relates to ‘almost certain’ events while a score of 1 relates to ‘very rare’ events. Consequence is similarly scored using a matrix developed for each of the wellbeing’s/pou considered. The consequence assessment takes into account existing management practices applied by respective agencies and the average consequence score is taken to define the overall risk as outlined in the equation below:

$$\text{Overall Risk} = \text{Likelihood} \times \underbrace{\left(\text{Average (Social + Cultural + Economic + Environment)} \right)}_{\text{Consequence}}$$

Auckland’s risk profile is displayed in Appendix 2



Looking towards North Head in Devonport



Risk management

The risk of a hazard is influenced by the type of hazard, exposure, vulnerability and likelihood. Based upon these factors, appropriate hazard management activities to reduce the risk of the hazard across the 4Rs Framework can be applied:

- **type of hazard** - for example, nature and duration of the event, extent of the area potentially affected, impact on the social, economic, built and natural environments
- **exposure** - for example, the length of time a person will be in the area, how long an asset will be subject to the floodwater, and to what depth
- **vulnerability** is described as the characteristics and circumstances of elements at risk (for example, human life and property) that make them susceptible to the damaging effects of a hazard
- **likelihood** or chance of the event occurring.

Hazard prioritisation

Risk treatment can take the following forms:

- reduce or modify the hazard
- modify behaviour
- reduce or modify vulnerability
- risk transfer of financial consequences to another party
- accept risk and plan for response and recovery.

Not all risks can be mitigated effectively and the risk that remains after treatment is referred to as residual risk. How effectively this residual risk is a managed is prioritised using a scale of 1 to 6. This rating is then used to identify the priorities for the Auckland CDEM Group (i.e. the CDEM group wants to place more emphasis on those hazards that can be more effectively managed).



Very high priority
Coastal inundation (storm surge)
Flooding (river and catchment)
Infectious human disease pandemics
Severe winds
Super storm
High priority
Coastal erosion (beach and coastal cliff)
Earthquake (includes liquefaction)
Lifeline utility failure: communications
Lifeline utility failure: electricity
Hazardous substances spill
Land instability
Major transport accident (aircraft, rail, road, marine)
Lifeline utility failure: airport, port, rail, roading
Tsunami (distant, regional or local source)
Urban fire
Volcanic eruption (Auckland Volcanic Field or ashfall from distant source)
Wildfire (rural)
Moderate priority
Animal pandemic
Civil unrest
Dam failure (stormwater and other)
Drought (agricultural)
Lifeline utility failure: fuel supply
Lifeline utility failure: water supply
Marine oil spill
Plant and animal pests
Terrorism
Tornado
Low priority
Dam failure (water supply)
Drought (water supply)
Information technology infrastructure risk
Lifeline utility failure: gas
Lifeline utility failure: wastewater
Radiation incident
Space hazards ¹³ (including solar flares)

The hazards in Auckland that have been identified as having a high priority for the CDEM Group include coastal inundation, flooding, human pandemic, severe wind and super storm. Auckland reduces the risks from these hazards using the 4Rs framework. More detail about the risk mitigation options and those agencies responsible are described in the following section. An action out of the development of this Group Plan is to develop or support hazard specific contingency plans for the hazards identified as very high priority.

Table 2: Civil Defence and Emergency Management Group priorities in risk management





The NHRMAP will provide greater detail for how Auckland will reduce risk natural hazards across Auckland Council. More information on hazards and risks can be found in the Auckland Council Risk Communication Toolbox and the National Hazardscape Report²⁷. Based on the 4Rs Framework, the sections below summarise key hazard management activities and initiatives being undertaken by Auckland Council and the CDEM Group.

Reduction

Reduction involves identifying and analysing medium and long-term risks to human life and property from hazards, taking steps to eliminate these if practicable, or reducing the magnitude of their impact and the likelihood of them occurring. The following activities are used in Auckland to reduce the risks from hazards.

Legislation and policies

Legislation and policies are used to regulate activities and assist in land-use planning, hazard identification and management, emergency response from a central government and Auckland Council Chief Planning Office perspective. This framework of legislation provides the basis for a wide range of other strategies, plans, policies, codes and practices that support risk reduction outcomes for the CDEM Group. Some examples are:

- Building Code and Auckland Council's Earthquake Prone, Dangerous and Insanitary Buildings Policy which are requirements under the Building Act 2004
- New Zealand Coastal Policy Statement
- Auckland Unitary Plan, a requirement under the Resource Management Act 1991, and Auckland Council's Long-term Plan and Annual Plan, requirements under the Local Government Act 2002.
- The Auckland Plan also outlines high level strategies on how to build resilience to natural hazards through the NHRMAP.

Building design and construction

Auckland Council regulatory services is responsible for ensuring that all significant building work is safe, durable, sustainable, and poses no danger to the health and wellbeing of property owners and users. The Building Act 2004 provides the means for ensuring the safety and integrity of structures taking into consideration the nature of the land on which the building is to be built. The Act establishes a certification process to ensure compliance and a standard to which buildings and structures must conform. This is regulated and enforced by Auckland Council through the issuing of building consents, resource consents and certificate of acceptance. These measures inform how CDEM reduce the vulnerability and exposure of buildings and structures to hazards such as earthquakes, landslides and strong winds.





Federal Street

Auckland Council is also responsible for administering and monitoring safety of dams. Dam owners are required to classify their dam according to the potential impact its collapse would have on the community. This classification is regularly reviewed which means that changing risk factors such as new downstream development or changing hydrological conditions can be taken into account. Owners must also prepare dam safety assurance programmes which include emergency action plans, and provide an annual compliance certificate for medium or high potential impact dams. Effective dam management will reduce the likelihood of dam failure.

Land-use planning

Land-use planning zones land for different uses, for example: rural, residential, industrial, town centre. In addition to zoning, other constraints, including natural hazards, are identified and must be considered when subdividing, using or developing land. Auckland Council's Chief Planning Office is responsible for developing policy on how land is developed and where and when natural and man-made hazards may be considered.

As Auckland grows there is a need to accommodate a greater number of people,

housing and infrastructure. Where more people are located in areas at risk from natural and man-made hazards there is a need for greater civil defence response structures.

The Auckland Unitary Plan requires that adverse effects associated with natural hazards are managed so that overall risks are not increased and are reduced where possible. Mitigations being considered in the Auckland Unitary Plan include requirements for built design, location of uses within buildings and the avoidance of natural hazard areas.

The relationship between major hazardous facilities, significant infrastructure and more sensitive land-uses are identified in the Auckland Unitary Plan and are required to be considered in order to manage risks and protect the function of these facilities and infrastructure.

Effective land-use is also beneficial in managing river catchment areas to reduce sediment flowing into rivers and through implementing farm management practices to improve recovery implications as a result of drought, animal diseases and plant pests.



Structural protection and engineering

Strengthening of buildings can reduce the vulnerability to hazards, for example, lead rubber bearings have been fitted in many buildings to isolate the building from its foundations and absorb earthquake energy, helping protect the building and its contents from ground shaking damage.

Other structural methods such as sea walls and increasing the heights of transport infrastructure have reduced the risk from coastal hazards. Auckland Council has a forecast spend of \$1.5 billion over the next 30 years on improvements to the stormwater system which includes targets to reduce the level of flood risk.

Auckland has increased its resilience through continuous improvement of the robustness and redundancy of lifeline utility infrastructure. This has been encouraged through the Auckland Lifelines Group where infrastructure providers voluntarily work together to identify interdependencies and vulnerabilities to hazards which are incorporated into asset management plans. Reducing infrastructure vulnerability to hazards will reduce Auckland's overall risk.

Research

Research is undertaken to improve the understanding of Auckland's hazards

and risk and how these can be managed. Research is either commissioned directly by Auckland Council and stakeholders or through national or regional advisory groups. Volcanic hazards, for example, are studied through the Determining Volcanic Risk in Auckland (DeVoRa) project. Examples of research commissioned by Auckland Council include tsunami and coastal inundation modelling and risk communication. Research can then be incorporated into emergency management plans and other supporting material. MCDEM issue guidelines and technical standards to assist agencies and organisations with responsibilities under the CDEM Act to properly exercise those responsibilities. Auckland Council has also developed a coastal management framework to guide best practice around coastal management.

Hazard mapping

Hazard maps highlight areas that are affected by, or vulnerable to, a particular hazard. Hazard maps are used in planning and CDEM as they highlight the vulnerability and exposure of a community to a particular hazard. The CDEM Group has developed hazard maps for a range of hazards including tsunami, coastal inundation and earthquakes. Hazard maps are useful for communicating risk to communities and the public.

Beach stabilisation and nourishment

Beach stabilisation and nourishment involves bringing in sand to replenish beaches, planting sand binding native grasses, building groins, rock walls and restricting access across dunes to defined walkways. This has been undertaken at beaches across Auckland such as Mission Bay and Orewa. This reduction activity reduces the risk from coastal hazards such as beach and cliff erosion.

Border protection and screening

The primary means of preventing pests and diseases from entering New Zealand include pre-border screening and inspection of at-risk goods and conveyances at ports of entry. Public awareness and reporting complements border protection and screening by identifying a potential threat early which means a wider range of possible options for response, including eradication.

The risk of terrorism can also be reduced through border protection and screening by way of immigration criminal checks and cooperation with international police authorities.



Readiness

Readiness involves developing operational systems and capabilities before an emergency happens, including self-help and response programmes for the general public, and specific programmes for emergency services, lifeline utilities and other agencies. The following activities are undertaken in Auckland to prepare for an emergency.

Hazard monitoring systems

A number of hazard monitoring systems are used in Auckland to provide early warning of potential emergencies and for monitoring the progression of a hazard during a response. This will help reduce the exposure of the hazard through providing quick response. These hazard monitoring systems include:

The GeoNet project, which is managed by GNS Science, monitors earthquake, volcanic, landslide and tsunami activity within and around New Zealand. It provides real-time data collection and dissemination to enable rapid response to geological events. GeoNet includes strong and weak earthquake motion recording, volcanic surveillance, landslide response and earth deformation monitoring, supported by data communication and management systems.

The MetService uses satellite imagery, computer modelling and meteorologists to delineate weather patterns and forecast the weather. Severe weather warnings are issued if there is an expectation of widespread heavy rain, heavy snow or severe gales in the next 24 hours. Severe weather watches and outlooks are issued 48 hours and 3-6 days in advance to provide earlier warning of such events. Watches may also be issued

if there is a high level of uncertainty in the forecast, for example, thunderstorms. Warnings and watches are published on the MetService website and sent to authorities and subscribers.

The Pacific Tsunami Warning Centre (PTWC) issues a tsunami information bulletin when an earthquake between magnitude 6.5 and 7.5 is detected within or near the Pacific Ocean basin. A tsunami warning or watch bulletin is issued for earthquakes greater than magnitude 7.5. If an earthquake appears to be large enough to cause a tsunami, and is located in an area where tsunami generation is possible, the PTWC will check water-level data from automatic tide stations near the earthquake for evidence of a tsunami. If the water-level data indicates a tsunami that poses a threat to countries around the Pacific Ocean has been generated, a Pacific-wide tsunami warning bulletin is issued. If tide stations indicate a negligible or no tsunami the tsunami warning/watch bulletin is cancelled. This alerts the MCDEM and the Auckland CDEM Group of the possibility that a tsunami may have been generated. MCDEM will issue a national warning if there is a threat of tsunami to New Zealand through the MCDEM National Warning System. The CDEM Group will identify potential local impacts and communicate messages to the public.

Auckland Council is the primary source of flood information, warnings and monitoring in the region. Auckland Council maintains a network of remote stations that monitor rainfall, river flows and lake levels throughout the region. This information is fundamental to forecasting potential flooding events and

is displayed through a Hydrotel system. Once rainfall, river flows, or lake levels reach a predetermined warning level, notifications are sent to relevant stakeholders.

Surveillance programmes

The Ministry of Health and Ministry of Primary Industries both operate surveillance programs to monitor possible biological hazards such as human infectious diseases, animal and plant pests and diseases. Surveillance programs involve gathering intelligence which includes monitoring hospital admissions, monitored traps, regular screening and other national surveillance information. Public health warnings and advisories are sent via the MCDEM National Warning System.

Infrastructure failures are unpredictable and generally occur randomly and therefore there are generally no warnings for these events. Sometimes internal faults can be picked up within internal processes which are either managed by the asset owner or if they are more serious they will contact relevant authorities, for example, dam break.

Training and exercises

The CDEM Group, in collaboration with key partners and stakeholders facilitates training and development, and an exercise programme which is used to educate and practise what to do in the event of an emergency. Exercises play a vital role in identifying gaps and issues and improving organisational resilience and emergency management planning. As real-life events do not occur that often, exercising is a good way to measure the effectiveness of emergency management plans, procedures and allow staff an opportunity to practise their

knowledge and skills against a scenario or in a simulated emergency environment.

Business continuity planning

Business continuity planning identifies any potential risks to an organisation and the impacts to normal business operations that those risks might cause. It provides a framework for improving organisational resilience to any potential disruption by identifying and protecting essential business processes and assets, and by building a capability to manage the event and recover quickly from it.

Organisations and agencies involved in the response to and recovery from an event in Auckland have developed a business continuity plan to ensure that they are able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency. Business continuity plans will reduce the vulnerability of an organisation and agency to a potential emergency. Organisation resilience is discussed in more detail later in the document.

Public awareness and education

Individuals and communities need to be aware and understand the hazards and risks, and how to prepare for, respond to, and recover from an emergency. The CDEM Group continues to increase community awareness, understanding and participation in emergency management by developing public education material and delivering education to the community. The CDEM Group works closely with key influencers and community networks to co-design and co-create resilient strategies that are a priority for the community.





Organisations and agencies as part of their day-to-day responsibilities advise land owners and the public on hazards and risk management options. Auckland Council undertakes risk assessments for subdivisions using up-to-date hazard information. Public education and awareness also form part of reduction.

Examples of hazard awareness campaigns include:

- King Tides initiative which encourages people to observe and record highest tides events to increase community awareness of coastal inundation
- Ahead of the Wave initiative that encourages communities to develop and practice walking their tsunami evacuation routes
- National Rural Fire Authority 'c'mon, keep it green' initiative.

Emergency management planning

All organisations and agencies that are involved in emergency management should prepare plans that outline their arrangements for contributing to the response of and recovery from an emergency. Planning provides a methodical way to think through

and develop arrangements for addressing every stage of an emergency. It describes a desired outcome, outlines effective ways for achieving it, and communicates expectations of all response and recovery partners.

Planning takes place at all levels and involves multiple stakeholders. To ensure that arrangements are representative, realistic, and recognised by all partners, it is essential that plans are coordinated horizontally and integrated vertically so that a common operational focus can be achieved. The CDEM Group develops and maintains the following plans to describe key activities, functional responses and protocols to be used when responding in an emergency:

- Auckland Evacuation Framework
- Auckland Welfare Plan
- Auckland Recovery Framework
- Lifeline Utility Vulnerability plans
- Hazard Specific Contingency Plans
- Standard Operating Procedures
- Evaluation Action Plans.



Orewa tsunami walk





Response

Response involves actions taken immediately before, during or after an emergency to save lives and protect property, and to help communities recover. The following activities are undertaken during the response phase to reduce the consequences of the emergency:

National Warning System

The National Warning System is a 24/7 process for communicating hazard information via warnings or advisories. This alerts recipients to a potential or imminent threat that may result in an emergency requiring a response. The system is maintained and operated by MCDEM.

Auckland warning and notification systems

The CDEM Group uses an information management system to disseminate warnings or advisories through multiple channels both internally to key partners and stakeholders, and externally to the public. The CDEM Group also works closely with the media for public information.

Emergency management response planning

Auckland Council, emergency services, lifelines utilities, welfare agencies and the community will work together in the event of an emergency to ensure the most effective response and best possible recovery. The response will be coordinated through the Emergency Coordination Centre.





Recovery

Recovery is the coordinated efforts and processes to bring about the immediate, medium and long-term holistic regeneration of a community following an emergency. The following recovery activities have been put in place to reduce the exposure to the disaster.

Recovery planning

Recovery planning is an essential element in emergency management and the principles are set out within the Group Plan. Recovery planning should take opportunities to meet future community needs and reduce future exposure to hazards and risks.

Insurance

EQC provides insurance against earthquake, landslide, volcanic eruption, hydrothermal activity, tsunami, flood and fire. Residential houses and contents are insured up to a certain limit for those home owners who hold fire insurance.

Financial arrangements

The costs incurred during and following an emergency with respect to welfare and essential infrastructure will need to be met initially by Auckland Council but may

be reimbursed by central government in accordance with national policy. It is the responsibility of the council to claim for any reimbursement or financial assistance and a clear record of expenditure, authorisation and purpose needs to be maintained during the emergency. To meet some of these initial costs the CDEM Group has committed emergency expenditure financial facility that can be used to fund immediate emergency response and recovery costs.

Hazard-specific recovery

Examples of hazard specific recovery measures may include remedial works, relocation or demolition of buildings and structures that pose a risk to people either through compromised structural integrity or if they are identified as being located within a high risk areas. Rehabilitation of land from a volcanic eruption, rural fire or drought may include reseeded burnt areas. Responsibility for recovery is for all agencies and organisations, private land and asset owners. Impact assessment is a critical part of the recovery process as it is used to identify the needs of the community.



Factors that influence Auckland’s hazards

Factors that are not considered hazards but do influence Auckland’s hazards include:

- Climate change may increase the likelihood and severity of weather and climate-related hazards. This could include rising sea levels, more intense rainfall, and associated flooding, more frequent and intense droughts, more damaging windstorms, higher temperatures, heat waves and increased rural fire risk.
- Human modification of the natural environment can both worsen and mitigate natural processes that create hazards. The Auckland landscape has been significantly modified since early settlement. Such modification includes:

- removal of vegetation that would help stabilise slopes by intercepting rainfall and binding the soil
- draining wetlands that would normally store large amounts of water during heavy rain and release it gradually
- urbanisation which has increased the proportion of impermeable surfaces, such as roofs, roads, driveways and carparks making rainfall unable to soak into the ground causing greater stormwater runoff and associated surface flooding.

Restoration of catchments, wetlands, soil, vegetation and other natural systems is now recognised as an integral part of hazard management.

- Population growth is expanding urbanisation and creating higher urban property values, particularly in at-risk areas such as on steep slopes and waterfronts. Auckland has the highest growth rate in New Zealand, each week Auckland has approximately 340 new houses built and 820 new residents, this equates to 43,000 new residents per year. As the population grows, along with assets and infrastructure, so too do the potential consequences of hazards. For example, as population density increases in urban areas, more people are potentially vulnerable to a hazard event in those areas. People also tend to be more reliant on infrastructure,

the built environment and commercial food supply chains, leaving them vulnerable if those resources fail

- Reliance on technology and essential services continues to grow and with it, people's vulnerability to failure of these systems. People are much more reliant on technology and essential services with high expectations of immediate access to goods and services, including emergency services, and communication and information, such as phone and internet. Services are also highly dependent on each other and a breakdown in even one part of this matrix can easily cause breakdowns in other parts.

The CDEM Group’s vision of *working together to build a resilient Auckland* will lead Auckland’s contribution to the national vision of a ‘resilient New Zealand’.

Part B Strategic direction

United Nations resilience framework and national alignment

The *Transforming our World: The 2030 Agenda for Sustainable Development* document recognises the importance of reducing the risk of disasters in the future. The Sustainable Development Goals outlined within the document have direct links to the Sendai Framework for Disaster Risk Reduction.

The Sendai Framework for Disaster Risk Reduction (2015-2030) was adopted in March 2015 at the Third United Nations World Conference in Sendai, Japan. The Sendai Framework seeks to achieve the following within 15 years:

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

The National CDEM Strategy, developed in 2008, is currently under review to align with a commitment New Zealand made to the international *Sendai Framework for Disaster Risk Reduction*.

The CDEM Group's vision of '*working together to build a resilient Auckland*' will lead Auckland's contribution to the national vision of a 'resilient New Zealand'.

The review of the National CDEM Strategy presents New Zealand with an opportunity to consider how it can contribute to the Sendai Framework's international goal, which will result in a new National Disaster Resilience Strategy (launched September 2017). This will guide New Zealand's progress towards the priorities of the Sendai Framework, and the Sustainable

Development goals. The CDEM Group will align to the new National Disaster Resilience Strategy.

This change presents a significant opportunity for Auckland. While the CDEM Group continues to work under the current National CDEM Strategy, we have also combined some fundamental principles from the Sendai Framework into the development of this Group Plan. For example, placing more emphasis on managing disaster risk, rather than managing disasters.

While the goals of this Group Plan directly align with the national CDEM goals, to support the Auckland's vision of the world's most liveable city, the CDEM Group have developed an Auckland-specific goal of Resilience. The Auckland Plan is a 30 year strategy that contributes to Auckland's social, economic, environmental and cultural wellbeing. It sets the long-term objectives that will make Auckland the world's most liveable city.

To support this and the CDEM Group's vision the Auckland Council CDEM department have built a whare (Appendix 3). This whare represents how we, as a department, will achieve this and give effect to the Group Plan's goals and actions; through our key focus areas of engaging and enabling communities, delivering customer friendly services and making our size work. Through the quality of our leadership and the demonstration of our organisational behaviours – collaborate, serve, achieve and develop – we are building a high performing culture to deliver the best outcomes for our communities.

The objectives in this Group Plan are based on the principles of the 4Rs Framework: Reduction, Readiness, Response and Recovery and the Auckland-specific goal of Resilience.

Auckland's goals

This section provides an overview of CDEM Group's goals towards building a resilient Auckland. To follow a clear pathway towards resilience, the Group Plan has five goals: the 4Rs Framework and the Auckland-specific goal. These goals are supported by the 13 objectives detailed in Part C: Building Resilience. The Framework for Action (Part D) outlines proposed actions to deliver on the objectives.



Māngere Mountain

Reduction

Reduction involves identifying, analysing and evaluating long-term risks to life, property and environment from natural, technological or biological hazards. It also involves working towards eliminating these risks if practicable, and, if not, reducing the magnitude of their impact and the likelihood of them occurring.

Examples of risk reduction measures include

- hazard mapping and monitoring
- land-use management and planning
- improved building design and construction
- physical mitigation works
- public awareness and education
- sustainable land management
- regulation and monitoring
- upgrading infrastructure resilience and emergency management planning.

Risk reduction involves many stakeholders. These include central and local government, emergency services and lifeline utilities, as well as individuals and communities. It is guided by many pieces of legislation, policies and plans, both at local and national levels. Therefore, successful, comprehensive risk reduction requires a collaborative, multi-agency and all-of-government approach.

Goal

Reduce risks to Auckland.

Principles

- Adopt a resilience-based approach to managing hazards.
- Advocate for improved risk-reduction policies and coordinated initiatives across CDEM Group key partners and stakeholders.
- Recognise that risk reduction is a responsibility shared by every person, community agency and organisation.

Objectives

1. Strengthen our partnerships.
2. Promote, support and participate in co-created research.
3. Build a safe city through sustainable approaches.

Outcomes

1. Auckland’s leaders champion resilience with partners and stakeholders for communities.
2. Disaster risk reduction will be prioritised across all levels of society to reduce risks.
3. Disaster risk reduction research is understood and applied across the CDEM Group, key partners and stakeholders.
4. Auckland is adaptable to the changing landscape and the associated risks.

Statement of expectations

The CDEM Group, key partners and stakeholders will work together to implement comprehensive, sustainable and affordable disaster risk reduction activities. Disaster risk reduction is a shared responsibility for all Aucklanders. The CDEM Group manage their risk reduction activities for their agency or organisation.

Issues and challenges

- Research opportunities are not well coordinated, and there is no streamlined process for collating hazard information.
- Constantly changing regulatory, commercial and structural environments, which include centralisation, outsourcing and increased use of contractors, makes risk reduction planning difficult, and in the past, it has lacked consistency.

- Hazards and risk, including how they are managed, need to be better understood and more effectively communicated by the CDEM sector.
- Willingness to invest in disaster risk reduction is low because the cost benefit of implementing such initiatives is unclear or misunderstood.

Arrangements

Below are the specific arrangements for the 4Rs Framework that guides the CDEM Group to meet the objectives.

REDUCTION		
Strategies and plans	Tools	Forums
• National CDEM Strategy • National CDEM Plan • Auckland CDEM Group Plan • The Auckland Plan • Auckland Energy Resilience and Low Carbon Action Plan • New Zealand Coastal Policy Statement • Natural Hazard Risk Management Plan (NHRMAP) • Sendai Framework for Disaster Risk Reduction (2015 – 2030)	• CDEM Act 2002 • Building Act 2004 • Resource Management Act 1991 • Building Code • Auckland Council Earthquake Prone, Dangerous and Insanitary Buildings Policy • Auckland Unitary Plan • Auckland Council Coastal Management Framework • Hazard maps • Public education material • Structural protection and engineering works	• MCDEM • Resilient Organisations • Strategic research alliance • Determining volcanic risk in Auckland (DEVORA) • Auckland Lifelines Group • Upper North Island Strategic Alliance • Coordinating Executive Group • Scientific and technical advisory groups • Scientific Institutions and University groups

Table 3: Reduction arrangements



Readiness

Individuals, households, communities, businesses, agencies and organisations are aware of, understand and are prepared for emergencies.

Goal

To increase community awareness, understanding, preparedness and participation in emergency management.

Principles

- Coordinated and integrated operational planning across CDEM Group, key partners and stakeholders.
- Engage volunteers and voluntary organisations to increase readiness and ability to respond to and recover from emergencies.
- Public education is essential for preparing Auckland’s communities.

- Community engagement and involvement in the planning of the response to and the recovery from emergencies is important.

Objectives

1. Use knowledge to deliver education.
2. Encourage and promote volunteering.
3. Build resilience in our communities, businesses and organisations.

Outcomes

1. An education framework for communities and educators that increases understanding of risks, personal and household preparedness, and community resilience.
2. A well-trained team of volunteers who are ambassadors for CDEM.

Statement of expectations

The CDEM Group, key partners and stakeholders will maintain an appropriate level of readiness to respond to and recover from an emergency so that their organisations can function to the fullest possible extent and support the CDEM Group. The CDEM Group, key partners and stakeholders will work together with communities, businesses and organisations to implement readiness activities.

Issues and challenges

- Hazard and risk information needs to be more comprehensive and accessible to the public and it includes inconsistent teaching across education providers.
- Delivering education on hazards, risks and preparedness is inconsistent across

education providers because it is not part of the mandatory curriculum framework

- Recruiting and retaining people to volunteer before an emergency is challenging due to the time commitment involved.
- Community participation and preparedness in CDEM is low because CDEM’s activities are not well understood, and changing people’s behaviour is challenging.
- Business continuity or emergency management planning is not seen as a priority for many organisations, even though some play a critical role in an emergency.

Arrangements

Below are the specific arrangements for the 4Rs Framework that guide the CDEM Group to meet the objectives.

READINESS		
Strategies and plans	Tools	Forums
• Public education • Public awareness • Community and business engagement • Volunteer engagement • CDEM exercises • Information management	• Warning systems and public alerting systems • Social media • Preparedness key performance indicators • Information management systems • Training courses and materials	• Emergency Services Coordinating Committees • Controllers • Recovery managers • National Public Education Reference Group • Auckland Welfare Coordination Group • Auckland Lifelines Group • MCDEM • Universities

Table 4: Readiness arrangements





Response

Disasters are inevitable. Auckland must be prepared to manage them. By enhancing Auckland’s emergency management capability, we are more able to respond to community needs.

Goal

To enhance Auckland’s capability to manage disasters.

Principles

- Agencies will respond to an emergency by coordinating with the lead agency and activating their own plans and procedures.
- The lead agency will be the organisation mandated by legislation or with the best expertise and resources to manage the emergency.
- To ensure an effective response, agencies will be guided by the Coordinated Incident Management Systems (CIMS) framework with enhancements and adjustments to reflect the operating business model (Figure 9).

- The response will escalate only to the level required to manage the emergency.

Objectives

1. Manage disasters through community action or multi-agency operational planning.
2. Develop capability and capacity.
3. Lead the way in innovative information and communication technologies.

Outcomes

1. Auckland’s communities, agencies and organisations are better equipped to manage emergencies together.
2. Auckland has established sustainable capability and capacity across agencies and organisations.
3. Auckland is an innovative region using effective and best value-for-money technologies to manage our risks and adapt to change.

Statement of expectations

The CDEM Group, key partners and stakeholders will have response capacity, capability and arrangements before, during and after an emergency. This is coordinated through consistent and scalable structures, processes and procedures. By working with our communities, we ensure there is an agreed and clear understanding of current and future needs in order to effectively and efficiently respond to and recover from an emergency.

Issues and challenges

- There are varying levels of consistency, integration and coordination between response agencies in an emergency.
- Resources are not effectively utilised, managed or shared across responding agencies; for example, personnel, equipment and coordination centres.

- CDEM Group partner agencies and political stakeholders must have confidence in the CDEM response and recovery.
- Capability and capacity across the CDEM Group and stakeholders to a large-scale Auckland event are not tested regularly and well-understood.
- Responding to large-scale, widespread emergencies is not tested regularly enough and lessons learned are not incorporated into annual work programmes.
- Operational emergency management plans do not always meet the coordination needs required in an emergency.
- Public alerting systems and associated public education messages are ineffective, and warnings do not reach the required

number of people in the affected population.

- Auckland’s size and complexity make it difficult to understand what is happening in a large-scale emergency; therefore, organisations and agencies are not responsive to community needs.

Arrangements

Below are the specific arrangements for the 4Rs Framework that guide the CDEM Group to meet the objectives.

RESPONSE		
Response activation and coordination structures	Plans and procedures	Tools
• Emergency Coordination Centre (ECC) • National Coordination Management Centre (NCCM) • Integration of project management principles and CIMS functions and terminology • Lifeline Utility Coordination (LUC) • Auckland Welfare Coordination Group	• Public information management • Volunteer engagement • Welfare services • Lifelines coordination • Warning systems • Auckland Operational Evacuation Plan • Standard Operating Procedures for the Emergency Coordination Centre	• Public alerting and warning systems • Social media • Information management systems • Volunteer engagement arrangements, for example, Auckland Response Teams • MCDEM

Table 5: Response arrangements





Recovery

In the wake of a disaster, Auckland must be prepared to implement a framework for recovery across all social, economic, built and natural environments.

Goal

To enhance Auckland’s capability to recover from disasters.

Principles

- Undertake strategic planning activities to improve preparedness in anticipation of recovery specific to the Auckland region’s hazards and risks.
- Return essential services to the affected community as quickly as possible by focusing on providing infrastructure, housing, health and wellbeing.
- Adopt the Sendai Framework ‘Build Back Better’ principles, which will strengthen the resilience of the community, the infrastructure and the environment.

- Support the short, medium and long term restoration and enhancement of a community post-disaster through inter-agency shared goals, priorities and strategies.
- Implement pre-planned recovery measures as soon as the response begins (or as soon as practicable) through a coordinated approach, and integrate into the response actions.

Objectives

1. Establish Auckland’s Recovery Framework.
2. Champion the ‘Build Back Better’ approach.

Outcomes

1. Auckland’s Recovery Framework is aligned with best-practice and national guidelines.
2. Auckland’s Recovery Framework effectively incorporates the Sendai Framework ‘Build Back Better’ principles.

Statement of expectations

Recovery activities will be developed and implemented by the CDEM Group, key partners and stakeholders. This will be done by working collaboratively to produce a comprehensive Recovery Framework that provides for strong social, economic, infrastructure and natural outcomes. CDEM Group, key partners and stakeholders will be active during the recovery phase.

Issues and challenges

- Increasing our knowledge of the Sendai Framework principles and fulfilling our agreement as a CDEM Group to ensure that consideration is given to disaster risk reduction when planning for recovery.
- Recovery is uncoordinated across agencies and at all levels. Recovery can be hampered

- by conflicts between the private and public sector and local and national government.
- The CDEM Group’s Recovery Framework needs strengthening and broadening to align with the new national recovery arrangements.
- Poor understanding and integration of social components into strategic and operational recovery planning.
- Lack of national specifications and guidelines for risk management of assets for CDEM Groups in recovery.

Arrangements

Below are the specific arrangements for the 4Rs Framework that guide the CDEM Group to meet the objectives.

RECOVERY		
Strategies and plans	Tools	Forums
• Recovery Framework, which includes, strategic planning for recovery, a Recovery Plan, transition from Response to Recovery Plan, Exit Strategy and Recovery Communication Plan • Business continuity plans • ‘Build Back Better’ Approach	• Recovery task groups and subtask groups • Recovery managers • Recovery controller	• Auckland Lifelines Group • Auckland Welfare Coordination Group • Coordinating Executive Group • MCDEM • Universities

Table 6: Recovery arrangements





Resilience

Auckland-specific goal

To become the world's most liveable city, Auckland must ensure that its resilience to disasters is integrated into all levels of society. By integrating resilience within the frameworks of communities, businesses, agencies and organisations, the vision for Auckland to become a liveable and safe city can be achieved.

Goal

To build a resilient Auckland to support the vision of Auckland becoming 'the world's most liveable city'.

Principles

- Support the implementation of Auckland's vision to create 'the world's most liveable city' across CDEM Group, key partners and stakeholders by building resilient and safe communities.

Objectives

1. Provide strong leadership and governance frameworks and direction.
2. Create the world's most liveable city.

Outcomes

1. Auckland's communities, businesses and organisations are more resilient.
2. Contribute to the Auckland Plan to ensure Auckland is fair, safe and healthy.

Statement of expectations

CDEM Group, key partners and stakeholders understand building resilience is a key priority and are responsible for working together with the wider community to create the world's most liveable city.

Issues and challenges

- Auckland growth is putting significant pressure on its ability to be resilient. This is increasing communities' vulnerability to hazards and risks.
- Lack of understanding across partners and stakeholders of how to incorporate disaster resilience into their organisational plans and policies.



Management and governance

The CDEM Group includes a statutorily established committee, with key partners and stakeholders as observers, responsible for coordinating CDEM activities across the Auckland region.

Principles

The principles underlying the role of management and governance in Auckland are as follows:

- **Strategy** – Auckland’s strategic direction is the foundation of all CDEM activities.
- **Leadership** – provide strong leadership and commitment across CDEM at political and executive levels.
- **Engagement** – active engagement across the CDEM Group, key partners and stakeholders, and Auckland’s communities to deliver the regional and local outcomes that will support and promote a resilient Auckland.
- **Decision-making** – contribute to the development of policies and frameworks across CDEM that will underpin the success

of the Group Plan. By placing emphasis on what is important, having attention to detail, and allowing the CDEM Group to make effective, efficient and legitimate decisions, Auckland will continue to build resilience.

- **Roles and responsibilities** – CDEM Group, key partners and stakeholders understand their obligations under their own legislation. This plan will not affect those obligations.
- **Value Te Ao Māori** – ensure Māori values and perspectives are taken into account when developing long-term business direction. Developing performance standards and collective goals that contribute to key Te Tiriti o Waitangi / the Treaty of Waitangi outcomes.

Issues and challenges

- Roles, responsibilities, and accountabilities are not always clear.
- Poor understanding of how CDEM Groups, key partners and stakeholders can effectively implement local, regional and national risk-reduction initiatives.





Māngere Mountain

Objective

The objective for CDEM is to deliver strategic, focused, committed and responsive leadership across the CDEM Group needs.

Behaviours

The CDEM Group behaviour model connects the vision for the CDEM Group to Auckland Council. It aims to convey performance expectations and operational excellence.

- **Innovation** – proactively recognises the need for innovation, continuous improvement and initiates efforts to explore alternative solutions.
- **Respect** – everyone is expected to behave with the highest standards of courtesy reinforcing that we are trustworthy and respectful.
- **Accountability** – ensures that those responsible for implementing a strategic initiative have role clarity and accountability for required actions and outputs as well as the mandate to act in a way consistent with organisational values.
- **Pride** – identifying opportunities to make things better by being open, sharing new ideas and taking pride in and enjoying your work.
- **Teamwork** – places higher priority on team or organisation goals than on own goals.
- **Service** – our 'can do' attitude demonstrates CDEM's flexible and adaptive approach to any situation that we encounter.
- Challenge the status quo regularly.
- Continuous improvement.





The CDEM Act 2002 specifies the governance requirements²⁸ for emergency management in New Zealand. This guides the role of the CDEM Group and Coordinating Executive Group (CEG). Outside these statutory requirements, Auckland needs a resilience platform to better manage disaster risk across the city.

Governance is critical to the initiatives that will make our city more resilient and, as a result, more liveable. Therefore, to effectively manage short, medium and long-term risks and cost, we need many partners: city leaders and senior officials, local government representatives, infrastructure agencies, CDEM Group, business and insurance sectors, special interest groups and private enterprises.

Auckland’s unique local government structure, comprising the Governing Body, the Independent Māori Statutory Board, local boards and advisory panels, is a significant resource for cross-region collaboration and local consultation. These groups, particularly local boards, play an active role in working with Auckland’s communities to better understand disaster risk and deliver emergency management services.

The CDEM Act requires two groups to be established to manage emergencies in Auckland.

The following outlines the CDEM Group and the CEG roles, responsibilities and established arrangements required under the CDEM Act 2002.

- The CDEM Group committee is comprised of governing body elected representatives with observers from CDEM key partners and stakeholders. The role of the CDEM Group

committee is to provide strategic direction and leadership across CDEM key partners, stakeholders and communities. The CDEM Group committee is responsible for overseeing the delivery of coordinated and collaborative CDEM arrangements across the Auckland region. The CDEM Group committee’s operational arrangements are administered by Auckland’s CEG.

- The CEG, comprised of senior representatives from CDEM agencies, acts an advisor to the CDEM Group. The CEG’s roles and responsibilities are to provide for the planning, organisation, coordination and implementation of CDEM in Auckland. Current arrangements include Auckland Lifelines Group, Auckland Welfare Coordination Group (AWCG), Emergency Services Coordinating Committee and Emergency Management Committee.

All CEG members must work collaboratively to produce an annual integrated work programme to give effect and ensure alignment in the implementation of the Framework for Action. Auckland Council is the administering authority to both groups, which are supported by the CDEM department within the Operations division. The administering authority is responsible for the funding and coordination of CDEM activities within the Auckland region. The CDEM department takes advantage of the council’s vast range of services and resources to deliver community-based services. Through cross-region collaborative initiatives, there is a substantial opportunity to make Auckland’s size work.

The CDEM department where in Appendix 3 describes how we as a department implement the vision of *working together to build a resilient Auckland*. It represents how we achieve this, by engaging and enabling communities, having customer friendly services and making our size work. Our culture of collaboration, serving, achieving and developing provides the basis for implementing these pillars to achieve our vision.

The CDEM department provides the following roles, responsibilities and functions:

- review and align the CDEM Group member work programmes
- advice and technical support for the CDEM Group and the CEG
- project and programme coordination and management
- coordination of regional CDEM policy and implementation

Auckland Civil Defence and Emergency Management Group committee

- Seven Auckland Council governing body councillors
- Two representatives of the Independent Māori Statutory Board
- Ex-Officio: Mayor, Deputy Mayor and all other councillors

Figure 6: Membership of the Auckland Civil Defence and Emergency Management Group committee

Figure 7: Membership of the Auckland Coordinating Executive Group

- managing contracts entered into on behalf of the CDEM Group or CEG
- managing and administering CDEM staff on behalf of the CDEM Group
- external liaison with the CDEM sector
- coordination of monitoring and evaluation activities
- preparation of the annual report for the CDEM Group’s activities, budget and performance.

Auckland Coordinating Executive Group (CEG)

- Chair: Auckland Council Chief Executive
- NZ Police
- NZ Fire Service
- St John Ambulance
- Health Coordinating Executive Group Chair
- Auckland Welfare Coordination Group Chair
- Auckland Lifelines Group Chair
- NZ Defence Force
- Auckland Harbourmaster
- Auckland Principal Rural Fire Officer
- Auckland Controller
- Auckland Transport Operations Centre(s)

The following are observers:

- Auckland Council CDEM department representative
- Ministry of Civil Defence & Emergency Management representative





Declaration

When an emergency happens, or has the potential to occur, a state of emergency may be declared under section 68 of the CDEM Act 2002. A person who makes a declaration must immediately give notice to the public of the declaration by any means of communication that are reasonably practicable in the circumstances, and must ensure that the declaration is published in the Gazette as soon as practicable.

A state of emergency comes into force at the time and on the date that a declaration of the state of emergency is made. A state of emergency expires seven days after the time and date on which the state of emergency comes into force.

Before a state of local emergency expires, a person authorised to declare a state of local emergency for an area may, by declaration, extend the state of local emergency. An extension of a state of emergency comes into force.

a) immediately before the state of emergency would have expired under section 70(3); or

b) if the state of emergency was previously extended under this section, immediately before that extension would have expired.

Persons authorised to declare a state of emergency under the CDEM Act 2002

The Mayor and nominated members of the CDEM Group committee as per resolution by the committee are authorised to declare a state of local emergency. The hierarchy of persons authorised to declare a state of local emergency is noted below:

- Mayor
- Chair of the Auckland CDEM Group committee
- Deputy Chair of the Auckland CDEM Group committee
- Other councillors who are members of the Auckland CDEM Group committee

Best endeavours will be made to follow the hierarchy, however, if time is of the essence, the signature of any of those authorised to declare will over-ride this hierarchy.

Key appointment	Legislative requirement	Description
Controllers and alternates	CDEM Act 2002, Section 26	The CDEM Director is the Primary Group Controller and will be the first contact in the event of an emergency. If the Director is absent, alternate controllers will be contacted (Appendix 1). Given that the CDEM Group is a unitary authority, there are no Local Controllers.
Welfare Manager	National CDEM Plan Order 2015, Section 62(6)(b)	The Welfare and Recovery Managers are appointed by the CDEM Group and are predominantly members of Auckland Council with specialised welfare and recovery skills.
Recovery Manager	National CDEM Plan Order 2015, Section 157(1)	

Table 7: Roles of appointed persons

Transition from Response to Recovery

Formal transition from response to recovery will be planned before a declaration is terminated and will involve:

- briefing of the Mayor and Chief Executive throughout both the response and recovery phases
- the Chief Executive confirms terms of reference of the Recovery Manager, including delegations
- termination of response, including any declaration, currently in force.

Persons authorised to issue a Notice of Transition under section 94B of the CDEM Act 2002, after first being satisfied that issuing a notice is in the public interest and necessary or desirable for a timely and effective recovery.

Role and responsibilities of local boards

The Auckland region is divided into 21 local board areas, as presented in Figure 8. Auckland’s 21 local boards are a key part of Auckland Council governance. They represent and make decisions on local matters, provide local leadership and support strong local communities²⁹.





The hierarchy of persons authorised to then issue the Notice of Transition is noted below:

- Mayor
- Chair of Auckland CDEM Group Committee
- Other councillors who are members of the Auckland CDEM Group Committee

Best endeavors will be made to follow the hierarchy, however, if time is of the essence, the

signature of any of those authorised to declare will over-ride this hierarchy.

It is the responsibility of the 21 local boards to drive the 4Rs Framework with their communities at a grassroots level. The CDEM Group works with the local boards to develop and implement strategies, plans and policies to create resilient communities.

REDUCTION	READINESS	RESPONSE	RECOVERY	RESILIENCE
• Advocate and promote goals and priorities in the Group Plan. • Encourage increased investment in disaster risk reduction. • Promote disaster risk reduction to influence opinion and action for sustainable development.	• Work with local communities and businesses to increase understanding and participation in building resilience. • Participate in training and development.	• Two-way communication and information flow to ensure consistent and timely messaging. • Leadership in local matters.	• Support impacted communities. • Contribute to strategic planning for recovery.	• Integrating resilience across all levels of society to support the implementation of Auckland’s vision to create ‘the world’s most liveable city’.

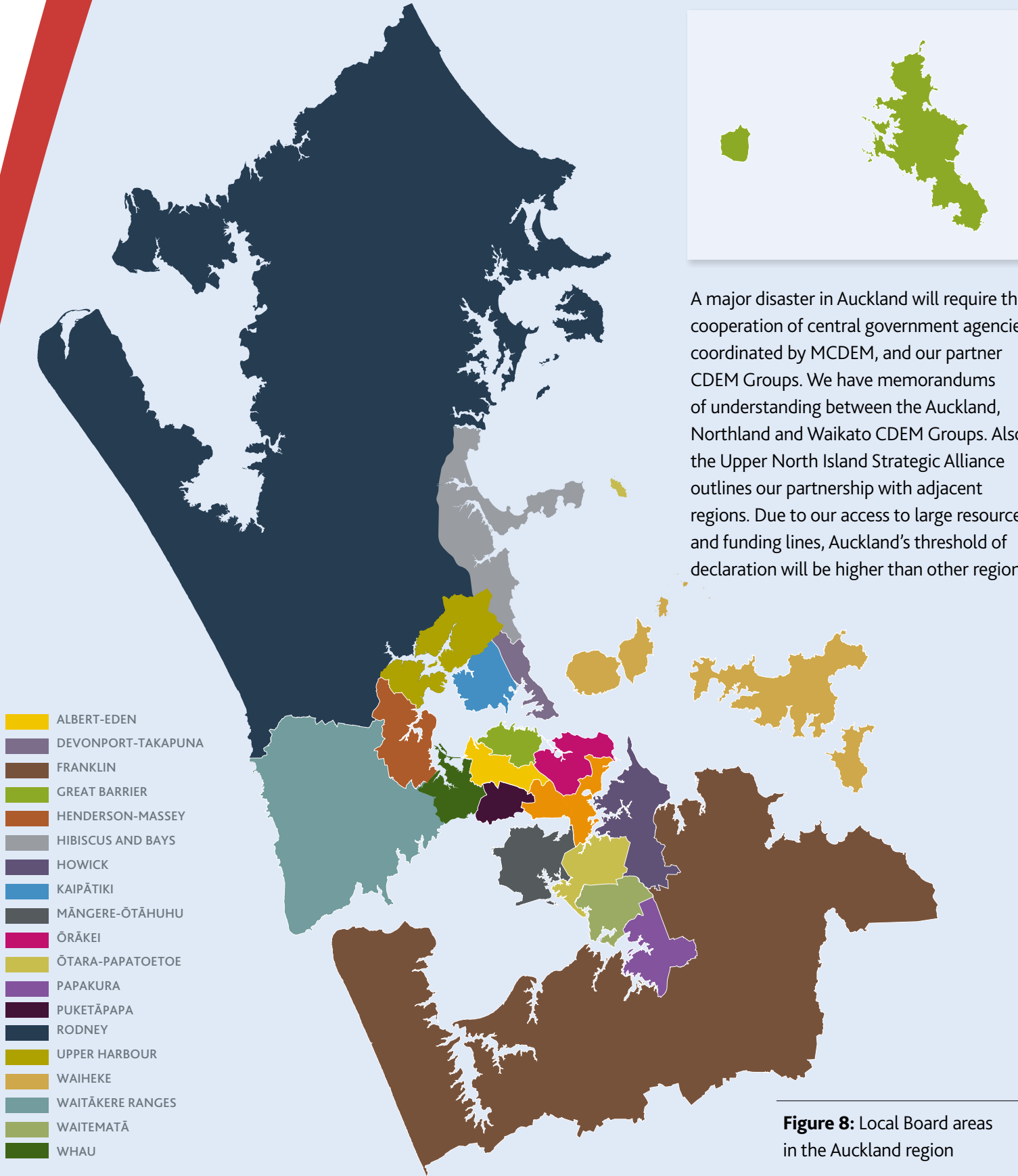


Figure 8: Local Board areas in the Auckland region





Māori Responsiveness Framework

Auckland Council is committed to meeting its responsibilities under Te Tiriti o Waitangi/the Treaty of Waitangi. Policies and actions must recognise Māori rights and interests within Tāmaki Makaurau and address and contribute to the needs and aspirations of Māori.

To support these commitments and embed Māori responsiveness into all internal and external council activities, Auckland Council has developed a Māori Responsiveness Framework.

To align with council's Māori Responsiveness Framework, the CDEM Group is developing a Māori Responsiveness Plan. This plan will have an internal focus on CDEM's staff professional development, and an external focus that provides a framework to engage, communicate and consult with mana whenua and mataawaka. The consultation will be ongoing and enduring to ensure the actions within the MRP align with mana whenua beliefs, priorities and real-time

challenges. The CDEM Māori Responsiveness Plan will align to the objectives in the Group Plan across the 4Rs Framework.

To ensure the Māori Responsiveness Plan is embedded into the Group Plan the CDEM Group will actively collaborate with mana whenua through a process of ownership that is outcomes-focused.

The CDEM Group will:

- Incorporate a culture of Māori capability and capacity.
- Collaborate with Māori communities in the development of strategies to enhance resilience.
- Embed a department-wide culture of confident, effortless Māori responsiveness.
- Support effective Māori participation in democracy.
- Increase in Māori leadership at all levels.



Financial arrangements

Auckland Council is the sole financial contributor to the CDEM Group. Auckland Council funds a CDEM department that:

- provides administrative and related services under s24 of the CDEM Act 2002 for the CDEM Group
- completes an annual work programme
- provides coordination in an emergency.

Auckland Council’s financial arrangements and policies guide all expenditure and reporting. CDEM Group have the opportunity to provide input into CDEM department activities through CEG. CDEM costs can be incurred in three ways:

1. Day-to-day CDEM department activities:

- the cost of providing administrative and related services under s24 of the CDEM Act 2002
- the cost of reduction and readiness activities performed by the CDEM department to fulfil agreed levels of service.

2. Projects

- Projects not based on the Group Plan that are identified as priorities.

3. Emergency expenditure

The CDEM Group has committed emergency expenditure financial facility to fund initial and immediate emergency response and recovery costs.

For day-to-day CDEM department activities, all levels of service and resourcing are established by Auckland Council using the Group Plan, the long-term plan and annual plan processes.

Projects and resourcing are established by Auckland Council working with external agencies represented at the CEG using the Group Plan and the Auckland Plan process. As of 2015, the Auckland Council’s operating revenue is provided through rates (45 per cent), grants, subsidies, development and financial contributions, user charges and fees. Therefore, the financial agreements for the CDEM Group are also determined by Auckland Council’s operating revenue and its overall cost-benefits analysis for all Auckland-wide departments.

At all times, the CDEM Group must be aware of affordability and best-value outcomes within the work programme. To ensure this takes place, it will undertake regular best-value reviews of its operations and partner interfaces.

In the lead-up to a declared emergency, the CDEM Group is responsible for funding:

- all costs associated with the resourcing activation and operation of the ECC
- all reasonable direct expenses incurred by the Controller
- all reasonable direct expenses (such as travel, meals and accommodation) incurred by recognised technical advisors when they are requested to attend meetings.

During a declared emergency, the CDEM Group is responsible for funding:

- all costs associated with the resourcing activation and operation of the ECC
- all reasonable direct expenses incurred by the Controller
- all reasonable direct expenses incurred by recognised technical advisors
- costs associated with the use of resources and services under the direction of the Controller.

Response costs in a Civil Defence Emergency

In an emergency, CDEM agencies are expected

to meet their own operational costs. The procedure for claims is outlined in the *Guide to the National CDEM Plan*³⁰. Upon termination of the emergency, the Recovery Manager will communicate to the CDEM Group and to central government about which costs could reasonably be met by either party.

Generally, response costs that can be recovered from central fall into two categories:

The cost of caring for the displaced:

- Costs associated with accommodating, transporting, feeding and clothing evacuees. Central government will reimburse 100 per cent of the agreed costs.

Other response costs:

- Other expenditure associated with responding to an event that may be partially reimbursed by government.

Volunteers suffering personal injury, or damage to or loss of property while carrying out emergency work under the authority of the Controller, may also submit claims to the authority employing the Controller, or in the case of the Controller, to the CDEM Group.



Measuring our progress

Goal

The successful implementation of the Group Plan depends on effective monitoring and clear evaluation processes. To ensure accountability within the CDEM Group, key partners and stakeholders, the Group Plan sets high-level performance expectations.

Principles

The Group Plan uses principles and legislation within the CDEM Act 2002, the National CDEM Plan and Guide, supporting documentation, and the Auckland long-term plan to inform this process. This will ensure our outcomes are in line with the expectations of these documents and the national Monitoring and Evaluation guidelines.

These principles are that

- all CDEM partners and agencies enhance organisational learning to increase capability
- the CDEM Group ensures informed decision-making processes
- substantive accountability is supported by the CDEM Group for all partners and agencies
- the CDEM Group build capacity, capability and support partners and agencies in this development.

Statement of expectations

- All CDEM Group and partners continually monitor and measure progress against current goals and objectives outlined in the Group Plan. The monitoring and evaluation programme is agreed by all members and partners and meets the expectations of our communities.

Issues and challenges

The Group Plan highlights the issues and challenges Auckland faces in building resilience to disasters across all environments. It recognises that desired outcomes include ownership and participation from individuals and households, communities and businesses, across government and non-government organisations, and multiple sectors.

Issues include:

- capacity and capability are not quantified or tracked
- evaluation action plans are not being implemented
- lack of national benchmarking frameworks
- lack of Auckland-specific key indicators.

Objectives and outcomes

Objectives	Outcomes
Measure our performance against standards	• Group Plan Framework for Action objectives will be implemented to agreed timelines. • Work programmes are evaluated to ensure performance is to the required standard.
Exercise, test and grow our capability and performance	• CDEM Group will demonstrate capability and competence in key tasks by applying skills in national and regional exercise programmes. • CDEM Group will evaluate events, exercises and incidents and demonstrate understanding of key performance areas. • CDEM Group will implement evaluation action plans to improve capability and capacity, and apply these.
Analyse effectiveness	• CDEM Group members will identify lessons learned in events and apply these into local practices as appropriate. • CDEM Group will review the CDEM Capability Assessment Tool outcomes, understand the implications at a local level and identify action opportunities.
Track our progress towards goals and objectives	• CDEM Group will evaluate the progress of group objectives over time and demonstrate that these are being achieved, delivered or planned. • CDEM Group will take into account changing demands and requirements and understand how these impact the achievement of objectives. Where necessary this will result in the implementation of additional tasks or actions.

Table 8: Objectives and outcomes to measure our performance





Monitoring and evaluation

Monitoring and evaluation are essential to the integrated risk management process. They allow comparisons to be made between actual and desired states, enable ongoing analysis, and refinement of decisions and implementation processes to improve outcomes. Monitoring involves tracking progress against a plan or performance against standards, generally using quantitative data. Evaluation is about measuring effectiveness; it compares what is happening against what was planned and interprets the reasons for any differences.

The Auckland Council CDEM Department reports progress monthly via the Auckland Council Opal3 reporting system. Opal3 measures objectives described in the departmental business plan and supporting work programmes which is aligned with the CDEM Group Plan Framework for Action. Quarterly reports are provided to the CEG and CDEM Group committee. If necessary, the work programme can be adapted where outcomes are not being achieved or improvements or alternatives have been identified.

The CDEM Group is also evaluated on a regular basis using the CDEM Capability Assessment Tool developed by MCDEM. The capability of the CDEM Group was last reviewed using this tool in September 2014, and the outcomes from this review were referred to during the development of this Group Plan and the Auckland Council CDEM Department Business Plan.

Further monitoring and evaluation for the CDEM Group can be undertaken internally or by external agencies. It is generally focused in three different areas:

- compliance – monitoring the fulfilment of both legislative requirements and those requirements outlined within the CDEM Group Plan.
- performance – measured as capability and capacity to ensure work programmes are being carried out according to needs and requirements.
- outcomes – monitoring and evaluating progress towards the high-level goals and objectives of the CDEM Group.

Group Plan review process

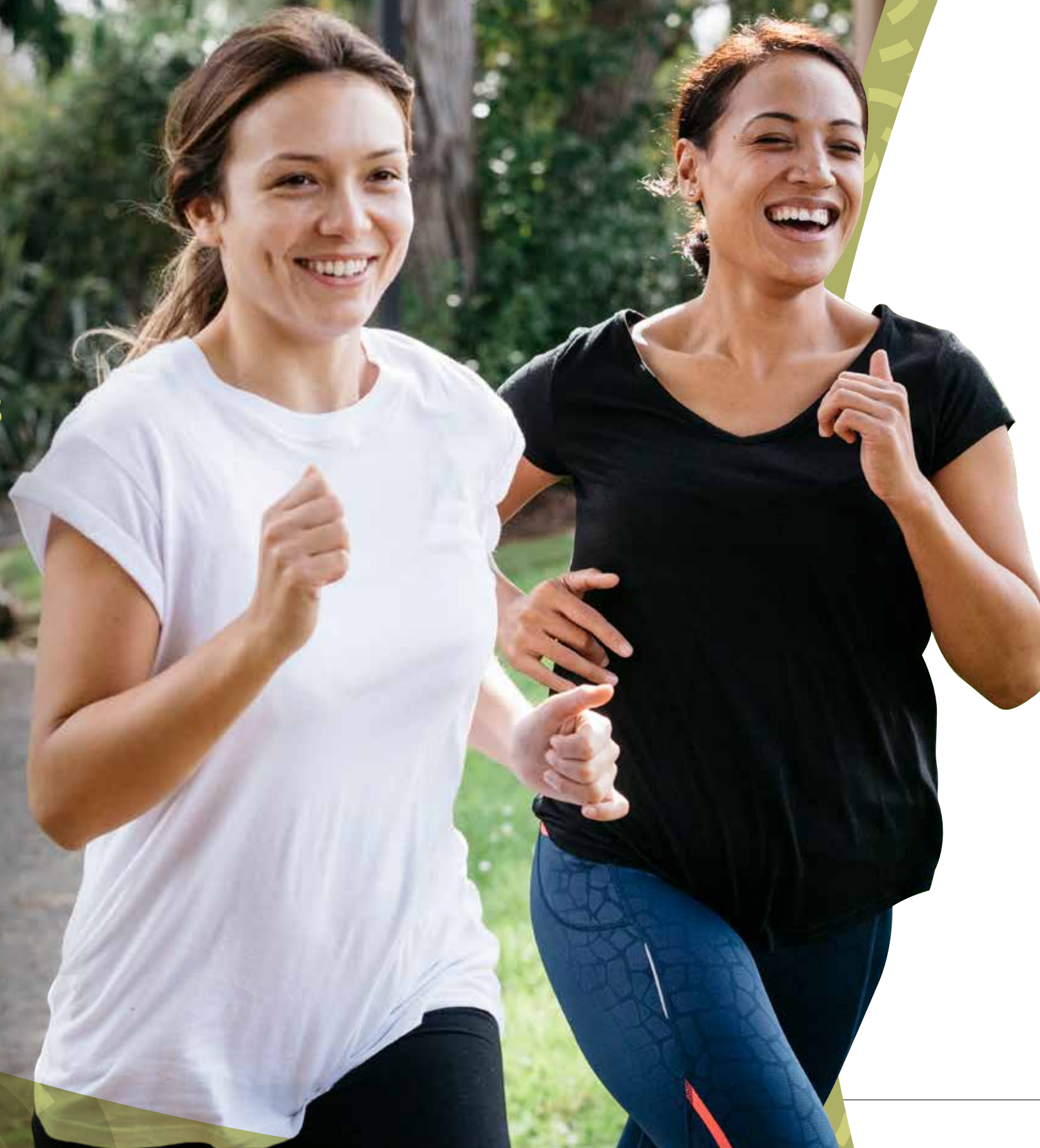
After the Group Plan is adopted, CEG members will continue to work with central government officials in order to seek further alignment between targets and actions in the Group Plan and communicate changes in legislation and best practice. We will monitor and evaluate our engagement and development within communities.

Further information on the Group Plan development, consultation and review process is outlined in the introduction.



Part C Building resilience

Our community resilience principles



Understand community complexity

- A realistic understanding of the complexity of a community's daily life will help emergency managers determine how we can best meet its true needs.
- Once we move beyond easy, typical approaches, we can look at real situations and issues.

Be inclusive

- See diversity as an asset and strength.
- Identification of vulnerable groups is vital for their recovery after a disaster.
- Understanding our differences will help to remove any barriers to participation.

Recognise community capabilities and needs

- A community's needs must be defined by what it requires, without being limited to what traditional emergency management capabilities can address.



Foster relationships with community leaders

- Every community has formal and informal leaders with valuable knowledge and insights.
- Leaders can help identify activities in which residents are already involved. This could inform preparedness campaigns that have more appeal and relevance.
- Emergency managers and community leaders form trusted relationships as they learn to support and rely on one another, to solve problems together.
- Be transparent about sharing information, planning processes, and capabilities to deal with hazards and risks.

Build and maintain partnerships

- Find the shared interests that bring groups and organisations together.
- Ensure decisions are made as close as possible to the people affected.
- Sustain the incentives to collaborate over time, while improving connectedness through public-private partnership. Businesses play a key role.
- As businesses consider their continuity plans for surviving a disaster, they must identify what their customers need to survive. Without customers and employees, businesses fail.

Empower local action

- Community members must be allowed to lead, not follow, in identifying priorities, organising support, implementing programmes and evaluating outcomes.
- Ownership of projects is a powerful incentive for sustaining action and involvement.
- Supporting home-grown resources and responses will boost a can-do attitude.
- Encourage communities to adapt creatively to risks and hazards, ensuring they understand the issues and are part of the solution.
- Clear messages and open discussion of the roles and responsibilities will help communities commit adequate resources and understand the desired outcomes.

Use and strengthen social networks and assets

- Communities are extremely resourceful at dealing with everyday challenges. A culture of shared responsibility and decision-making links communities and leaders in tackling shared problems.
- Understanding how communities operate normally (before a disaster) is critical to immediate response and long-term recovery.
- Invest in the social, economic and political structures that make up daily life, and connect them to emergency management programmes.



Be prepared, build resilience

Auckland faces many hazards that pose vulnerability to individuals, communities and businesses. Being prepared is a cornerstone in growing Auckland’s resilience for the future, but we also need to respond effectively to events when they occur.

It’s not just about planning for the unexpected, but knowing how to respond to events.

Being prepared involves taking action before, during and directly after an emergency to ensure that people stay safe, their properties are protected and Auckland can recover quickly.

In an emergency, a large-scale response will have huge impacts on leadership, welfare, businesses and communities. Auckland has not needed to respond to a large-scale, regional event, so our

ability to respond and recover should one occur has never been tested. This is not to say we are unprepared; contingency plans, evacuation plans and response systems are in place and ready to use when needed.

There are steps Auckland can take now before an emergency occurs, that can reduce exposure. These are the objectives of the Framework for Action³¹ which will create a safe and more prosperous region, one that understands its hazards and has resilient communities working together.

Detailed below are Auckland’s 13 objectives to achieve the vision of *working together to build a resilient Auckland*.

Strong partnerships

We are witnessing unprecedented technological and social change. The concept of being socially resilient to disasters is fairly new. Traditionally, the focus has been on individual preparedness. No single person, community or agency is responsible for resilience to disasters; everyone must take part. By working closer with key partners, stakeholders and the community, the CDEM Group has the ability and environment to generate ideas, identify opportunities, drive productivity and work towards the shared vision of the Group Plan.

- ✓ Through the development of a shared creative workspace to explore opportunities to integrate disaster risk reduction into common practice across the CDEM Group, key partners and stakeholders and the wider community.

One of the missing pieces in community resilience is a better understanding of resilience in the context of a large metropolitan area. By educating and engaging community leaders to promote resiliency in their communities we can reach communities that may not be as knowledgeable about the importance of disaster preparedness. The government alone cannot adequately prepare for, respond to, or

drive recovery from an emergency; it takes the whole community to create resiliency.

- ✓ By developing strong and sustainable partnerships between the CDEM Group, community leaders and community networks, innovative approaches will be co-developed and delivered to build community resilience.

Co-created research

The CDEM Group relies on scientific research for accurate and reliable information about risks, hazards and what to expect when disasters affect Auckland. Working with other agencies and research organisations, the CDEM Group will continue to undertake co-created research projects, linking academia with practice, to gain a better understanding of Auckland’s environments, how we can minimise future losses, and inform effective land management, planning and other mitigation activities.

- ✓ In line with the *Auckland Council’s Natural Hazard Risk Management Action Plan* recommendations, develop a 10-year hazard research plan to target gaps in knowledge and information.





A safe city

Building a safe city is essential to the economic, social, environmental and cultural well-being of Auckland's communities, businesses and the region as a whole. A sustainable approach to infrastructure planning, focusing on building strong communities and sustainable ecological systems, will make better use of existing networks to manage the demand for new infrastructure efficiently and equitably, ensuring that investment leads to the most effective outcomes for Auckland.

Auckland's economy must be robust to ensure that major events, such as global economic crises, cause minimal disruption to the region and the nation.

- ✓ By working with key partners and stakeholders, the CDEM Group will continue to improve Auckland's understanding of the economic risk of disasters in the long

term, with a particular emphasis on the consequences of hazards and exposure to our economy.

The climate is changing globally, regionally and locally. The risks associated with climate change are likely to be wide and far-reaching, including changes to temperature and rainfall patterns, more frequent and intense weather events and accelerated sea-level rise. Auckland's response to climate change is outlined in the Auckland Plan³².

- ✓ Through a collaborative partnership, the CDEM Group, key partners and stakeholders will continue to advance Auckland to a sustainable, energy resilient, low carbon future by developing and implementing adaptive land planning and management initiatives.





Knowledge through education

Due to the nature of the environment and landscape, it is not possible to completely remove all risks to people and property. Knowing the hazards in the area and having a better understanding of risk by communities, businesses, agencies and organisations, will help Auckland cope better in an emergency. For example, properties could be located in a tsunami zone, affected by power outages, susceptible to flooding or vulnerable to landslides.

Being resilient requires input and ownership from everyone. People are at the heart of our region, so by sharing an understanding of the environment we live in, and ensuring everyone works together, Auckland can be better prepared.

- ✓ By working with communities, businesses, agencies and organisations, the CDEM Group will develop and implement successful strategies to increase resilience.

Volunteer participation

When it comes to educating Auckland's communities and planning for emergencies, volunteers play a vital role. Lessons from the Christchurch earthquakes showed that when emergencies occur, people join together to help each other, forming spontaneous groups, such as the Volunteer Student Army. We must harness this enthusiasm with a volunteering campaign to strengthen volunteer energy through an organised volunteer engagement framework.

- ✓ Through the development, implementation and evaluation of a Volunteer Engagement Framework, which includes spontaneous volunteers, Auckland will be better prepared to respond to and recover from an emergency.

Volunteering is an opportunity for all individuals to contribute and build stronger local networks and communities. By partnering with local, regional and national agencies to encourage and promote volunteering, whether it's through community groups or within organisations, Auckland can use its size as a positive to create powerful relationships to strengthen community resilience.

- ✓ Through utilising and working with established community and organisational volunteering networks that support and optimise community collaboration, the Auckland region will be stronger in the face of adversity.



Individual readiness

Emergencies such as floods, fire, tornadoes, or loss of critical services are well-reported in the news. Research shows that today's communities are more aware of the hazards and risks that may affect them, particularly where they live. Individuals also have ready access to hazard and risk information, such as flood and tsunami inundation maps, to help guide their land-use decisions and preparedness levels.

Barriers

To increase Auckland's levels of preparedness, the CDEM Group, key partners and stakeholders and communities must overcome barriers to build Auckland's resilience.

As discussed earlier, a recent survey illustrated that Aucklanders have a good awareness and understanding of the types of hazards that could affect Auckland and what being prepared means for an emergency situation. 52 per cent of those surveyed stated that they have the necessary emergency items needed to survive a disaster,

such as tinned food, toilet paper, a torch and spare batteries. 40 per cent of those surveyed who owned emergency survival items, regularly update their supplies.

Although this is a great result, the understanding needs to be improved through on-going public awareness campaigns. The CDEM Group will continue to seek the most up to date information about individual, household and community preparedness in Auckland through continuing to survey Aucklanders and improve understanding through on-going public awareness campaigns.

Having a conversation with family and friends is the most important way to make sure everyone agrees and understands the actions to take if they are separated during a disaster. This is more important than simply filling out the household emergency plan. Survey respondents have told us that the most significant connection for getting this information about hazards and disaster preparedness is from family members.

52 per cent of those surveyed stated that they have the necessary emergency items needed to survive a disaster, such as tinned food, toilet paper, a torch and spare batteries.

Changing attitudes

Low motivation and complacency require a change in individual behaviour and attitude. From a planning perspective it would be useful to know the level of preparedness across geographic and demographic groups in the region. The CDEM Group does not have enough detailed data, but we do know that Aucklanders are generally apathetic about their need to be prepared for disasters.

Our region's challenge is to shift Aucklanders from apathetic awareness to personal preparedness.

The CDEM Group, key partners and stakeholders must promote a culture of preparedness that is embedded into everyday life and becomes a natural attitude of 'that's just how we do things around here'.

The challenge of diversity

Auckland is ranked as one of the most diverse cities in the world. It is home to more than 1.5 million people and over 200 cultures speaking multiple languages with various education levels and economic statuses. Such diversity makes preparing for a large-scale disaster extra challenging but can ultimately be harnessed as a strength. The current suggested approach for individual and household preparedness is the 'Never happens? Happens'³³ campaign. It is because of the complexity of our communities that we tend to opt for across-the-board approaches, which include communicating hazards and risks to individuals, families and communities. Instead of a blanket approach to educating Aucklanders, the CDEM Group, key partners and stakeholders must focus on strategies that allow individual and community resilience to develop in our communities over time.





Community responsibilities

The challenge is to empower communities to collaborate on strategies to effectively respond to and recover from disasters.

Every community is different

Communities are complex and unique. There is no single solution, institutional guide, technology or academic theory for community resilience. Ideas that work well in one community may not be feasible for another because of, for example, funding, demographics or cultural issues.

Mutual benefits

We must understand what is important to the community to create mutually beneficial relationships that will lead to better social outcomes.

Any disaster resilience strategies must

- be flexible so that they can be adaptable and relevant in each specific area
- meet the needs of the wider community
- offer different participation choices.

*Resilience for our citizens
is how easily they would
bounce back from adversity.*

Local action and reward

The CDEM Group must listen to those who understand and are active in community development. A more detailed understanding of specific needs and capabilities will lead to a more efficient use of resources. In an emergency, spontaneous community collaboration leads to local action and stronger networks. Communities must be able to assess, measure and improve their preparedness, which could be celebrated with tangible rewards or benefits.

Honest communication

It is important to ask the community how they want to be communicated with. This will, of course, vary for different geographical and demographic groups. Open and honest communication is important to build strong, inclusive communities.

Understanding risks and consequences

Understanding and communicating risk so that people can take action remains a significant challenge. Communities must clearly understand the consequences of emergencies in their day-to-day lives and the impacts it has on the people they care about so they can take action in any emergency situation. A good way to do this is by showing them what the consequences of





Parnell Baths

emergencies would be across social, economic, built and natural environments. Stories of what Auckland could look like during and after a major disaster may create a high level of anxiety in the public, but they may also motivate people to build resilient communities that could respond to and recover from such an emergency.

There are limited numbers of local emergency response personnel and finite resources to manage large-scale emergencies, so people must look to each other for help. If people understand the true capacity of the emergency response, that may motivate them to be prepared.

For example, if communities realised the personal and financial implications of disasters, they might take out insurance to reduce their financial burden. Similarly, understanding consequences such as the time required to restore critical services, might motivate them to put plans in place before disaster strikes.

Vulnerable groups

All residents and visitors to Auckland are considered vulnerable, depending on the emergency. Some communities have a recognised disadvantage, for example, those on low incomes. These groups, however, may often be more resilient as they are more familiar with challenges in daily life. As a result, community and family support networks are usually strong across these communities.

In contrast, a high proportion of migrants live in multi-unit apartments in the inner city, often with family outside New Zealand, and they are not well-prepared for displacement from their homes.

The CDEM Group, key partners and stakeholders must work with agencies and organisations that have networks and connections into these communities to identify those that are at greater risk and who will need extra support during and after any emergency. By connecting with social services, community and faith-based organisations that interact with these groups, we can prioritise those who need assistance first.

Involving vulnerable communities in the development of any disaster resilient means their collective objectives are met, and they are accountable for their present and future condition.

Technology

Resilient communities have a comprehensive understanding of their hazards and are committed to building safe and healthy environments. It is important to have easily accessible and usable hazard and risk information, so Auckland's communities can make informed decisions. Communities must also be able to use technology and data for their own disaster resilience strategies. Emergency technology platforms are not the total solution, but these can be a powerful toolbox to extend the reach and efficiency of existing programmes.





Building resilience in our communities, businesses and organisations



Shared responsibility

In adversity, people and communities are the true sources of strength, and building resilience is a shared responsibility across the whole of society. Typically, disaster resilience is not the number-one priority for any group, yet taken as a whole, the investment pays huge dividends when disasters strike. No community is immune to disasters.

To get everyone on board, understanding the risks and building strong networks to withstand them, Auckland faces a number of challenges.

Ownership and participation

Everyone must play a part through strong partnerships and networks at government, business and community levels. A sense of shared responsibility will inform Auckland’s CDEM strategies such as public education campaigns, hazard and risk awareness, communication plans and community development programmes. However, shared responsibility does not mean equal responsibility.

At the national and local level, the government plays a crucial role in shaping the direction of disaster risk reduction and resilience.

Government and non-government organisations continue to improve their capability and play an integral role in CDEM. However, they cannot do it alone.

At the grassroots level, individuals and communities play a key role because they may be personally involved in the emergency.

Individuals, households and communities need to take greater responsibility for their own safety. Everyone is a partner.

Trust and social values

A trusting and open relationship is essential to building and sustaining resilience across Auckland’s leaders and our communities.

- ✓ By developing a comprehensive hazard and risk awareness campaign, with a focus on the consequences, communities, business, agencies and organisations will understand the disaster risks, understand the impact and be better prepared.

Social values

The CDEM Group recognises that beliefs, ideas and values are necessary and critical to community development and social change. Auckland’s communities have different needs, interests and priorities. Through profiling, we can gain a better understanding of their drivers and values.





Business resilience and organisational resilience

Failure to plan can be disastrous. Businesses, large and small, often do too little, too late to prepare for the unexpected. At best they risk losing customers while getting their business back on its feet. At worst their business may never recover and ultimately cease trading. Experience has shown that it is vital that Auckland’s businesses and organisations respond and recover quickly to get back to normal operations.

As Auckland aims to become a more resilient region, the CDEM Group, key partners, stakeholders and the business community need to ensure collectively that frameworks are developed and adapted to enhance organisational and business resilience. Organisations and businesses must accept more accountability in becoming more resilient.

- By working with business and organisations in the community, the CDEM Group, key partners and stakeholders will improve the resiliency of Auckland’s businesses to better respond to and recover from an emergency.

A resilient business³⁵ is more thoughtful and adaptive. It can provide high levels of continuity of service, ensuring it is effective, efficient and productive – even during an emergency.

To function to the fullest extent during and after an emergency, and to contribute to response and recovery activities, each organisation or agency within the CEG is expected to undertake readiness activities as described in the agency-specific sections in the Guide to the National CDEM Plan.

This includes:

- establishing and maintaining necessary equipment and operational systems
- addressing any need for specific interoperability
- coordinating with interdependent agencies
- monitoring and evaluating capacity and capability to perform effectively and efficiently.

Our partnership with research institutes, such as Resilient Organisations³⁴, ensures there are opportunities and resources to fulfil these expectations. Resilient Organisations focuses on helping businesses, industries, and economies to survive emergency events and to become more resilient. To build a resilient business it is essential to follow five key factors:

- effective leadership
  - a culture of valuing employees
  - establishing ways of collaborating
  - committing to collective learning
  - supply chain risk management.
- Through effective partnerships and working relationships with sector groups, the CDEM Group, key partners and stakeholders will improve their organisational resilience.

Emergency management planning

Being prepared requires planning. Emergency management plans help Auckland respond to and recover from disasters that can affect our lives and the lives of those around us. Planning, either through community action or multi-agency operational planning, is fundamental to meeting Auckland’s needs. Emergency management planning must be inclusive, involving the CDEM Group, key partners, stakeholders and the wider community to ensure everyone understands the complexities of emergencies and the importance of planning.

- By working together to develop and test key operational emergency management and contingency plans across the CDEM Group, key partners and stakeholders the response to and recovery from, a disaster will be effective and coordinated to support Auckland’s communities and businesses.

Coordinated Incident Management System

The CDEM Group and key partners and stakeholders work together under the Coordinated Incident Management System (CIMS) framework. Auckland CDEM also applies best practice programme and project management principles to the way we work. The framework allows all agencies involved in the

emergency to have a common understanding and terminology to ensure effective response and recovery. The purpose of the CIMS framework is to:

- establish common functions and terminology to be used by agencies that are flexible, modular and scalable so that it can be adapted to circumstances specific to any level or type of incident.
- enable agencies to develop their own processes, procedures and training.

The role of the CDEM Group in response is twofold³⁶:

- Lead agency for geological, meteorological hazards and infrastructure failure
- Support agency for all other hazards listed in Table 1.

In an emergency, the Lead agency directs the response. The Lead agency is the agency with the legislative responsibility or chosen by agreement of all agencies involved.

For more information about the roles, functions and responsibilities of agencies in an emergency refer to the *Guide to the National CDEM Plan*³⁷.



Resource management

Resources such as fast-moving consumable goods and equipment are critical during an emergency and must be provided in good condition, at the right time, to the right place and in the right quantities. The CDEM Group does not stockpile resources as this has been deemed unsustainable and inefficient. Instead, resources are managed through pre-established relationships with key suppliers and other response agencies, as it has been found that these organisations already have the necessary networks in place to manage these resources. Understanding the capabilities and resources available during an emergency is essential and is a collaborative effort by all response agencies. A database of key suppliers and resources should be maintained during the readiness, response and recovery phases of an event. The logistics function is responsible for coordinating resources and ensuring that they get to where

they need to be; this may require some creative and innovative approaches. For example, salt-water desalinisation plants were set up by the New Zealand Defence Force to provide water to residents in the eastern suburbs of Christchurch during the Canterbury Earthquakes in 2011.

Emergency Coordination Centre

Auckland Council provides an Emergency Coordination Centre (ECC) that allows all CDEM key partners and stakeholders to work together to plan and implement response and recovery activities in support of Auckland’s communities.

The ECC uses an integrated structural approach reflecting best practice programme and project management and CIMS functions and terminology (Figure 9). The roles and responsibilities of the functional teams are outlined in Table 9. The general structure will not change, but the numbers of people in the ECC will vary depending on size and scale of the emergency.

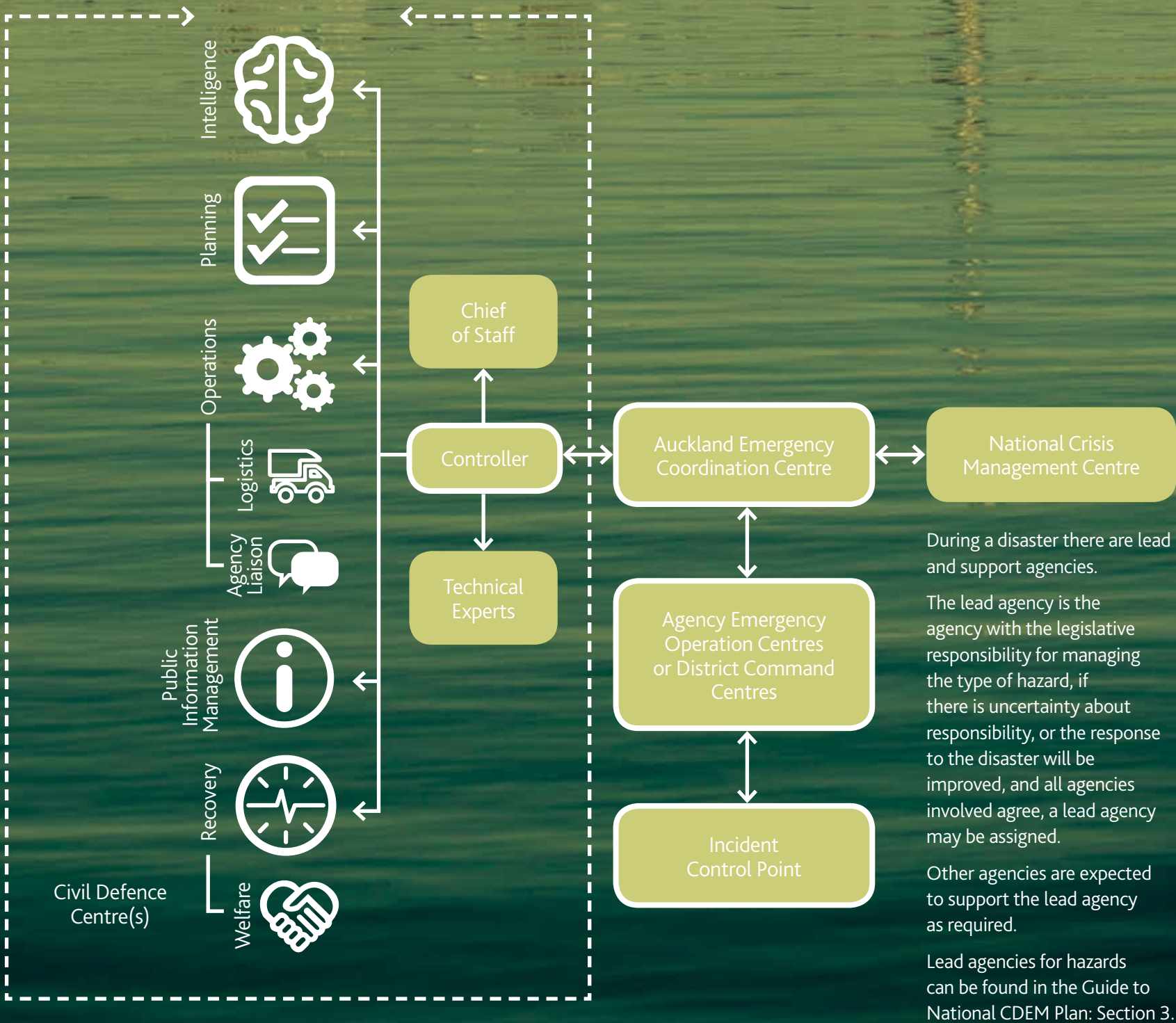


Figure 9: Auckland's Response and Recovery Structure

During a disaster there are lead and support agencies.

The lead agency is the agency with the legislative responsibility for managing the type of hazard, if there is uncertainty about responsibility, or the response to the disaster will be improved, and all agencies involved agree, a lead agency may be assigned.

Other agencies are expected to support the lead agency as required.

Lead agencies for hazards can be found in the Guide to National CDEM Plan: Section 3.





Coordinated Incident Management System
roles and responsibilities

Function	Responsibilities
Control	Coordinates and controls the response
Intelligence	Collects and analyses information and intelligence related to context, impact and consequences, also distributes intelligence outputs
Planning	Leads planning for response activities and resource needs
Operations	Provides detailed direction, coordination, and supervision of response elements
— Logistics	• Provides personnel, equipment, supplies, facilities, and services to support response activities
— Agency Liaison	• Establishes communication between agencies to enable accurate and timely information sharing
Public Information Management	Develops and delivers messages to the public, directly and through the media, and liaises with the community if required
Recovery	Coordinates the efforts of the task groups for short, medium and long-term community recovery following an emergency
— Welfare	• Coordinates the efforts of the task groups for short, medium and long-term community recovery following an emergency

Table 9: Auckland's Response and Recovery structure

The ECC has five alert states of activation depending on the scale of the emergency and the required response needed under the CIMS model. These alert states come under four modes of activation: Monitor, Engage, Assist and Direct.

A detailed outline of the modes of activation can be found in Figure 10.



Mode	Roles	Scale	Emergency Coordination Centre (ECC) activation	Threshold transition
1. Monitor	Monitor and assess threats and incidents that may lead to a local emergency. Passive monitoring 24hrs and actively monitor any emergency risk that is identified and escalate where required.	Lead agency: on standby, minimal staffing to monitor impending or actual emergency. Support agencies: on standby.	GREEN: 24hrs Passive Duty Officer monitoring, supported by back-up Duty Officer OVERSIGHT: Duty Officer WHITE: Duty Officer conducting active monitoring of an emerging risk, supported by a back-up Duty Officer. OVERSIGHT: ECC Manager	Orient/Decide from green to white: Duty Officer or above. Orient/Decide from white to yellow: ECC Manager or above.
2. Engage	Collect, analyse, and disseminate information, report to or advise stakeholders, provide public information.	Lead agency: increased staffing. Support agencies: kept informed, some activated.	YELLOW: ECC Manager and Duty Officer engaged, partial acvtivation by ECC personnel. OVERSIGHT: CD LEAD TEAM	Orient/Decide from yellow to amber: Lead Team or above.
3. Assist	Process or coordinate requests for support from stakeholders, establish a liaison with government, report/ advise stakeholders and public.	Lead agency: partial to full staffing. Support agencies: most activated.	AMBER: CD Lead Team engaged. OVERSIGHT: Controller	Orient/Decide from amber to red: Controller or ALT Controller.
4. Direct	Control and direct overall response.	Lead agency: full staffing. Support agencies: all activated.	RED : Full activation of ECC including functional managers, staff and ACES with multiple shifts possible. OVERSIGHT: Controller	

Figure 10: Modes of activation

Other CDEM Groups

Where possible, other CDEM Groups are expected to provide support and assistance during an emergency. This assistance must go through a formal requesting process between the ECC and the National Crisis Management Centre. The support will be coordinated within the region through the logistics function within the ECC.

Similarly, other regional CDEM Groups may require support from the CDEM Group. The CDEM Group will support other regional groups through official requests from the National Crisis Management Centre. The CDEM Group will assist as far as possible while retaining the ability to respond effectively should an emergency occur within the Auckland region.

National assistance

Response to a significant emergency in Auckland could require support by national groups, which will be coordinated through the National Crisis Management Centre.

Examples of these groups are:

- the National Welfare Coordination Group (NWCG)
- the Transport Emergency Management Coordination Group
- the Visitor Sector Emergency Advisory Group.

When possible there will be a representative from MCDEM in the ECC. This will usually be a MCDEM Regional Emergency Management Advisor who will be the liaison between the National Crisis Management Centre and the ECC. Also, the CDEM Group Controller will work with the National Controller to ensure an effective response. At all times the ECC will operate in accordance with the National Controller’s directives.

More information on how the CDEM Group maintains liaison with these national groups and the details of how they operate can be found in the Guide to the National CDEM Plan³⁸.

International aid

In the event that international assistance is required or offered, all requests will be directed to the National Crisis Management Centre for coordination.

Welfare

At the heart of planning for emergencies is the need to support affected communities during and after an emergency. Planning for a coordinated welfare response is led by CDEM, through the work of the Auckland Welfare Coordination Group (AWCG). This Group is chaired by the CDEM Welfare Manager and addresses the key areas of welfare response, in line with the MCDEM Director’s Guidelines for Welfare. Membership of this group is diverse,

ranging from central and local government agencies, to key non-government agencies, organisations and private businesses. See Table 10 for membership, roles and responsibilities of AWCG.

The formal welfare response focuses on ensuring that affected community members are supported through the response to, and recovery from, emergencies that affect their lives. This response links with and supports spontaneous and planned community-led responses.

CDEM welfare staff work collaboratively with other stakeholders in Auckland, in addition to maintaining relationships with neighbouring CDEM Groups and at a national level through the National Welfare Coordination Group.

A five-year Group Welfare Plan is being developed that will align with national guidelines and the CDEM Act 2002. The plan will outline the strategic welfare arrangements for Auckland in greater detail.

Animal welfare

Animal welfare must also be considered in modern emergency management. While emergencies cause significant hardship for people, animals are often forgotten during these times. The Ministry of Primary Industries leads and facilitates the management of animal welfare. Companion animals, livestock and wildlife may perish, be injured or left without food and shelter during and after emergency events, leading to animal psychological and physical harm. Companion animals are an essential part of families, and livestock are often primary income sources for rural businesses. The loss of valued animals can have significant psychosocial impacts on people; this may reduce or postpone their ability to recover from disaster events.

Auckland Welfare Coordination Group

The Auckland Welfare Coordination Group (AWCG) is a cluster of social sector government and non-government agencies that work together to develop regional arrangements for the coordination of community welfare and recovery in the event of an emergency. Membership is flexible, and the current structure is available by visiting the Auckland CDEM Group website.

Welfare		
Welfare sub-function	Agency responsible/mandate	Key support agencies include:
Registration	CDEM	Inland Revenue, Auckland Council
Needs assessment	CDEM	Ministry of Social Development, NZ Police, Ministry for Primary Industries, Ministry of Business Innovation and Employment, Auckland, Waitematā and Counties Manukau District Health Boards, NZ Red Cross, Salvation Army
Inquiry	NZ Police	Auckland Council, Auckland, Waitematā and Counties Manukau District Health Boards, Ministry of Education
Psychosocial support	Auckland, Waitematā and Counties Manukau District Health Boards	Ministry of Social Development, Ministry of Education, Te Puni Kōkiri, Salvation Army, NZ Red Cross
Financial support	Ministry of Social Development	Inland Revenue, NZ Red Cross, Auckland Council, Accident Compensation Corporation
Household goods and services (e.g. food, clothing, sanitation, furnishings, medication)	CDEM	Auckland, Waitematā and Counties Manukau District Health Boards, Auckland Regional Public Health, NZ Red Cross, Salvation Army
Care and protection of children and young people	Ministry of Social Development (Child Youth and Family)	Ministry of Education, NZ Red Cross, Te Puni Kōkiri
Animal welfare	Ministry for Primary Industries	Auckland Council Animal Management, SPCA
Shelter and accommodation	CDEM (emergency shelter and accommodation) Ministry of Business Innovation and Employment (temporary accommodation)	Ministry of Social Development, NZ Red Cross

Table 10: Auckland Welfare Coordination Group





Capability and capacity

To ensure Auckland can respond to and recover from an emergency, the CDEM Group, key partners, stakeholders and volunteers must be trained through an Integrated Training Framework with supporting capability development activities that are aligned with national expectations. This can link to deployment opportunities, professional development, learning from other agencies' experience and getting expert input.

- ✓ By supporting the ongoing development and implementation of the national CDEM Integrated Training Framework, the delivery of CDEM functions and services in Auckland will be consistent and robust.

Integrated Training Framework

The Integrated Training Framework aims to enhance the overall competency of leadership and staff working in an ECC. This will be done through standardised training that both promotes and supports professional development. The framework includes foundation and intermediate training, as well as advanced function-specific training for the ECC environment.

- ✓ Along with collaborating with others nationally and internationally, the CDEM Group will test the local response

capability with the community and operational response partners, such as the emergency services.

The CDEM Group will develop and conduct multi-agency exercises, looking at large-scale events that may affect Auckland, such as a tsunami or a volcanic eruption, to build Auckland's capability.

Auckland Council and council-controlled organisations employ approximately 11,000 staff, giving the CDEM Group access to a range of individuals with valuable skills, knowledge and experience. Utilising these individuals will make Auckland's size work. Through better management, coordination, and service delivery, the CDEM Group will strive to unlock opportunities within Auckland's community, key partners and stakeholders that can lead to improving daily life, while also preparing the region as a whole for future emergencies. Auckland's local communities are often the best point of contact for local knowledge, whether they have lived there for years or experienced first-hand disasters in their community. The CDEM Group will continue working with and using Auckland's local communities as guides to raise awareness in their own local community, help identify knowledge gaps and acknowledge champions in the event of an emergency.

Information and communication technologies

Auckland is taking best practices from around the world to create innovative ways to manage our risks and adapt to change. To build on this, we need to improve our information and communication technologies to create resilient systems in times of emergencies.

- ✓ By improving Auckland’s interoperability across response and coordinating agencies, the response to and recovery from an emergency in Auckland is well-managed and effective.

Auckland will continue to invest in the national shared Emergency Management Information System³⁹ to maintain situational awareness and a common operating picture during an emergency. The system provides a common information management tool for CDEM. It allows for the creation and sharing of standardised reports such as situation reports, action plans, needs analysis and mapping.

Auckland needs high-powered information management systems to support decision-making before, during and after a disaster to aid an integrated response and recovery.

In an emergency, the effective delivery of public information is critical to ensure members of the public take appropriate actions to protect themselves, their property and others. The most effective management of public information is through coordination between partner agencies.

‘Build Back Better’

The Sendai Framework for Disaster Risk Reduction highlights the importance of including ‘Build Back Better’ concepts in pre and post-disaster planning to build resilient communities.

‘Build Back Better’ will address several key areas for resilience building in Auckland. These include:

- disaster risk reduction through improving resilience, land-planning and management
- community recovery through supporting social and psychological recovery
- economic recovery through business continuity and crisis management planning
- effective implementation through better post-disaster governance mechanisms
- better use of legislation and regulation
- effective monitoring and evaluation processes.

By incorporating ‘Build Back Better’ into recovery planning resilience will also be obtained creating a more seamless approach in the future management of disasters.

- ✓ Through the incorporation of ‘Build Back Better’ principles into strategic policies and operational plans, Auckland’s communities and businesses will be empowered and have the confidence to drive their own recovery.





Auckland's Recovery Framework

Recovery is planned for prior to emergencies. It begins as soon as disaster strikes by working in parallel with response activities. This is the case for every event, whether it is an isolated minor flood or a widespread power outage across the region. Every event that impacts on daily lives needs a method to recover. The main priority is to maintain continuity of coordination of the response and recovery. In Auckland, this is achieved by both the Controller and Recovery Manager being located within the Auckland Council CDEM department and working together to plan an integrated approach.

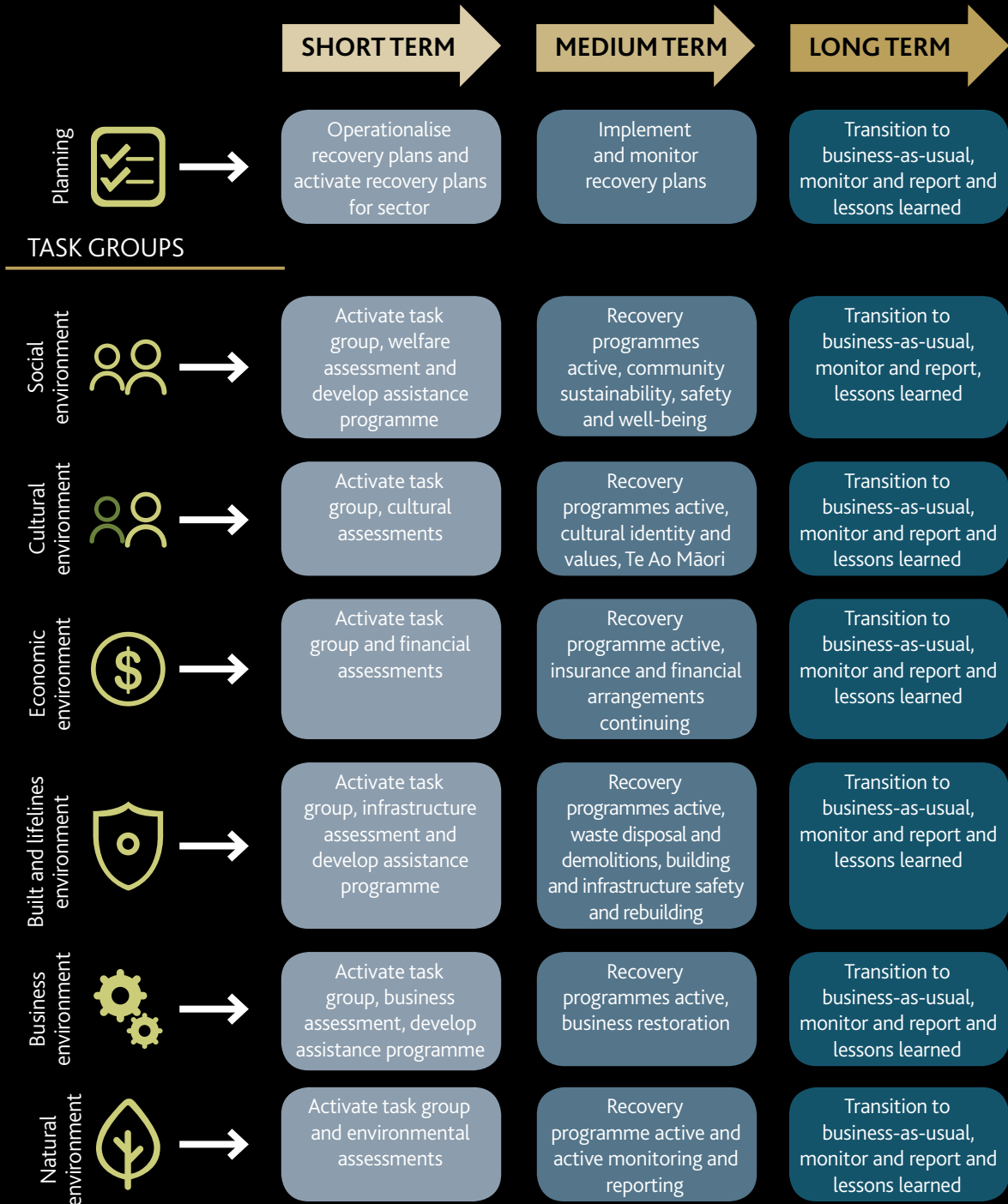


Figure 11: Auckland's Recovery Framework



Lessons from previous disasters illustrate the benefit of strategic planning activities based on a regions hazards and risks to better prepare before a disaster occurs. They also provide guidance on how to think about recovery. These lessons include a move from centralised to decentralised systems: from government-led recovery to community led recovery supported by the government. Recovery may last weeks and months, and economic recovery, for example, could even extend for years and decades. Strong leadership and governance provide a platform to direct, coordinate and plan for recovery. The CDEM Group is responsible for managing the recovery from a significant event in Auckland. The CDEM Group Recovery Manager will report directly to the Chief Executive throughout the recovery phase and is responsible for:

- supporting and advising the CDEM Group to set policy by providing guidance on priorities
- establishing the Auckland CDEM Group Recovery Management Office, which coordinates operational activities of CDEM key partners and stakeholders
- ensuring the recovery effort is coordinated among all required agencies.

The CDEM Group is committed to cross-council and multi-agency approach in planning for recovery while also drawing on external expertise and resources to work with our communities.

This provides support for the Recovery Manager to:

- develop and implement a Recovery Action Plan to manage the recovery phase
- establish reporting processes and schedules
- control expenditure and maintain accountability
- identify and obtain resources and facilities to support recovery
- develop recovery policies and strategies.

The Group Recovery Plan, which is being developed, specifies financial, legal delegation and authorisation roles. The plan also outlines six recovery task groups (Figure 11) to provide a common ground to aid recovery for communities, organisations and businesses. The task groups are categorised as social, cultural, economic, built and lifelines, business and natural environments, which will identify the immediate needs of the affected communities.

The community knows its people and what they can offer.

Successful recovery includes:

- understanding the context
- recognising and effectively communicating the complexity of recovery to Aucklanders
- ensuring the Auckland community is aware and understands that a prepared community is better able to recover

- using community-led approaches where possible
- coordinating consistently in all activities
- advocating for a risk-based approach
- successfully transitioning to a business-as-usual state.

The recovery phase involves restoring the community to the point where social and economic activity may resume. An Exit Strategy is a systematic plan to withdraw formal recovery assistance from the Recovery Management Office. This requires a handover of activities to agencies that normally have the lead responsibility so they can undertake the required services. The Exit Strategy outlines handover of responsibilities for the following:

- Group Recovery Manager
- Recovery Office (administration) and reporting
- Social Environment Task Group and subtask groups
- Cultural Environment Task Group and subtask groups
- Economic Environment Task Group and subtask groups
- Built and Lifelines Environment Task Group and subtask groups
- Business Environment Task Group and subtask groups

- Natural Environment Task Group and subtask groups
- Public information and media management.

All recovery actions should be planned with an eventual business-as-usual state in mind. This is the end-point of recovery; however, the CDEM Group, key partners and stakeholders recognise that Auckland will never return to the same business-as-usual state before the disaster. The end point does require the development and implementation of an exit strategy. Auckland’s task groups are responsible for building this transition from recovery to business-as-usual into recovery planning.

✓ By working collaboratively across the recovery task groups, key partners, stakeholders and the community to develop an inclusive Auckland Recovery Framework, all aspects of recovery will be planned for.

The Recovery Manager is responsible for coordinating inter-agency recovery activities and will prepare a specific Terms of Reference appropriate to the event before transition, which will be authorised by the Auckland Council Chief Executive.

Any financial delegations or delegated legal duties or authorisations will be specified in the Recovery Manager’s Terms of Reference.



Create the world's most liveable city

As the world's most liveable city, Auckland will be a region that Aucklanders love and are proud of. It will be a place they want to stay or return to and a place that others want to visit, move to or invest in.

Auckland's significant growth is putting pressure on its ability to be resilient and increasing the vulnerability of communities to hazards and risks. The vision of 'creating the world's most liveable city' recognises the importance of building resilient and safe communities, which can cope with and adapt to the effects of hazard events.

- ✓ By supporting the development of policies and plans that will drive action to achieve the vision of the world's most liveable city, Auckland will be better placed to understand future population growth and its interaction with the changing environment.

Smart city initiatives are just one way the CDEM Group aims to support and assist Auckland Council in creating the world's most liveable city. Smart city initiatives looks to improve quality of life by using technology to improve the efficiency of services and meet resident's needs. A smart city is defined as an urban development vision to integrate multiple information and communication technology solutions in a secure fashion to manage a city's assets – such assets include, schools, libraries, transportation systems, hospitals, water supply networks, waste management and other community services.

Leadership and governance

Governance is critical to the initiatives that will make Auckland more resilient. Being resilient requires incorporating disaster resilience into organisational plans and policies across partners and stakeholders. The CDEM Group is aiming to lead from the front and ensure resilience is the collective responsibility of all sectors of society. This is the opportunity to drive resilience through leadership and facilitate collaboration in disaster risk reduction initiatives, delivery and application.

- ✓ Through the development of a resilience platform to better manage disaster risk across the region, short, medium and long-term risks and costs are seen as a priority across Auckland's leaders.

Local boards and community networks play a key role in encouraging community engagement to build resilience at the local level.

- ✓ By working with Auckland's local boards and key community leaders to better understand their involvement and champion resilience across the region, Auckland's communities are better prepared before, during and after an emergency.





Part D Framework for Action

As discussed at the beginning of this document, action points which build Auckland's resilience have been identified and highlighted in **Part C** through the ✓ icon.

The following Framework for Action sets out current state, all action points, delivery lead and delivery support, and timeframe.

An implementation framework and subsequent work programmes will provide the basis for the successful implementation of the Group Plan.



REDUCTION

Strong partnerships

ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Research opportunities are not well coordinated and there is no streamlined process for collating hazard information.	Provide leadership, coordination and facilitate collaboration in risk reduction initiation, delivery and application.	1. Conduct a review of hazard and risk reduction advisory groups and develop a new structure to explore disaster risk reduction opportunities and support partnerships.	Auckland Council – CDEM	CDEM Group	June 2017
		2. Continue to collaborate through and learn from strategic alliances with academic institutions (e.g. the National Science Challenge).	Auckland Council – CDEM	CDEM Group	Ongoing
		3. Ensure that research outcomes are coordinated across other advisory groups and are aligned with the Sendai Framework for Disaster Risk Reduction.	Auckland Council – CDEM	CDEM Group	June 2021
Constantly changing regulatory, commercial and structural environments that include centralisation, outsourcing and increase use of contractors makes risk reduction planning difficult and in the past it has lacked consistency.	Strengthen disaster risk governance and encourage all stakeholders to reduce the risks from hazards to acceptable levels through coordinated and collaborative disaster risk reduction planning.	4. Develop a disaster risk reduction strategy and creative workspace to guide stakeholders, practitioners and policy makers in how to effectively manage hazards and risks in the long term, including the effects of climate change.	Auckland Council – CDEM	CDEM Group	June 2021
		5. Undertake long-term strategic risk management and reduction through the Auckland Unitary Plan and by advocating for changes in legislation or through the review and maintenance of local plans and policies.	Auckland Council – CDEM	CDEM Group	Ongoing

Continued on the following page.



	ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Strong partnerships	Constantly changing regulatory, commercial and structural environments that include centralisation, outsourcing and increase use of contractors makes risk reduction planning difficult and in the past it has lacked consistency.	Strengthen disaster risk governance and encourage all stakeholders to reduce the risks from hazards to acceptable levels through coordinated and collaborative disaster risk reduction planning.	6. Foster strong partnerships with non-government organisations to ensure capability is understood and opportunities for collaboration are supported through shared resilience programmes.	Auckland Council – CDEM	CDEM Group	June 2018
			7. Advocate for and participate in coordinated planning and initiatives with neighbouring CDEM Groups.	Auckland Council – CDEM	CDEM Group	Ongoing
			8. Develop strategic partnerships to deliver effective and sustainable strategies.	Auckland Council – CDEM	CDEM Group	Ongoing
Co-created research	Hazards and risks including how they are managed needs to be better understood and more effectively communicated by the CDEM sector.	Increase the understanding of disaster risk in Auckland through further investigation, promotion and accessibility of research.	9. Develop an effective and comprehensive hazard and risk awareness campaign.	Auckland Council – Communications and Engagement	CDEM Group	June 2017
			10. Conduct further investigation and research into the consequences of hazards and ensure that hazards and risks and not considered in isolation.	Auckland Council – CDEM	CDEM Group	Ongoing
			11. Support the development and implementation of the Natural Hazard Risk Management Action Plan (NHRMAP) to deliver best practice risk reduction and resilience outcomes.	Auckland Council – Operations	CDEM Group	June 2017
			12. Develop a 10-year hazard research plan to target gaps in knowledge and information in line with the NHRMAP (e.g. impacts from climate change and future growth).	Auckland Council – Research, Investigations and Monitoring Unit	CDEM Group	June 2017
			13. Provide targeted and coordinated risk reduction education and training as part of a professional development programme.	Auckland Council – CDEM	CDEM Group	June 2018
			14. Develop a mutually beneficial exchange programme with international partners and organisations to learn about disaster risk reduction and how it is being applied globally.	Auckland Council – CDEM	CDEM Group	June 2021
			15. Regularly update the Auckland Lifelines Report and expand the report to incorporate how utilities will manage issues across the 4Rs.	Auckland Council – CDEM	CDEM Group	June 2019
			16. Maintain the Auckland Lifelines Group to promote research opportunities and increase infrastructure resilience.	Auckland Council – CDEM	CDEM Group	Ongoing
	Communities are becoming increasingly reliant on critical infrastructure which is increasing their vulnerability.	Identify the network vulnerabilities of critical infrastructure and ensure this is regularly updated as infrastructure grows.	17. Ensure all infrastructure providers are part of the Auckland Lifelines Group and have appropriate business continuity/emergency management plans in place.	Auckland Council – CDEM	CDEM Group	June 2018
			18. Assist in the development and implementation of Auckland Lifeline Group projects that aim to improve infrastructure resilience.	Auckland Council – CDEM	CDEM Group	Ongoing

Continued on the following page.



Table 11: Reduction Framework for Action

ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Willingness to invest in disaster risk reduction is low because the cost benefit of implementing such initiatives is unclear or misunderstood.	Invest in disaster risk reduction for resilience	19. Improve our understanding of the economic risk of disasters in the medium and long-term.	Auckland Council – CDEM	CDEM Group	June 2020
		20. Encourage stakeholders to invest in disaster risk reduction by effectively communicating the cost and benefits.	Auckland Council – CDEM	CDEM Group	June 2021

Table 11: Reduction Framework for Action



READINESS

Knowledge through education

ISSUE

CDEM information needs to be more comprehensive and accessible to the public and taught more consistently across education providers.

ACTIVITIES

Increase the level of community awareness and understanding of the risks from hazards and how to prepare for emergencies through public education.

ACTIONS

- 21. Develop a public education strategy to enhance disaster preparedness through relevant and meaningful community engagement.
- 22. Utilise technology and innovative solutions to help communicate information to the public.
- 23. Work with primary schools and early childhood centres to ensure that emergency preparedness is being taught as part of the school curriculum.
- 24. Develop an education programme for secondary schools and tertiary institutions in the area of disaster resilience.
- 25. Develop a targeted public education campaign for Auckland’s public alerting and warning systems.

DELIVERY LEAD

Auckland Council – CDEM
Auckland Council – CDEM
Auckland Council – CDEM
Auckland Council – CDEM
Auckland Council – CDEM

DELIVERY SUPPORT

CDEM Group
CDEM Group
CDEM Group
CDEM Group
CDEM Group

TIMEFRAME

June 2018
June 2019
June 2018
June 2021
June 2020

Continued on the following page.



	ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Volunteer participation	Recruiting and retaining people to volunteer before an emergency is challenging due to the influence of technology on society and the time commitment involved as people seem to be leading busier lives.	Encourage the community to be involved in emergency management by promoting the benefits to them and the community.	26. Create a city-wide CDEM ambassador programme and volunteering campaign.	Auckland Council – CDEM	CDEM Group	June 2018
			27. Ensure volunteers and volunteer groups continue to be recognised as an important resource by implementing a volunteer engagement framework that includes recruitment, ongoing training and progression opportunities.	Auckland Council – CDEM	CDEM Group	June 2019
			28. Develop a volunteer engagement framework which includes a plan to coordinate spontaneous volunteers.	Auckland Council – CDEM	CDEM Group	June 2019
Build resilience - communities, businesses and organisations	Community participation and preparedness in emergency management is low because CDEM’s activities are not well understood and changing people’s behaviour is challenging.	Empower the community to increase their own resilience through strategies and tools.	29. Work with established community and organisational networks to increase participation, optimise collaboration and to empower the community to help themselves and others during a disaster.	Auckland Council – CDEM	CDEM Group	Ongoing
			30. Develop a Māori Responsiveness Plan and establish partnerships with Māori to ensure greater involvement in CDEM.	Auckland Council – CDEM	CDEM Group	June 2017
			31. Develop guidance to leaders, elected members and advisory panels on what they can do to increase resilience within their community and support elected members through a comprehensive framework across the 4Rs.	Auckland Council – local boards	CDEM Group	June 2017
			32. Encourage community-led hubs which assist the community to effectively respond in an emergency.	Auckland Council – CDEM	CDEM Group	June 2018
	Business continuity planning is not seen as a priority for many organisations; some of whom play a critical role in a disaster.	Enhance disaster preparedness for effective response through business continuity planning.	33. Work with organisations and businesses to improve the level of awareness and preparedness to enable them to respond and recover from an emergency as quickly as possible.	Auckland Council – CDEM	CDEM Group	Ongoing
			34. Develop an effective partnership and working relationship with sector groups to help promote organisational resilience (e.g. Resilient Organisations, business associations, insurance providers).	Auckland Council – CDEM	CDEM Group	Ongoing

Table 12: Readiness Framework for Action





RESPONSE

Emergency management planning

ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
There are varying levels of consistency, integration, and coordination between response agencies in an emergency.	Understand the roles and capabilities of responding agencies and to ensure effective coordination through a common operating framework.	35. Integrate best practice programme and project management into coordinated incident management systems for more effective coordination across the CDEM Group.	Auckland Council – CDEM	CDEM Group	June 2017
		36. Identify the roles, functions and capabilities of all organisations and agencies that may respond to an emergency within the Auckland region.	Auckland Council – CDEM	CDEM Group	June 2018
Resources are not effectively utilised, managed or shared across responding agencies (e.g. personnel, equipment and coordination centres).	Improve the interoperability, coordination and management of resources across agencies through shared arrangements.	37. Assess the interoperability of Emergency Operations Centres between agencies across the region and implement recommendation(s) as made by the Emergency Service Information and Communications Strategy (2013-2017).	NZ Police/NZ Fire Service	CDEM Group	June 2018
		38. Investigate the opportunity of a multi-agency, shared/co-located coordination centre for the Auckland region.	Auckland Council - CDEM	CDEM Group	June 2018
		39. Ensure the primary and alternate ECCs function effectively and support other agency systems and processes as required.	Auckland Council – CDEM	CDEM Group	Ongoing
		40. Undertake regular audits of agency resources, capability and capacity during a disaster.	Auckland Council – CDEM	CDEM Group	June 2018
		41. Increase the capability and awareness of field response teams.	Auckland Council – CDEM	CDEM Group	June 2019
		42. Develop and implement levels of activation, thresholds and criteria that are understood and applied consistently across responding agencies.	Auckland Council – CDEM	CDEM Group	June 2017

Continued on the following page.



	ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Emergency management planning	CDEM Group partner agencies and political stakeholders need to have confidence in the CDEM response and recovery.	Ensure transparent decision making and an effective transition from response to recovery.	43. Understand critical gaps in response and recovery associated with small-, medium- and large-scale emergencies in Auckland and ensure that these are addressed for effective ECC operations.	Auckland Council – CDEM	CDEM Group	June 2017
			44. Establish and maintain relationships with technical experts to ensure that decision-making in the event of an emergency is supported by appropriate scientific and technical advice.	Auckland Council – CDEM	CDEM Group	June 2017
Capability and capacity	Capability and capacity across the CDEM Group and stakeholders to a large-scale event in Auckland is not tested regularly nor well-understood.	Improve the capability and capacity through competency development, training, exercises and growth opportunities.	45. Develop and implement a multi-agency capability and development strategy and training programme and align with national and Auckland-specific competency frameworks.	Auckland Council – CDEM	CDEM Group	June 2020
			46. Utilise trained staff from across the council group and external partner agencies to provide staffing capacity for the ECC.	Auckland Council – CDEM	CDEM Group	June 2019
			47. Explore development opportunities at the local, national or international level that will increase a staff member's operational experience or training.	Auckland Council – CDEM	CDEM Group	June 2018
			48. Ensure the safety and well-being of responders both during and after an emergency through the development of a deployment support project.	Auckland Council – CDEM	CDEM Group	June 2019
			49. Support the national initiative of a cadre of professional emergency managers by the development of an Auckland-specific emergency management training and development framework for leadership roles.	Auckland Council – CDEM	CDEM Group	Ongoing
	Responding to large-scale, widespread emergencies is not tested regularly enough and learnings are not incorporated into annual work programmes.	Enhance disaster preparedness for effective response through regular ongoing training and exercises.	50. Support the ongoing development and implementation of the Integrated Training Framework.	Auckland Council – CDEM	CDEM Group	Ongoing
			51. Establish and implement an exercise calendar (minimum two exercises per year) that is aligned with the national exercise programme.	Auckland Council – CDEM	CDEM Group	Ongoing
			52. Develop a library of exercise coordinating instructions for Auckland across the range of hazards identified within this plan.	Auckland Council – CDEM	CDEM Group	June 2019
			53. Incorporate lessons learned (evaluation action plans) from training, exercises and real emergencies into annual work programmes.	Auckland Council – CDEM	CDEM Group	Ongoing
	Operational emergency management plans do not always meet the coordination needs required in an emergency.	Enhance disaster preparedness for effective response through operational planning.	54. Develop, maintain and implement an agreed common operating structure and procedures for sharing/managing resources to enable an efficient response across all agencies.	Auckland Council – CDEM	CDEM Group	June 2018
			55. Develop and maintain operational and contingency plans across key partners and stakeholders.	Auckland Council – CDEM	CDEM Group	June 2020
			56. Review the Auckland Welfare Plan and align with new national arrangements for welfare.	Auckland Council – CDEM	CDEM Group	June 2017

Continued on the following page.

ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Public alerting systems and associated public education messages are ineffective and warnings do not reach the required number of people in the affected population.	Enhance disaster preparedness through effective warning and hazard monitoring systems.	57. Develop a public alerting strategy that is aligned with national projects.	Auckland Council – CDEM	CDEM Group	June 2017
		58. Build effective warning systems and ensure that the community is able to receive and interpret the information correctly.	Auckland Council – CDEM	CDEM Group	June 2018
		59. Establish and maintain an effective and resilient inter-agency communication system.	Auckland Council – CDEM	CDEM Group	June 2018
Auckland’s size and complexity makes it difficult to understand what is happening in a large-scale emergency and, therefore, organisations and agencies are not responsive to community needs.	Ensure responding agencies have the infrastructure and systems in place to have good situational awareness and a common operating picture.	60. Support the National Common Operating Picture project and/or develop a multi-agency situational awareness tool.	Auckland Council – CDEM	CDEM Group	June 2021
		61. Strengthen relationships with partner agencies and establish protocols to facilitate the sharing of information during an emergency.	Auckland Council – CDEM	CDEM Group	June 2018

Table 13: Response Framework for Action





RECOVERY

‘Build Back Better’	ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
	Increasing our knowledge of the Sendai Framework principles and fulfilling our agreement as a CDEM Group to ensure that consideration is given to disaster risk reduction when planning for recovery.	Champion the ‘Build Back Better’ concept and integrate disaster risk reduction into development measures across the 4Rs.	62. Develop and implement a Recovery Framework that incorporates ‘Build Back Better’ into development measures.	Auckland Council – CDEM	CDEM Group	June 2017
			63. Identify opportunities for risk reduction based on potential impacts of a disaster that cannot be implemented before the event due to existing restrictions (e.g. land-use planning).	Auckland Council – CDEM	CDEM Group	June 2019
			64. Consider ‘Build Back Better’ principles in the development of strategic policies and operational plans.	Auckland Council – CDEM	CDEM Group	June 2020

Continued on the following page.



ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Recovery is uncoordinated across agencies and at all levels. Conflicts arise between private and public sector and local and national government levels that can hamper recovery.	Strengthen and broaden recovery capability across all stakeholders and the wider community.	65. Ensure the Recovery Framework sets clear protocols for stakeholders and includes appropriate structures and strong governance and management capabilities.	Auckland Council – CDEM	CDEM Group	June 2017
		66. Establish and maintain recovery task groups across the social, cultural economic, built and lifelines, business and natural environments and connect these with other advisory groups (e.g. lifelines group).	Auckland Council – CDEM	CDEM Group	December 2017
		67. Coordinate recovery needs assessments and ensure responsibilities are clearly understood.	Auckland Council – CDEM	CDEM Group	June 2019
		68. Work more closely with the insurance sector to better understand risk transfer, improve coordination of financial assistance and develop disaster recovery plans.	Auckland Council – CDEM	CDEM Group	Ongoing
The CDEM Group's recovery framework needs strengthening and broadening to align with the new national recovery arrangements.	Recovery planning for Auckland is effective, integrated and tested.	69. Develop and implement a Recovery Framework in accordance with legislation and best practice guidelines, which includes: - an understanding of the sensitivities, value and priorities of Auckland communities developed through engaging with local boards and communities (both directly and indirectly) to better establish a recovery vision and outcomes - contributes to discussion on risk and risk tolerance under Action 9 "Develop an effective and comprehensive hazards and risk awareness campaign" - explores recovery scenarios based on the impacts associated with Auckland's hazards and risks to identify and better understand the recovery activities required	Auckland Emergency Management	CDEM Group	Ongoing
		70. Maintain an investment fund (or similar) to ensure that funding for emergency expenditure and the recovery process is available.	Auckland Council - Finance	Auckland Council - Finance	Ongoing
		71. Each recovery task group will contribute to the development of contingency plans and the Recovery Framework.	CDEM Recovery Task Groups	External organisations	June 2021
		72a. Educate and train personnel for recovery roles by creating opportunities through formal training, exercises and knowledge sharing within Auckland Emergency Management, its volunteers, across the CDEM Group and the wider CDEM sector.	Auckland Emergency Management	CDEM Group	Ongoing
		72b. Identify a core set of indicators for successful recovery outcomes over the short, medium and long term.	Auckland Emergency Management	CDEM Group	Ongoing

Table 14: Recovery Framework for Action

ATRIUM ON TAKUTAI





RESILIENCE

	ISSUE	ACTIVITIES	ACTIONS	DELIVERY LEAD	DELIVERY SUPPORT	TIMEFRAME
Liveable city	Auckland growth is putting significant pressure on the components of resilience which is increasing the vulnerability of communities to hazards and risks.	Support the implementation of Auckland Council’s vision of Auckland as the world’s most liveable city.	73. Identify effective resilience indicators and use these to evaluate Auckland’s resilience.	Auckland Council – Operations	CDEM Group	June 2017
			74. Support and assist in the development of policies and plans that will support the Auckland Plan and drive action to achieve the vision of the world’s most liveable city (e.g. ‘Smart city’ initiatives).	Auckland Council – CDEM	CDEM Group	June 2017
			75. Participate in scenario building workshops to understand Auckland’s future population growth and its interaction with the changing environment.	Auckland Council – CDEM	Auckland Council – CDEM	December 2018
			76. Incorporate sustainable, energy resilient, low carbon and adaptive land planning and management initiatives into CDEM activities.	Auckland Council – CDEM	Auckland Council – CDEM	Ongoing
Leadership and governance	Lack of understanding across partners and stakeholders of how to incorporate disaster resilience into their organisational plans and policies.	Ensure resilience is the collective responsibility of all sectors of society, including government, business, communities and individuals.	77. Ensure the right level of agency and organisation representation and composition across all CDEM governance structures.	Auckland Council – CDEM	Auckland Council – CDEM	Ongoing
			78. Ensure that elected representatives champion resilience and are competent to deliver their CDEM responsibilities.	Auckland Council – local boards	Auckland Council – CDEM	Ongoing
			79. Develop an Auckland resilience platform to support collaboration, innovation and align to the National Disaster Resilience strategy.	Auckland Council – CDEM	Auckland Council – CDEM	June 2019
			80. Support and collaborate on national level projects and act on preferred options.	Auckland Council – CDEM	CDEM Group	Ongoing

Table 15: Resilience Framework for Action





Part E Appendices

Lion Rock, Piha

Appendix 1

Auckland's Group Controllers and Alternate Controllers

NAME	POSITION
John Dragicevich ⁴⁰	CDEM Director
Aaron Davis	Head of Emergency Management Operations
Bryan Cartelle	Principal Rural Fire Officer
Ian McCormick	General Manager Building Control
Ian Maxwell	Director Community Services
John Schermbrucker	Head of Project Delivery
Sarah Sinclair	Chief Engineer
Craig McIlroy	Manager Stormwater
Matthew Walker	GM Financial Plan Policy and budget
Rachel Kelleher	Manager Biodiversity
Alan Tresadern	Technical Advisory Manager
Jennifer Rose	Operations Support Manager
Victoria Walker	Head of Marketing and Publicity
Stephen Drumm	Business and Finance Manager
Mara Bebich	Strategy and Stakeholder Liaison Manager
Grant Barnes	GM Licensing and Compliance
Graham Bodman	GM Arts, Community and Events

Auckland's Group Recovery Managers

NAME	POSITION
David Middleton	Head of Welfare and Recovery
Craig McIlroy	General Manager Stormwater
Alan Tresadern	Technical Advisory Manager
Sarah Sinclair	Chief Engineer
Rob McGee	Manager Leisure
Mace Ward	GM Parks, Sports and Recreation

Auckland's Group Welfare Managers

NAME	POSITION
Catherine Gilhooly	Welfare Manager
James Hassall	Senior Strategic Advisor
Alison Dobbie	Principal Development Advisor
Mike Ikilei	Manager Programmes and Partnerships
Parul Sood	Waste Planning Manager
Rachel Orr	Specialist Advisor

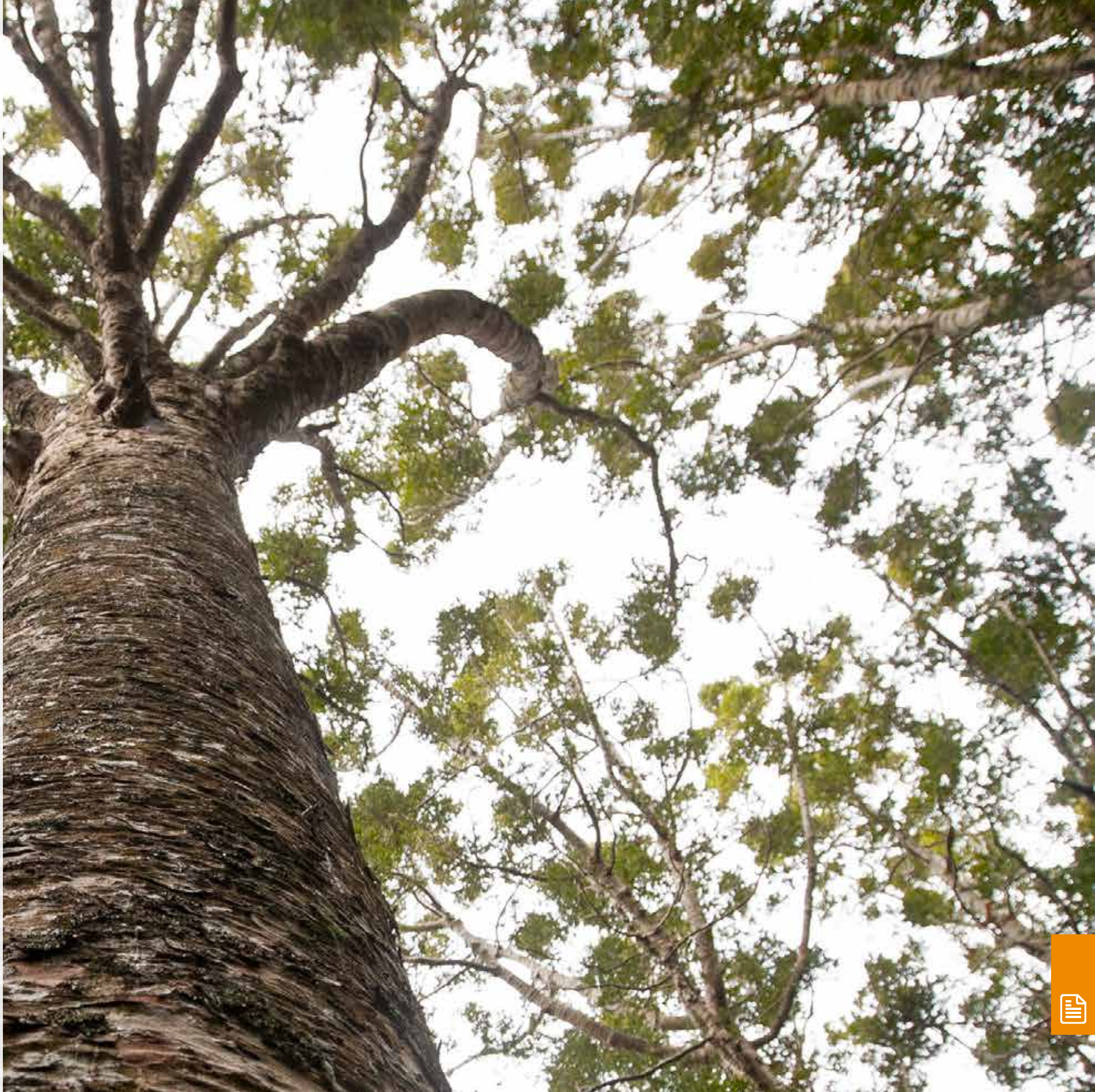
NOTE: The above lists identify the Group Controllers and Alternate Controllers and the Group Recovery and Welfare Managers for the Auckland CDEM Group as at 23 August 2016. This list is subject to change and was correct at the time of printing. Visit aucklandcivildefence.org.nz for current record.





Appendix 2: Auckland’s risk profile⁴¹

Hazard	Likelihood	Consequences
Natural		
Coastal erosion (beach and coastal cliff)	Possible	Moderate
Coastal inundation (storm surge)	Possible	Moderate
Drought (agricultural and water supply)	Possible	Minor
Earthquake (includes liquefaction)	Unlikely	Major
Flooding (river and catchment)	Possible	Moderate
Land instability	Possible	Moderate
Severe winds	Possible	Moderate
Space hazards (including solar flares)	Unlikely	Minor
Super storm	Unlikely	Severe
Tornado	Unlikely	Major
Tsunami (distant, regional or local source)	Unlikely	Major
Urban fire	Possible	Moderate
Volcanic eruption (Auckland Volcanic Field or ashfall from distant source)	Unlikely	Major
Wildfire (rural)	Possible	Moderate
Technological		
Civil unrest	Rare	Major
Dam failure (stormwater and other)	Possible	Minor
Dam failure (water supply)	Rare	Moderate
Hazardous substances spill	Possible	Moderate
Information technology infrastructure risk	Likely	Minor
Lifeline utility failure: airport, port, rail, roading	Likely	Minor
Lifeline utility failure: communications	Likely	Minor
Lifeline utility failure: electricity	Likely	Minor
Lifeline utility failure: fuel supply	Possible	Minor
Lifeline utility failure: gas	Possible	Minor
Lifeline utility failure: wastewater	Possible	Minor
Lifeline utility failure: water supply	Possible	Minor
Major transport accident (aircraft, marine, rail, road)	Possible	Minor
Marine oil spill	Likely	Minor
Radiation incident	Unlikely	Minor
Terrorism	Rare	Major
Biological		
Animal epidemic	Unlikely	Minor
Infectious human disease pandemics	Possible	Moderate
Plant and animal pests	Possible	Minor



WORKING TOGETHER TO BUILD A RESILIENT AUCKLAND

ENGAGING AND ENABLING COMMUNITIES	CUSTOMER FRIENDLY SERVICES	MAKE OUR SIZE COUNT
- More with community, less to community. - Deliver empowered community resilience through quality community engagement and education. - Implement Māori Responsiveness Plan. - Make volunteering easy. - Quality advice for quality decisions. - Give confidence to Auckland.	- Right advice. - Understand customer needs. - Comprehensive and coordinated services to our communities. - Provide accountability and efficiency of services to our customers. - Provide effective response. - Make every interaction count. - Start with 'yes' and make it happen.	- Deliver locally, influence globally. - Uphold mutually beneficial relationships and obligations as a member of the international community. - Effective use of resources by leveraging whole of council partnerships. - Our people, our brand; recognise talent, drive performance, and develop our capability.

OUR CULTURE

COLLABORATE We will...	SERVE We will...	ACHIEVE We will...	DEVELOP We will...
Listen to each other and stay open minded in our conversations. Seek solutions and ensure relationships remain intact. Support each other and recognise the value and strength of each participating partner.	Seek to understand our community and its needs by being approachable, trustworthy, with a 'can do' approach. Hold ourselves to account for outcomes and demonstrate respect for our customers and colleagues.	Expect to give and receive clear objectives that can be understood by all. Hold ourselves to account for our actions and outcomes. Know how we are measured and check ourselves against those measureable outcomes.	Learn through coaching and mentoring. Encourage innovation. Be open to new ideas and ways to learn. Seek feedback and review to increase honest self-awareness. Learn how to give useful constructive feedback to enhance and improve performance.



Appendix 4: Acronyms

- ALG – Auckland Lifelines Group
- AWCG – Auckland Welfare Coordination Group
- BCP – Business Continuity Plans
- CDEM – Civil Defence and Emergency Management
- CEG – Coordinating Executive Group
- CIMS – Coordinated Incident Management Systems
- DHB – District Health Boards
- ECC – Emergency Coordination Centre
- EQC – Earthquake Commission
- LUC – Lifeline Utility Coordinator
- MCDEM – Ministry of Civil Defence & Emergency Management
- NCMC – National Crisis Management Centre
- NHRMAP – Natural Hazard Risk Management Action Plan
- NWCG – National Welfare Coordination Group
- PTWC – Pacific Tsunami Warning Centre
- Te Ao Māori – the Māori world view
- UNISA – Upper North Island Strategic Alliance





Appendix 5: Glossary

Act (the Act) means the Civil Defence and Emergency Management Act 2002 (CDEM Act).

Capability means the effectiveness of cooperation and coordination arrangements across agencies for the delivery of resources in the event of an emergency.

Capacity means the adequacy of resources in terms of quantity, and suitability of personnel, equipment, facilities and finances.

CDEM Group committee is comprised of Auckland Council governing body elected representatives with observers from the CDEM Group, key partners and stakeholders. The role of the CDEM Group committee is to provide strategic direction and leadership across CDEM key partners, stakeholders and communities. It is established under section 12 of the CDEM Act.

Coordinating Executive Group (CEG) is comprised of senior officers from Auckland Council and senior executives from key agencies involved in CDEM. The CEG is the central committee for coordinate between agencies and acts as an advisor to the CDEM Group. It is established under Section 20 of the CDEM Act 2002.

Civil Defence emergency refers to the Civil Defence aspects of any emergency managed under the CDEM Act where emergency means a situation that:

- (a) is the result of any happening, whether natural or otherwise, including, without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance,

technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or war-like act; and

(b) causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand or any part of New Zealand; and

(c) cannot be dealt with by emergency services, or otherwise requires a significant and coordinated response under the Act.

Cluster means a group of CDEM agencies that interact to achieve common CDEM outcomes across reduction, readiness, response, and recovery in a coordinated manner.

Director has the same meaning as in section 4 of the CDEM Act, where the term means the Director of Civil Defence Emergency Management appointed under section 8.

Emergency services has the same meaning as in section 4 of the CDEM Act, where the term means: the New Zealand Police, New Zealand Fire Service, National Rural Fire Authority, rural fire authorities, and hospital and health services.

Group Controller is the person appointed Group Controller under section 26 of the CDEM Act with those functions set out in section 28 of the CDEM Act. The Group Controller must, during a state of emergency for the area for which the Group Controller is appointed, direct and coordinate the use of personnel, materials, information, services, and other resources made available by departments, CDEM Groups, and other persons.

Guide (the Guide) means the Guide to the National Civil Defence and Emergency Management Plan that is referred to in the National CDEM Plan and approved by government.

Hazard has the same meaning as in section 4 of the CDEM Act, where it means something that may cause, or contribute substantially to the cause of, an emergency.

Hazardscape means the natural processes and events, and human actions that may cause harm or disruption to people’s lives and livelihoods.

Lead agency means the organisation with current responsibility for managing an emergency.

Lifeline utility has the same meaning as in section 4 of the CDEM Act, where it means an entity named or described in Part A of Schedule 1, or that carries on a business described in Part B of Schedule 1.

Minister has the same meaning as in section 4 of the CDEM Act, where it means subject to any enactment, the Minister of the Crown who, with the authority of the Prime Minister, is for the time being responsible for administration of this Act.

Plan (the Plan) means the National Civil Defence and Emergency Management Plan [CDEM Act 2002 section 4].

Readiness means the actions to taken to ensure communities know what to do in the event of an emergency, and there are effective warning mechanisms and responding organisations well trained and practised in preparation for an emergency.

Recovery means the coordinated process of reconstruction of infrastructure and the restoration of social, economic, and physical wellbeing of a disaster-affected community.

Recovery manager is the person appointed to coordinate recovery activities within the region in the short, medium and long term to ensure a holistic approach to recovery incorporating the social, economic, built, lifeline utility and rural environments.

Reduction means the application of techniques and management principles to reduce the probability and/or the consequence of an occurrence.

Response means the actions taken in anticipation of and immediately after an emergency or disaster to ensure that its effects are minimised and that people affected are given immediate relief and support.

Risk has the same meaning as in section 4 of the CDEM Act, where it means: the likelihood and consequences of a hazard.

Strategy means the National Civil Defence Emergency Management Strategy (the Strategy) completed under section 31 of the CDEM Act.

Welfare manager is responsible for coordination of the delivery of welfare services during and after an emergency. Pre-emergency, they are responsible for providing input on welfare-related reduction measures and coordination of welfare readiness. During recovery the Welfare Manager is responsible for the strategic coordination of welfare needs.



End notes

1

CDEM Act 2002, s 49 (2)

2

This is a living document subject to on-going review, visit aucklandcivildefence.org.nz for the most recent version

3

Comprised of the mayor and 20 governing body members

4

The Auckland Plan

5

Survey by gravitas on behalf of Auckland Council, published in March 2016

6

theplan.theaucklandplan.govt.nz/auckland-now-and-into-the-future/

7

Te Ara 2013

8

Statistics NZ, 2015

9

Statistics NZ, 2014

10

Auckland Council

11

aucklandcouncil.govt.nz/EN/AboutCouncil/businessandeconomy/Documents/economicupdatejanuary2016.pdf

12

nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7601

13

theplan.theaucklandplan.govt.nz/aucklands-response-to-climate-change/#introduction-10

14

Auckland Council (2014) Natural Hazard Risk Communication Toolbox, Natural Hazard Risk Management Action Plan

15

Space hazards include space weather, near earth objects and space debris but are not based on the worst case scenario due to the limited options available to manage these potential apocalyptic events.

16

A 'super storm' is an event that could be expected to occur once every 100 years, involving multi-hazard effects such as flooding, lifeline utility failure and severe winds. This term was agreed in collaboration with MetService.

17

Auckland Council (2014) Auckland Civil Defence and Emergency Management: Hazards Quick Reference Guide.

18

Auckland Council (2014) Natural Hazard Risk Communication Toolbox, Natural Hazard Risk Management Action Plan

19

Federal Emergency Management Agency (2013) Mitigation Assessment Team Report Hurricane Katrina in the Gulf Coast. fema.gov/media-library-data/20130726-1520-20490-8446/549_ch1.pdf

20

Hancox, G. & Nelis, S. (2009) Landslides caused by the June-August 2008 Rainfall in Auckland and Wellington, New Zealand. National Oceanic and Atmospheric Administration – Summary report of the Tohoku earthquake and tsunami.

21

National Oceanic and Atmospheric Administration – Summary report of the Tohoku earthquake and tsunami

22

Review of Tsunami Hazard in New Zealand, 2013

23

ISO31000:2009 Risk Management Principles and Guidelines - Risk Management Process

24

Local Government Act, 2002

25

The Māori plan for Tamaki Makaurau

26

Space hazards include space weather, near earth objects and space debris but are not based on the worst case scenario due to the limited options available to manage these potential apocalyptic events

27

civildefence.govt.nz/assets/Uploads/publications/national-hazardscape-report-sept-2007-complete.pdf

28

CDEM Act 2002 s 17

29

Local Government (Auckland Council) Act 2009 (s) 13

30

Guide to the National CDEM Plan (s) 33

31

Refer to Part D: Our Framework for Action

32

The Auckland Plan – Chapter 8

33

'The Never Happens? Happens' is a refresh of the national Get Ready Get Thru campaign. resorgs.org.nz

34

resilientbusiness.co.nz

36

Guide to the National CDEM Plan (s) 3

37

Guide to the National CDEM Plan (s) 4

38

Guide to the National CDEM Plan (s) 7-16

39

Guide to the National CDEM Plan (s) 27

40

Primary Controller of Auckland CDEM Group

41

Ratings are described within the Auckland's hazards section.



Point Resolution Bridge



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**Auckland
Civil Defence and
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Te Rakau Whakamarumaru o Tāmaki Makaurau

